Chapter 1

1. What is e-commerce? How does it differ from e-business? Where does it intersect with e-business?

E-commerce, in the popular sense, can be defined as: the use of the Internet and the Web to conduct business transactions. A more technical definition would be: e-commerce involves digitally enabled commercial transactions between and among organizations and individuals. E-commerce differs from e-business in that no commercial transaction, an exchange of value across organizational or individual boundaries, takes place in
e-business. E-business is the digital enablement of transactions and processes within a firm and therefore does not include any exchange in value. E-commerce and e-business intersect at the business firm boundary at the point where internal business systems link up with suppliers. For instance, e-business turns into e-commerce when an exchange of value occurs across firm boundaries.

2. What is information asymmetry?

Information asymmetry refers to any disparity in relevant market information among the parties involved in a transaction. It generally applies to information about price, cost, and hidden fees.

3. What are some of the unique features of e-commerce technology?

The unique features of e-commerce technology include:

- Ubiquity: It is available just about everywhere and at all times.
- Global Reach: the potential market size is roughly equal to the size of the online population of the world.
- Universal standards: The technical standards of the Internet, and therefore of conducting e-commerce, are shared by all of the nations in the world.
- Richness: Information that is complex and content rich can be delivered without sacrificing reach.
- Interactivity: E-commerce technologies allow two-way communication between the merchant and the consumer.
- Information density: The total amount and quality of information available to all market participants is vastly increased and is cheaper to deliver.
- Personalization/Customization: E-commerce technologies enable merchants to target their marketing messages to a person's name, interests, and past purchases. They allow a merchant to change the product or service to suit the purchasing behavior and preferences of a consumer.
- Social technology: User content generation and social networking technologies

4. What is a marketspace?

A marketspace is a marketplace that is extended beyond traditional boundaries because it is removed from the restrictions of geography and time. The ubiquity of e-commerce technologies liberates the market from these limitations.

5. What are three benefits of universal standards?

The benefits of universal standards are:

- reduced search costs for consumers
- becomes simpler, faster, with more accurate price discovery
- lower market entry costs for merchants

6. Compare online and traditional transactions in terms of richness.

Traditional transactions can provide more richness in terms of face-to-face service including visual and aural cues. However, traditional transactions are limited in terms of how many people can be reached at a single time. Online transactions, which can be global in reach, can provide content that is both complex and rich, overcoming the traditional trade-off between reach and richness.

7. Name three of the business consequences that can result from growth in information density.

Growth in information density could result in:

- Greater price transparency: Consumers can easily find out the variety of prices in a market.
- Greater cost transparency: Consumers can discover the actual costs merchants pay for products.
- Greater opportunities for marketers to practice price discrimination: since marketers are able to gather much more information about their customers, they can segment the market into groups based on willingness to pay different prices for the same or nearly the same goods.

8. What is Web 2.0? Give examples of Web 2.0 sites and explain why you included them in your list.

Web 2.0 is a set of applications and technologies that allows users to create, edit, and distribute content; share preferences, bookmarks, and online personas; participate in virtual lives; and build online communities. In other words, Web 2.0 is the set of new, advanced applications that have evolved along with the Web's ability to support larger audiences and more involved content. Students may list Facebook, MySpace, YouTube, Photobucket, Google, Wikipedia, Second Life, Digg, and WordPress, among others, as example sites.

9. Give examples of B2C, B2B, C2C, and P2P Web sites besides those listed in the chapter materials.

The answers to this question will vary. Possible examples include:

- B2C: E-tailers:
  Bluefly
  BarnesandNoble.com
  1800Flowers.com
  Godiva.com
  Wine.com
  REI.com
- B2C: Service Providers:
  Expedia
  Travelocity
- B2C: Portals:
  Yahoo

- B2C: Content Providers:
  WSJonline.com
  Consumerreports.com
- B2B:
  Grainger.com
  Ariba
  PerfectCommerce
  Quadram
- C2C:
  Half.com
  Velvetbazaar
  Ubid
  Oldandsold
  Ewanted
- P2P:
  Streamcast Networks
  eMule-Project.net
  Frostwire

10. How are the Internet and the Web similar to or different from other technologies that have changed commerce in the past?

The Internet and the Web are similar to other technologies that have changed commerce in the past in that each new technological innovation spawns explosive growth characterized by thousands of startup companies. Many of these fail in the period of retrenchment and consolidation that follows. As with other technological revolutions, eventually it is the large, already established firms who have the resources to exploit the new technology. The growth of the Internet, when compared to other electronic technologies such as radio and television, has been much more rapid: the Internet and Web achieved a 53 percent share of U.S households in only 10 years. In comparison, it took 38 years for radio and 17 for television to achieve a 30 percent share.

11. Describe the three different stages in the evolution of e-commerce.

The three stages in the evolution of e-commerce are innovation, consolidation, and reinvention. Innovation took place from 1995–2000 and was characterized by excitement and idealistic visions of markets in which quality information was equally available to both buyers and merchants. However, e-commerce did not fulfill these visions during its early years. After 2000, e-commerce entered its second stage of development: consolidation. In this stage, more traditional firms began to use the Web to enhance their existing businesses. Less emphasis was placed on creating new brands. In 2006, though, e-commerce entered its current stage, reinvention, as social networking and Web 2.0 applications reinvigorated e-commerce and encouraged the development of new business models.

12. What are the major limitations on the growth of e-commerce? Which is potentially the toughest to overcome?

One major limitation to the growth of e-commerce is the price of personal computers. Another limitation is the need for many people to learn complicated operating systems, at least in comparison to other technologies such as the television or the telephone. People must also learn a

set of sophisticated skills to make effective use of the Internet and e-commerce capabilities. Another limitation is the unlikelihood that the digital shopping experience will ever replace the social and cultural experience that many seek from the traditional shopping environment. Finally, persistent global income inequality will exclude most of the world's population, who do not and probably will not in the foreseeable future, have access to telephones or PCs. Social and cultural limitations are likely to be tougher to overcome than technological limitations.

13. What are three of the factors that will contribute to greater Internet penetration in U.S. households?

Factors that will contribute to greater Internet penetration into U.S. households in the next decade include:

- The price of an entry-level PC such as a netbook and smartphones with Internet access has fallen to $200.
- Enhanced capabilities, such as integration with television and access to film libraries on a pay-per-view basis, will draw in more consumers.
- The PC operating system is likely to evolve into a simpler platform with simpler choice panels.
- The use of wireless Web technology is increasing.

14. Define disintermediation and explain the benefits to Internet users of such a phenomenon. How does disintermediation impact friction-free commerce?

Disintermediation means the removal of the market middlemen—the distributors, wholesalers, and other intermediaries—between producers and consumers. The predicted benefits to Internet users include the decline of prices for products and services as manufacturers and content originators develop a direct relationship with their customers, and the elimination of payments to these middlemen. Disintermediation of markets would create intense competition. This, along with lowered transaction costs, would eliminate product brands, eventually resulting in the elimination of unfair competitive advantages and extraordinary returns on capital: the vision of friction-free commerce.

15. What are some of the major advantages and disadvantages of being a first mover?

The major advantages of being a first mover are the ability to build a brand name early on and establish a large customer base before followers enter the market, and the ability to build switching costs into the technology or services offered so that customers will find it discomfiting to change to a late entering competitor. The major disadvantage is that historically, many first movers have not succeeded and are instead replaced by the fast follower, larger firms with the financial, marketing, legal, and production assets necessary to develop mature markets. Generally, only a handful of first mover firms become successful long-term businesses as the start-up costs and time it takes to build a profitable business are often underestimated.

16. Discuss the ways in which the early years of e-commerce can be considered both a success and a failure.

The early years of e-commerce can be considered a success because of the technological success that occurred as Web-enabled transactions grew from thousands to billions. The digital infrastructure proved to be a solid foundation on which to build a viable marketing channel. From a business perspective, the early years of e-commerce were a mixed success with just a tiny

percentage of dot-com companies surviving. However, the survivors have benefited from the continued growth in B2C revenues. The early years of e-commerce can also be considered a success in that the transfer of information has been a huge accomplishment as consumers learned to use the Web to procure information about products they wanted to purchase (Internet-influenced commerce).

17. What are five of the major differences between the early years of e-commerce and today's e-commerce?

The major differences between the early years of e-commerce (the Innovation stage), the period between 2001–2006 (the Consolidation stage), and today's e-commerce (the Reinvention stage) are:

- During the Innovation stage, e-commerce was primarily technology-driven. During the Consolidation stage, it was primarily business-driven. Today's e-commerce, while still business-driven, is also audience, customer, and community-driven.
- During the Innovation stage, firms placed an emphasis on revenue growth, quickly achieving high market visibility/market share. During the Consolidation stage, the emphasis was on building profitable firms. Today, audience and social network growth are being emphasized.
- Startups during the Innovation stage were financed by venture capitalists, whereas those in the Consolidation stage were primarily financed by traditional methods. Today, startups are once again being financed by venture capitalists, albeit with smaller investments. In addition, many large online firms are now entering the market, and acquiring early stage firms via buy-outs.
- During the Innovation stage, e-commerce was, for the most part, ungoverned. In the Consolidation stage, there was a rise in the amount of regulation and governmental controls by governments worldwide. Today, there is extensive government regulation and surveillance.
- The Innovation stage of e-commerce was characterized by the young entrepreneurial spirit. During the Consolidation stage, e-commerce was primarily dominated by the retail giants. Today, large purely Web-based firms are playing a major role.
- The Innovation phase was characterized by an emphasis on deconstructing traditional distribution channels and disintermediating existing channels. During the Consolidation stage, intermediaries strengthened. Today, there is a proliferation of small online intermediaries that are renting the business processes of larger firms.
- "Perfect markets" in which direct market relationships with consumers, the decline of intermediaries, and lower transaction costs resulted in intense competition and the elimination of brands, are being replaced by imperfect markets. Imperfect markets are characterized by a strengthening of brand name importance, increasing information asymmetries, price discrimination, and network effects.
- The early years of e-commerce saw an infusion of pure online businesses that thought they could achieve unassailable first mover advantages. During the Consolidation stage, successful firms used a mixed "bricks-and-clicks" strategy, combining traditional sales channels such as physical stores and printed catalogs with online efforts. Today, there is a return of pure online strategies in new markets, as well as continuing extension of the "bricks-and-clicks" strategy in traditional retail markets.
- The early years of e-commerce were dominated by the first movers. In the Consolidation stage, e-commerce was dominated by the well-endowed and

experienced Fortune 500 and other traditional firms. Today, first-mover advantages are returning in new markets as traditional Web players catch up.

18. What factors will help define the future of e-commerce over the next five years?

The factors that will help define the future of e-commerce over the next five years include:

- The technology of e-commerce—the Internet, the Web, and the number of wireless appliances—will continue to proliferate through all commercial activity; overall revenues will continue to rise rapidly; and the numbers of both visitors and products and services sold will continue to grow.
- Prices will rise to cover the real costs of doing business on the Web and to pay investors a reasonable rate of return on their capital.
- E-commerce margins and profits will rise to the level of traditional retailers. (The difference between revenues from sales and cost of goods sold will be equal to that of traditional firms.)
- The top e-commerce sites will increasingly obtain very well known brands from strong, older firms.
- The number of successful purely online companies will further decline. The most successful e-commerce firms will use both traditional marketing channels such as physical stores, printed catalogs, and e-commerce Web sites.

19. Why is a multidisciplinary approach necessary if one hopes to understand e-commerce?

A multidisciplinary approach is necessary in order to understand e-commerce because no single academic discipline covers all facets of the e-commerce phenomenon.
E-commerce is primarily a technologically driven occurrence, including information technologies developed over the past 50 years, with the Internet and the Web at the core. However, beyond the infrastructure are the business purposes that drive the phenomenon: the changing business models and strategies that will transform old companies and spawn new ones. To understand e-commerce, one must understand some basic business concepts such as: industry structures, business models, firm and industry value chains, and consumer behavior. They must also comprehend the nature of electronic markets and information goods. Finally, the impact on society must be considered: global e-commerce can have consequences for individuals concerning their intellectual property and privacy rights. Public policy issues such as equal access, equity, content control, and taxation will need to be addressed.

Chapter 2

1. What is a business model? How does it differ from a business plan?

A business model is a set of planned activities (business processes) that are designed to result in a profit in the marketplace. A business plan on the other hand, is a document that outlines the details of a business model.

2. What are the eight key components of an effective business model?
The eight key components of an effective business model are:
value proposition
revenue model
market opportunity for the firm (the marketspace and how big it is)
competitive environment for the firm (who the competitors are in the marketspace)

competitive advantage the firm brings to the marketspace (the unique qualities that set the firm apart from others in the marketspace)
market strategy the firm will use to promote its products and services
organizational development of the firm that will enable it to carry out its business plan
capabilities of the management team to guide the firm in its endeavors

3. What are Amazon's primary customer value propositions?

Amazon's primary customer value propositions are unparalleled selection and convenience.

4. Describe the five primary revenue models used by e-commerce firms.

The five primary revenue models used by e-commerce firms are:
the advertising revenue model
the subscription revenue model
the transaction fee revenue model
the sale revenue model
the affiliate revenue model

The advertising model derives its profit by displaying paid advertisements on a Web site. The goal is to convince advertisers that the site has the ability to attract a sizeable viewership, or a viewership that meets a marketing niche sought by the advertiser. Firms that use the subscription model offer users access to some or all of their content or services for a subscription fee. Firms that use the transaction fee model derive profit from enabling or executing transactions. For instance, transaction fees are paid to eBay when a seller is successful in auctioning off a product, and E*Trade receives a transaction fee when it executes a stock transaction for a customer. In the sales revenue model, companies draw profit directly from the sale of goods, information, or services to consumers. In the affiliate model, sites receive referral fees or a percentage of the revenue from any sales that result from steering business to the affiliate.

5. Why is targeting a market niche generally smarter for a community provider than targeting a large market segment?

Targeting a market niche is generally a smarter strategy for a community provider than targeting a large market segment because targeting large market segments will only pit a company against bigger and more established competitors. Small subsegments of larger markets have a greater potential for growth without the intense competitive pressure. Communities that place a strong emphasis on the advertising revenue model will find marketers more interested in placing ads on a site that targets a specific niche.

6. Besides music, what other forms of information could be shared via peer-to-peer sites? Are there legitimate commercial uses for P2P commerce?

Some other forms of information that could be shared through peer-to-peer sites using shareware are organizational materials and digital video. You can use P2P software to efficiently distribute massive amounts of information across an organization, and also make it searchable. P2P software can be used to transmit movies over the Internet as encrypted files. Furthermore, it can be used to search other computers for the sorts of information found on Web sites. For example, it can establish a direct peer-to-peer exchange where buyers could gather information, check out

suppliers, and collect prices not from a centralized server hub, but directly from each of the supplier's client server computers.

7. Would you say that Amazon and eBay are direct or indirect competitors? (You may have to visit the Web sites to answer.)

Amazon and eBay are direct competitors because they sell products and services that are very similar, and they sell to the same market segment. They both sell books, music, computers and software, games and toys, electronics, tools, movies and DVDs, and camping equipment. However, eBay has a consumer-to-consumer business model whereas Amazon has a business-to-consumer business model. Even though eBay sells new, overstocked, remaindered, and used products at discounted prices, the two compete for essentially the same market segment of consumers. eBay may attract the bargain hunter variety of shopper who would not stop at Amazon first, but it is still essentially the same market segment.

8. What are some of the specific ways that a company can obtain a competitive advantage?

Some specific ways a company can obtain a competitive advantage are by developing a global market while its competitors only have a national or regional market; by obtaining favorable terms from shippers, suppliers, or labor sources that its competitors do not have; by developing a more experienced, knowledgeable, and loyal employee base than its competitors; by obtaining a patent on a product that its competitors will not be able to imitate; by having an inside track to investors willing to put up capital; by establishing a powerful brand name or a popular image that it will be difficult for competitors to duplicate; and by any type of asymmetry that will give it more resources than its competitors in any area such as financial backing, knowledge, information, and/or power.

9. Besides advertising and product sampling, what are some other market strategies a company might pursue?

One market strategy is to form strategic alliances with business partners who will help you to attract new customers and extend your market reach. Another market strategy is to use product name, packaging, and advertising to create a distinct mood or feeling about each of your product lines, and carefully target each line to a specific audience. Some firms may choose to pursue a marketing strategy that positions them as a "one-stop-shop" which carries a broad based line of products, saving the customer search time. Others may choose to position themselves as category experts who have an in-depth and "personal" knowledge of their customers. Such firms will offer extensive customer support networks to assist their customers in their purchasing decisions and will advertise themselves accordingly. One critical factor is that a company needs to find a way to differentiate itself from the competition.

10. What elements of FreshDirect's business model may be faulty? Does this business scale up to a regional or national size?

FreshDirect's vertically integrated approach, in which it does its own food preparation, is really quite different from other players such as Safeway. It is unclear if FreshDirect's model can scale up to be successful outside of urban areas. It is unclear if the FreshDirect model, which focuses on perishables, can also work well with frozen foods, prepared dinner dishes, and more processed foods such as cereals, where margins are quite low. FreshDirect even owns its own fleet of trucks.

It is unclear if any business can be the most efficient player in all these areas. Why not use FedEx or UPS delivery?

11. Why is it difficult to categorize e-commerce business models?

It is difficult to categorize e-commerce business models because the number of models is limited only by the human imagination, and new business models are being invented daily. Even within the broad-based generic types, there are overlaps, and fundamentally similar business models may appear in more than one. The type of e-commerce technology used can also affect the classification of a business model. Also, some companies may employ multiple business models. For example, eBay is essentially a C2C marketplace, but also functions as a B2C market maker, and in addition, has an m-commerce business model.

12. Besides the examples given in the chapter, what are some other examples of vertical and horizontal portals in existence today?

Some other examples of vertical portals (vortals) include ESPN.com (sports), iVillage (women's issues), NFL.com (sports), Blackvoices.com (African-Americans), WebMD (physicians, nurses, teachers, medical office managers, and consumers), Aflcio.org (labor issues), Gamers.com (games), Away.com (travel), and T-online (Pan-European portal). Some other examples of horizontal or general portals include Earthlink.net, Lycos, Orange.co.uk, and Sympatico.msn.ca (Canadian). Note that many of these can also be considered community sites as well.

13. What are the major differences between virtual storefronts such as Drugstore.com and bricks-and-clicks operations such as Walmart.com? What are the advantages and disadvantages of each?

The major difference between virtual storefronts and bricks-and-clicks operations is that virtual storefronts do not have any ties to a physical location. The major advantages of the virtual storefronts are that they have low barriers to entry into the Web e-tail market and that they do not bear the costs associated with building and maintaining physical stores. The disadvantages are that they must build a brand name from scratch, quickly, and become profitable with no prior brand name or experience, which can be very difficult. The major advantages of the bricks-and-clicks operations are that they have an already established brand name, an established customer base, an established sales force, and the resources to operate on the very thin margins associated with the retail industry. It is also much less expensive for them to acquire new customers than it is for the virtual storefronts. The major disadvantages of the bricks-and-clicks firms are that they face new competition in an extremely competitive environment from new firms who may have more expertise at building credible Web sites, and who can focus exclusively on building rapid response order systems.

14. Besides news and articles, what other forms of information or content do content providers offer?

Besides news and articles, content providers may also supply music, photos, video, artwork, educational materials, or games.

15. What is a reverse auction? What company is an example of this type of business?

A reverse auction is one in which a consumer offers to pay a certain price for a product or service and the bid is either accepted or not. The premier example of this type of business is Priceline, in

which the consumer makes an offer for airline tickets, hotel rooms, car rentals, and other travel accommodations.

16. What are the key success factors for exchanges? How are they different from portals?

The key factor to success for exchanges is size—the size of the industry and the number of registered users. If the industry the exchange seeks to serve is not large enough, the site will most likely not survive. The site must also be able to reach a critical mass by attracting both a large number of sellers and a large number of buyers, or customers will go elsewhere. An exchange is a digital electronic marketplace where suppliers and commercial purchasers can converge to conduct transactions. Most portals operate in the B2C sector rather than the B2B sector, and their main business objective is to be a destination site for consumers. Although some portals provide a shopping component, that is not their main business objective.

17. What is an application service provider?

An application service provider (ASP) is a company that sells access to Internet-based software applications to other companies. They charge transaction fees based on the number of workstations running the application, or annual licensing fees to companies for the right to use the software program. They offer their customers the advantage of providing a "best of breed" application that many firms will need, but which would be expensive for them to buy and install. It would be even more so for them to build themselves.

18. What are some business models seen in the C2C and P2P e-commerce areas?

The most common business model seen in C2C commerce is a market creator, which helps consumers or businesses to connect with other consumers. P2P businesses are generally content providers that link users so that they can share files and computer resources without having to go through a common server.

19. How have the unique features of e-commerce technology changed industry structure in the travel business?

The ubiquity of e-commerce has created new marketing channels and expanded the size of the overall market. The global reach of e-commerce has changed industry structure by lowering barriers to entry, but at the same time expanding the market. The costs of industry and firm operations have decreased, enabling global competition. The universal standards of e-commerce have also lowered barriers to entry and intensified competition. However, firms have cheaper costs for computing and communication enabling broad-scope business strategies.

The richness of e-commerce reduces the strength of distribution channels, decreases a firm's reliance on traditional sales forces, and helps a firm develop better post-sales support strategies. Firms can use the interactive properties of e-commerce to develop differentiation strategies and customization techniques to reduce the threat from substitutes. Interactivity, personalization, and customization techniques also decrease a firm's reliance on traditional sales forces, helping them to reduce operational costs. Using these techniques, some firms are successful in differentiating themselves from the competition, thereby raising barriers to entry for potential competitors. The information density of e-commerce weakens powerful sales channels, shifting some bargaining power to consumers. It also lowers the operational costs for firms associated with obtaining, processing, and distributing information about suppliers and consumers.

20. Who are the major players in an industry value chain and how are they impacted by e-commerce technology?

The major players in an industry value chain are the suppliers, manufacturers, distributors, transporters, retailers and customers. E-commerce technology has helped manufacturers to reduce the costs they pay for goods through the use of Web-based B2B exchanges. Some manufacturers have also developed direct relationships with their customers online thereby eliminating the distributors and the retailers from the value chain. Distributors can develop highly efficient inventory management systems to reduce their costs, and retailers can develop highly efficient, customer relationship management systems to strengthen their services to customers. Customers can use the Web to search for the best quality, delivery, and prices, thereby lowering their overall transaction costs and reducing the final price they pay for goods.

21. What are four generic business strategies for achieving a profitable business?

The four generic business strategies for achieving a profitable business are differentiation, cost, scope, and focus. Differentiation involves setting your firm or product apart from the competition by establishing some unique property or consumption experience that your competitors do not have. A firm that adopts a cost strategy must have a unique set of business processes, a unique resource, or a low cost supplier. It is essential that other firms in the marketplace do not have access to, or cannot duplicate, this because it will allow them to charge a lower price while still making a profit. A scope strategy sets out to compete in all markets around the globe, rather than just locally or regionally. A focus strategy on the other hand, is a plan to compete within a narrow market segment or product segment. Specialization strategists seek to become the premier provider in a small market segment or niche.

Chapter 3

1. What are the three basic building blocks of the Internet?

The three basic building blocks are packet switching, the Transmission Control Protocol/Internet Protocol (TCP/IP) communications protocol, and client/server computing. Packet switching is a method of splitting messages up into parcels, routing them along available communications paths, and reassembling them at the destination point. The TCP protocol is the set of rules that specifies how these messages should be formatted, ordered, compressed, and error checked. The IP protocol provides the addressing scheme for the Internet. Client/server computing refers to networks of powerful client computers that are connected to one or more server computers. The clients are powerful enough to display, process, and store very large files including graphics and sound files. The servers are dedicated to common functions that all of the clients need including file storage, and they also house many software applications and utility programs that the clients frequently use.

2. What is latency, and how does it interfere with Internet functioning?

Latency is a delay in messages caused by the uneven flow of information packets through the network. It interferes with the functioning of the Internet today because with streaming video or synchronous communication transmissions, there may be noticeable gaps causing the video or voice to arrive looking or sounding jerky.

3. Explain how packet switching works.

In packet-switched networks, messages are broken up into fragments (packets) and a digital code with the source address is attached. Sequencing and error-control instructions are also added. Instead of being sent directly to their destination, the packets travel between router computers that interconnect the thousands of networks that make up the Internet. The routers use programs called routing algorithms to ensure that each packet takes the best available communication path toward its destination. If some lines are disabled or busy, the packets can be sent along any available line. At the destination point, the packets are reassembled and delivered. This method enables nearly full use of all of the available communication lines and capacity.

4. How is the TCP/IP protocol related to information transfer on the Internet?

The TCP/IP protocol determines how messages are formatted, compressed and error-checked, and how they are addressed so that they reach the correct destination in the correct order and format. TCP establishes the connections between sending and receiving computers, and it handles the assembly of packets at the point of transmission and their reassembly at the receiving end. IP provides the Internet's addressing scheme, and is responsible for the actual delivery of the packets.

5. What technological innovation made client/server computing possible? What impact has client/server computing had on the Internet?

The technological innovation that made client/server computing possible is the personal computer. Without the invention of the PC and local area networks, we would not have the Internet and the Web. In client/server computing, capacity can be expanded constantly by adding servers and clients to the network. A client/server network is much less vulnerable than the centralized computing architecture that preceded it because if one server malfunctions, backup servers can take over. If a client is down, the rest of the system continues to operate without a hitch. The processing load can be balanced over many powerful, smaller machines rather than being concentrated in a single huge mainframe computer, both the software and the hardware can be more economically built.

6. Despite the number of PCs connected to the Internet, rich information sharing is still limited. Why?

Rich information sharing is still limited because much of the Internet's infrastructure is already over 30 years old. Bandwidth limitations throughout the backbone, and especially to most small businesses and houses, cause congested service and only a limited ability to transmit video and voice files. Because packet switching involves the use of a circuitous route, latency causes uneven transmission of these files. Today's Internet also gives each packet the same level of service no matter who the user or what type of file. A higher quality of service will have to be developed in which packets are given priority service based upon the type of content they contain in order for information sharing to continue to improve. Furthermore, there are some architectural limitations that slow Internet transmissions down: a file cannot be transmitted once to all who request it. Instead, the file must be downloaded separately to each person placing a request. Finally, there are some language development limitations as HTML, the language of Web pages, is not adequate for defining and communicating databases, business documents, and graphics.

7. Why isn't the Internet overloaded? Will it ever be at capacity?

The Internet is not overloaded and will never be at capacity because client/server computing is highly extensible. Capacity can be continually expanded by adding client computers and server computers to the network. In this way, the population of Internet users can continue to grow indefinitely. It is also not overloaded because the Internet architecture is built in layers so that each layer can change without disturbing developments in other layers.

8. What types of companies form the Internet backbone today?

The Internet backbone is formed by the Network Service Providers (NSPs) that own and control the major networks; NSPs are for-profit companies. Some of the major U.S. Internet backbone owners include: AT&T, Cable & Wireless, and Sprint, among others. The backbones in foreign countries are usually operated by a mixture of government-owned and for-profit companies.

9. What function do the IXPs serve?

The IXPs use high-speed switching computers to connect the Internet backbone to regional and local networks. They function as the hubs, or interconnect points, where the backbone intersects with these regional and local networks; it is where the backbone owners connect with one another.

10. What is a campus area network, and who uses them?

A campus area network is usually a local area network that operates within a single organization. These organizations are sufficiently large that they lease access to the Web directly from the regional and national carriers. There are an estimated one million campus area networks attached to the Internet worldwide that connect to the Web at speeds ranging from 10 to 100 Mbps. Campus area networks are generally used by large organizations like universities or large corporations, which in fact, often have hundreds of these local area networks.

11. Compare and contrast intranets, extranets, and the Internet as a whole.

An intranet is a TCP/IP network located within a single organization whose function is to fulfill the communication and information processing needs of the organization. An extranet on the other hand, is formed when organizations allow outsiders to access their internal TCP/IP network. For example, a company may permit suppliers to gain access to their intranet in order to view information (like production schedules or inventory allotments) so that the suppliers will know when the company will need to restock. It is the exact same technology that enables the operation of the Internet. It provides capabilities for private or governmental organizations to operate their own internal networks and to create extranets to allow for the exchange of information across organizational boundaries. All of the protocols that are used on the Internet are also used on private intranets and extranets. Also, all applications available on the Internet are compatible with intranets and extranets.

12. What are the four major limitations of today's Internet?

The four major limitations of today's Internet are bandwidth, quality of service, network architecture, and language development. There is insufficient bandwidth capacity throughout the backbone, the metropolitan switching centers, and most importantly, to the houses and small businesses at the end of the information pipeline. Due to insufficient bandwidth and the circuitous nature of packet switching, video and voice traffic suffers from latency. This causes these types of messages to arrive with noticeable delays and a jerky quality. Because today's Internet uses "best efforts" quality of service, each packet is provided with the same level of service. This means that all packets traveling through the communication system are treated the same, no matter who is sending them or what type of message they are.

Network architecture restrictions also limit the performance of the Internet. A thousand requests for the same file result in a server having to download the file one thousand times rather than being able to transmit it once to all one thousand computers at the same time. This significantly slows down network performance. Finally, HTML, the language for displaying Web pages, has proven to be insufficient for displaying rich documents such as database files, business documents, and graphics.

13. What are some of the challenges of policing the Internet? Who has the final say when it comes to content?

One challenge of policing the Internet is that there are multiple organizations that influence the system and monitor its operations. It is hard to make the Internet conform to the laws of the sovereign nation states in which it operates, and it is difficult to enforce the various and often contradictory laws of all of these nations. Many countries want to put far stricter restrictions on freedom of expression than the United States does. Different cultures have different social morals, and what is acceptable in some countries is decidedly not in others. The issue of who has the final say is also quite controversial and varies from country to country. For instance, in China, the Chinese government has "the final say" about what content is available to viewers who access the Internet from within China. Other countries also regulate the availability of certain types of content. Critics complain that attempting to create "legal harmony" will result in major content restrictions on the Internet with only content that is legally acceptable worldwide being made accessible.

14. Compare and contrast the capabilities of Wi-Fi and 3G wireless networks.

There are two basic types of wireless Internet connectivity: telephone-based systems and computer network-based systems. Wi-Fi is an example of a computer network-based wireless access system, and 3G wireless networks are telephone-based wireless access systems.

Telephone-based wireless Internet systems such as 3G systems connect the user to a telephone system and use a packet-switched technology that is more efficient and faster than traditional circuit-switched networks. 3G networks have speeds ranging from 384 Kbps for mobile users in a car, to up to 2 Mbps for stationary users. These networks are wide area networks of nearly unlimited range for hybrid cellular wireless devices that combine the functionality of a PDA with that of a cell phone, and require a cellular phone company service connection. They enable consumers to have voice conversations, send and receive text messages or e-mail, and allow for some limited ability to surf the Web (due to smallness of screens).

Computer network-based wireless Internet systems have a completely different history that is based on corporate local area networks. Here, the task is to connect stationary client computers to

server computers within local areas of a few hundred meters. Wi-Fi was the first commercially viable standard for wireless local area networks. In a Wi-Fi network, a wireless access point connects to the Internet directly via a broadband connection (cable or DSL telephone or T1 line), and then transmits radio signals to other transmitters/receivers usually installed in laptop computers. Wi-Fi offers high bandwidth capacity (up to 11 Mbps), suitable for Web surfing and other corporate uses, but a much more limited range (300 feet).

15. What are some of the new wireless standards, and how are they relevant to Internet II?

Wireless cell phone standards include Global System for Mobile Communication (GSM), Code Division Multiple Access (CDMA), and General Packet Radio Services (GPRS). These are cellular standards that control how wireless telephones connect to the Web. The development of these standards is highly relevant to the concept of Internet II because whereas Internet I was mostly a land-based technology; Internet II will increasingly rely on wireless technology to connect user's handheld telephones and personal organizers to the Web.

Wireless local area network (WLAN) standards include Wi-Fi, Wi-Max, Bluetooth, Ultra-Wideband, and ZigBee. Wi-Fi is a standard for WLANs that offers high bandwidth capacity (up to 11 Mbps; 54 Mbps for Wi-Fi 5), suitable for Web surfing and other corporate uses, but a limited range (300 feet). Wi-Max extends the range of Wi-Fi to 30 miles. Bluetooth, Ultra-Wideband, and ZigBee are all wireless standards for short-range (under 30 feet) wireless communication. In Internet II, these WLAN standards will be used to develop such wireless LAN applications as handheld devices that can be used as a credit card, identification card, and key all in one. They can be a person's laptop that can synchronize with telephones to exchange information and download data, handheld devices for processing vending machine purchases, and handheld devices for paying highway tolls.

16. What are some of the major technological advancements that are anticipated to accompany Internet II? Define and discuss the importance of each.

First, a bandwidth explosion fueled by fiber optic technology, will allow the Internet to move from narrowband to broadband digital service. Second, wireless Web and 3G technologies will allow the Internet to move from cable-based stationary service to mobile service. Third, wireless LANS will allow laptop computers to be connected to other computers, as well as to other digital devices including: home appliances, vending machines, and remote sensors. Fourth, new Internet appliances will make it possible to connect nearly all the electronic devices in our lives to the Internet and to private intranets. These new Internet appliances will include thin client computing devices (PCs without hard drives), which rely totally on the Internet server to handle all information processing. Lightweight, portable, full-function PCs and handheld devices will be able to activate and deactivate virtually any device that can be connected to the Internet. This is expected to include home appliances—televisions, stereos, telephones, games, security systems, cars, and Net PCs—which will be interconnected so that they can all be controlled from one source.

17. Why was the development of the browser so significant for the growth of the Web?

The development of the browser was an extremely significant breakthrough that enabled rapid growth of the Web. Once it progressed from a simple line interface device to a graphical user interface (GUI), it made it possible to view documents with colored backgrounds, images, and animations. Besides the natural interest stimulated by viewing such documents, the graphical

Web browser also created the possibility of universal computing: the sharing of files including graphics, sound, video, and all sorts of different information by all computer users in the world, no matter what platform or operating system they were using. A browser could be made for each operating system, and Web pages created for one system could be displayed either exactly or nearly the same on a computer using a different operating system.

18. Name the different Web markup languages and explain the differences between them.

The different Web markup languages include:

- Standard Generalized Markup Language (SGML): This language was developed to help very large organizations format and categorize large collections of documents. It is very complicated, hard to learn, and was not widely adopted.

- Hypertext Markup Language (HTML): This relatively easy to learn language consists of a set of tags that are used to instruct the Web browser how to display a Web page. It defines the structure and style for a document including the headings, positioning of the graphics on the page, construction of tables, and the formatting of text.

- eXtensible Markup Language (XML): This is a markup language that, instead of functioning to format the style and page layout for a Web page, sets out to describe the data on the page. Tags such as <name> and <address> are used to describe and display data according to the user's definitions. It is extensible because new tags can be continually defined to transform data into new formats, in contrast to HTML that has only a set number of predefined tags.

19. Name and describe five services currently available through the Web.

Services that are currently available through the Web are:

- E-mail: This is the most widely used application on the Internet which allows text messages and file attachments to be transferred from one Internet user to another.

- Instant messaging: This comes in the form of a software program that allows typed text to be displayed on a recipient's computer almost instantaneously, making real-time conversations between two people possible on the Web.

- Search engines: Search engines are Web sites or services within a site that enable users to locate information by matching keywords that the user provides to a list of documents containing those words or the closest matches.

- Intelligent agents (bots): These are software programs that gather and/or filter information on a specific topic and provide a list of the results. For example, intelligent agents have been written to search through e-mail messages for certain keywords or simple concepts or phrases.

- Online forum: Forums are Web applications that enable Internet users to communicate with each other via a message board, bulletin board, or discussion group.

- Online chat: This software enables several people or even a group of people to carry on a live conversation.

- Blogs (Weblogs): Blogs are personal Web pages that are created by an individual or corporation to communicate with readers.

- Really Simple Syndication (RSS): RSS is a program that allows users to have digital content, including text, articles, blogs, and podcast audio file, automatically sent to their computers over the Internet.

- Podcasts: These are audio presentations stored as an audio file and posted to the Web, where it can be downloaded onto a computer or iPod.

- Wikis: These Web applications allow a user to easily add and edit content on a Web page.

- Internet telephony: IP telephony is a general term for technologies that use Voice over Internet Protocol (VoIP) and the Internet to send voice, fax, and other forms of audio communication over the Internet.

- IPTV: IPTV uses high-bandwidth Internet connections to deliver television programming to the home.

- Video conferencing: Internet video conferencing is now accessible to anyone with a broadband Internet connection and a Web camera.

- Web applications, widgets, and gadgets: Web services provide software applications that run off of Web servers instead of a computer's hard drive. Widgets are small software applications that pull content and functionality from one place on the Web to another, such as a blog or social networking page. Gadgets are closely related to widgets and are small chunks of code that you can add to a Web page and usually provide a single limited function, such as a clock or calendar.

20. What are at least three new services that will be available through the next generation of the Internet?

New services that will be available through the next generation of the Internet include:

- Digital video on demand: This is considered by many to be a "killer app" for the future Internet.

- Web distribution of software as a service will become increasingly prevalent. For example, Microsoft is planning for a future where Microsoft Office will be a Web application.

- M-commerce applications: The introduction of wireless devices such as the iPhone 3G, Blackberry Storm, and TMobile G1 3G cell phone that have the combined capabilities for voice, data, images, audio, and video, will encourage the continued development of many sophisticated mobile commerce applications in the near future.

Chapter 4

1. Name the six main pieces of the e-commerce site puzzle.

The six main pieces of the e-commerce site puzzle are the organizational capabilities and human resources you will need to build and manage the site, the hardware, the software, the telecommunications infrastructure you will need to meet the demands of your customers, and the site design you will need to implement your business objectives.

2. Define the systems development life cycle and discuss the various steps involved in creating an e-commerce site.

The systems development life cycle is a methodology for understanding the business objectives of any system so that an appropriate solution can be designed. The five major steps in the SDLC for an e-commerce site are: systems analysis, systems design, building the system, testing the system, and implementation. In the systems analysis step, the business objectives for the site are identified. The list of the necessary capabilities for the site is translated into lists of the types of information systems and the elements of information that will be needed to achieve them. Next, the main components in the system and their relationships to one another must be identified. The system design includes a data flow diagram and the physical components that will need to be purchased. After the system has been built and programmed, the program modules must be tested one at a time and then the site must be tested as a whole, examining every conceivable path a user might try to utilize while on the site. Implementation of an e-commerce site includes the continuing maintenance that will be needed over the life of the site to keep it functional, including correcting mistakes and continuing to improve, update, and modify links and other site features.

3. Discuss the differences between a simple logical and simple physical Web site design.

A simple logical design for a Web site describes the flow of information at the site including the processing functions that must be performed and the databases that will provide information. It also includes a description of the security and emergency backup procedures and the controls that will be used in the system. A simple physical design, on the other hand, translates the logical design into the physical components that will be needed such as the servers, software, and size of the telecommunications link, backup servers, and security system.

4. Why is system testing important? Name the three types of testing and their relation to one another.

System testing is important because there can be up to thousands of different pathways within a typical e-commerce Web site and you must make sure that customers can find what they want easily and quickly and, most importantly, that they can complete a purchase without a hitch. The three types of testing that must be completed are unit testing, which involves checking each program module; system testing, which includes testing the site as a whole in the way a "typical" user might navigate and make requests for functionality; and acceptance testing, which requires the firm's key personnel and managers to use the system to verify that the business objectives as originally conceived are being met.

5. Compare the costs for system development and system maintenance. Which is more expensive, and why?

The costs for system maintenance for an e-commerce Web site, can run anywhere from 50 percent to 100 percent, per year, of the original systems development costs. For small sites the annual maintenance cost can parallel the development costs, with larger sites achieving some economies of scale. Maintenance is more expensive because e-commerce sites are always in a process of change, improvement, and correction. E-commerce sites are in fact, never finished. They are always in the process of being built and rebuilt.

6. Why is a Web site so costly to maintain? Discuss the main factors that impact cost?

Web sites are so costly to maintain because code must be debugged, hyperlinks must be tested and repaired continually; emergencies must be handled; and reports, data files, and links to backend databases must be maintained and updated as necessary. General administrative tasks of the site require attention including updating the products and prices. Changes and enhancements to the system are also continually being made so that the site is always adapting to changing market conditions. All of this requires a Web team that includes programmers, designers, and business managers from the marketing, sales support, and production departments. This will ensure timely response to customer feedback and that the site is adequately monitored for correct prices and links with updated page display.

7. What are the main differences between single-tier and multi-tier site architectures?

Single-tier site architecture simply consists of a server machine running the basic Web server software. Multi-tier site architecture, on the other hand, provides much more functionality by linking a Web server layer that can include multiple Web servers to a middle tier that includes many Web application servers, which provide a wide variety of transaction processing tasks. This middle layer is also linked to a backend layer that includes existing databases, human resources systems, corporate applications, financial data, and enterprise systems. A multi-tiered site typically employs several or more physical computers each running some of the software applications and sharing the workload across many computers.

8. Name five basic functionalities a Web server should provide.

The basic functionalities a Web server should provide are:

a. processing HTTP requests (requests for HTML pages)
b. providing security services to verify the username and password or process the certificates and private/public key information required for credit card processing (Secure Sockets Layer or SSL)

c. processing FTP requests (transfers of very large files from server to server)
d. providing search engine services
e. capturing data such as logs of visits, time, duration, and referral sources
f. providing e-mail services including the ability to send, receive, and store e-mail
g. providing site management tools to calculate and display key site statistics such as unique visitors, page requests, and the origin of requests, as well as to check the links on the site

9. What are the three main factors to consider when choosing the best platform for your Web site?

In choosing the best platform to use for your Web site, the three main factors to consider are the anticipated number of simultaneous users who will likely visit your site, the customer user profile with their expected requests and behavior while at the site, and the nature of the content on your site. The more visitors you have, the greater the demand will be on your system. If the users will be viewing dynamic pages and large multimedia files, far more capacity will be required.

10**.** Why is Web server bandwidth an important issue for e-commerce sites?

The three factors discussed in Question 9 will help to determine the telecommunications link you will need for your site. Web server bandwidth is another important consideration because the larger the bandwidth available, the more customers that can hit your site simultaneously. Most ISPs or other site-hosting providers are obligated to provide enough bandwidth so that your site can meet peak demands. By the end of 2008, about 75 million American households had broadband cable or DSL access to the Internet and this will present additional demands for more dynamic content and additional site capacity.

11**.** Compare and contrast the various scaling methods. Explain why scalability is a key business issue for Web sites.

In order to meet the demands for service at your site, you can scale your hardware vertically, scale your hardware horizontally, or improve the processing architecture at your site. You scale vertically by upgrading the servers from a single processor to multiple processors. You can add up to 20 processors to a machine and also increase chip speeds. The drawbacks to this method are that it can become expensive to purchase new machines with every growth cycle, and that your entire site becomes dependent on just a small number of very powerful computers.

If you horizontally scale your site instead, you add multiple single processor servers to the site and balance the load among many servers. You can also create dedicated servers that only handle certain tasks such as HTTP requests or ASP pages, whereas others handle just database applications. This method requires the use of special load balancing software to direct the incoming requests to the appropriate server. This is a less expensive method because you can often use older PCs that otherwise might be discarded. Furthermore, if one machine fails, there is a good probability that another one of the many other machines can pick up the load.

The third alternative, improving the processing architecture, is a combination of both vertical and horizontal scaling and system design changes. The main concept is that the workload is split into Input/Output intensive activities and CPU intensive activities. The servers can then be fine tuned to handle simple requests for Web pages, or more CPU-intensive activities such as order taking. Scalability is a key business issue for Web sites because firms must be able to increase the size of

their sites as demand loads increase and they must be able to do so efficiently and cost effectively.

12. What are the eight most important factors impacting Web site design, and how do they affect a site's operation?

The eight most important factors impacting Web site design are:

a. Functionality: The site must have pages that load quickly, perform correctly, and send the user to the requested information about the product offerings.
b. Informational: The site must have links that the customer can find easily in order to obtain information about the company and the products it offers.
c. Ease of use: The site must have a simple foolproof navigation scheme.
d. Redundant navigation: The site must have alternative paths to reach the same content.
e. Ease of purchase: There should be no more than one or two clicks required for the purchasing procedure.
f. Multibrowser functionality: The site should work with the popular browsers.
g. Simple graphics: The site should not use distracting graphics and/or sounds that the user cannot control.
h. Legible text: The site should avoid the use of backgrounds that distort text or make it difficult to read.

Failure to pay attention to these factors will adversely affect the operation of a site because users will find the site frustrating to navigate and view, they will have difficulty obtaining information about the products, and they will determine that making a purchase will be far too complicated

13. What are Java and JavaScript? What role do they play in Web site design?

Java is a programming language that allows programmers to create interactivity and active content on the client machine. It saves load on the server because the Java programs or applets are downloaded to the client and executed on the client's computer. A Java Virtual Machine (VM) is now included in all browsers that will send a request to the server to download and execute the program and allocate page space to display the results. Java can be used to display interesting graphics and create interactive environments such as calculators or calendars. However, different vendors have produced different versions of the language and today many firms will not allow Java applets through their security firewalls. Many Java applets crash or perform poorly, wasting system resources for sometimes not very important functions that do not add much to the page design. Hence, they are not widely in use today by corporate Web sites.

Conversely, JavaScript is a programming language that is used to control the objects on an HTML page and handle interactions with the browser. It is commonly used to control verification and validation of user input, such as confirming that a valid phone number or e-mail address has been entered. It is much more acceptable to corporations because it is more stable and is restricted to the operation of requested HTML pages.

14. Name and describe three tools used to treat customers individually. Why are they significant to e-commerce?

The primary method for treating customers individually through personalization and customization is the placement of cookie files on the user's client machine. Cookies can be used to store information about the customer such as their customer ID, a campaign ID, and their prior purchases from the site. When a user returns to a site, the prior viewing and purchasing behavior can be accessed from a database, and the customer can be greeted by name and related products can be recommended. Other tools that enable personalization and customization include tools for interactivity and active content, such as CGI scripts, Active Server Pages, and Java Server Pages. Personalization and customization are significant to e-commerce because they can potentially make it nearly as powerful as a traditional marketplace and perhaps even more powerful than direct mail or shopping at an anonymous suburban shopping mall. Speaking directly to a customer and tailoring a product to that customer are potentially powerful marketing tools that could help to increase sales and revenues.

15. What are some of the policies e-commerce businesses must develop before launching a site and why?

Some of the policies that an e-commerce business site must develop prior to launching are a privacy policy, accessibility rules, and financial reporting policies. The privacy policy is a public statement detailing to customers how the personal information that is gathered at the site will be treated. Accessibility rules are a set of design objectives that ensure disabled users can effectively access a site.

Chapter 5

1. Why is it less risky to steal online? Explain some of the ways criminals deceive consumers and merchants.

The potential for anonymity on the Internet can allow criminals to assume identities that look legitimate and at the same time, shield them from law enforcement agencies. Using these assumed identities, criminals can place fraudulent orders with online merchants, intercept e-mail, steal customer information, and shut down e-commerce sites using software viruses.

2. Explain why an e-commerce site might not want to report being the target of cybercriminals.

E-commerce sites are often hesitant to report that they have been the target of cybercriminals because companies fear losing the trust of consumers. The actual amount of crime is difficult to estimate because of these fears. Companies fear that if they reveal the full extent of the theft of proprietary information and financial fraud legitimate customers will lose confidence in the e-marketing channel and will take their business back offline.

3. Give an example of security breaches as they relate to each of the six dimensions of e-commerce security. For instance, what would be a privacy incident?

- Integrity: This is the ability to ensure that information being displayed on a Web site or being transmitted/received over the Internet has not been altered in any way by an unauthorized party. One type of integrity security breach would be an unauthorized person intercepting and redirecting a bank wire transfer into a different account.
- Nonrepudiation: the ability to ensure that e-commerce participants do not deny their online actions. An example of a repudiation incident would be a customer ordering

merchandise online and later denying that he or she had done so. The credit card issuer will usually side with the customer because the merchant has no legally valid proof that the customer ordered the merchandise.

- Authenticity: Authenticity is the ability to identify the identity of a person or entity you are transacting with on the Internet. One instance of an authenticity security breach is "spoofing," in which someone uses a fake e-mail address, or poses as someone else. This can also involve redirecting a Web link to a different address.
- Confidentiality: The ability to ensure that messages and data are available only to authorized viewers. One type of confidentiality security breach is "sniffing" in which a program is used to steal proprietary information on a network including e-mail messages, company files, or confidential reports.
- Privacy: The ability to control the use of information a customer provides about him or herself to an e-commerce merchant. An example of a privacy security breach is a hacker breaking into an e-commerce site and gaining access to credit card or other customer information. This violates the confidentiality of the data and also the privacy of the people who supplied the data.
- Availability: This is the ability to ensure that an e-commerce site continues to function as intended. One availability security breach is a DoS (Denial of Service) attack in which hackers flood a Web site with useless traffic that causes it to shut down, making it impossible for users to access the site.

4. How would you protect your firm against a Denial of Service attack?

One way to protect against DoS attacks would be to increase the redundancy of your network's servers. VeriSign responded to DoS attacks made against it by tripling the size of its domain name server installation, presumably to decrease the possibility that an attack would bring down its servers entirely. Firewalls and proxy servers that filter communications directed at servers should also be used.

5. Explain why the U.S. government wants to restrict the export of strong encryption systems. And why would other countries be against it?

The U.S. government wants to restrict the export of strong encryption systems because of the belief that it hinders their ability to hunt down terrorists and criminals. This push to impose further restrictions on the development, dissemination, and use of encryption technologies is based on the assumptions that regulation can prevent terrorists from acquiring strong encryption. It also assumes that regulating encryption will not harm the information security of U.S. businesses and individuals.

Other countries are against this because they believe that further regulations will not prevent terrorists from getting strong encryption. They believe that because the development and use of strong encryption has now spread worldwide and has been built into hundreds of millions of systems, including all e-commerce servers, and almost every Web browsing program that it would be impossible to regulate. Hundreds of encryption programs are available on the Internet. Approximately three dozen countries produce commercial encryption products. Even if the United States completely banned civilian encryption, it would still be available to terrorists from dozens of other international Web sites. Even if all countries banned civilian encryption, it would still be available via underground Internet sites; and even if all of those were closed down,

terrorists could create their own encryption software. Some politicians and government officials have called for a ban on products that don't include "back doors" for government surveillance. This would give law enforcement keys to unlock any encrypted messages. Though the keys would be securely maintained, privacy rights groups and business managers, as well as other governments, are concerned that the keys could be compromised, and that the U.S. government might abuse its power.

6. Name the major points of vulnerability in a typical online transaction.

The major points of vulnerability are at the client level, at the server level, and over the Internet communications channels.

7. How does spoofing threaten a Web site's operations?

Spoofing can redirect customers to a knock-off Web site where the customers are fooled into completing an online order with a fraudulent or different company from the one with whom they intended to do business. In this way, business can be stolen away from a site. Spoof hackers can also alter orders by inflating them or changing the products ordered. The orders can then be sent on to the original site for processing and delivery. Customers will become irate at the poor customer service and will take their business elsewhere. Huge inventory fluctuations caused by these actions can also significantly harm operations.

8. Why is adware or spyware considered to be a security threat?

Spyware and (to a lesser degree) adware are considered to be security threats because they are covertly placed on Web users' computers, where they then collect and distribute private personal information. Spyware can obtain passwords, e-mail and instant messages, and so on, whereas adware is slightly less harmful once installed.

9. What are some of the steps a company can take to curtail cybercriminal activity from within a business?

One measure a company can take is to implement access controls to determine which insiders can gain access to the firm's networks. Insider access controls typically consist of login procedures using usernames, passwords, and access codes. Authorization management systems regulate where and when a user is permitted to access certain parts of a Web site. Entry rules are established up front for each user, and the authorization management system "knows" who is permitted to go where at all times. The authorization management system encrypts a user session and functions like a passkey following a user from page to page and only allowing access to areas where the user has been granted permission based on data that has been entered in the system database.

10. Explain some of the modern-day flaws associated with encryption. Why is encryption not as secure today as it was earlier in the century?

Public key encryption is computationally slow: if 128 or 256-bit keys were used to encode large documents, transmission speeds and significant increases in processing times would occur. Symmetric key encryption is computationally faster, but requires that the sender and the receiver share the same key, which must be sent over insecure transmission lines. Encryption is also not as

secure today as it was earlier in the century because computers are so much more powerful and faster, that ancient means of encryption can be easily broken. Furthermore, in order to effectively use symmetric key encryption for commercial uses today, you would need a secret key for each of the parties in a transaction: one for the bank, one for the merchant, and one for the government. Thousands of millions of keys would be needed to accommodate all e-commerce users.

11. Briefly explain how public key cryptography works.

Public key cryptography solves the problem of exchanging keys by creating a mathematically related public key and private key. The private key is kept secret by the owner, whereas the public key is widely disseminated. The main concept behind this method is that a one-way, irreversible mathematical function is used to produce the keys. Both keys can be used to encrypt and decrypt a message, but after it is encrypted, the same key cannot be used to decrypt a message. Only a person with possession of the recipient's private key can decrypt a message. The addition of a digital signature ensures the authenticity of the message and guarantees nonrepudiation. The sender uses his or her own private key to encrypt the message along with a hash function, which has been added to create a unique digest of the message. When used with the hash function, the digital signature is even more unique than a handwritten signature. This irreversible process creates a cipher text that can be read only by the recipient using his or her private key.

12. Compare and contrast firewalls and proxy servers and their security functions.

Firewalls and proxy servers are used to build a wall around private networks as well as the attached servers and clients. Firewalls refer to either hardware or software that filter communication packets and prevent packets from entering the network based on a security policy. Proxy servers are software servers that handle all communications originating from or being sent to the Internet. Their primary function is to limit the access of internal clients to external Internet servers; user HTTP requests are routed to a proxy server. The user and the nature of the request must be validated before the request is sent on to the Internet. Pages sent by external Internet servers must pass through the proxy server and be deemed acceptable before they can enter the internal network and be routed to the client machine. Proxy servers also improve Web performance by storing frequently used pages locally, reducing upload times, and hiding the internal network's address so that hackers will have a difficult time monitoring the network.

13. Is a computer with antivirus software protected from viruses? Why or why not?

Antivirus software will protect a computer from many, but not all, of the most common types of viruses. The software will also destroy any viruses already present on the hard drive. However, new viruses are being developed daily, so routine updates of the software are needed to prevent new viruses from causing damage.

14. Identify and discuss the five steps in developing an e-commerce security plan.

The five steps in developing an e-commerce security plan are:

- Perform a risk assessment: First, an inventory of the information and knowledge assets of a company is taken, and a dollar value amount is placed on each asset. Then, this amount is multiplied by the estimated probability that the information could be compromised.

This computation is used to produce a ranked list of the information assets of the firm prioritized by their value.

- Develop a security policy: A set of statements should be developed that prioritizes the information risks, identifies acceptable risk targets, and sets out the goals for achieving these targets. Included in the security policy should be a list of the personnel who are or will be entrusted with the information assets. It should also include a description of the security policies that presently exist for these assets and suggestions for improvements. Finally, it should outline the level of risk the firm is willing to accept for each asset, and the estimated cost to achieve this level of acceptable risk.
- Develop an implementation plan: The actions that must be taken to achieve the security plan goals must be set out. The tools, technologies, policies, and procedures needed to achieve the acceptable levels of risk must be developed.
- Create a security organization: A security organization must be established that will train users and keep management apprised of the security threats and breakdowns. The access controls that will determine who can gain legitimate access to the firm's networks and the authentication procedures that will be used to protect data from intruders must be determined. Authorization policies must also be established for the differing levels of access to information assets for different users.
- Perform a security audit: A security audit must be conducted to identify how outsiders are using the site and how insiders are accessing the site's assets. A monthly report should be generated that will establish the routine and nonroutine accesses to the system and identify any unusual patterns.

15. How do biometric devices help improve security? What particular type of security breach do they particularly reduce?

Biometric devices help improve security by working in conjunction with digital signatures to ensure the authenticity of messages. They guarantee nonrepudiation by verifying the physical attributes of an individual. Fingerprints, retina scans, or speech recognition systems can be used to identify individuals before they are allowed to access a Web site or pay for merchandise with a credit card. Biometrics devices also make a spoofing security breach less likely by making it more difficult for hackers to break into a site.

16. What are tiger teams, who uses them, and what are some of the tactics they use in their work?

Tiger teams are groups whose sole purpose is to attempt to break into a site. Large corporations use them to identify security weaknesses and provide solutions to rectify the problem areas. Tiger teams will mimic the actions of hackers so that their clients can gain a true assessment of their security weaknesses and the likelihood of a break-in. They will scour dumpsters for scraps of computer paper that may contain information, steal corporate ID badges, and even crawl through ceiling tiles to access computer rooms in search of information.

17. How do the interests of the four major payment systems stakeholders impact each other?

The interests of the four major payment systems stakeholders impact each other because their interests are often not the same. Consumers want low-risk, low-cost, refutable, convenient, and reliable payment mechanisms. Merchants also want low-risk, low-cost, and reliable payment systems, but they would like to see less refutability. Merchants would prefer it if all sales were final. Presently, they carry most of the risk for checking and credit card fraud, for repudiated charges, and they must also bear the costs of the hardware used to process and verify payments.

The financial intermediaries want to transfer the cost and risk of fraud or repudiation on to either the merchants or the consumers. They are most concerned with the security of financial transactions and want to maximize transaction fees. Government regulators are interested in maintaining trust in the financial system. They want to protect all parties against fraud and abuse as well as balance the interests of consumers, merchants, and financial intermediaries. Government regulations have limited the risks to individual consumers, and the major credit card companies have offered the same protections for debit cards in order to encourage their use.

18. Compare and contrast stored value payment systems and checking transfers.

Stored value payment systems are created by depositing funds into accounts from which funds can be withdrawn as needed. They are similar to checking transfers in that funds are stored and withdrawn, but a paper check need not be written. Stored value payment systems include prepaid phone cards, debit cards, gift certificates, and smart cards. Both stored value payment systems and checking transfers are dependent upon funds being available in an account. Neither is convertible without intermediation, and both involve only a small transaction fee for large purchases. However, stored value systems do not give the consumer any float time, and they are more expensive for the merchant because special hardware is required to read and process the stored numbers on the cards.

19. Why is a credit card not considered an accumulating balance payment system?

A credit card is not considered an accumulating balance system because the balance accumulated is not restricted to a certain time period. Utility and phone accounts accumulate a balance that must be paid in full at the end of a time period (usually one month). Credit cards, however, permit purchases to be made on a deferred payment plan with no restriction on time and interest charged on the balance due. Whereas credit cards involve a significant transaction cost for small purchases, accumulating balance systems involve only a small transaction cost for small purchases.

20. Name six advantages and six disadvantages of using cash as a form of payment.

The advantages of using cash as a form of payment are:

- It is instantly convertible without intermediation.
- It involves only a very low or no cost transaction for small purchases.
- There are only low fixed transaction costs for the merchant for such items as cash registers and safes.
- There is no financial risk for the merchant.
- It is an anonymous payment system for both the consumer and the merchant.
- It is a tamper-proof payment system.
- It does not require any authentication.
- The sale cannot be repudiated (an advantage for the merchant).
- No expensive special hardware is required to complete a sale.

The disadvantages of using cash as a form of payment are:

- It is difficult, or would require significant transaction costs, to use for large purchases such as a house or a car.

- There is financial risk to the consumer in carrying cash for purchases as it can be easily lost or stolen.
- It does not provide any float time for the consumer: there is no time period between the purchase of the item and the actual payment.
- Cash purchases tend to be final and irreversible unless the seller agrees upon a return policy.
- There is no security against unauthorized use.

21. Describe the relationship between credit card associations and issuing banks.

Credit card associations such as Visa and MasterCard are nonprofit organizations that set the standards for the banks that issue the credit cards. The banks are the institutions that actually issue the cards, process the transactions, receive and calculate the payments, and charge and receive the interest. Third party processing centers or clearinghouses usually handle verification of accounts and balances.

22. What is Regulation Z, and how does it protect the consumer?

Regulation Z limits the risk to consumers when using credit cards. It places the risks such as credit card fraud, repudiation of the transaction, or nonpayment on the merchant and the credit card issuing bank. The liability to the cardholder is limited to $50 for unauthorized transactions that occur before the card issuer is notified that a card is lost or stolen. Once the card is reported stolen, the cardholder is no longer liable for any subsequent charges.

Chapter 6

1. Is growth of the Internet, in terms of users, expected to continue indefinitely? What will cause it to slow, if anything?

The growth of the Internet is slowing, and the market penetration rates that television and the telephone (98 percent and 94 percent, respectively) have attained are not expected to be reached due to the cost and complexity of computer use required for Internet use. The growth rate will most likely continue to decrease until computer prices drop significantly, and computers become more user friendly.

2. Other than search engines, what are some of the most popular uses of the Internet?

Some of the most popular uses of the Internet are e-mail, which is the most popular; getting news; surfing the Web for fun, checking the weather, and looking online for political news and information. Users also often use the Web to bank online, use social networking sites, watch videos, look for information on Wikipedia, get financial information, use instant messaging, visit government Web sites, read online journals or blogs, and look for health/medical information, among many other activities.

3. Would you say that the Internet fosters or impedes social activity? Explain your position.

The Internet probably both fosters and impedes social activity at the same time. It fosters it because e-mail, instant messaging, and social networks help people to easily stay in touch with

friends and relatives. Online forums encourage people to ask questions and interact with people with similar interests, or who are going through the same stages in life.

The Internet may impede social activity because it causes people to spend less quality time with family and friends because they spend more time in front of the computer. A Stanford University study has indicated that Internet users lose touch with those around them; they spend far less time talking with friends and family face-to-face and on the phone.

4. Why would the amount of experience someone has using the Internet likely increase future Internet usage?

The more time an individual spends on the Internet, the more likely they will increase their future Internet usage. This is because the more time users spend online becoming comfortable and familiar with Internet features and services, the more likely they are to explore new services and offerings. Furthermore, the more time individuals devote to the Internet, the more likely they are to use the Internet instead of traditional media such as television, newspapers, and radio.

5. Research has shown that many consumers use the Internet to investigate purchases before actually buying, which is often done in a physical storefront. What implication does this have for online merchants? What can they do to entice more online buying, rather than pure research?

The fact that many consumers use the Internet to research products before actually making purchases has many implications for online merchants because it suggests that e-commerce is a major conduit and generator of offline commerce. This could mean that e-commerce and traditional commerce should integrate to alleviate the concern. It is very important for online merchants to build the information content on their sites to attract browsers, put less attention on selling, per se, and offer products in offline settings where users feel more comfortable and secure.

6. Name four improvements Web merchants could make to encourage more browsers to become buyers.

Improvements that Web merchants could make to encourage more browsers to become buyers are:

- Target the goal-oriented, intentional shoppers with communications directed at them.
- Design Web sites to provide easy-to-access and simple-to-use product information.
- Make it easier to comparison shop.
- Make it easier to return merchandise.
- Create policies for better credit card and personal information security.
- Make it easier to locate items on the Web site.
- Create customer service facilities where users can get the answers to their questions and product advice.
- Increase delivery speeds.
- Present products more clearly.
- Create loyalty reward programs.
- Make the buying process quicker to complete.

7. Name the five stages in the buyer decision process, and briefly describe the online and offline marketing activities used to influence each.

The five stages in the buyer decision process and the online and offline marketing activities used to influence them are:

- Awareness of Need: Mass media advertising on television, radio, in print media, targeted banner ads, interstitials, and targeted event promotions online, are used to promote the recognition of need in buyers.
- Search for Information: People use catalogs, print ads, mass media, store visits, and product raters (e.g., Consumer Reports offline), search engines, online catalogs, visits to Web sites, and targeted e-mails from merchants online to search for products.
- Evaluation of Alternatives: Offline consumers use reference groups, opinion leaders, the mass media, store visits, and product raters; online, they use search engines, online catalogs, visits to Web sites, product reviews, and user evaluations to evaluate the alternatives.
- Actual Purchase Decision: Promotions, direct mailings, mass media, and various print media affect the actual purchase decision offline; online promotions, lotteries, discounts, and targeted e-mail push the actual purchase decision online.
- Post-Purchase Contact with Firm: Post purchase loyalty is inculcated by firms offline using warranties, service calls, parts and repair services, and through consumer groups. Online, post purchase loyalty is encouraged through the use of communities of consumption, newsletters, e-mails to customers, and online product updates.

8. Why are “little monopolies” desirable from a marketer’s point of view?

“Little monopolies” are desirable from a marketer’s point of view because if consumers believe that a product is unique and highly differentiated from its competitors, a firm can position itself as the one trusted firm who can supply this product or fulfill this need. Consumers will believe that no substitute will suffice, and new entrants will have a difficult time matching the product or service’s feature set. Successful little monopolies reduce the bargaining power of consumers because they are the sole sources of supply, and they also give these firms a power advantage over their suppliers.

9. Describe a perfect market from the supplier’s and customer’s perspectives.

The perfect market from the supplier’s perspective is one in which there are no substitutes. It should be difficult for new competitors to enter; customers and suppliers should have little power to influence pricing; and there should be little competition in the industry. The perfect market from the customer’s perspective is one in which there is a lot of competition resulting in pure price competition and available substitutes. The market should be one in which new entrants can easily enter, and where customers and suppliers have strong bargaining power. Frictionless commerce where prices are driven down to their marginal costs, intermediaries are driven out of the market, and consumers deal directly with producers, would be ideal for consumers from a strictly price-oriented perspective.

10. Explain why an imperfect market is more advantageous for businesses.

An imperfect market in which there is widespread price dispersion that can be exploited by marketers is more advantageous to businesses.

11. What are the components of the core product, actual product, and augmented product in a feature set?

In a product feature set, the components of the core product are the core benefits a customer receives from buying the basic product. The actual product consists of the set of characteristics designed to deliver the product's core benefits. For example, the components of the actual product may consist of a brand name that signals a strong product, reducing consumer risk and anxiety about a product and the features and capabilities that the product will deliver. The augmented product consists of the additional benefits the consumer receives. These include: warranties, support and repair personnel, installation and delivery guarantees, credit terms, and any additional post-sales support that a company offers.

12. List some of the major advantages of having a strong brand. How does a strong brand positively influence consumer purchasing?

The major advantage of having a strong brand is that consumers are willing to pay a premium price to reduce market uncertainty. Strong brands also lower customer acquisition costs, increase customer retention rates, and can create a long-lasting, unassailable, unfair competitive advantage. Brand names constitute an unfair competitive advantage because they cannot be purchased or duplicated by competitors. A strong brand positively influences consumer purchasing by introducing market efficiencies. In a crowded marketplace, brands carry information to the consumer so that purchases can be made quickly and easily based on past consumption, and a set of expectations that the consumer knows beforehand will be met. Search costs and decision-making costs are reduced or eliminated, reducing the probability of nasty surprises in the marketplace.

13. How are product positioning and branding related? How are they different?

Product positioning and branding are related because a product is positioned within a market segment based on the brand. Marketers attempt to present a unique, high value product that is especially suited to the specific needs of the segment customers. These tactics are different because positioning refers to creating a desired image for a company and its products within a chosen user segment, whereas branding refers strictly to the set of expectations that the company wants the general population to have.

14. List the differences among databases, data warehouses, and data mining.

A database stores records and attributes organized into tables. Databases are maintained for e-commerce Web transactions, shopping carts, point-of-sale-terminals, warehouse inventory levels, field sales reports, and many other types of records.

A data warehouse gathers all of the database information from customer and transaction databases and stores it in one logical repository where it can be analyzed and modeled by managers without disrupting or taxing the systems of a firm's primary transactional systems and databases. Using the data warehouse, managers can query multiple databases to determine the answers to many marketing and financial questions enhancing their strategic decision making capabilities.

Data mining is a different set of analytical techniques that look for patterns in database information or seek to model the behavior of visitors and customers. Web site data can be mined to develop customer profiles that identify patterns in group or individual behavior on the site. Data mining can be either query driven, model driven, or rule based. Query-driven data mining is the simplest type; both databases and data warehouses can be queried. Marketers can answer specific questions such as, "What products sell better at different hours of the day?" and adjust Web site content accordingly. In model-driven data mining, a model analyzes the key variables in a strategic decision so that informed decisions can be made. In rule-based data mining, demographic and transactional data is examined, and general rules of behavior are derived for specific well-defined market segments.

15. Name some of the drawbacks to the four data mining techniques used in Internet marketing.

The drawbacks to rule-based data mining are that there may be million of rules, many of them nonsensical, and many others of only short duration. Therefore, these rules need extensive culling and validation. All of the four data mining techniques face difficulties in that there can be millions of affinity groups and other patterns in the data that are temporal or meaningless. With all data mining techniques, it becomes tricky to isolate the valid, and therefore profitable, data and then act on it quickly enough to make sales.

16. Why have advertising networks become controversial? What, if anything, can be done to overcome any resistance to this technique?

Advertising networks have become controversial because their ability to track individual consumers across the Internet is alarming to privacy advocates. Proposed legislation that would curtail the use of Web bugs and other tracking devices without consumer notification could help to overcome resistance to this technique. Giving consumers the option to opt-in or opt-out and making Web bugs visible as an icon on the screen could ease consumers concerns. Finally, privacy advocates believe that if a user clicks the icon, a disclosure statement should indicate any or all of the following: what data is being collected, how the data will be used, what other companies will receive the data, what other data it will be combined with, and if a cookie is associated with the Web bug. Consumers should be able to opt-out of any data collection done by the Web bug, and it should never be used to collect sensitive data such as medical, financial, job related, or sexual matters.

17. Which of the four market entry strategies is most lucrative?

The market entry strategy that has proven to be the most lucrative is the brand extender. This mixed clicks-and-bricks strategy integrates online marketing closely with offline physical stores. It uses the Web as an extension to already existing order processing and fulfillment, and marketing and branding campaigns. These firms have been the most successful because they already possess the financial depth, marketing and sales resources, loyal customers, strong brands, and production and/or fulfillment facilities needed to meet customer demands.

18. Compare and contrast the four marketing strategies used in mass marketing, direct marketing, micromarketing, and one-to-one marketing.

Mass marketing, which is appropriate for products that are relatively simple and attractive to all consumers, uses national media messages aimed at a single national audience with a single national price.

Direct marketing on the other hand, is directed at particular market segments that are deemed to be "likely purchasers" and uses direct mail or phone messages. Direct marketers generally do not offer wide price variations, but will offer special deals to loyal customers. It is most often used for products that can be stratified into several different categories.

Micromarketing is the first form of true database marketing. It is aimed at geographical units such as neighborhoods or cities, or specialized market segments. Prices are dynamically adjusted to reflect market conditions and competitor pricing, and this can even be done on a daily basis.

Personalized one-to-one marketing is suitable for products (1) that can be produced in very complex forms, depending on individual tastes, (2) whose price can be adjusted to the level of personalization, and (3) where the individual's tastes and preferences can be effectively gauged. The marketing message is changed based upon the merging of internal behavioral, transaction, and demographic data.

19. What pricing strategy turned out to be deadly for many e-commerce ventures during the early days of e-commerce? Why?

The pricing strategy that turned out to be deadly for many e-commerce firms in the early days of e-commerce was a low price leader strategy, which even resulted in "free" pricing. The idea was to attract enough eyeballs with free goods and services to amass a large, committed audience. It was supposed to achieve profitability through advertising and charging a small number of willing customers subscription fees for value-added services. Unfortunately, many early e-commerce businesses were unable to convert eyeballs into paying customers, and the strategy of piggybacking on a small number of users who would be willing to pay for premium services was not a great success.

20. Is price discrimination different from versioning? If so, how?

Price discrimination is different from versioning because price discrimination is strictly the selling of products to different people or groups based upon their willingness to pay. Versioning involves creating multiple versions of a good or service and offering them at different prices. In versioning, reduced value versions that have less functionality can be offered for free or at reduced prices, whereas premium versions are sold at much higher prices. In this situation, consumers are aware that they are "getting what they pay for." With price discrimination, it is the exact same product that is offered to different groups at different prices, concealing from each group the amount the other groups are paying.

21. What are some of the reasons that freebies, such as free Internet service and giveaways, don't work to generate sales on a Web site?

Freebies such as free Internet service and giveaways often did not cause the stimulus to sales that firms believed they would. This is because many so-called "freeloaders" never had the intention of paying for the product or additional products. They would simply switch to another free

service if the one they were using began to charge fees or stop usage altogether if alternatives no longer existed.

22. Explain how versioning works. How is this different from dynamic pricing?

Versioning works by having a set of slightly different products that can be sold successfully to different market segments. Low-priced or free versions can be less convenient, less comprehensive, slower, less powerful, and offer less support than higher priced models. Versioning differs from dynamic pricing because each version is sold at a fixed, predetermined price, and there are slight differences in functionality between versions.

In dynamic pricing, auctions can be used to establish an instant market price based upon the price the market will bear. Yield management systems can be used to set prices for different markets and appeal to different segments in order to sell excess capacity. Auctions work for pricing unusual as well as commonplace goods; the differing price an article will bring in the marketplace is not based upon the version of the good or service, but rather upon the market dynamics at that particular moment in time. Yield management systems are generally profitable for perishable goods or where there are seasonal variations in demand or rapidly changing market conditions. Again, the product itself is no more or less functional than its higher or lower yielding counterparts despite the varying prices preset by managers.

23. Why do companies that bundle products and services have an advantage over those that don't or can't offer this option?

Although consumers are apt to have very diverse ideas about the value of a single product, there is much more agreement on the value of a bundle of products. This often results in a price per product people are willing to pay for a bundle that is higher than the price they would be willing to pay for each product sold separately. Bundling reduces the variance in the market demand for goods, meaning that more people are willing to pay the same price for the bundle of goods. Bundler firms can pay higher prices to their suppliers for content, and they can charge higher prices to their customers for their bundles than can single good firms.

Chapter 7

1. Explain the difference between marketing and marketing communications.

Marketing encompasses all of the actions a firm takes to establish a relationship with the consumer and encourage the sale of products. Marketing communications focuses strictly on methods of communicating the brand name and communications that directly promote sales. Marketing includes such things as packaging, product placement/arrangement, and departments of a physical store or on a Web site. Marketing communications encompass all methods by which consumers will receive audio, visual, text-based, or any other exchange with a company to strengthen brand name or promote the sale of products.

2. Explain the difference between branding communications and sales/promotional communications.

Branding communication rarely encourages consumers to buy. Instead it focuses on extolling the differential benefits of consuming the product or service. Sales/promotional communications on the other hand, almost always encourage consumers to make immediate purchases.

3. What are some reasons why online advertising constitutes only about 9 percent of the total advertising market?

Online advertising constitutes only about 9 percent of the total advertising market because advertisers are still concerned about its cost versus its benefits and about how to accurately measure its results.

4. What kinds of products are most suited to being advertised online?

The kinds of products that are most suited to being advertised online are high-consideration, information-intensive products that consumers will typically want to research prior to purchasing. Computer hardware, automotive, and financial services companies are among the heaviest online advertisers for this reason. Financial and travel services, which have significant online commercial potential, are also well suited to Internet advertising.

5. What is the difference between an interstitial ad and a superstitial ad?

Interstitial ads are placed between the current Web page a user is viewing and the destination page for the link they have clicked. The interstitial ad typically gives way automatically to the page the user has requested after allowing enough time for the ad to be read. Interstitials use "dead time" in between the loading of requested pages. However, users may become annoyed because they believe that while they are waiting for the ad to load, the page they want to view is delayed. Superstitials, on the other hand, are preloaded into the cache of the browser and do not play until they are fully loaded. When the file is completely downloaded, just like an interstitial, it will wait until the user clicks a link to move to a new page before it opens in a separate window.

6. What are some of the reasons for the decline in click-through rates on banner ads today? How can banner ads be made more effective?

Click-through rates on banner ads have declined because the Web has become inundated with them. People have had to find ways to cope with the over-stimulation. One means of coping with sensory overload is input filtering, or filtering out the vast majority of messages that a person is being bombarded with. Users have learned to recognize banner ads or anything that looks like one and will immediately close them before they have even had a chance to fully load. Essentially, this can be considered an adoption curve. At first, people will want to try something new, but eventually there will be more people who have already done that something new compared to the newcomers. These people will become less and less inclined to do it again until you end up with what appears to be declining engagement. Basically, banners used to be exotic and "cool" and now they are banal and unavoidable. Banner ads can be made more effective if they are targeted to a specific audience (using pre-identified user profiles), to specific occasions, or to particular keyword search arguments.

7. Why are some affiliate relationships called "tenancy" deals? How do they differ from pure affiliate relationships?

Some affiliate relationships are called “tenancy” deals because they allow a firm to become a tenant on another Web site. A firm will put its logo or a banner ad on an affiliate partner’s Web site so that users can easily click through to their site and vice versa. These relationships are strategic partnerships in which the interests of both parties are served and no direct exchange of money occurs. In a pure affiliate relationship, the logo or button for a firm will be placed on a site, and all of the ordering infrastructure will be available. The affiliate firm will purchase the inventory and fulfill all of the orders; the host firm will receive a commission on the sales.

8. There is some controversy surrounding paid placements on search engines. What are some of the issues surrounding paid placement search engines? Why might consumers object to this practice?

The controversy surrounding the paid placement of search results erupted because originally, search engines produced unbiased results from searching the Web’s vast collection of pages. However, since 1997, some search engine sites have charged firms for inclusion in the search engine index. This amounts to a guarantee that their firm will appear prominently in the results of relevant searches. In some cases, search engines do not inform the user that the results of a query have been paid for by participating firms. Critics and consumer advocates believe that these search engines are engaging in deceptive practices. Consumers might object to this practice because search results look like information from an objective database, and that is what they have been in the past. Now, instead of an objective list of relevant results, they will be served paid ads in disguise. Consumers may legitimately worry that the impact of fees being paid for search inclusion might distort the result list and exclude otherwise valid links. This skewed list, with paid placements figuring prominently, may also take longer for the user to sift through to find the information they really need.

9. What are some of the advantages of direct e-mail marketing?

The major advantage of direct e-mail marketing is that because e-mails are sent to interested users who have elected to “opt-in,” they have proven to be one of the most effective forms of marketing communication. These consumers have at one time or another expressed an interest in receiving messages from advertisers. Therefore the response rates are much greater than other forms of online marketing communications. Another advantage is that the cost is negligible. The primary cost is for the purchase of a list of names, which can be from 15 to 50 cents per name, depending on how targeted the list is. Sending the e-mails is virtually cost free. Furthermore, marketers can rapidly get a targeted direct e-mail advertising campaign off the ground.

10. Why is offline advertising still important?

Offline advertising is still important because so far the marketing communications campaigns that have been the most successful at driving traffic to a Web site have combined both offline and online tactics. Research studies have shown that the most effective online advertisements were those that incorporated consistent imagery with ads that were running simultaneously in the print media and on television. Furthermore, because offline media such as television and radio have nearly 100 percent market penetration and more than millions of adults read a newspaper every day, it would be foolish to ignore these more popular media devices for driving traffic to a Web site. Meeting the objectives of drawing the attention of people who are already online and

attracting the attention of those who will be going online in the near future can best be accomplished with a combined offline/online strategy.

11. What is the difference between hits and page views? Why are these not the best measurements of Web traffic? Which is the preferred metric for traffic counts?

Hits are the number of http requests received by a server, whereas page views are the number of pages requested by visitors. Hits can be a misleading measure of site activity because one page view can include many hits if the page contains multiple images or graphics. Page views are also an inaccurate measure of site activity because of the increased usage of Web pages that use frames to divide the page into separate sections. This will cause one page to generate multiple hits: one for each frame on the page. The preferred metric for traffic counts is unique visitors, which counts the number of new visitors to a site, regardless of how many pages they view.

12. Define CTR, CPM, CPC, and CPA.

CTR refers to the click-through rate or percentage of people exposed to an online advertisement who actually click it to visit the site. CPM refers to the cost per thousand impressions. Advertisers originally purchased online ads in lots of 1,000 units. CPC is a later pricing model in which the advertiser pays a prenegotiated fee for each click an ad receives. CPA refers to a cost structure where advertisers pay a prenegotiated amount only when a user performs a specific action such as a site registration or purchase.

13. What are the key attributes of a good domain name?

The following are the key attributes of a good domain name:

- Short
- Memorable
- Not easily confused with other domain names
- Difficult to misspell
- Reflects the nature of the company's business
- Preferably a dot-com suffix

14. What are some of the steps a firm can take to optimize its search engine rankings?

Some steps firms can take to optimize their search engine rankings are:

- Register with as many search engines as possible so that a user looking for similar sites has a chance of coming across yours.
- Make sure that keywords used in your Web site description match keywords likely to be used by prospective customers. Most search engines read home page title tags, metatags, and other text on the home page in order to index the page.
- Link the site to as many other sites as possible because some search engines rank sites based upon the number of links from other sites. The assumption is that the more links there are to a site, the more useful the site must be (link popularity).

15. List and describe some Web site design features that impact online purchasing.

Some Web site design features that impact online purchasing are:

- Compelling experience: Sites that offer entertainment and interactivity along with commerce or that are perceived as "fun" to use, are more successful in attracting and retaining visitors.
- Short download times: Sites that take too long to download will experience higher abandonment rates, although this can be diminished somewhat by providing online amusement to distract the consumer.
- Simplicity of design: The most important aspects of site design for generating sales are product list navigation and choice features that save consumers time.
- Interactive consumer decision aids: Recommendation agents (programs) that are used to recommend a product based on the consumer completing a survey, a review of the consumer's profile, or based on the purchases of other consumers who have bought the same product can also drive sales.
- Responsiveness to consumer inquiries: Prompt and complete responses through automated customer response systems or online customer service centers can also positively affect return visits and purchases.

Chapter 8

1. What basic assumptions does the study of ethics make about individuals?

The study of ethics makes the basic assumption that individuals are free moral agents who are in a position to make choices.

2. What are the three basic principles of ethics? How does due process factor in?

The three basic principles of ethics are responsibility, accountability, and liability. As free moral agents, individuals, organizations, and societies are responsible for the actions they take and should be held accountable to others for the consequences of those actions. Liability is a characteristic of political systems in which a body of law is in place so that accountability can be enforced. It permits individuals to recover damages for the actions of other individuals, systems, or organizations that cause them damage. Due process is a feature of law-governed societies and refers to a process in which laws are known and understood and there is an ability to appeal to higher authorities to ensure that the laws have been applied correctly.

3. Explain Google's position that YouTube does not violate the intellectual property rights of copyright owners.

Google's defense against accusations of copyright infringement rests upon the doctrine of fair use and the provision of the Digital Millennium Copyright Act (DMCA) of 1998. The doctrine of fair use permits limited use of copyrighted materials as long as certain conditions are met, such as the following:

- it does not harm the commercial value of the work
- it is limited to very small portions
- the nature of the work
- the nature of use, e.g., noncommercial purpose
- the context of use prevents seeking permission

Google claims that YouTube meets at least some of these criteria. They also claim that it is sometimes impossible to know whether a video is infringing or not. Google also claims that it

qualifies for the “safe harbor” provision of the DMCA, because YouTube promptly removes infringing content if it is requested to do so by copyright holders.

4. Define universalism, slippery slope, the New York Times test, and the social contract rule as they apply to ethics.

Universalism implies that if a solution is not correct for all situations then it is not right for any specific situation. In simple terms, Immanuel Kant’s categorical imperative asks: if the rule were to be adopted in every case, would the organization or society survive?

The slippery slope rule, which is based on Descartes rule of change, states that if an action cannot be undertaken repeatedly, then it should not be taken at all. The solution might appear to work in one instance, but if the solution were repeated, negative outcomes might begin to occur, and in fact continue occurring at a pace that could not be stopped.

The New York Times test, or Perfect Information Rule, states that you must assume that the results of your decision on a matter will be the subject of the lead article in the New York Times the next day. In other words, if you would not want to see the reactions of your friends, family, and neighbors when they read about the results of your decision on the front page of the newspaper, then it is probably not the correct decision. Most criminals and other unethical actors operate under the assumption of imperfect information, meaning that they never expect to be exposed. When faced with an ethical dilemma, it is best to assume that perfect information will be available to all.

The social contract rule asks the decision maker to consider whether they would like to live in a society where the principle they are advocating was the organizing principle of the entire society.

5. Explain why someone with a serious medical condition might be concerned about researching his or her condition online, through medical search engines or pharmaceutical sites, for example. What is one technology that could prevent one’s identity from being revealed?

An individual with a serious medical condition might be concerned because in the United States, there is no federal agency charged with enforcing privacy law. Private organizations and businesses can still use personally identifiable information gathered in commercial transactions for other business purposes. If a person with a serious medical condition were to purchase pharmaceuticals online for that illness, he or she would have cookies placed on his/her computer that would identify the person as a potential customer for other drugs for that illness. Because many companies do not even follow their own stated privacy policies, and opt-out procedures are usually difficult to find on a site, personal information or personal profiles might be sold or transferred to other companies, potentially even insurance companies. Advertising networks, or “profiling companies,” that have ads on the search engine site or pharmaceutical site may likely, without the person’s permission, place tags or identifiers on the person’s computer that will be used to track his or her movements as the person surfs the Web. In addition to collected behavioral information, a profile may contain inferential or psychographic data, information that the company infers about that person based on the sites they have visited.

The transition from fee-for-service health care to managed care has led to a demand for an unprecedented depth and breadth of personal information by a growing number of players, including health insurance companies. At the same time, the environment for information is moving rapidly from paper forms and files to electronic media, giving organizations a greater

ability to tie formerly distinct information together, including data collected from the Web. The possibility of being dropped by an insurance company, not being able to transfer to a new insurance company along with new employment, or not being able to obtain health insurance at all, or of an employer finding out about a medical condition through the transfer of this data might be daunting. This is why, as people become more aware that their movements on the Web are being tracked, they might become far less likely to explore sensitive topics such as personal medical conditions.

Some technologies that could prevent one's identity from being revealed include anonymous surfing products such as Freedom Websecure, Anonymizer.com, Tor and GhostSurf, and anonymous remailers, such as W3-Anonymous Remailer, Jack B Nymble, and Java Anonymous Proxy.

6. Name some of the personal information collected by Web sites about their visitors.

Personal information that is collected by Web sites about their visitors includes the person's e-mail address, postal address, and/or phone number. This is added to demographic data such as their age, occupation, income, education, gender, and ethnicity, and their behavioral data. Behavioral data includes: what Web sites they have visited (click-stream data), what purchases they have made (transaction data), and what preferences they have professed when filling out preference forms. E-commerce sites also collect bank account information, credit card account data, and sometimes the social security number and type of browser the customer uses.

7. How does information collected through online forms differ from site transaction logs? Which potentially provides a more complete consumer profile?

Transaction logs are anonymous information whereas online forms are personally identifiable information. The transaction log records an entry for each page a visitor views and each object they request. Online forms can be used to collect a variety of personal information about site visitors such as their name, address, e-mail address, and phone number. Online forms potentially provide a more complete consumer profile because this PII can be combined with the visitor-generated, click-stream behavior and other behavioral data to create a comprehensive personal profile.

8. How is the opt-in model of informed consent different from opt-out? In which type of model does the consumer retain more control?

In the opt-in model, the default behavior on the part of the Web site operator is not to approve the collection of data. In the opt-out model, the default is to automatically collect and use information unless otherwise notified. With the opt-in model, the consumer or site visitor must give consent before information about them can be collected and used. In the opt-out model, the consumer/site visitor must take an action to prevent the collection of data. The consumer retains more control in the opt-in model because no action to collect data will be undertaken unless they first agree to it. Only sites the consumer specifically requests to receive offers and promotions from will be allowed to collect data.

9. What are the two core principles of the FTC's Fair Information Practice Principles?

The two core principles of the FTC's Fair Information Practice Principles are notice/awareness and choice/consent. The FTC guidelines, which are not yet codified in law, recommend for the

notice/awareness principle that sites disclose their information practices before collecting data. This includes identifying the data collector; all uses of the data; whether the data collection will be active or inactive, voluntary or required; the consequences of refusing to allow data to be collected; and the steps that will be taken to protect the confidentiality, integrity, and quality of the data. The choice/consent principle recommends that there be a choice system in place that allows consumers to choose how their information will be used for secondary purposes, other than supporting transactions. This includes internal uses by the collecting firm and transfer to third parties, and that opt-in opt-out choices are made available.

10. How do safe harbors work? What is the government's role in them?

Safe harbors are private, self-regulating policy and enforcement mechanisms that meet the objectives of government regulators and legislation but do not involve actual codified regulation and enforcement. Industry groups or other organizations submit self-regulatory policies that implement the protections set forth in the safe harbor to the overseeing governmental agency or commission. The overseeing governmental agency certifies the submitted plan if it meets the protection goals they are seeking. Commission-approved safe harbors provide Web site operators with the opportunity to tailor compliance obligations to their business models with the assurance that if they follow the safe harbor, they will be in compliance with the rule.

11. Name three ways online advertising networks have improved on, or added to, traditional offline marketing techniques.

Online advertising networks now have the ability to precisely track not just consumer purchases, but also all browsing behavior on the Web. This can tell marketers much more about individual consumers than was previously known. For example, advertising networks can now compile information on all known interests of a consumer by collecting data on all content the viewer has accessed and all inclinations the consumer has expressed on preference forms. Advertising networks can also create the ability to dynamically adjust what the shopper sees on the screen. For instance, they can serve ads that conform to the inferences made from the collected data, and they can adjust the prices to conform to demographic or personal preference data. Furthermore, advertising networks create the ability to build and continually refresh these high-resolution data images or behavioral profiles of consumers. In summary, the scope and intensity of the data collection is strengthened to such an extent that merchants are now able to manipulate the shopping environment to their advantage.

12. Explain how Web profiling is supposed to benefit both consumers and businesses.

Web profiling is supposed to benefit both consumers and businesses because the ability to precisely target ads will purportedly ensure that consumers only see advertisements for products and services in which they are actually interested. Businesses will save advertising dollars by not sending ads to consumers who have no interest in their product or service. Increased advertising effectiveness will also ensure that more advertising revenues go to the Internet, which in turn will subsidize more free content for consumers. Also, product designers and entrepreneurs will be able to pick up on and respond to consumer demand for new products and services by studying user searches and profiles.

13. What are some of the challenges that Chief Privacy Officers (CPOs) face in their jobs

One challenge faced by Chief Privacy Officers is that approximately 80 percent of companies do not follow their own stated privacy policies as a result of poor training and human error. CPOs have a difficult time getting business sales and production units to pay attention to their concerns. This is partially because CPOs generally do not have a budget, they generally don't have large staffs relative to the rest of the company, they are not responsible for profit and loss, and don't bring in any revenue. CPOs must coordinate the activities of an entire firm; comparing the company's privacy policies and emerging technology with potential risks, and then figuring out whether or not and how to implement policies. They must also manage customer-privacy disputes and inform senior executives, as well as all general employees, on how the company needs to deal with privacy issues.

14. How could the Internet potentially change protection given to intellectual property? What capabilities make it more difficult to enforce intellectual property law?

The Internet could potentially change the protections given to intellectual property because once a work becomes digital, it becomes much more difficult to control its access, use, distribution, and copying. Because digital media is so easy to replicate, transmit, and alter, unique challenges are presented. Theft is made much simpler in the digital world, and it becomes more and more difficult to establish the uniqueness of a work. It also becomes harder to enforce intellectual property law because the technology now exists to create perfect digital copies of various files including books, music, plays, poems, journal articles, and films. It is also simple to distribute these copies quickly, easily, and incredibly cheaply.

15. What does the Digital Millennium Copyright Act attempt to do? Why was it enacted? What types of violations does it try to prevent?

The Digital Millennium Copyright Act attempts to adjust copyright laws for the digital age. It was enacted when a confrontation erupted between the major copyright holders (the publishing, sheet music, record label, and commercial film industries), the providers of Internet content, users of copyrighted materials (libraries, universities), and the general consumer population. The act tries to prevent violations by imposing fines and possible imprisonment on hackers who attempt to break encryption schemes and distribute copyrighted materials worldwide. It also attempts to control the behavior of Internet Service Providers who often host infringing Web sites, or who provide Internet service to routine infringers. The ISPs do not believe that they should be held accountable, or specifically, that they should have to put their users under surveillance or invade their privacy because they are merely the message carriers.

The Digital Millennium Copyright Act makes it illegal to make, distribute, or use devices that circumvent the technology-based protections of copyrighted materials, and it also holds the ISPs responsible for infringers once they have been notified of these infringements. ISPs must immediately take down violating sites or be subject to prosecution themselves. Copyright owners can subpoena in federal court to obtain the personal identities of suspected violators from the ISP. ISPs must also inform all of their subscribers of their copyright management policies. All provisions of the DMCA are designed to prevent the widespread online violation of copyright.

16. Define cybersquatting. How is it different from cyberpiracy? What type of intellectual property violation does cybersquatting entail?

Cybersquatting means registering, trafficking in, or using a domain name with the bad faith intent to profit from a trademark belonging to someone else. It refers to the practice of buying domain

names that reflect the names or trademarks of existing businesses intending to extort payments from the businesses. Cybersquatting is different from cyberpiracy because although cyberpiracy involves the same behavior, the intent is to divert traffic away from legitimate sites to infringing sites. It is a bad faith attempt to divert traffic that dilutes the value of the legitimate trademark. Cybersquatting is considered an intellectual property violation because the creator of the trademark or company name owns it according to the general principles of intellectual property law, which state that any tangible or intangible product of the human mind is protected from infringement.

17. What is deep linking and why is it a trademark issue? Compare it to framing—how is it similar and different?

Deep linking is the creation of a link to a page deep within another Web site using a publicly accessible HTML anchor tag. The home page of the target site is bypassed in order to access a page deep within that site. This becomes a trademark issue, for example, in the case of Ticketmaster versus Tickets.com. When Tickets.com did not have available tickets for a particular event, they would redirect users to a page deep within the Ticketmaster site to obtain those tickets. These customers might not ever realize that they were on a different site and that a different firm, indeed a direct competitor firm, was fulfilling their needs.

Framing on the other hand, is displaying the content of another Web site on your own site within a frame or window. The user never leaves the original site but can be exposed to advertising that is not that of the content owner. Framing may trigger a dispute under copyright and trademark law theories because a framed site can alter the appearance of the content and create the impression that its owner endorses or voluntarily chooses to associate with the framer. It can also divert advertising revenue from the content owner's site. It is similar to deep linking in that the site visitor is accessing content from another site, but it is different in that with framing, the site visitor never even clicks a link to leave the site.

18. What are some of the tactics illegal businesses, such as betting parlors and casinos, successfully use to operate outside the law on the Internet?

The main tactic illegal businesses use to operate outside of the law on the Internet is operating from offshore sites, for example, in Antigua or Costa Rica, so as to operate beyond the jurisdiction of the state and federal prosecutors.

Chapter 9

1. Why were so many entrepeneurs drawn to start businesses in the online retail sector initially?

Many entrepreneurs were drawn to start businesses in the online retail sector initially because it was one of the largest market opportunities in the U.S. economy. Many believed that the Internet would revolutionize the retail industry because:

- search costs and transaction costs would both be dramatically reduced
- market entry costs would be comparatively low
- traditional offline physical stores would be forced out of business by falling prices on the Internet

- many industries would be disintermediated, destroying the middleman and the associated markups, establishing the Web as the single dominant marketing channel

2. What frequently makes the difference between profitable and unprofitable online businesses today?

Today, the difference between profitable and unprofitable online businesses is, for the most part, dependent upon a strong brand name. Multi-channel firms with a strong brand name have leveraged their supportive infrastructures and financial resources to exploit the new marketing channel.

3. Which segment of the offline retail business is most like online retailing? Why?

Of the different retail segments, the one that is the most like online retailing is MOTO, mail order/telephone order. It is similar because MOTO retailers and pure Web retailers do not have physical stores; they both use a catalog to display products and are both very dependent on credit card technologies, without which neither would be possible on a national scale. They both must also have very effective order fulfillment systems and procedures.

4. Name the largest segment of U.S. retail sales. Explain why businesses in this segment have achieved and continue to dominate online retailing.

The largest single segment of U.S. retail sales is durable goods. In the early days of e-commerce, sales of small-ticket nondurable goods vastly outnumbered those of large-ticket items. But the recent growth of big ticket, durable goods has changed the overall sales mix. In addition, retailers of durable goods use the Web as an information tool, and this also translates into sales. It is probably not accurate to say at this time that any one sector dominates online retailing.

5. Describe the technological retailing revolution that preceded the growth of e-commerce. What were some of the innovations that made later online retailing possible?

The technological revolution that preceded the growth of e-commerce was the mail order/telephone business. Without physical stores, MOTO retailers distribute millions of printed catalogs and operate large telephone call centers to accept orders. They have developed highly efficient order fulfillment centers that can ship orders within 24 hours. The innovations that occurred in the 1970s and 1980s that made this the fastest growing retail segment during this time period were improvements in the national toll-free call system and the growth of the credit card industry. The efficiencies that were developed in order fulfillment and credit card technologies were the necessary precursors to online retailing.

6. Name two assumptions e-commerce analysts made early on about consumers and their buying behavior that turned out to be false.

Two assumptions that e-commerce analysts made early on about consumers and their buying behavior that turned out to be false were that they would be rational and cost-driven. Instead, consumers are attracted to stable, well-known retail brands and have demonstrated that other factors such as reliability, trust, fulfillment, and customer service are equally important. This does not mean consumers are nonrational, but simply that they are willing to pay extra for branded goods and services.

7. Why were customer acquisition costs assumed early on to be lower on the Web? What was supposed to reduce those costs?

It was assumed that customer acquisition costs would be lower on the Web because search engines would almost instantaneously connect customers to online vendors.

8. Explain the distinction between disintermediation and hypermediation as it relates to online retailing.

Disintermediation in online retailing occurs when manufacturers or their distributors build a direct relationship with the consumer and the traditional retail intermediaries or middlemen are eliminated. Hypermediation on the other hand, occurs when virtual firms outsource all of their warehousing and order fulfillment functions, creating a number of new intermediaries who would be necessary for these firms to function.

9. How would you describe the top 10 online retailers as a group? Do they account for a small or large percentage of online business, for example?

The top online shopping destinations include both pure-play and multi-channel firms. In general, they are merchants of relatively small-ticket nondurable goods (computers, consumer electronics, office supplies, apparel, books, etc). Together they account for about one-third of all online buying.

10. Name two retail product categories that have been demonstrating greater than 50 percent annual growth.

Retail product categories that demonstrated over 50 percent annual growth are home/office supplies, sporting goods, flowers/gifts, and health/beauty products.

11. Compare and contrast virtual merchants and bricks-and-clicks firms. What other type of online retailer is most like the virtual merchant?

Virtual merchants are single-channel Web firms that generate almost all of their revenue from online sales. Bricks-and-clicks firms, on the other hand, have a network of physical stores as their

primary retail channel, but have also introduced online offerings. They are often multi-channel firms with catalog or other retail channels already established. Virtual merchants do not have to bear the costs associated with building and maintaining physical stores, but they face large costs in building and maintaining Web sites and in building a brand name presence. Bricks-and-clicks firms have the high costs of maintaining physical buildings and large sales staffs, but they have an already established brand name, a national customer base, warehouses, large scale, an already trained staff, and consequently, much lower customer acquisition costs. Virtual merchants, like all retail firms, face very low margins (the difference between the retail price for goods and the cost of the goods to the retailer) therefore they must achieve highly efficient operations in order to make a profit. Bricks-and-clicks firms are already used to operating in these thin margins and have already invested in the purchasing and inventory control systems that enable them to control costs. Bricks-and-clicks firms must figure out how to leverage their strengths and assets to the Web. They face the costs of building and maintaining a creditable Web site, hiring new skilled staff, and building rapid response order entry and fulfillment systems, but so do virtual merchants.

The other type of online retail model that is most like a virtual merchant is the online mall. The online mall is simply a variation on the virtual merchant business model. These online firms generate revenue from renting space on their Web sites to other retailers who pay to sell under the mall's umbrella. They face all of the challenges of a virtual merchant plus they are dependent on the underlying success of the retail merchants that they sign up as clients.

12. What is the difference between a supply-push and a demand-pull sales model? Why do most manufacturer-direct firms have difficulty switching to one of these?

A supply-push sales model refers to a business model in which products are manufactured prior to orders for them being received based upon calculations of the estimated demand for the product. Demand-pull, on the other hand, refers to a business model in which products are not manufactured until orders are received.

Manufacturers attempting to successfully pursue a demand-pull sales model must have the supporting supply chain management capabilities, an efficient order center, and the manufacturing capabilities to support it. Many manufacturer-direct firms have difficulty switching to the demand-pull model because they lack these necessary ingredients. They have difficulty in using either sales model when they develop an online strategy of selling directly to consumers because they face channel conflict with the physical retailers of their products. The risk is that the traditional retailers of the manufacturer's goods will become disadvantaged from a price standpoint as they have to compete directly with the manufacturer. They may also be disadvantaged in their ability to maintain inventory that is as current as the manufacturer. The result can be that these traditional marketing channels are cannibalized by the manufacturer's efforts to establish a direct relationship with its customers. Unless manufacturers can be assured that the elimination of this marketing channel will not negatively impact sales and revenue, they must proceed with caution in pursuing the manufacturer-direct business model, or they must take the necessary steps to assure the continued existence of their retailing business partners.

13. What are five strategic issues specifically related to a firm's capabilities? How are they different from industry-related strategic issues?

The five strategic issues that are specifically related to a firm's capabilities are an evaluation of the firm's value chain, its core competencies, its available synergies, and the social and the legal challenges. In analyzing the economic viability of a firm, one must understand whether the firm has adopted business systems that will enable it to operate at peak efficiency and whether there are looming technological changes that might force it to change its processes or methods; this is the firm's value chain. It is also necessary to assess whether the firm has any unique skills that cannot be easily duplicated by its competitors and whether technological changes might invalidate these core competencies. Furthermore, one must examine whether there are competencies or assets available to the firm from related establishments that it owns or with which it has established strategic partnerships. Finally, the social and legal horizon must be considered to determine if the firm may be vulnerable to legal challenges or if it has taken into account consumer trust and privacy issues that could cause it to lose business or cause public relations problems.

These strategic issues are different from those used to assess the industry as a whole because they focus on the particular issues and capabilities of an individual firm. The industry strategic factors concentrate on the competitive forces within the industry such as:

- the facility with which competitors can enter the market
- the existence of substitute products
- the basis of the competition within the industry
- the power of the suppliers and customers in the industry
- the structure and possible changes in the industry production and distribution chains

14. Which is a better measure of a firm's financial health: revenues, gross margin, or net margin? Why?

The best measure of a firm's financial health is net margin, which sums up in one number how successful a company has been at making a profit on each dollar of sales. A negative net margin means that a company is losing money on each sale.

15. What are some of the difficulties in providing services in an online environment? What factors differentiate the services sector from the retail sector, for example?

Some of the difficulties involved in providing services online are that many are hands-on type industries such as the legal, medical, and accounting professions. These professionals need to interact directly with their clients in order to provide their service, but the Internet can be used to assist these services by providing consumers with information, knowledge, and communication. The factors that differentiate the services sector from the retail sector are that instead of an actual physical product that has value, the value for services is based mainly on the collecting, storing, and exchanging of information.

16. Compare and contrast the two major types of online service industries. What two major features differentiate services from other industries?

The two major types of service industries are transaction brokering and hands-on services. Transaction brokers act as intermediaries to facilitate a transaction. For example, stockbrokers facilitate a stock transfer between a buyer and a seller; online mortgage companies refer customers to the actual issuing mortgage company. In contrast, the hands-on services use the Internet by and large to impart information and to communicate with their customers.

The two major features that differentiate the service industry from other industries are that they are for the most part knowledge and information intense, and that just about all services entail some amount of personalization and customization. Except for the providers of physical services such as cleaning and gardening, service industries generally process a lot of information and employ a highly-skilled, educated workforce. Many services, such as the legal, medical, and accounting services, require extensive personalization. Others, such as financial services, benefit from customization by allowing clients to choose from a menu of options that are of interest to them.

17. Name and describe the three types of online mortgage vendors. What are the major advantages of using an online mortgage site? What factors are slowing the growth of such service businesses?

The three types of online mortgage vendors are:

- established banks, brokerages, and lending organizations such as Chase Manhattan and Wells Fargo
- pure online mortgage bankers/brokers such as E-loan.com and QuickenLoans.com which expedite mortgage shopping, and provide loan comparisons and professional advice
- mortgage brokers such as Tree.com that offer visitors access to hundreds of vendors

The major advantages of using an online mortgage site are that there are reduced application times, increased market interest rate intelligence, and process simplification. These take place because all of the participants in the process, including the lending, insurance, and title companies, share a common information base. The factors that are slowing the growth of these companies, however, are that the mortgage process is sufficiently complex that it requires multiple signatures on multiple documents and there are financial detail complexities. These complexities include closing cost differences and mortgage loan points which make it difficult for consumers to make online comparisons between firms.

18. What is the biggest deterrent to growth of the online insurance industry nationally?

The biggest deterrent to online insurance industry growth is that insurance products are complex with many different types of coverage in each insurance group (e.g., nonautomotive property and casualty, workers compensation, marine, accident, liability, fire, homeowners, commercial, etc.). Furthermore, writing a policy can be very information intense, requiring a personal inspection of property or considerable actuarial experience and data. Complicating this situation is the fact that there is no federal regulation of the industry. Instead, each state has its own set of regulations overseen by the 50 different state insurance commissions. Web sites must obtain licenses to enter the insurance business in every state where they intend to provide quotes or sell insurance.

19. Define channel conflict and explain how it currently applies to the mortgage and insurance industries. Name two online insurance companies or brokers.

Channel conflict is defined as the conflict that occurs when a new venue for selling products or services threatens to destroy existing venues for selling these items. It has discouraged growth in the online mortgage and insurance industries: up until recently, it had deterred the major insurance and mortgage underwriting companies from offering competitive products directly on the Web because they did not want to damage the business operations of their traditional local agents. Some of the leading online insurance companies are Answerfinancial, Progressive.com, InsWeb, Quotesmith, Accuquote, SelectQuote, and eHealthinsurance.

20. What is the most common use of real estate Web sites? What do most consumers do when they go there?

The most common use of real estate Web sites is conducting research, which influences offline decisions. Users visit real estate sites to view the properties that are available for purchase and to research appraisal reports, neighborhood sales histories, school district data, crime reports, as well as social and historical information on neighborhoods. They can also link to mortgage lenders, credit reporting agencies, house inspectors, or surveyors, and use other features such as loan mortgage calculators.

21. Name and describe the four types of services provided by financial services firms on the Web.

The four types of services provided are storage and access to funds, protection of assets, means to grow assets, and movement of funds. Storage of and access to funds is provided by banking institutions through checking and savings accounts; protection of assets is provided through insurance; the means to grow assets is provided by brokerage and investment firms through financial planning or brokerage and trading accounts; and the movement of funds is provided by electronic bill paying, digital wallets, or credit and debit card services.

22. Who are the major players in the financial industry consolidation currently occurring worldwide?

The major players are the banks, brokerages, and insurance firms, which since the Financial Reform Act of 1998 can merge and develop nationwide banks. Citibank for example, purchased Travelers Insurance and E*Trade.com purchased Telebank. Previously, the Glass-Steagall Act of 1934 legally separated the banking, finance, brokerage, and insurance industries, and large banks were prevented from owning banks in other states.

23. Explain the two global trends impacting the structure of the financial services industry and their impact on online operations.

The two global trends are industry consolidation and the movement toward integrated financial services. Once the banks, brokerages, and insurance companies were permitted by the Financial Reform Act of 1998 to own one another, they could begin to provide customers with integrated cash management and brokerage accounts and financial supermarkets where consumers could find any financial product or service found at a physical branch bank. Although this vision has not yet become a reality, the Internet has provided the technical foundations for the online financial supermarket where eventually, a customer will be able to arrange for a car loan, obtain a mortgage, receive investment planning advice, and establish a pension fund at one institution with one account. Consolidation of the financial industry has lead to the integration of financial services, which will eventually result in financial supermarkets where a customized, integrated

financial services package can be offered to consumers based upon a complete understanding of their financial behavior, life cycle status, and unique needs.

24. How have travel services suppliers benefited from consumer use of travel Web sites?

Travel services suppliers have benefited from consumer use of travel Web sites because the Internet is becoming the most common channel used by consumers to research travel options, search for prices, and book reservations for airline tickets, rental cars, hotel rooms, cruises, and tours. For the suppliers, the owners of the hotels, rental cars, and airlines, this means that millions of consumers are aggregated into a singular focused customer pool that can be efficiently reached with advertising and promotions. Furthermore, the suppliers of travel services often have excess capacity that they are always looking to fill, and this aggregation of customers makes it easy for them to do so.

25. What are the two major segments of travel? Which one is growing the fastest and why?

The two major segments of travel are leisure and business travel (managed or unmanaged). The leisure market includes unmanaged business travel, and this is where the online travel industry has concentrated its efforts. However, the fastest growing segment is managed business travel because large and midsized firms are trying to control mushrooming corporate travel costs by actively managing their employees' travel arrangements. Increasingly, corporations are outsourcing their travel offices to vendors who can provide Web-based solutions, high-quality service, and lower costs.

26. Explain how global distribution systems (GDSs) function.

Global Distribution Systems (GDSs) function by buying the reservations directly from the suppliers (the large national airlines, international hotel chains, auto rental companies, and cruise/tour operators) and then reselling them to agencies which retail the inventory to consumers or create vacation packages that are sold to other retail agents.

27. Name and describe the five traditional recruitment tools companies have used to identify and attract employees. What are the disadvantages of such tools in light of new online sites?

The five traditional recruitment tools that companies have used to identify and attract employees are: classified and print advertising, career expos, on-campus recruiting, private employment agencies, and internal referral programs. The disadvantages of these tools in light of the new online sites are first, that print advertising usually includes a per-word charge that limits the amount of detail employers will provide about a job opening and also limits the amount of time an ad will run. Second, career expos do not allow for a prescreening process to weed out unsuitable candidates, and they are limited by the amount of time a recruiter can spend with each candidate. Third, staffing firms charge high fees and they have a limited, usually local, pool of candidates. Fourth, on-campus recruiting firms are also limited in the amount of time that can be spent per candidate as well as in how many candidates can be seen each visit, necessitating multiple visits to some campuses. Fifth, internal referral programs can sometimes encourage employees to propose unqualified candidates so that they will qualify for the rewards and incentives offered.

28. In addition to matching job applications with available positions, what larger function do online job sites fill? Explain how such sites can affect salaries and going rates?

In addition to matching job applicants with available positions, online sites also serve the larger function of automating this information-intense business process, reducing search times and costs for all parties. These sites can also affect salaries and going rates by establishing market prices and terms. Online recruitment sites identify salary levels for both employers and job hunters and lay out the skill sets required to achieve those salary levels. They serve as online national marketplaces to establish the terms of trade in the labor market, thus their existence should lead to a rationalization of wages, greater labor mobility, and higher efficiency in recruitment and operations as employers are able to more quickly fill positions.

29. Given the popularity of online job and career sites, why are classified ads still the preferred information source for so many job seekers and employers?

Given the popularity as well as the efficiency of online job and career sites, it seems odd that the classified ads are still the preferred information source for both job seekers and employers. However, job seekers still believe that the traditional methods are the best way to actually find a job.

Chapter 10

1. What are the three dimensions where the term convergence has been applied? What does each of these areas of convergence entail?

The three dimensions where the term convergence has been applied are technology platform, content design, and industry structure. Technology platform convergence refers to the integration of previously separate platform functionalities into a singular digital device. It refers to the development of hybrid devices that can combine the functionality of many different existing media. Content convergence actually includes three dimensions: design, production, and distribution. Content design convergence has occurred when the design becomes measurably different due to the new skills that have been learned for fully exploiting the new technological capabilities. Content production convergence drives content design convergence as new tools are developed for economically producing content for delivery to multiple platforms. Content distribution convergence occurs when the distributors and consumers have the new devices needed to receive, store, and experience the product. Industry structure convergence is the merger of various enterprises into powerful synergistic combinations that can cross-market content on many different platforms and create works that use multiple platforms.

2. Why has media industry convergence not occurred as rapidly as predicted? What are the five basic revenue models for online content and what is their major challenge? What will have to be done in order to overcome this obstacle to profitability?

Media industry convergence has most likely not been quickly achieved because consumers still prefer traditional media (i.e., books, film, video, CDs, or even newspapers and magazines) and because the technology is not yet quite ready to distribute this content effectively and conveniently. It has also not occurred because the content creators (artists, writers, and producers) do not yet know what features consumers will be willing to pay for, and they are still creating

content for each of the separate media types. Finally, it has not occurred because a profitable business model has not emerged to transform the media into a new experience.

The five basic revenue models for online content are: marketing, advertising, pay-per-view, subscription, and mixed. The major challenge for the entire content industry is that most content on the Web is free. Most Web users expect it to be free and have expressed an unwillingness to pay for it. In order to overcome this obstacle to profitability, the value proposition that these firms offer to consumers will have to be enhanced by offering more highly valued and focused content. Deep information and content will have to be in a more convenient form.

3. What is the pay-per-view revenue model, what type of content is it suitable for and when is it expected to be successful?

The pay-per-view revenue model is based upon charging users for each viewing of premium content (videos, books, archived newspaper articles, or consulting reports). This model is suitable for targeted audiences who are looking for deep, rich, niche content. Pay-per-view is expected to be a more prevalent and successful business model when the bandwidth capability to view sporting events, feature films, and other video content is perfected and becomes more widespread.

4. What four things must content provider firms do in order to generate meaningful revenues?

In order to generate meaningful revenues, content provider firms must target a focused audience and provide specialized content for which they are the sole source monopoly. Firms must also cultivate high-perceived net value in consumers so that they believe there is value in obtaining the information instantaneously on the Web. This net value may be derived from the instant availability of the content, the fact that large historical archives can be searched, and/or because the online material can easily be moved into other documents.

5. What are the technological challenges facing content producers and owners?

In the past, technology issues (including low bandwidth, poor and unstable operating systems, low-bandwidth mobile networks, and poor digital production environments) were major inhibiting factors in the growth of online content. Today, this is no longer true, and the technology platforms to deliver acceptable online content are now available. The only exception is lack of bandwidth for high definition full screen video, full-screen standard quality television, and CD-quality music (as opposed to MP3 quality).

6. Identify and explain the four other challenges facing content producers and owners.

The other challenges facing content producers and owners are cost, consumer attitudes, cannibalization of existing distribution channels, and rights management. Cost challenges include the fact that Internet distribution is far more costly than was originally anticipated and that there are substantial costs faced by media companies for migrating, repackaging, and redesigning content for online delivery. Consumer attitudes are perhaps the key challenge facing content providers as consumers have strongly resisted paying for Web content. Cannibalization of existing distribution channels is another challenge traditional media companies must confront. Media companies are often tempted to strike alliances with successful portals or redistributors. The risk is that the media firm’s brand name will become diluted or displaced by the portal or aggregator’s brand name. Furthermore, any revenues generated will have to be shared with the intermediary.

Content producers must also be very careful about pricing and value when redesigning content for the Web. If the price is set too low, higher-priced and profitable distribution channels could be choked off. Rights management challenges include the ability to protect truly high-quality content from being stolen, duplicated, and distributed for free and the issue of royalties paid to artists and writers. The uncertainties of content protection are clearly one of the reasons why more high-quality content is not available online. Another reason is the conflict currently being waged between authors and publishers over what a fair royalty scale is for online content, given that the production and distribution costs for each unit of work are substantially reduced.

7. How has the Internet impacted the content that newspapers can offer?

Four significant content changes have occurred in the newspaper industry due to the Internet platform. Content has expanded to include premium archived content, fine-grained searching is now available, there is more reach and depth of content, and news can now be delivered in a timely manner without the restrictions of a set printing schedule. The timeliness aspect is perhaps the most significant change because instant updates of breaking news stories are now possible, allowing newspapers to compete directly with radio and television.

8. What changes have occurred for newspapers in the classified ads department?

New entrepreneurial firms have developed online classified ads for jobs, automobiles, and real estate, whereas other startups have concentrated on specialized areas such as computers, cameras, and other hobbyist topics. These new firms did not change online content; they greatly expanded the reach and depth of the content and made it available to national and international audiences. These new ventures challenged the newspaper industry; others such as Craigslist, Autobytel, Monster, and CNET have drained some of their readership and put a dent in local newspaper classified revenues.

9. What are the key challenges facing the online newspaper industry?

In the next five years, the newspaper industry faces significant challenges and opportunities as the online audience grows in both numbers and sophistication. New technology challenges and costs include developing wireless mobile delivery platforms and micropayment systems to provide a low cost mechanism for selling single articles. Consumer attitudes have remained intransigent on the issue of paying for content. Some online newspapers have experienced a cannibalization of their main distribution channel. However, online newspapers are slowly learning to add value to their content by providing additional services, content, and depth. Another main challenge is digital leakage that occurs when a paid for and downloaded article is redistributed via e-mail or posted to a Web site where millions of others can view it for free. Current digital rights management software does not conveniently permit newspapers to charge each additional reader of a redistributed article. The DMCA does provide some protection by making it illegal for ISPs or their Web servers to store and distribute pirated copies of copyrighted works.

10. What are the advantages and disadvantages of e-book content?

E-books have advantages over published books in that instant downloading can reduce transaction costs; people’s accessibility to entire libraries will be dramatically increased; and existing text will be searchable and easily integrated with new text via cutting and pasting. They will also permit modularization down to the sentence and word level. This can be much more easily updated or changed, resulting in lower production and distribution costs and a longer lasting work. This should also increase opportunities for writers to publish, increase the

availability of out-of-print works, increase the value of book archives, and reduce the cost of library functions in the society, further democratizing access to books. Unfortunately, the disadvantages are so far outweighing even this impressive list of advantages. The required expensive and complex electronic devices are not by and large portable. The reduced print quality onscreen makes them difficult to read; and there are multiple competing standards, uncertain business models, and issues of copyright and author royalties.

11. How has the Internet changed the packaging, distribution, marketing, and sale of traditional music tracks?

Even though the music itself is nearly the same, huge online digital music archives now exist from which users can mix and match to create their own personalized content. As with print media, users can now easily search these collections and have access to timely content. Free music services change the content of the music experience by creating a worldwide community of music aficionados, and the traditional music industry has now created subscription services with their own massive archives of downloadable music. The Internet transforms the consumer experience by providing premium archives, efficient search, timeliness, and enormous reach and depth of content.

12. What are the factors that make nontraditional distinctly Web entertainment sites so popular with users?

The factors that emerge as the common themes among popular, nontraditional Web entertainment sites are that they are interactive, communicative, and under the user's control. For example, one main reason for the popularity of downloadable music services is that they enable users to become their own packagers and distributors of music. This is the unique feature of nontraditional online entertainment as compared to traditional entertainment; it offers users high levels of control over both program content and program focus.

13. What would complete content convergence in the entertainment industry look like? Has it occurred?

Complete content convergence in the entertainment industry would entail purely digital creation, production, and distribution of content with no use of analog devices or physical products and distribution channels. This has not yet occurred. Music is the closest to being transformed—today, the traditional CD album containing 15 songs is becoming a dinosaur, as consumers become more and more familiar with downloading single songs a la carte. Distribution is changing from retail stores selling physical product to Internet delivery and playback on a wide variety of digital devices. Marketing and sales have changed as well, with musicians increasingly using the Internet (MySpace and other similar sites) to promote their music. The changes in the music industry may be a precursor to similar changes in the film and television industries, but as yet, those industries have not yet been transformed. For movies and television, technology convergence has been hampered by the unwillingness of the industry to make its products available on a wide range of Internet-enabled devices, largely because of concerns over piracy. From a content standpoint, although there has been significant process toward digital content creation tools, television and movies are still delivered primarily on analog platforms, with some slow movement toward digital delivery platforms.

Chapter 11

1. Why did most communities in the early days of e-commerce fail? What factors enable some online social networks to prosper today?

Most communities in the early years of e-commerce failed because noncommercial sites such as The Well could not survive or grow based on subscription fees alone and most for-profit communities experienced great difficulty in generating profits. The costs of content, technology, and customer acquisition as well as the marketing required to achieve a large audience, typically overwhelmed the puny stream of revenues from advertising, tenancy/sponsorship, and subscriptions for premium content. The availability of venture capital finance and Internet technology resulted in many sites serving the same interest and affinity groups, splitting the market into fragments, making it impossible for any one of them to become profitable.

The factors that may enable some online vertical communities to prosper today are first, consolidation, which may enable them to attract sufficient market share to become profitable. Second, some are focusing on narrow vertical communities of intensely interested members and keeping marketing costs to a minimum. Third, some are showing signs of enjoying network effects, becoming the dominant players in their small vertical niches. Fourth, as the Internet audience becomes more sophisticated and targeted in its behavior, engaging in less general surfing and more purposive use of the Internet, online vertical communities may yet prosper.

2. How does a social network differ from a portal? How are the two similar?

Social networks involve a group of people, shared social interaction, common ties among members, and people who share an area for some period of time. Portals are general-purpose content providers that have a varied selection of features and capabilities. Social networks are different from portals in that content creation is done almost exclusively by the members of social networks, whereas portals both create and aggregate content from elsewhere. The two are similar in that their goal is to keep visitors on their sites for a long time, or to mold themselves as a "sticky" destination site. Also, many portals have social networking features.

3. What is an affinity community and what is its business model?

An affinity community is one in which members can participate in focused discussions with others who share the same affinity, or group identification, such as religion, ethnicity, gender, sexual orientation, or political beliefs. The business model is a mixture of subscription revenue from premium content and services, advertising, tenancy/sponsorships, and distribution agreements.

4. What is personalization, or personal value pricing, and how can it be used at the beginning of a product's life cycle to increase revenues?

Personalization or personal value pricing is when merchants adjust prices based on their estimate of how much a customer truly values the product. For example, Web merchants may charge committed fans of a musician a higher price for the privilege of receiving a new CD before its official release to retail stores. It is a specific type of dynamic pricing in which merchants match their prices to the personal value that consumers will receive from a purchase by estimating what they believe any given consumer is willing to pay. It can be used at the beginning of a product's

life cycle to increase revenues because a certain consumer segment, the so-called early-adopters, is willing to pay more for a newly released product.

5. List and briefly explain three of the benefits of auction markets.

The benefits of auction markets are:

- Liquidity: Sellers and buyers are connected in a global marketplace.
- Price discovery: Even difficult to price items can be competitively priced based on supply and demand.
- Price transparency: Everyone in the world can see the asking and bidding prices for items, although prices can vary from auction site to auction site.
- Market efficiency: Consumers are offered access to a selection of goods that would be impossible to access physically, and consumer welfare is often increased due to reduced prices.
- Lower transaction costs: Merchants and consumers alike are benefited by the reduced costs of selling and purchasing goods compared to the physical marketplace.
- Consumer aggregation: A large number of consumers who are motivated to buy are amassed in one marketplace—a great convenience to the seller.
- Network effects: The larger an auction site becomes, in both the numbers of users and products, the greater all of the above benefits become and therefore the more valuable a marketplace it becomes.
- Market maker benefits: Auction sites have no inventory carrying costs or shipping costs, making them perhaps the ideal online business in that their main function is the transfer of information.

6. What are the four major costs to consumers of participating in an auction?

The major costs to consumers of participating in an auction are:

- Delayed consumption: Auctions can go on for days and the product must then be shipped to the buyer. Buyers will typically want to pay less for an item they cannot immediately obtain.
- Monitoring costs: Buyers must spend time monitoring the bidding.
- Equipment costs: Buyers must purchase, or have already purchased, computer systems and Internet service, and learned how to operate these systems.
- Trust risks: Consumers face an increased risk of experiencing a loss as online auctions are the largest source of Internet fraud.
- Fulfillment costs: Buyers must pay for packing, shipping, and insurance, and will factor this cost into their bid price.

7. Under what conditions does a seller bias exist in an auction market? When does a buyer bias exist?

A seller bias exists in an auction market when there is a single, or only a few, sellers and multiple buyers, such that buyers compete against one another to determine the ultimate price of the product. If there are a small number of sellers there is also the possibility that they could freely and openly signal “acceptable” prices to one another through a transparent marketplace, thereby disadvantaging the buyer. A buyer bias exists in an auction market when there are one or only a few buyers and many sellers. Sellers must compete against one another for the available business.

Examples include Priceline's reverse auctions and auctions that are conducted in a sealed bid atmosphere, like construction or other contracting bids.

8. What are the two price allocation rules in auction markets? Explain the difference.

The two price allocation rules in auction markets are uniform pricing and discriminatory pricing. When a uniform pricing rule is in effect, there are multiple winners who all pay the same price, usually the lowest winning bid. The lowest accepted offer sets the price. When a discriminatory pricing rule is in effect, winners pay different amounts depending on the amount they bid. Each customer pays its winning bid.

9. What is an auction aggregator and how does it work?

An auction aggregator uses a Web crawler or another similar type of search engine computer program to search thousands of Web auction sites, scouring for information on products, bids, auction duration, and bid increments. Consumers can use auction aggregator sites to look for products of interest, and the program will return a list of both fixed-price sales locations and auction locations where the product is for sale.

10. What types of products are well-suited for an auction market? At what points in the product life cycle can auction markets prove beneficial for marketers?

The types of products that are well-suited for an auction market include rare and unique products where prices are difficult to discover and where there may have been no market for the goods. These include perishable items such as airline tickets, hotel rooms, car rentals, or tickets to plays, concerts, and sporting events. Traditionally, auctions have been used by businesses to generate a higher profit on items at the end of their life cycle than they would receive from product liquidation sales. However, they are now more frequently being used at the beginning of a product's life cycle to generate premium prices from highly motivated early adopters, for example: early releases of music, books, DVDs, video games, and digital appliances.

11. What three characteristics define a portal site today?

The three characteristics that define a portal site today are navigation of the Web, providing content, and serving as the starting point for pursuing commerce. Web portals are gateways to the more than four billion Web pages available on the Internet. Originally, their primary purpose was to help users find information on the Web, but they evolved into destination sites that provided a myriad of content from news to entertainment.

12. What is a vertical market portal and how might recent trends in consumer behavior prove advantageous to this business model?

A vertical market portal is a destination site that attempts to attract a highly focused, loyal audience with an intense interest in either a community they belong to or an interest they hold. Recent trends in consumer behavior might prove advantageous to this business model because recent studies have found that users with limited time resources are interested in concentrating their Web site visiting on focused searches in areas that appeal to them.

13. What are the two main types of vertical market portals and how are they distinguished from one another?

The two main types of vertical market portals are affinity group portals and focused content portals. Affinity group portals seek to attract statistical aggregates of people who identify themselves by their attitudes, values, beliefs, and behavior. They exist to serve such broad constituencies as women, African Americans, and gays as well as much more focused constituencies like union members, religious groups, and even home schooling families. Focused content portals contain in-depth information on a particular topic that all members are interested in. They can provide content on such broad topics as sports, news, weather, entertainment, finance, and business, or they can appeal to a much more focused interest group such as boat, horse, or video game enthusiasts.

14. List and briefly explain the main revenue sources for the portal business model.

The main revenue sources for the portal business model are:

- Providing ISP services such as Web access and email services for a monthly fee
- General advertising such as charging for the number of banner ad impressions delivered
- Tenancy deals whereby companies that value having access to their audience will lock in long-term multiple-year deals in which they are guaranteed a certain number of impressions with premium placement on home pages and through exclusive marketing deals, for example, subscription fees
- Charging for premium content
- Garnering commissions on sales that are generated from consumers originating from the portal site

Chapter 12

1. Explain the differences among total inter-firm trade, B2B commerce, and B2B e-commerce.

Before the Internet, business-to-business transactions were referred to as the "procurement process." Today, the procurement process can be thought of as total inter-firm trade, which is the total flow of value among firms. B2B commerce describes all types of computer assisted, inter-firm trade. B2B e-commerce specifically describes that portion of B2B commerce that uses the Internet to assist firms in buying and selling a variety of goods to each other.

2. What are the key attributes of electronic storefronts? What early technology are they descended from?

The two key attributes that distinguish an electronic storefront are:

- they use the Internet as the communication media instead of private networks
- they tend to serve horizontal markets, that is, they carry products that serve a wide variety of industries

Automated order entry systems preceded electronic storefronts.

3. List at least five potential benefits of B2B e-commerce.

B2B e-commerce promises many strategic benefits for participating firms, both the buyers and the sellers including:

- lower administrative costs
- lower search costs for buyers

- reduced inventory costs due to increased competition among the suppliers (which increases price transparency) and reducing inventory to a bare minimum
- lower transaction costs due to the elimination of paperwork and the partial automation of the procurement process
- increased production flexibility by ensuring delivery of parts "just-in-time"
- improved quality of products due to increased cooperation among buyers and sellers, reducing quality issues
- decreased product cycle time due to the sharing of designs and production schedules with suppliers
- increased opportunities for collaborating with suppliers and distributors
- increased price transparency

4. Name and define the two distinct types of procurements firms make. Explain the difference between the two.

The two types of procurements that firms make are for direct goods and indirect goods. Direct goods are directly involved in the production process such as the sheet steel used to produce an automobile body. Indirect goods are all other goods that are needed to carry out the production process, but are not directly involved in creating the end product. They include office supplies and maintenance products, which are often called MRO (maintenance, repair, and operations) goods.

5. Name and define the two methods of purchasing goods.

The two methods of purchasing goods are contract purchases and spot purchases. Contract purchases are long-term agreements to buy a specified amount of a product. There are pre-specified quality requirements and pre-specified terms. Spot purchases are for goods that meet the immediate needs of a firm. Indirect purchases are most often made on a spot purchase basis in a large marketplace that includes many suppliers.

6. Define the term supply chain and explain what SCM systems attempt to do. What does supply chain simplification entail?

The supply chain refers to the series of transactions that links sets of firms that do business with each other. It includes not only the firms themselves, but also the relationships between them and the processes that connect them. SCM (supply chain management) systems attempt to coordinate and link the activities of suppliers, shippers, and order entry systems to automate the order entry process from start to finish. This includes the purchase, production, and moving of a product from a supplier to a purchasing firm. Supply chain simplification refers to the reduction of the size of a firm's supply chain. Firms today generally prefer to work closely with a strategic group of suppliers in order to reduce both product costs and administrative costs. Long-term contract purchases containing pre-specified product quality requirements and pre-specified timing goals have been proven to improve end product quality and ensure uninterrupted production.

7. Explain the difference between a horizontal market and a vertical market.

Horizontal markets serve a myriad of different industries. An electronic storefront is an example of a horizontal market in that it tends to carry a wide variety of products that are useful to any number of different industries. Vertical markets, on the other hand, provide expertise and

products targeted to a specific industry. EDI (electronic data interchange) systems usually serve vertical markets.

8. How do the value chain management services provided by e-procurement companies benefit buyers? What services do they provide to suppliers?

The value chain management services benefit buyers by automating a firm's entire procurement process including purchase orders, requisitions, sourcing, business rules enforcement, invoicing, and payment. For the suppliers, they provide automation of the entire selling business process including catalog creation, content management, order management, fulfillment, invoicing, shipment, and settlement.

9. What are the three dimensions that characterize an e-procurement market based on its business functionality? Name two other market characteristics of an e-procurement Net marketplace.

The three dimensions that characterize an e-procurement market based on its business functionality are that (1) they are horizontal marketplaces (2) in which long-term contractual purchasing agreements are used (3) to buy indirect goods. Other market characteristics of e-procurement Net marketplaces are that they are independently owned, that they are many-to-many markets, and that they use fixed price catalogs.
E-procurement companies serve as intermediaries connecting hundreds of online suppliers offering millions of MRO goods to business firms who pay a fee to join the market, thus it is a public marketplace. They are mediated by an independent third party that purports to represent both buyers and sellers; however, they are likely to have a bias in favor of the buyer because they include the catalogs of competing suppliers and competing e-distributors.

10. Identify and briefly explain the anti-competitive possibilities inherent in Net marketplaces.

The anti-competitive possibilities inherent in Net marketplaces include:

- The possibility that they may provide some firms with an ideal platform to collude on pricing, market sharing, and market access. For example, in a Net marketplace owned by large industry players, owner-members could collude with one another on the prices they are willing to pay for inputs.
- The sharing of information in order to reach market-sharing agreements in which they divide the market up into segments and agree to produce only enough for their allocated segment.
- The coordination of a reduction in purchases, forcing the suppliers to sell their inputs below market prices.
- The restriction of market access if large industry players exclude smaller rivals, thus forcing them to pay higher prices for their inputs.

11. List three of the objectives of a private industrial network.

The objectives of a private industrial network may include to:

- develop efficient industry-wide purchasing and selling business processes
- develop industry-wide resource planning to supplement enterprise-wide resource planning
- create increasing supply chain visibility so that the inventory levels of buyers and suppliers will be known to the participants

- achieve closer buyer-supplier relationships, including demand forecasting, communications, and conflict resolution
- foster operations on a global scale
- reduce industry risk by preventing imbalances in supply and demand, including developing financial derivatives, insurance, and future markets

12. What is the main reason why many of the independent exchanges developed in the early days of e-commerce failed?

The main reason is they failed to attract enough players to achieve liquidity. That is, the number of buyers and sellers in the market, the transaction volume, and the size of the transactions were insufficient to sustain a profit.

13. Explain the difference between an industry consortium and a private industrial network.

Private industrial networks, which presently dominate B2B commerce, are Web-enabled networks for coordinating trans-organizational business processes (collaborative commerce). These networks range in scope from a single firm to an entire industry. Although the central purpose of a private network is to provide industry-wide global solutions to achieve the highest levels of efficiency, they generally start with a single sponsoring company that "owns" the network. This differentiates private markets from industry consortia, which are usually owned collectively by major firms through equity participation.

14. What is CPFR, and what benefits could it achieve for the members of a private industrial network?

CPFR (collaborative resource planning, forecasting, and replenishment) involves working with network members to forecast demand, develop production plans, and coordinate shipping, warehousing, and stocking activities. The goal is to ensure that retail and wholesale shelf space is precisely maintained. The benefits it could achieve for private industrial network members are that hundreds of millions of dollars of excess inventory and capacity could be wrung out of an industry.

15. What are the barriers to the complete implementation of private industrial networks?

One barrier is that participating firms are required to share sensitive data with their business partners up and down the supply chain. This is a huge corporate mindset change because what was previously considered proprietary and secret must now be shared. Furthermore, in the digital environment, it can be difficult to control the limits of this information sharing. Information that a firm willingly gives to its largest customer may wind up being shared with its closest competitor.

Other barriers include difficulties in integrating private industrial networks into existing ERP (enterprise resource planning) systems and EDI (electronic data interchange) networks. Most ERP systems were not designed initially to work with extranets or even to be particularly Internet compliant; they were based on business models that use entirely internal business processes. Furthermore, changes in corporate culture and attitudes organization-wide and among all employees are essential so that a shifting of allegiances occurs from the firm to the wider trans-organizational enterprise. This is difficult to achieve. Employees must recognize that the firm's fate is intertwined with that of their suppliers and distributors. Suppliers in turn, must change how they manage and allocate resources because their own production is closely aligned with the

demands of the private industrial network partners. A loss of independence among all participants in the supply and distribution chains occurs and this requires huge behavioral changes in individual organizations in order for their participation to reap the benefits of participation.