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STUDY GUIDE (continued) Chapter 22, Section 1

READ TO LEARN

◘ Introduction *(page 565)*

The tiny electronic circuit known as the ***microchip*** is one of the greatest advances of our lifetime.

◘ Business on the Internet *(page 566)*

The microchip has stimulated the use of computers and computer networks such as the ***Internet*** to the point that some people believe we have entered the age of ***cybernomics***—an economic system driven by the Internet. In 1994 about 3 million people worldwide were connected to the Internet. By 1998, that figure had grown to more than 82 million. Information on the ***World Wide Web,*** the most popular part of the Internet, also grew in amount and in the number of ***Web sites.*** These are electronic locations on the World Wide Web that store information to be viewed or downloaded into the viewer's computer.

Web sites have changed the entire business landscape by allowing businesses to directly reach customers. Companies that have carefully built supply chains find that anyone using the Web can bypass those chains. New companies can spring up on the Web nearly overnight to compete with well-established traditional businesses.

E-commerce, or electronic business, is risky. Planners must decide among many possible business models. Combinations of advertising, subscriptions, fees, and direct sales can produce huge profits or huge losses. Yet most managers believe that the Internet will have a major impact on the global marketplace. Traditional businesses must go online if they are to remain competitive.

1. How does having a Web site change the business landscape?

_____

◘ The Customer Wins *(page 568)*

E-commerce shifts the balance of power to customers by allowing them to more easily comparison shop and gather information about products and vendors. Relationships among producers, wholesalers, distributors, retailers, and consumers are also changing. Consumers can deal directly with producers on the Internet. Also new middlemen are springing up on the Web with allegiance to the buyer rather than to the producer.

2. Why does e-commerce make it easier for consumers to comparison shop?

_____

◘ A Marketing Revolution *(page 568)*

Many producers are bypassing regular channels of trade and are reaching out to customers directly. Through ***frequency marketing,*** a business's computer can gather and store information about a customer's wants. Then, on future visits to the business's Web site, the customer can be offered products based on this information. In addition, a business can use its Web site to assist customers by e-mail and to link them to sources of goods, services, or information.

3. How does frequency marketing help businesses to better serve customers?

_____

Name _____ Date _____ Class _____

STUDY GUIDE Chapter 22, Section 2

For use with textbook pages 571–574

A NEW ECONOMY?

KEY TERMS

telecommunications Communications over long distances which are assisted by technology *(page 571)*

Information Age The period when telecommunications and computer technology gave information significant economic value *(page 571)*

knowledge economy An economy in which information is the key to growth *(page 572)*

weightless economy An economy based on products that are not tangible *(page 572)*

innovation Development of new products, processes, or systems that have wide-ranging effects (page 573)

DRAWING FROM EXPERIENCE

Have you visited the *Economics Today and Tomorrow* Web site? You may have downloaded some of the materials that you found there. However, despite your use of them, these materials remain available to you and to students across the nation. Your textbook will wear out from use, but the information on the Web site can be accessed over and over without being used up. This is just one way the Internet has changed how we measure the value of a product.

This section focuses on how innovation has affected economic growth.

ORGANIZING YOUR THOUGHTS

Use the chart below to help you take notes as you read the summaries that follow. Think about the innovations and technologies that have spurred periods of rapid economic growth.

Schumpeter Cycles

Date	Innovation that spurred economic growth
1785	
1845	
1900	
1950	
1990	

READ TO LEARN

Introduction *(page 571)*

Telecommunications, or electronic communications, includes radio, television, satellite uplinks, and cable access. The computer has revolutionized the handling and storage of information. The joining of the two technologies has produced dramatic results. Many people believe that the new

environment the merger created—called the ***Information Age***—will have as great an effect on humankind as the Industrial Revolution

⊡ The Knowledge Economy *(page 572)*

The terms ***"knowledge economy"*** and ***"weightless economy"*** describe an environment in which ideas and information—stored in libraries, databases, and videos—are as valuable as tangible goods.

Knowledge products, such as computer software, are quite different from other products. First, they are not physically used up by consumers. In fact, the more often they are used, the move valuable they become to the consumer. Second, knowledge products have no geographic limitations. For example, people around the globe can simultaneously use the same software on a computer server. Third, a knowledge product includes both the product and the idea behind it. For example, when you buy a database program, you are purchasing both the disk (the product) and the programming (the idea) that allows you to organize data. Even if knowledge products are expensive to develop, after the original is built, thousands of copies can be cheaply reproduced.

The influence of the knowledge economy can be measured by its effect on people and nations. For example, information and communications technology firms are the growth leaders in the U.S. economy. Computer-related jobs will increase more than 70 percent in a ten-year period.

1. In what two ways does use of a knowledge product differ from the use of other products?

_____

_____

⊡ A Change or a Revolution? *(page 572)*

Some economists believe that the "new" economy is not really so revolutionary. They point out that rapid growth in productivity has generally accompanied major new ideas. For example, the harnessing of electricity and the invention of the automobile each spurred a period of expansion.

For years, economists believed that the output of an economy could generally be measured by the effect of two basic inputs—capital and labor. Yet this explanation did not fit several large bursts of economic growth in history. Economist Joseph Schumpeter was the first to suggest a relationship between innovation and the business cycle. He studied long business cycles and concluded that each new cycle or wave of expansion started when a set of innovations—such as waterpower for industrial machines (1785), steam locomotives (1845), and electricity and the internal combustion engine (1900)—came into general use. After his death, other economists used his model to add two more waves: the age of petrochemicals, electronics, and aviation (1950) and the merger of telecommunications and computers (1990).

Economists face challenges whether the "new economy" is revolutionary or simply the old economy plus the innovation factor. In a rapidly changing system, they must try to predict the future in order to advise policymakers about the job market, economic development, and other vital issues.

2. What argument can be made that the economy created by the Information Age is not really a "new economy"?

_____

Name _____ Date _____ Class _____

STUDY GUIDE Chapter 22, Section 3

For use with textbook pages 576–579

ISSUES IN CYBERNOMICS

KEY TERMS

day trading Buying and selling securities rapidly over the Internet *(page 577)*

intellectual property Creations of a person's mind, such as writings and music, that are protected by copyright laws *(page 577)*

consumer-credit laws Laws passed to protect consumers by giving them access to their credit records *(page 578)*

distance education Education provided by telecommunications technology *(page 578)*

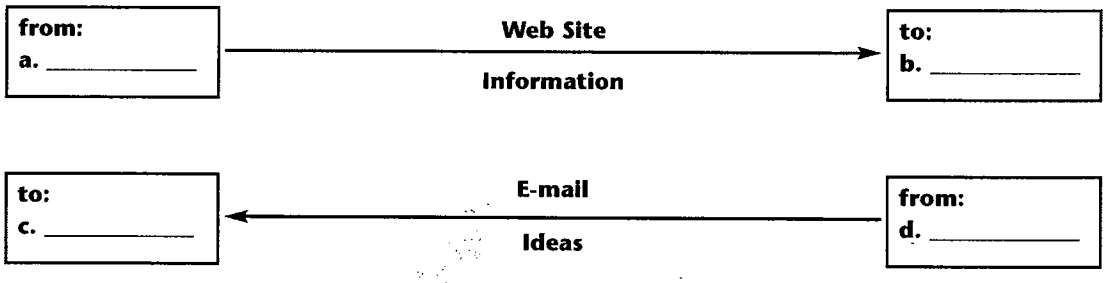
DRAWING FROM EXPERIENCE

Are your course grades, standardized test scores, and other school records in paper files at your school or does your school keep this information on a computer database? Which form of record-keeping do you think provides the most protection from theft, destruction, or unauthorized changes to your permanent record?

This section focuses on the social, economic, and political issues raised by the growth of computers and the Internet.

ORGANIZING YOUR THOUGHTS

Use the diagram below to help you take notes as you read the summaries that follow. Think about how the World Wide Web and E-mail help a nation's government and its people to exchange information and ideas.



Name _____ Date _____ Class _____

STUDY GUIDE (continued) Chapter 22, Section 3

READ TO LEARN

Ensuring Safe Internet Trade *(page 576)*

The Internet has reduced the cost of entry for companies wanting to sell goods and services. A modest outlay for a computer server is about all that is needed to start a business on the Web. Although major companies with name recognition have an advantage in the area of consumer trust, new companies can quickly catch up.

One of the fastest-growing forms of online commerce is securities trading. People can use the Internet to buy and sell stocks and bonds anywhere in the world. Some of them are engaging in a risky practice called ***day trading.*** They use computers and Internet connections to buy and quickly resell stock in hopes of making a profit. Such people may make or lose a lot of money very quickly. The government must balance people's right to a free market with the need for consumer protection.

1. Why might a consumer want to be wary of a retailer on the Internet that he or she has never heard of and knows nothing about?

_____

_____

Protecting Intellectual Property *(page 577)*

The Internet has made protection of ***intellectual property***—creations that come from someone's mind—more difficult. Some Internet sites offer visitors down-loadable copies of other people's software or recorded music. This deprives the rightful owners of the product the ability to profit from their ideas. Stealing intellectual property reduces the incentive to be creative. Software, music, and other companies are developing systems to prevent the illegal distribution of their products over the Internet.

2. Why is a music CD both a physical property and an intellectual property?

_____

_____

Protecting Consumer Privacy *(page 578)*

Advances in computing have made it possible to collect all kinds of information about people. Information such as your purchases at a store, telephone calls, credit history, and health records can become part of large databases of information. The availability and sharing of this information raises issues of security and personal privacy. Businesses are trying to police the use of such information themselves, so that the government will not pass privacy legislation. Security software attempts to keep hackers and thieves from accessing bank accounts and other important information.

3. How might a bank robbery occur over the Internet?

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_____

Name _____ Date _____ Class _____

STUDY GUIDE (continued) Chapter 22, Section 3

Developing Nations *(page 578)*

Some economists believe that information and communications technologies will help developing countries to "leapfrog" stages of development. For example, cell phones and wireless technology will allow communications with rural areas more quickly than if wired networks must be built. Such technology can allow countries to take advantage of ***distance education,*** connecting teachers with students in remote areas via telecommunications.

Other economists believe that the information revolution will widen the gap between developing and industrialized countries. They point out that the gap in schooling between developing and industrialized nations is even greater in computer education. Developing countries also often have less appreciation for intellectual property rights.

4. Why would lack of respect for intellectual property rights slow a nation's development?

_____

_____

Governments will have to deal with all the issues discussed in this section. However, at the same time it creates issues, the Information Age allows citizens to be informed about them and to keep in touch with their leaders so that wise decisions on these issues can be made.

5. How do computers make it easier for citizens and their leaders to communicate?

_____

_____