Chapter 14

INFORMATION NEEDS FOR GLOBAL BUSINESS ACTIVITIES

14-1 Creating Global Information Systems

14-2 Global Information Systems Challenges
Isis Information Systems (ISIS), part of the electronics giant Altech, is a prominent South African systems integrator and software development house. It is well known for planning, designing, integrating, and implementing complex information systems for large organizations. ISIS specializes in governmental, manufacturing, telecommunications, metals, transportation, and banking information systems. It has a reputation for delivering well-designed and fully functional information systems that enhance organizational effectiveness.

For example, ISIS developed a sophisticated production management system at the Toyota Stamping Division in Durban. The system is designed to reduce system maintenance costs, production time, and manufacturing expenses. It provides both workers and managers with timely and relevant information to support operational decision making.

Through its offices in Pretoria and Cape Town, ISIS provides Africa with leading-edge technology and related support services.

Think Critically
1. Why would it make sense that ISIS is part of an electronics conglomerate?
2. What suggests that ISIS is a major provider of information systems?
3. Go to the web site for ISIS Information Systems to obtain additional information about company operations. Prepare a report of your findings.
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14-1 CREATING GLOBAL INFORMATION SYSTEMS

GOALS

- Explain why information is power in the global economy.
- Describe the three major components of global information systems.
- Explain some of the factors to consider when planning and developing global information systems.

INFORMATION IS POWER

Information is the source of power in the global economy. Information technology helps to drive the global marketplace. It also facilitates addressing the many challenges that managers must face when operating in the complex global environment. It is essential in the global economy to have the right information in the right form at the right time. Without such information, businesses are so handicapped that they cannot hope to thrive as they compete against other businesses that do have the valuable information. In fact, organizations with poor information systems struggle to survive in the global world of business.

Strategic Resource Like other valuable business assets, information is an important strategic resource. It allows businesses to position themselves favorably in the international marketplace so they can attain their business goals and objectives.

Competitive Advantage Given enough of the right information, businesses can gain competitive advantages over their competitors. This allows them to function more efficiently and effectively than their competitors and gives them the best possible global business opportunities. By being able to skillfully use information to outmaneuver their challengers, certain multinational businesses enjoy competitive advantages over other businesses with less effective global information systems.

Now that the global economy is a reality, businesses around the world must be able to function effectively 24 hours a day, 365 days a year. To do this, businesses must have highly effective global information systems that deliver appropriate information as needed.
INFORMATION SYSTEMS IN DOMESTIC BUSINESS

Developing and managing a suitable information system is much easier in a domestic business environment than in an international business environment. In that relatively simple domestic business environment, usually one language dominates. The prevailing culture is relatively similar from location to location. Over time, a well-developed infrastructure develops to support business activities. *Infrastructure* refers to the nation’s transportation and communications systems. It is the basic framework of an organization. Usually one primary political entity oversees and regulates business activities. Since only one country on one continent is involved, business is transacted in a limited number of time zones using one currency.

INFORMATION SYSTEMS IN INTERNATIONAL BUSINESS

Developing and managing a suitable information system is more challenging in a complex international business environment. So many more variables must be considered and accommodated. For example, a business operating in the global economy must cope with multiple languages. The involved cultures are likely to be significantly different from each other. The countries in which the business operates might all have their own unique forms of government and business regulations. An international business with operations scattered around the globe must function in different countries that are on one or more continents and use various currencies. Figure 14-1 contrasts the major differences between the domestic and international business environments that must be bridged by information systems.

Since the international business environment is more complex than the domestic business environment, it requires a more sophisticated information system. That global information system must adequately reflect all of the variables of the international business environment if it is to provide high-quality information. Creating and refining a powerful global information system is a challenging, time-consuming, and expensive task. Nevertheless, it is an investment that can pay a handsome return in the form of both

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Think Critically

1. What are the benefits of electronically linking company employees worldwide?
2. What might be some of the challenges of electronically linking company employees worldwide?
3. How might companies benefit by putting computers in employees’ homes when many already have computer linkups at work?
4. Do you think that encouraging employees to engage in work from their homes is a desirable practice from the company’s perspective? Why or why not? What do you think the employees’ perspective is?

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GLOBAL BUSINESS EXAMPLE

COMPANY EMPLOYEES GETTING WIRED

Employees of multinational companies are getting wired at an increasing rate and at company expense—even at home. Ford Motor Co. is making home computers available for its 350,000 employees to link them to the Internet and other company employees worldwide. The project to electronically empower Ford employees around the globe is estimated to cost $300 million. The plan is based on the belief that a workforce that is connected is more productive. By increasing the flow of information around historic bottlenecks, decision making can be sped up and improved.

Delta Air Lines is also planning to link 72,000 employees worldwide in a similar manner. If other companies follow the lead of these two companies, ways of conducting business electronically could change significantly.


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strategic and competitive advantages. Wise multinational organizations develop sophisticated global information systems.

**CheckPoint**

What are two reasons information is so powerful in the global economy?

**INFORMATION SYSTEM COMPONENTS**

A global information system is a computer-based system that provides information about company operations around the world to managers of a multinational organization. A global information system is composed of three basic elements: data inputs, operational components, and system outputs.

**DATA INPUTS**

Data inputs are those pieces of information that feed the global information system database. These inputs reflect both internal organization inputs and external environment inputs. Components of the internal organization inputs include transaction processing systems, shipping records, a customer database, accounts receivable, inventory records, and the like. Components of the external environment inputs include market research, industry trends, economic trends, competitor trends, and data sharing with business partners.

**OPERATIONAL COMPONENTS**

Operational components are the parts of an information system that manage the database and system operations. There are five basic types of operational components.

**Systems Controls** To ensure that the information system functions properly, companies implement controls to regulate the systems. Examples of systems controls include security access, internal operations checks, and system and data integrity checks.
Database Management
To regulate the functioning of the database systems, companies set up database management systems. Examples of database management systems include data files and data dictionaries.

User Interface Systems
To allow access to data and analytical tools, companies typically set up user interface systems. Ideally, user interface systems use icons, which are symbols that are meaningful across cultures. Examples of user interface systems include access controls and user interfaces.

Application Systems
To allow inquiry and analysis, applications systems companies will install application systems. These systems address such questions as “What is?” “What has happened in the past?” “Why?” and “What if?” Examples of application systems include regular reports, special reports, statistical analysis, expert systems, and forecasting.

Reporting Systems
Output from reporting systems allows inquiries and analyses to be shared with relevant persons. These analyses can be either in a printed or an electronic format. Examples of reporting systems include text processing, graphical output, and electronic output.

The data inputs and the operational components are the primary components of the global information system that together generate the system outputs, the third component. The relationship among the three components is illustrated in Figure 14-2.

![Figure 14-2](image)

**Figure 14-2** When the data inputs and the operational components of a global information system are combined, they yield the system outputs.

**SYSTEM OUTPUTS**

*System outputs* are the various types of data generated from an information system. Managers rely on system outputs as they direct company operations in the global business environment. There are four basic types of application outputs.

- *Product management* outputs data such as sales forecasts and budgets that allow managers to position their products more effectively in the global marketplace.

**Think Critically**

1. Why did Jason Pierson place his call to Nairobi at midnight his time?
2. Why did Jason Pierson expect a prompt response to his e-mail message?
3. What did Jason Pierson fail to understand about the use of e-mail in developing countries?
Communication outputs data such as media plans and impact reports that help global managers to share information more effectively.

Sales management outputs data such as territory design and sales quota planning that help global managers to market their products more effectively around the world.

Senior management outputs data such as financial modeling and strategy simulations that help top-level company managers to direct global business operations more effectively.

PLANNING AND DEVELOPING THE SYSTEM

Effective global information systems evolve over time in response to careful planning and developing. Thus, planning and developing the global information system are important activities for multinational organizations.

ROLE OF TOP-LEVEL MANAGERS

Planning for global information systems is an important task for managers. The planning must include top-level managers who are able to envision the global organizational future. Top-level managers should understand the value of an effective global information system and support that system in every way possible. They should also realize that such an information system evolves over time and requires continual maintenance and refinement.

ROLE OF OTHER INFORMATION SYSTEMS MANAGERS

Information technology as well as global business conditions change all of the time. With the input of top-level managers, the information systems management team needs to establish a framework for the desired global information system and also realize that achieving that goal will be a long-term, evolutionary project. As a result, information systems managers must prioritize the competing needs for information and focus their attention on the most critical information needs first. Over time, they can gradually address more and more information needs.

A multinational organization achieves a competitive advantage in the global marketplace by focusing its attention on a global, not domestic, outlook. As information system managers develop and refine the global information system, they must reduce uncertainty while coping with increasingly complex global business operations. They must keep in mind the need for both timely and highly relevant information about operations around the world. While ultimately developing a global information system, they must realize that most of the component systems are developed locally. As the various component systems are integrated, a global information system is gradually built and refined.
What are two factors that top-level managers must consider when planning and developing global information systems?

CULTURE: THE TEMPLES OF ABU SIMBEL

The temples of Abu Simbel perpetuate the memory of the Egyptian ruler Ramses II and his wife Nefertari. Nefertari is the only known wife of a pharaoh ever depicted on the face of a temple. The temples were built in ancient times in the middle of the Nubian Desert near the Nile in Upper Egypt, close to the border with Sudan.

With the building of the Aswan High Dam in the 1960s came the realization that the artificial lake it would create might cover these important world heritage sites. The United Nations Educational, Scientific, and Cultural Organization sprang into action to try to save the threatened temples. After much study, a plan was conceived to cut the temples into large blocks and to reconstruct them on nearby higher ground. As the waters of the Nile rose, the cutting and transporting of the stone blocks increased. It was a frantic race against time to save the temples of Abu Simbel.

The funeral complex of Ramses II and Nefertari was reconstructed exactly as it had been, only on higher ground away from the ravages of the rising water. The temples were covered with domes of reinforced concrete to prevent them from being crushed. The domes were then covered with rocks from the temple sites.

Now the waters of the Nile fill the caverns where the temples once stood. The monumental reconstruction effort is so precise that twice a year a ray of sunlight falls on the statues of gods sitting about 200 feet inside the temple of Ramses II, just as it did 2,000 years before. This is called the miracle of the sun. Ramses II and his architectural masterpieces at Abu Simbel continue to exist as they have for centuries.

Think Critically

1. If Abu Simbel is located in southern Egypt, why would this region logically be called Upper Egypt?
2. Why is sunlight falling on the statues inside the temple of Ramses II called the miracle of the sun?
3. Why are the temples at Abu Simbel both ancient and modern masterpieces?
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**REVIEW GLOBAL BUSINESS TERMS**

Define each of the following terms.

1. global information system  
2. data inputs  
3. operational components  
4. icons  
5. system outputs  

**REVIEW GLOBAL BUSINESS CONCEPTS**

6. Why is it more difficult to develop and manage an information system in an international business environment than a domestic business environment?  
7. What are two examples each of internal organization and external environment inputs?  

**SOLVE GLOBAL BUSINESS PROBLEMS**

Maple Leaf Enterprises, Ltd., is Canadian-based with operations in Canada, the United States, the United Kingdom, South Africa, Australia, and New Zealand. Except for the operations in Canada and the United States, the information that is received at company headquarters in Toronto is not integrated across worldwide operations. Some information from abroad is not compatible with information provided by company operations elsewhere.

8. Does Maple Leaf Enterprises, Ltd., need a global information system? Why or why not?  
9. What should top-level company executives do to address the information problems of Maple Leaf Enterprises, Ltd.? Why?  
10. How many years would you estimate it will take the company to create and develop an effective global information system? Why?  

**THINK CRITICALLY**

11. Why must a global information system be designed to provide high-quality information 24 hours a day, 365 days a year?  
12. Why must global information systems have so many parts and be so complex?  
13. Why must top-level company managers, who often don’t really understand the workings of global information systems, be directly involved in creating global information systems?  

**MAKE CONNECTIONS**

14. GEOGRAPHY What are some geographical features around the world that might create barriers that impede the flow of information within a multinational organization?  
15. CAREER PLANNING What subjects should you study at the secondary and post-secondary levels if you aspire to be the vice president for global information systems of a multinational organization?
GLOBAL INFORMATION SYSTEMS CHALLENGES

GOALS

- Explain global information challenges arising from cultural and country issues.
- Describe data collection issues related to data sources and data quality.
- Explain how technological issues create challenges to global information systems.

CULTURAL AND COUNTRY ISSUES

One of the major challenges to global information systems involves cultural and country issues. Cultural and country issues usually come from differences involving language, attitudes, the environment, information needs, and degree of control.

LANGUAGE DIFFERENCES

Language differences are an obstacle to the collection and transmission of information. In languages that are not closely related, ideas cannot be simply translated from one language to another. In some cases, no equivalent idea exists in the language of another culture. For example, the idea of depreciation did not exist in the language of the communist Union of Soviet Socialist Republics. Under communism, most resources were controlled by the state, so there was no need to account for the gradual decrease in value of assets through use. Businesses from abroad that established operations there after the collapse of the Soviet Union found that their local employees had difficulty understanding the foreign idea of depreciation. Thus, requests for local depreciation information were typically met with blank stares from most natives of the former Soviet Union. The needed depreciation information was very difficult to get because the locals didn't understand the concept or its importance.
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ATTITUDES
Attitudes toward such things as secrecy, authority, and risk taking are reflected in the communication of cultural groups. For example, Japanese workers are programmed by their native culture to respect authority and not disrupt the harmonious relationship of a group. Japanese workers are not likely to openly criticize company managers and policies, even if they are clearly wrong. If Japanese workers bring up sensitive matters, they will do so very discreetly and indirectly, using language that is vague and must be interpreted figuratively, not literally. Only knowledgeable and astute members of other cultures realize that Japanese workers have actually communicated negative information. Thus, obtaining information from various cultures may be difficult.

BUSINESS AND FINANCIAL ENVIRONMENT
The environment also creates potential information challenges. Competition, currency fluctuations, and inflation rates vary from country to country. The taxation systems of countries also vary, as does the control exercised over multinational organizations. These environmental differences create different information needs that can complicate the flow of information.

WHERE DO PERSONAL PRIVACY RIGHTS BEGIN?
Many countries have become increasingly concerned about their citizens' privacy rights. They feel uncomfortable that name-linked information is collected, processed, and stored in information systems that are not accurate and carefully controlled.

Some multinational businesses send personal data outside the country of origin to places with less stringent privacy controls. There the personal data is used to make various kinds of decisions. Sometimes the data is used for purposes other than those for which it was collected. Sometimes it is sold to other businesses.

To limit such abuses, countries such as Sweden require that all private and public organizations register their databases, which are subject to review. Certain types of data about individual citizens cannot be legally sent out of the country.

Think Critically
1. If you applied for a credit card through a bank and later found out the bank had sold personal information about you to a business in another country without your permission, how would you feel? Why?

2. Even if the bank did not break any laws when selling information about you, would its actions be ethical or not? Why?

3. Since freedom is a founding principle in the United States, should the federal government restrict the right to process information about its citizens? Why or why not?

4. Is it ethical for countries to pass legislation to protect the privacy rights of their citizens if in doing so, they violate the rights of multinational businesses to process business information as they desire? Why or why not?
DIFFERING INFORMATION NEEDS

Information needs also vary widely within multinational businesses, creating additional challenges to global information systems. Different organizational levels within far-flung company operations have significantly different information needs. Managers generally prefer to receive their information in terms of the local standard units of information. Thus, information about such matters as planning, budgeting, and accounting will likely have to be processed multiple times in different units. For example, financial statements for managers of subsidiaries in Tunisia will need to be prepared in Tunisian dinars, while those for managers of subsidiaries in Egypt will need to be prepared in Egyptian pounds. Financial statements for managers at the headquarters office in Canada will need to be prepared in Canadian dollars. This increases not only the volume but also the redundancy of information that the global information system must generate to meet the needs of various parts of a multinational business.

DEGREE OF CONTROL

The degree of control that is exercised within a multinational organization also creates challenges to global information systems. A multinational organization must weigh the trade-offs between centralization and decentralization. Centralization means that managers at company headquarters make most major decisions. Centralization favors a broad view of corporate strategy when decisions are made. Decentralization means that local managers at different company locations around the world make most major decisions. Decentralization favors the effects of local conditions when decisions are made. Different international businesses choose to control their operations in different ways, which influences both the needs for and the types of information that must be generated by global information systems.

DATA COLLECTION ISSUES

Another of the major challenges to global information systems involves data collection issues. Data collection issues usually come from data sources and/or data quality. The quality of the outputs generated by a global information system is strongly influenced by the adequacy of the data inputs.

SOURCES OF DATA

Data sources present challenges to global information systems. Data sources are either primary sources or secondary sources. Primary data are data collected by the user firsthand for a specific purpose. Secondary data are data not collected by the user but available for his or her use. Surveys from customers are examples of primary data if they are collected by the same business unit that uses the gathered information. If some other business unit...
or organization, such as a governmental agency, gathers the survey information, then the gathered information is secondary data.

Generally speaking, users have more faith in the quality of the information they gather themselves (since they know its strengths and weaknesses) than in the information others gather. Nevertheless, it is frequently not feasible or practical for multinational businesses to gather firsthand all of the information they need for their specific purposes. As a result, these businesses must often use secondary data for decision-making purposes. Since managers usually know considerably less about the circumstances under which secondary data is gathered and reported, they accept more risk from using inaccurate information when they rely on secondary data sources.

Managers of multinational organizations often rely on secondary data for information about the business environment in which they operate. Such groups as the United Nations, the home country and host country governments, business and trade associations, and data subscription services often provide data that managers of international businesses use.

### QUALITY OF DATA

The quality of the data is a major issue in data collection. The quality relates to the validity, reliability, and comparability of the data.

**Data Validity** The extent to which the data measures what the user expects it to measure is called validity. For example, if both the data gatherer and the data user use identical definitions, then the gathered information will be valid. Some countries and organizations may define things that are measured in different ways. This results in measurements that are not valid from the perspective of users from other countries and organizations.

**Data Reliability** The consistency of the gathered data is called reliability. For example, if the thing being measured does not change, then repeated measurements using the same data-gathering techniques by various persons will yield the same results again and again. Some countries and organizations may not measure things with the same degree of accuracy as other countries and organizations do. This results in misleading data that may be useful only for propaganda purposes.

**Data Comparability** The extent to which secondary data from different sources are measured, computed, and reported in the exact same ways is called comparability. Some countries and organizations make different assumptions when gathering and reporting data. This results in data that are not exactly comparable. It is important to know the assumptions before deciding whether the information should be used for decision-making purposes.

Multinational businesses must strive to obtain the best quality data possible for use in their global information systems so they can rely with a high degree of certainty on the system outputs. If the input data lack integrity, then it is garbage in and garbage out of the global information system. This makes the system outputs worthless, and managers would be foolish to make decisions based on them.
Still another of the major challenges to global information systems involves technological issues. Technological issues come from communication technology problems, host-country requirements, and host-country and international regulations.

**COMMUNICATION TECHNOLOGY**

Those in charge of a global information system must be concerned about the adequacy of the data collection and transmission from company offices worldwide to company headquarters. If a multinational organization has total control over that process, then technology problems are not usually a major concern. However, some countries require that local technologies be used to process data. Brazil, for example, requires that locally produced computers must be used to process data generated within the country. That equipment may not be compatible with equipment used elsewhere within a multinational organization, which impedes the effectiveness of data transmission.

**HOST-COUNTRY REQUIREMENTS**

Another type of technology problem can arise from having to transmit data through local systems, which are sometimes under the control of the domestic postal, telephone, or telegraph agency. Some of these systems cannot accommodate high-speed data transmission. Others may not have enough equipment available to support the desired volume of data transmission. Sometimes a multinational business may have to transmit less information out of a country or accept a less rigid time line for transmitting information to company headquarters to work around such problems.

Host country requirements about data transmission can also create technological issues. Countries that regulate data transmission, such as Brazil, effectively impose their equipment requirements on multinational organizations operating there, restricting or eliminating their equipment choices. This complicates the design and operation of the global information system. National requirements that a domestic agency transmit all data moving inside and outside of the country can negatively impact the quality, speed, and availability of information. Such constraints create more challenges to the effective operation of both domestic and global information systems.

**HOST-COUNTRY AND INTERNATIONAL REGULATIONS**

Host-country and international regulations often relate to technological issues, too. Multinational organizations sometimes experience higher costs for moving data across national borders. Higher costs might be caused by requirements to
use local equipment or agencies or by high international communication and data transfer charges. Another reason for the higher costs could be the taxes on the movement of data or the excessive data line charges. Regardless of the source, managers of multinational organizations must carefully weigh the value added by having additional information against the increased costs associated with obtaining that information. Making appropriate trade-offs contributes to having a cost-effective global information system.

Host-country regulations about the types and volume of transmitted information using various technologies is a growing concern for those in charge of global information systems. A number of developed and developing countries are concerned about privacy rights, national security, and national sovereignty issues. Countries such as Austria, France, Germany, Norway, the People's Republic of China, Sweden, the United Kingdom, and the United States have these concerns. Some of these countries already have regulations or are considering regulations about data transfers across their borders. The laws and regulations are different in every country, which complicates the design and operation of a global information system. As countries around the world increasingly recognize the strategic value of market-related information, more laws and regulations governing the flow of information between countries are likely to be created. Such governmental restrictions are sometimes established to protect information, including economic data, that some cultures view as politically sensitive.

**CheckPoint**

What are three types of technological issues that create challenges to global information systems?
REVIEW GLOBAL BUSINESS TERMS

Define each of the following terms.

1. centralization
2. decentralization
3. primary data
4. secondary data
5. validity
6. reliability
7. comparability

REVIEW GLOBAL BUSINESS CONCEPTS

8. What kinds of business and financial issues create challenges to global information systems?
9. Why is primary data generally more reliable than secondary data?

SOLVE GLOBAL BUSINESS PROBLEMS

Libya is a developing northern African country with most of its population clustered in cities along the Mediterranean Sea. Libya is an Arabic-speaking Moslem country where the will of Allah influences all details of life. Most Libyans do not view technology as positive; in fact, most Libyans have a neutral (at best) or negative view of technology. Their belief that it is either undesirable or impossible to control their environment shapes their way of life.

10. Do typical Libyans view technology and their environment like typical Americans do? What facts support your position?
11. How accepting do you think most Libyans would be of the development of a global information system? Why?
12. How might you make Libyans more receptive to the creation of a global information system that contains information from their country?

THINK CRITICALLY

13. How would having a currency whose value regularly rises and falls by 50 percent present a challenge for a global information system?
14. Why is it often not practical for a multinational organization to gather primary data about the business environment in each of the countries in which it operates?
15. What are some sources of information that are likely to have relatively valid and reliable data a multinational business can rely on?

MAKE CONNECTIONS

16. TECHNOLOGY How would having to use the domestic telephone system in a developing country create a likely barrier to the transferring of information to a developed country?
17. LAW How do laws that restrict the flow of information out of a country pose a threat to global information systems?
Information is power in the global economy. It serves as a strategic resource and provides a competitive advantage. An information system in an international environment is more challenging to create because there are many more variables to consider than in a domestic environment.

Data inputs and operational components together yield the system outputs of a global information system. Four basic types of system outputs are product management, communication, sales management, and senior management.

An effective global information system requires careful system planning and developing with input from senior managers as well as other managers.

Cultural and country issues are one type of challenge to global information systems. Issues concerning language, attitudes, and the business and financial environment must all be accommodated.

Data collection issues also create challenges to global information systems. For use in decision making, data must have validity, reliability, and comparability.

Technological issues are still another group of challenges to global information systems. Those in charge of global information systems must consider communication technology, the requirements of the host country, and host-country and international regulations.

Read the case at the beginning of this chapter, and answer the following questions.

1. What are some domestic companies that engage in work similar to what ISIS does?

2. How are businesses in other African countries likely to view the goods and services offered by ISIS? Why?

3. What are some major projects in which ISIS has engaged?
REVIEW GLOBAL BUSINESS TERMS

Match the terms listed with the definitions.

1. The extent to which secondary data from different sources are measured, computed, and reported in the exact same ways.
2. Data not collected by the user but that are available for his or her use.
3. Parts of an information system that manage the database and system operations.
4. A system in which managers at company headquarters make most major decisions.
5. The consistency of gathered data.
6. Data collected by the user firsthand for a specific purpose.
7. A system in which local managers at different company locations around the world make most major decisions.
8. A computer-based system that provides information about company operations around the world to managers of a multinational organization.
9. Symbols that are meaningful across cultures.
10. The extent to which data measures what the user expects it to measure.
11. Various types of data generated from an information system.
12. Pieces of information that feed the global information system database.

MAKE GLOBAL BUSINESS DECISIONS

13. How can information be both a strategic resource and a competitive advantage for multinational organizations?
14. How is transacting business in the international environment like transacting business in the domestic environment in spite of the fact that the domestic and international business environments are significantly different?
15. Why is it so important to have accurate data inputs in a global information system?
16. Why must a global information system always be operating?
17. How might attitudes toward risk taking in a culture be reflected in its language and communication practices?
18. Why do local managers usually want the outputs from a global information system in terms of local standard units of information?
19. What are some examples of business-related information from various sources that do not have comparability?
20. Why might the government of a developing country charge a multinational business an excessive amount to transfer data out of the country?

21. How does a company policy of centralization increase the influence of the headquarters staff at the expense of local staff when it comes to global information systems?

22. Why would a country want to specify that only locally manufactured equipment can be used to process data?

GLOBAL CONNECTIONS

23. MATHEMATICS The United States does not use the metric system as its national measurement standard. How is this a challenge to creating a global information system?

24. CAREER PLANNING How might a statistician contribute to the accuracy of inputs into a global information system?

25. HISTORY How might historical events make it more challenging to create a global information system that links business operations in certain countries around the world?

26. COMMUNICATIONS Why is two-way communication between upper-level company managers and information systems managers so critical in the process of planning for a global information system?

27. COMMUNICATIONS How can the communication practices of countries influence the quality of information in a global information system?

28. TECHNOLOGY What might be some practical limitations to using technology to improve a global information system in developing African countries?

29. GEOGRAPHY How might having major river systems contribute to the development of global information systems?

30. LAW Why might some countries perceive global information systems as threats to their national security?

31. HISTORY How was the early recording of business transactions on clay tablets a milestone in the development of global information systems?
Developing an International Business Information System

Information is needed by all organizations to efficiently plan and implement business activities. Develop an information management system based on the company and country you have been using in this continuing project, or create a new idea for your business in the same or a different country. Make use of previously collected information, and do additional research. This phase of your business plan should include the following components.

1. List the major external and internal data sources the company will use.
2. Describe the information needs (types of data and reports) that will be required for the organization to operate?
3. Describe the types of computer network systems that might be useful for obtaining and processing the organization's information.
4. Describe how the cultural, economic, and political environment of the country might affect the organization's information system.
5. Explain how recent new technology might improve or expand the company's information system.

Prepare a written summary or present a short oral report (two or three minutes) of your findings.