

CHAPTER 1

Information Systems in Global Business Today



Learning Objectives



- In the end of this class, you will be able to answer the following questions:
 1. How are information systems transforming business, and what is their relationship to globalization?
 2. Why are information systems so essential for running and managing a business today?
 3. What exactly is an information system? How does it work? What are its management, organization, and technology components?

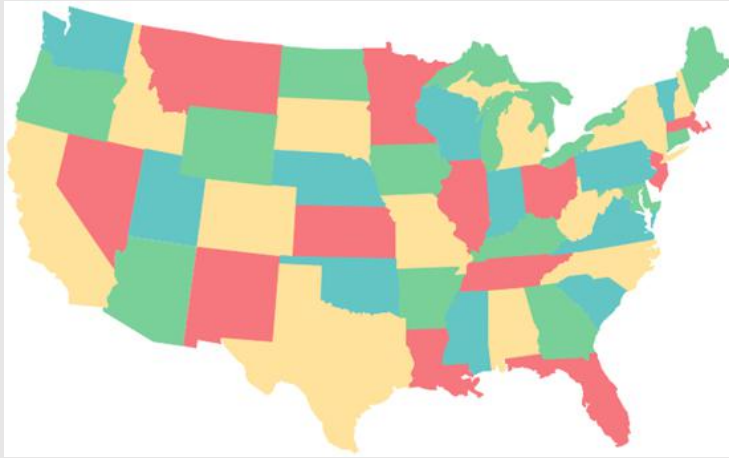




Mengapa
kita perlu
Sistem
Informasi??



THE ROLE OF INFORMATION SYSTEMS IN BUSINESS TODAY



2012



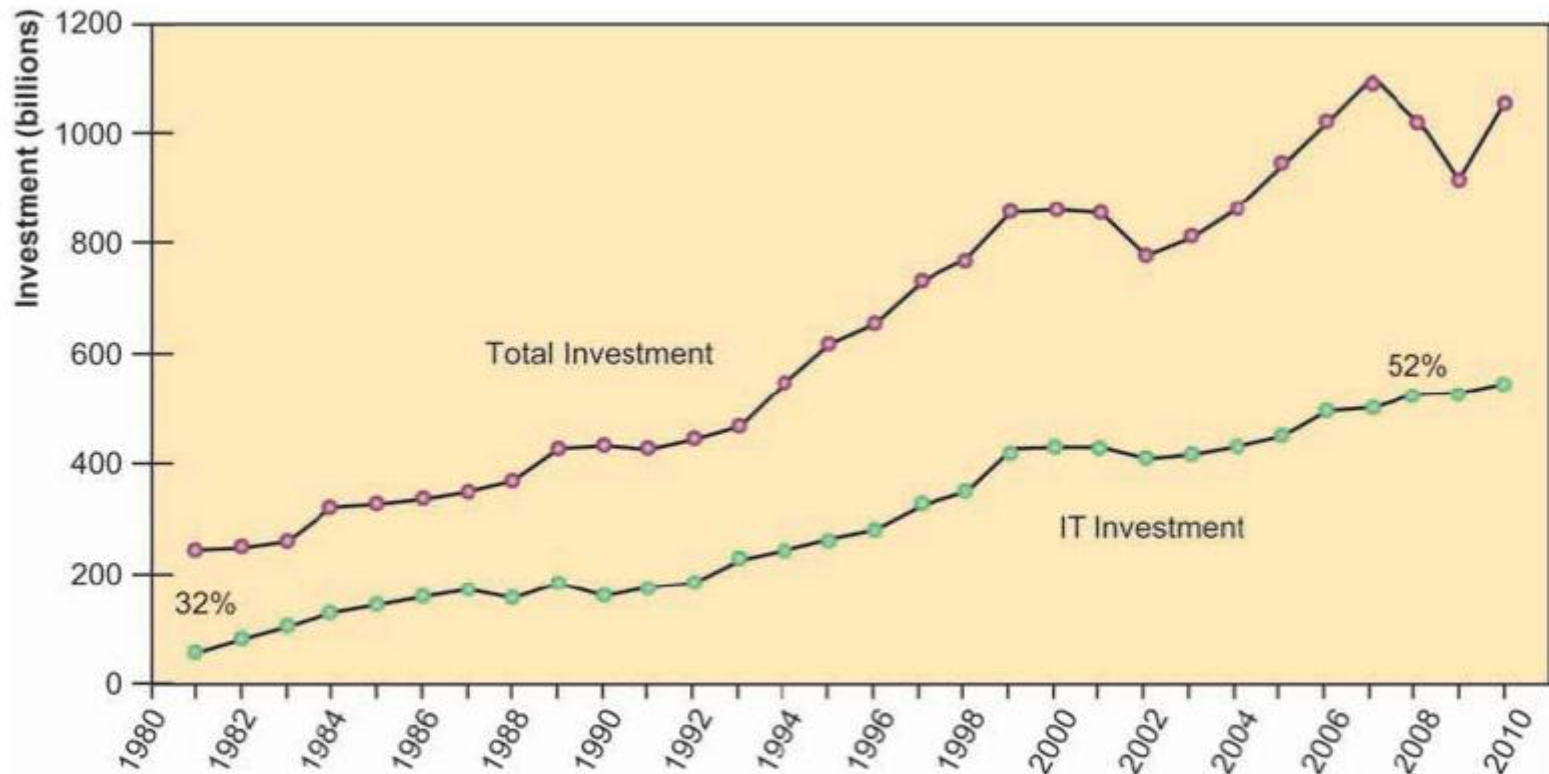
over \$540 billion on information systems hardware, software, and telecommunications equipment.



another \$650 billion on business and management consulting and services (redesigning firms' business operations to take advantage of these new technologies)



FIGURE 1.1 INFORMATION TECHNOLOGY CAPITAL INVESTMENT



Information technology capital investment, defined as hardware, software, and communications equipment, grew from 32 percent to 52 percent of all invested capital between 1980 and 2011.

Source: Based on data in U.S. Department of Commerce, Bureau of Economic Analysis, *National Income and Product Accounts*, 2012.

HOW INFORMATION SYSTEMS ARE TRANSFORMING BUSINESS



Essential tool of business nowadays



122 million people in US

Your Date



WHAT'S NEW IN MANAGEMENT INFORMATION SYSTEMS?



LOTS!

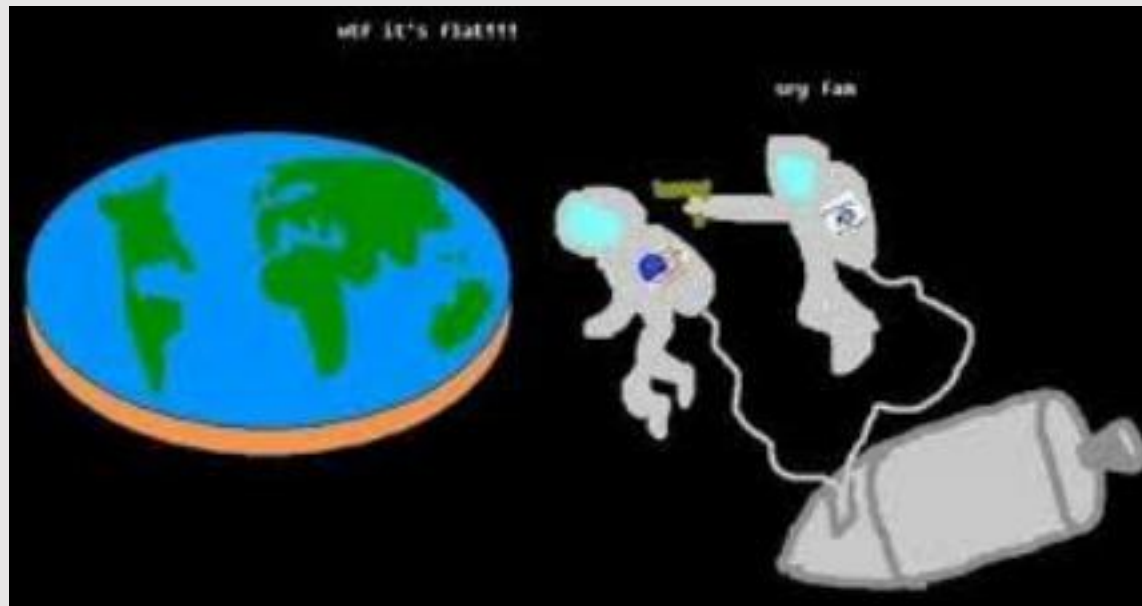
There are three interrelated changes in the technology area:

- The emerging mobile digital platform
- The growing business use of "big data,"
- The growth in "cloud computing," where more and more business software runs over the Internet.



GLOBALIZATION CHALLENGES AND OPPORTUNITIES: A FLATTENED WORLD

- GLOBALIZATION CHALLENGES OR OPPORTUNITIES?



THE EMERGING DIGITAL FIRM

- What is digital firm?
- one in which nearly all of the organization's significant business relationships with customers, suppliers, and employees are digitally enabled and mediated
- Core business processes are accomplished through digital networks
- the ways organizations accomplish their business processes can be a source of competitive strength.
- In a digital firm, any piece of information required to support key business decisions is available at any time and anywhere in the firm.
- In digital firms, both time shifting and space shifting are the norm.



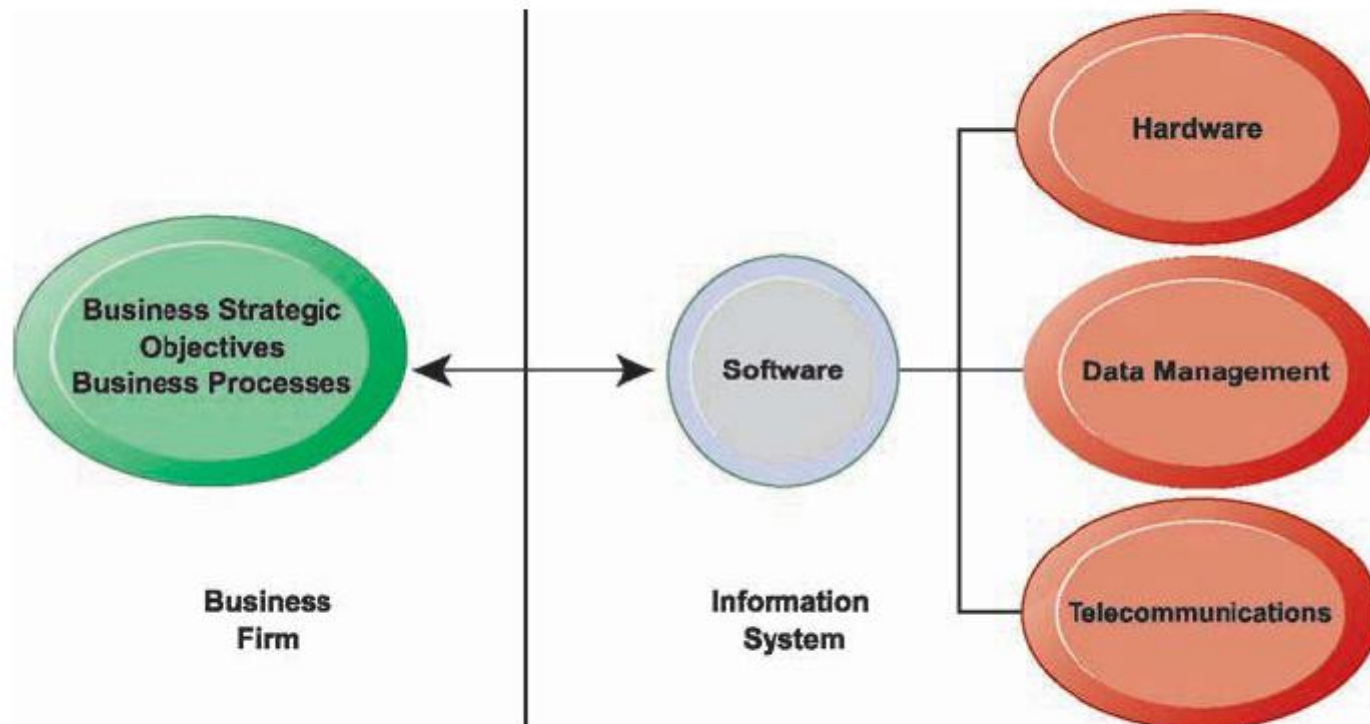
STRATEGIC BUSINESS OBJECTIVES OF INFORMATION SYSTEMS



- What makes information systems so essential today?
- Why are businesses investing so much in information systems and technologies?
- There is a growing interdependence between a firm's ability to use information technology and its ability to implement corporate strategies and achieve corporate goals
- What a business would like to do in five years often depends on what its systems will be able to do.



FIGURE 1.2 THE INTERDEPENDENCE BETWEEN ORGANIZATIONS AND INFORMATION SYSTEMS



In contemporary systems, there is a growing interdependence between a firm's information systems and its business capabilities. Changes in strategy, rules, and business processes increasingly require changes in hardware, software, databases, and telecommunications. Often, what the organization would like to do depends on what its systems will permit it to do.

Cont...

Why Business Firms invest heavily in IS?



Operational Excellence

New Products, services, and business model

Customer and supplier intimacy

Improve decision making

Competitive Advantages

Survival



Operational Excellence

- Businesses continuously seek to improve the efficiency of their operations in order to achieve higher profitability.
- Information systems and technologies are some of the most important tools



the largest retailer on earth and
world-class operational
efficiency;
use retail link system

New Products , Services , and Business Models



- Apple Inc. transformed an old business model of music distribution based on vinyl records, tapes, and CDs into an online, legal distribution model based on its own iPod technology platform
- Apple has prospered from a continuing stream of iPod innovations, including the iTunes music service, the iPad, and the iPhone.



Customer and Supplier Intimacy

- When a business really knows its customers, and serves them well, the customers generally respond by returning and purchasing more.
- Likewise with suppliers: the more a business engages its suppliers, the better the suppliers can provide vital inputs.



Improved Decision Making

- Many business managers operate in an information fog bank, never really having the right information at the right time to make an informed decision.
- Instead, managers rely on forecasts, best guesses, and luck.
- The result is over or underproduction of goods and services, misallocation of resources, and poor response times.
- Information systems and technologies have made it possible for managers to use real-time data from the marketplace when making decisions



Web-based digital
dashboard

Competitive Advantage

- When firms achieve one or more of these six business objectives
- Doing things better than your competitors, responding to customers and suppliers in real time all add up to higher sales and higher profits that your competitors cannot match.



Survival



There are many federal and state statutes and regulations that create a legal duty for companies and their employees to retain records, including digital records.

Toko Kelontong kecil





Data vs Informasi

Data = Informasi ?

DATA

- Datum
- A fact
- a number, a symbol, a condition, letters, sounds, or a picture
- Represents something in the real world

INFORMASI

- Data that have meaning within a context
- Data after processing
- Order sequences of symbols, etc

Konsep Informasi



Informasi Seseorang

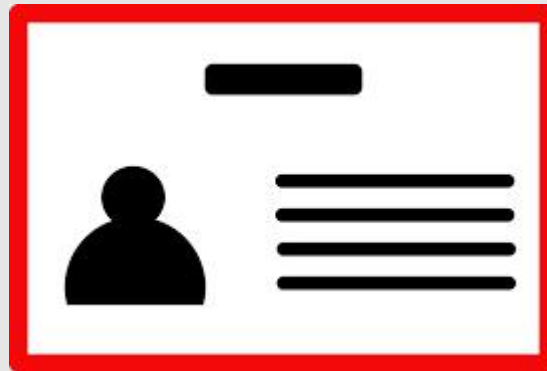


Ratna

31-12-
1995

Islam

Yogyakar
ta



Nama:
Ratna

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Alamat:
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Aplikasi Data & Informasi



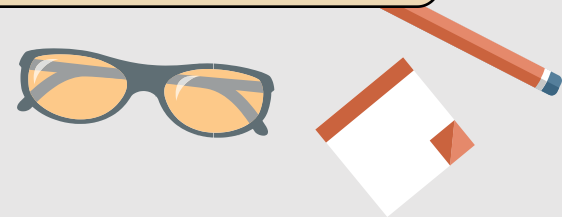
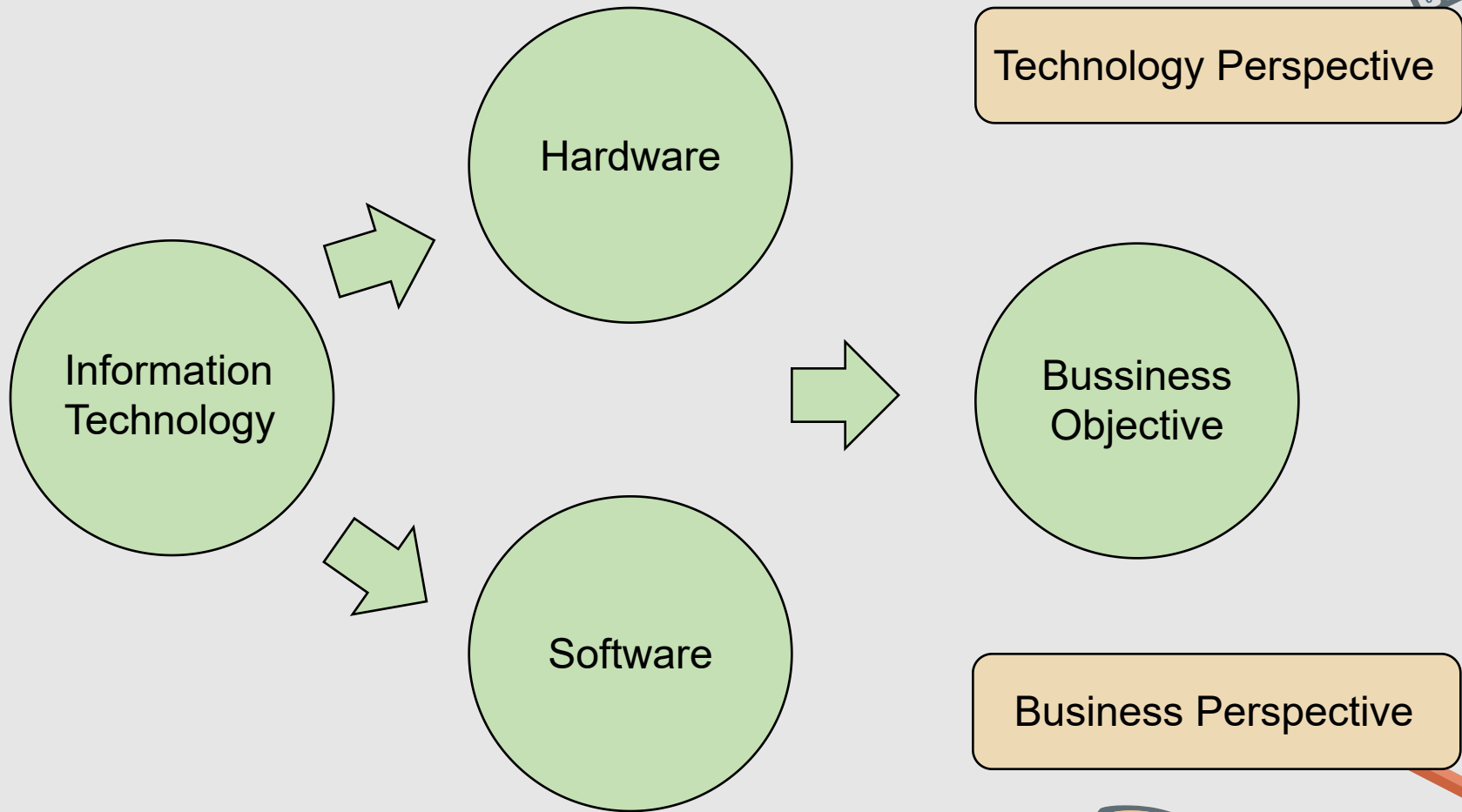
- Data = jumlah jam kerja karyawan
- Jam kerja 1 karyawan x tarif karyawan per jam = penghasilan 1 karyawan
- Jumlah penghasilan seluruh karyawan = jumlah gaji yang harus dibayarkan perusahaan
- Informasi = gaji yang harus dibayarkan perusahaan



Informasi yang Berkualitas

- ▣ Akurat
- ▣ Tepat Waktu
- ▣ Relevan
- ▣ Lengkap

Perspective of Information System



What is Information System?



- Can be defined technically as a set of interrelated components that collect (or retrieve), process, store, and distribute information to support decision making and control in an organization.
- In addition to supporting decision making, coordination, and control, information systems may also help managers and workers analyze problems, visualize complex subjects, and create new products.



What is Information System?



- Information systems contain information about significant people, places, and things within the organization or in the environment surrounding it.
- By information we mean data that have been shaped into a form that is meaningful and useful to human beings
- Data, in contrast, are streams of raw facts representing events occurring in organizations or the physical environment before they have been organized and arranged into a form that people can understand and use.



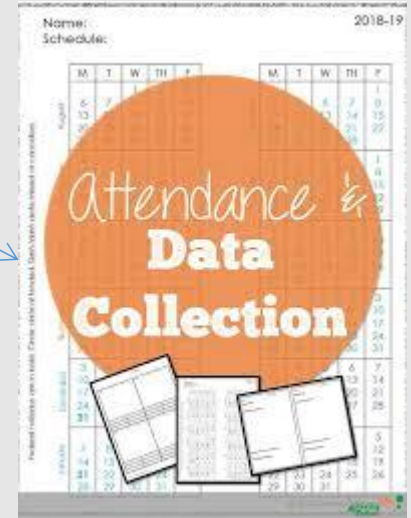


Your Date

Three Activities



Your Date



Your Date



- Calculate projected total attendance for a specific date
- Attendance figures and wait times for each ride
- Restaurant at various times during the day
- Indicate which rides or attractions are too overcrowded
- The average wait time per ride
- The average amount spent per customer during a specific time period



VS



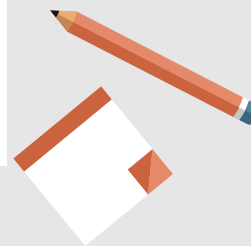
Dimension of Information System



FIGURE 1.5 INFORMATION SYSTEMS ARE MORE THAN COMPUTERS



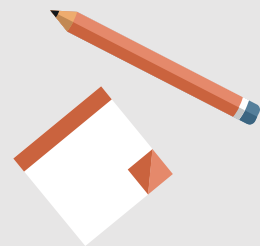
Using information systems effectively requires an understanding of the organization, management, and information technology shaping the systems. An information system creates value for the firm as an organizational and management solution to challenges posed by the environment.



Key Elements of an Organization



- People
- Structure
- Business Process
- Politics
- Culture



Organization

- Organizations have a structure that is composed of different levels and specialties

FIGURE 1.6 LEVELS IN A FIRM



Business organizations are hierarchies consisting of three principal levels: senior management, middle management, and operational management. Information systems serve each of these levels. Scientists and knowledge workers often work with middle management.

Organization



- Experts are employed and trained for different business functions.
- The major business functions, or specialized tasks performed by business organizations, consist of sales and marketing, manufacturing and production, finance and accounting, and human resources

TABLE 1.2 MAJOR BUSINESS FUNCTIONS

FUNCTION	PURPOSE
Sales and marketing	Selling the organization's products and services
Manufacturing and production	Producing and delivering products and services
Finance and accounting	Managing the organization's financial assets and maintaining the organization's financial records
Human resources	Attracting, developing, and maintaining the organization's labor force; maintaining employee records



Organization



- An organization coordinates work through its hierarchy and through its business processes, which are logically related tasks and behaviors for accomplishing work. Developing a new product, fulfilling an order, and hiring a new employee are examples of business processes.
- Each organization has a unique culture, or fundamental set of assumptions, values, and ways of doing things, that has been accepted by most of its members (administration culture, discipline, innovation)



Management

- Management's job is to make sense out of the many situations faced by organizations, make decisions, and formulate action plans to solve organizational problems.
- Managers perceive business challenges in the environment; they set the organizational strategy for responding to those challenges; and they allocate the human and financial resources to coordinate the work and achieve success.
- But managers must do more than manage what already exists. They must also create new products and services and even re-create the organization from time to time.
- Information technology can play a powerful role in helping managers design and deliver new products and services and redirecting and redesigning their organizations.



Information Technology

- Information technology is one of many tools managers use to cope with change.
- Computer hardware is the physical equipment used for input, processing, and output activities in an information system.
- Computer software consists of the detailed, preprogrammed instructions that control and coordinate the computer hardware components in an information system.
- Data management technology consists of the software governing the organization of data on physical storage media.



Information Technology

- Networking and telecommunications technology, consisting of both physical devices and software, links the various pieces of hardware and transfers data from one physical location to another
- A network links two or more computers to share data or resources, such as a printer.
- The world's largest and most widely used network is the Internet
- The World Wide Web is a service provided by the Internet that uses universally accepted standards for storing, retrieving, formatting, and displaying information in a page format on the Internet



Information Technology



- The IT infrastructure provides the foundation, or platform, on which the firm can build its specific information systems.
- Each organization must carefully design and manage its IT infrastructure so that it has the set of technology services it needs for the work it wants to accomplish with information systems



IT ISN'T JUST TECHNOLOGY: A BUSINESS PERSPECTIVE ON INFORMATION SYSTEMS



- Managers and business firms invest in information technology and systems because they provide real economic value to the business.
- The decision to build or maintain an information system assumes that the returns on this investment will be superior to other investments in buildings, machines, or other assets.
- These superior returns will be expressed as increases in productivity, as increases in revenues



IT ISN'T JUST TECHNOLOGY: A BUSINESS PERSPECTIVE ON INFORMATION SYSTEMS



- Information systems enable the firm to increase its revenue or decrease its costs by providing information that helps managers make better decisions or that improves the execution of business processes.
- From a business perspective, information systems are part of a series of value-adding activities for acquiring, transforming, and distributing information that managers can use to improve decision making, enhance organizational performance, and, ultimately, increase firm profitability.



COMPLEMENTARY ASSETS: ORGANIZATIONAL CAPITAL AND THE RIGHT BUSINESS MODEL



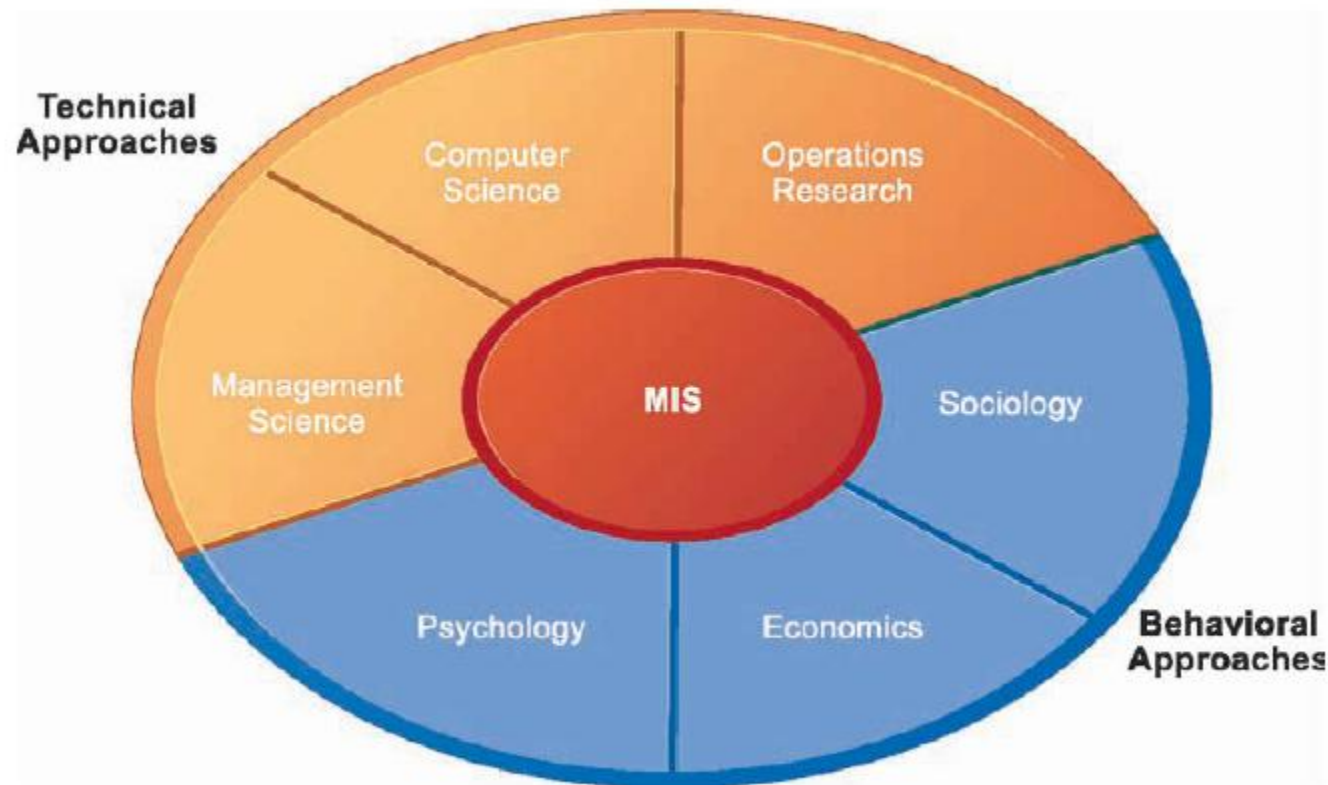
- Investing in information technology does not by itself guarantee good returns
- Complementary assets are those assets required to derive value from a primary investment
- Firms that support their technology investments with investments in complementary assets, such as new business models, new business processes, management behavior, organizational culture, or training, receive superior returns
- These investments in organization and management are also known as organizational and management capital.



TABLE 1.3 COMPLEMENTARY SOCIAL, MANAGERIAL, AND ORGANIZATIONAL ASSETS REQUIRED TO OPTIMIZE RETURNS FROM INFORMATION TECHNOLOGY INVESTMENTS

Organizational assets	<ul style="list-style-type: none"> Supportive organizational culture that values efficiency and effectiveness Appropriate business model Efficient business processes Decentralized authority Distributed decision-making rights Strong IS development team
Managerial assets	<ul style="list-style-type: none"> Strong senior management support for technology investment and change Incentives for management innovation Teamwork and collaborative work environments Training programs to enhance management decision skills Management culture that values flexibility and knowledge-based decision making.
Social assets	<ul style="list-style-type: none"> The Internet and telecommunications infrastructure IT-enriched educational programs raising labor force computer literacy Standards (both government and private sector) Laws and regulations creating fair, stable market environments Technology and service firms in adjacent markets to assist implementation

FIGURE 1.9 CONTEMPORARY APPROACHES TO INFORMATION SYSTEMS



The study of information systems deals with issues and insights contributed from technical and behavioral disciplines.

TECHNICAL APPROACH



- Computer science is concerned with establishing theories of computability, methods of computation, and methods of efficient data storage and access.
- Management science emphasizes the development of models for decision-making and management practices.
- Operations research focuses on mathematical techniques for optimizing selected parameters of organizations, such as transportation, inventory control, and transaction costs.



BEHAVIORAL APPROACH



- Sociologists study information systems with an eye toward how groups and organizations shape the development of systems and also how systems affect individuals, groups, and organizations
- Economists study information systems with an interest in understanding the production of digital goods, the dynamics of digital markets, and how new information systems change the control and cost structures within the firm.
- Behavioral concentrates on changes in attitudes, management and organizational policy, and behavior.



Sociotechnical System



Jenis-jenis Sistem Informasi



- Sistem informasi akuntansi (accounting information systems), menyediakan informasi dan transaksi keuangan.
- Sistem informasi pemasaran (marketing information systems), menyediakan informasi untuk penjualan, promosi penjualan, kegiatan-kegiatan pemasaran, kegiatan-kegiatan penelitian pasar dan lain sebagainya yang berhubungan dengan pemasaran.
- Sistem informasi manajemen persediaan (inventory management information systems).



Jenis-jenis Sistem Informasi



- Sistem informasi personalia (personal information systems).
- Sistem informasi distribusi (distribution information systems).
- Sistem informasi pembelian (purchasing information systems).
- Sistem informasi kekayaan (treasury information systems).
- Sistem informasi analisis kredit (credit analysis information systems).



Jenis-jenis Sistem Informasi



- Sistem informasi penelitian dan pengembangan (research and development information systems).
- Sistem informasi analisis software.
- Sistem informasi teknik (engineering information systems).



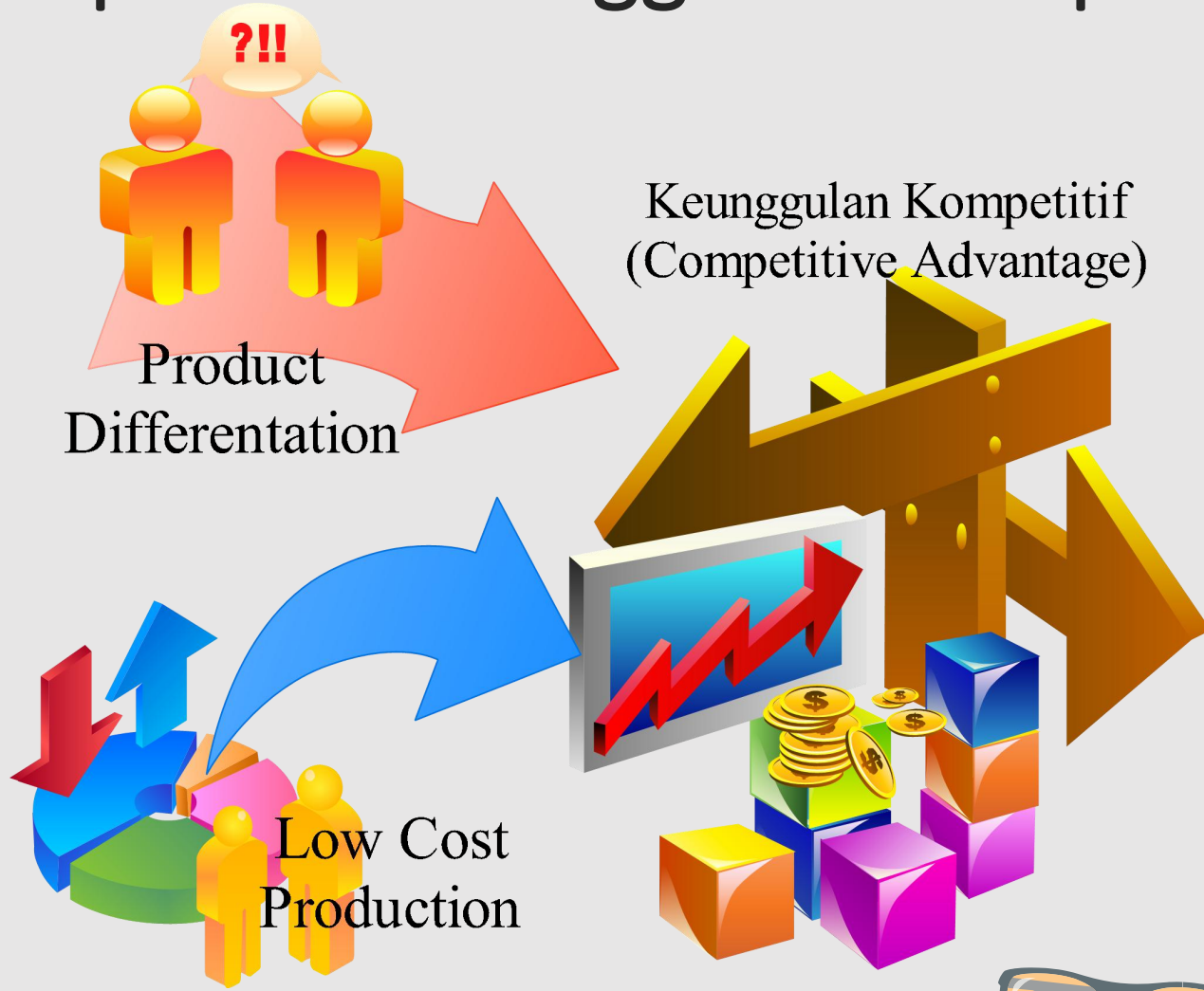
SIM untuk Keunggulan Bersaing



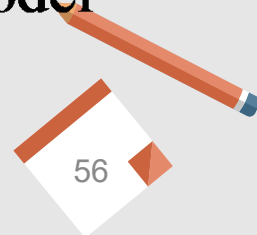
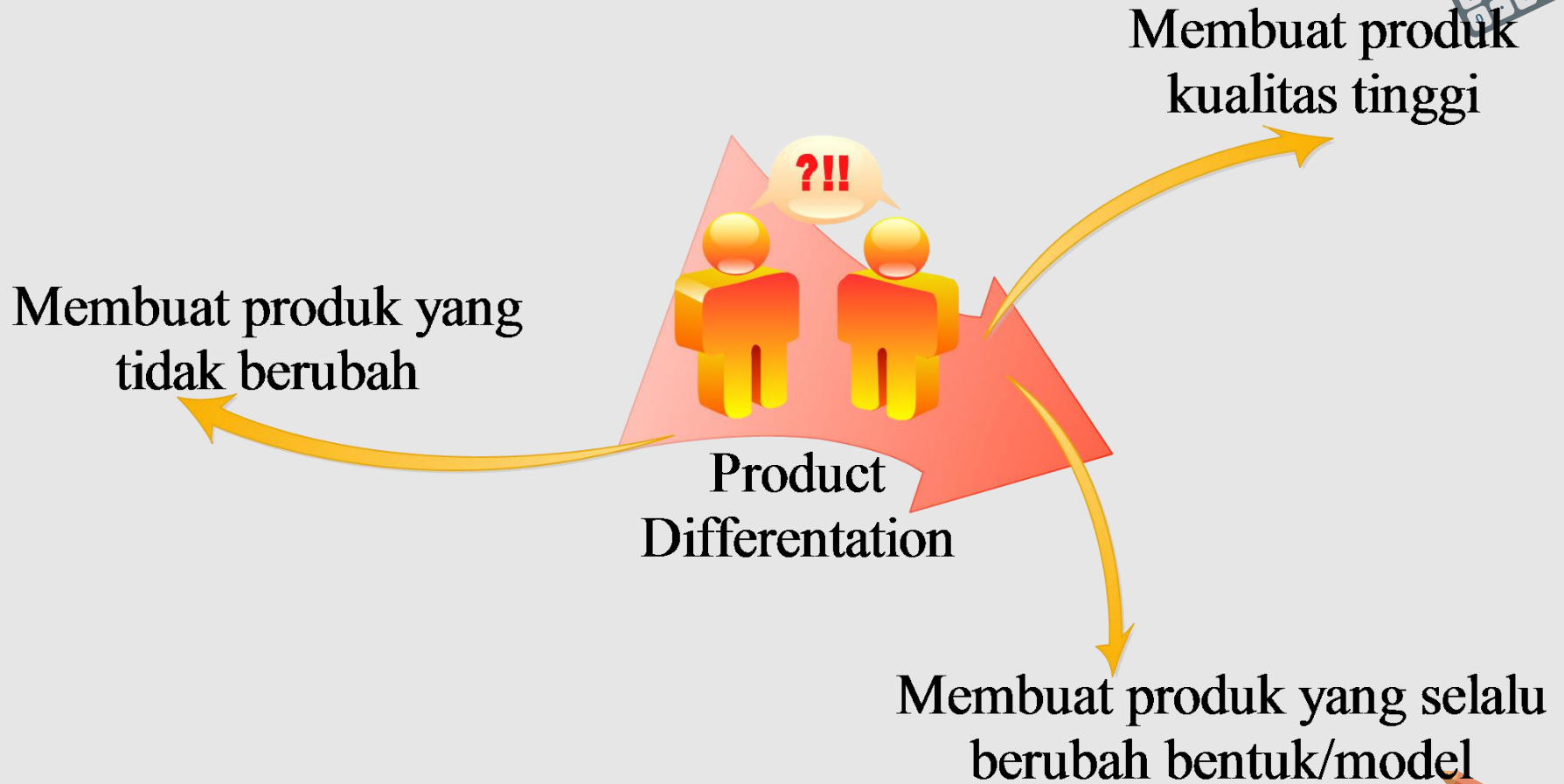
- Strategi Biaya
- Strategi Diferensiasi
- Strategi Inovasi



Menciptakan Keunggulan Kompetitif



Product Differentiation



Low Cost Production

