Kode : B11.6501
Bobot : 3 sks
Ruang : D.4.7
Kelomp : B11.5.6
Waktu : Jum’at, 07.00 – 09.30
Dosen : Dr. Agus Prayitno
Email : agus.prayitno@dsn.dinus.ac.id
PENILAIAN

UAS : 30%
UTS : 30%
Tugas : 40%
What is an Information System?

Any organized combination of people, hardware, software, communications networks, and data resources that stores, retrieves, transforms, and disseminates information in an organization.
- Information system:
  • Set of interrelated components
  • Collect, process, store, and distribute information
  • Support decision making, coordination, and control
Information vs. data

- **Data** – raw facts or observations typically about physical phenomena or business transactions

- **Information** – data that have been converted into a meaningful and useful context for specific end users
Information vs. data

Data

331 Brite Dish Soap  1.29
863 BL Hill Coffee  4.69
173 Meow Cat  .79
331 Brite Dish Soap  1.29
663 Country Ham  3.29
524 Fiery Mustard  1.49
113 Ginger Root  .85
331 Brite Dish Soap  1.29

Information

Sales Region: Northwest
Store: Superstore #122

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>DESCRIPTION</th>
<th>UNITS SOLD</th>
</tr>
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<tbody>
<tr>
<td>331</td>
<td>Brite Dish Soap</td>
<td>7,156</td>
</tr>
</tbody>
</table>

YTD SALES

$9,231.24
Information Systems vs. Information Technology

- Information Systems (IS) – all components and resources necessary to deliver information and information processing functions to the organization

- Information Technology (IT) – various hardware components necessary for the system to operate
Types of Information Technologies

- **Computer Hardware Technologies**
  including microcomputers, midsize servers, and large mainframe systems, and the input, output, and storage devices that support them

- **Computer Software Technologies**
  including operating system software, Web browsers, software productivity suites, and software for business applications like customer relationship management and supply chain management
Types of Information Technologies

• **Telecommunications Network Technologies**
  including the telecommunications media, processors, and software needed to provide wire-based and wireless access and support for the Internet and private Internet-based networks

• **Data Resource Management Technologies**
  including database management system software for the development, access, and maintenance of the databases of an organization
Information System Resources

- **People** – end users and IS specialists

- **Hardware** – physical devices and materials used in information processing including computer systems, peripherals, and media

- **Software** – sets of information processing instructions including system software, application software and procedures
Information Systems Resources (con’t)

- **Data** – facts or observations about physical phenomena or business transactions

- **Network** – communications media and network infrastructure
Network Resources

• **Communications Media** – examples include twisted-pair wire, coaxial and fiber-optic cables, microwave, cellular, and satellite wireless technologies.

• **Network Infrastructure** – examples include communications processors such as modems and internetwork processors, and communications control software such as network operating systems and Internet browser packages.
Information Systems Activities

- Input of Data Resources
- Processing of Data into Information
- Output of Information Products
- Storage of Data Resources
- Control of System Performance
Recognizing Information Systems

Fundamental Components of IS

• People, hardware, software, data and network resources used

• Types of information products produced

• Input, processing, output, storage and control activities performed
Three activities of information systems produce information organizations need

1. **Input**: Captures raw data from organization or external environment

2. **Processing**: Converts raw data into meaningful form

3. **Output**: Transfers processed information to people or activities that use it
Perspectives on Information Systems

**INFORMATION SYSTEM**

- **Input**
- **Processing**
  - Classify
  - Arrange
  - Calculate
- **Output**
- **Feedback**

**ENVIRONMENT**
- Suppliers
- Customers

**ORGANIZATION**
- Regulatory Agencies
- Stockholders
- Competitors
Perspectives on Information Systems

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.

Figure 1.5
• Organizational dimension of information systems

  – Hierarchy of authority, responsibility
    • Senior management
    • Middle management
    • Operational management
    • Knowledge workers
    • Data workers
    • Production or service workers
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.

Figure 1.6
Business perspective on information systems:

– Information system is instrument for creating value

– Investments in information technology will result in superior returns:
  • Productivity increases
  • Revenue increases
  • Superior long-term strategic positioning
• Business information value chain
  – Raw data acquired and transformed through stages that add value to that information
  – Value of information system determined in part by extent to which it leads to better decisions, greater efficiency, and higher profits

• Business perspective:
  – Calls attention to organizational and managerial nature of information systems
The Business Information Value Chain

Business Processes

Data Collection and Storage
Transformation into Business Systems
Dissemination

Supply Chain Management
Enterprise Management
Customer Management
Knowledge Management

Information Processing Activities

Planning
Coordinating
Controlling

Management Activities

Modeling and Decision Making

Firm Profitability and Strategic Position

Business Value
Contemporary Approaches to Information Systems

Technical Approaches:
- Computer Science
- Operations Research
- Management Science
- MIS

Behavioral Approaches:
- Psychology
- Economics
- Sociology
Business perspective on information systems:

• Technical approach
  – Emphasizes mathematically based models
  – Computer science, management science, operations research

• Behavioral approach
  – Behavioral issues (strategic business integration, implementation, etc.)
  – Psychology, economics, sociology
• Technical approach
  – Emphasizes mathematically based models
  – Computer science, management science, operations research

• Behavioral approach
  – Behavioral issues (strategic business integration, implementation, etc.)
  – Psychology, economics, sociology
• Management Information Systems
  – Combines computer science, management science, operations research and practical orientation with behavioral issues

• Four main actors
  – Suppliers of hardware and software
  – Business firms
  – Managers and employees
  – Firm’s environment (legal, social, cultural context)
A Sociotechnical Perspective on Information Systems
SAMPAI BERJUMPA MINGGU DEPAN