CHAPTER 18

Information Technology and Control

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Business Environment

– Global economy
– Information-based service economies
– Internet

Information Systems

… is a set of interrelated components that collects (or retrieves), processes, stores and distributes information to support the activities of an organization.
Components

Types of Information Systems

- Operational-level
- Knowledge-level
- Management-level
- Strategic-level

Operational-Level Information Systems

- Sales/marketing systems
- Manufacturing/production systems
- Finance/accounting systems
- Human resource systems
- Industry specific systems
Knowledge-Level Information Systems
- Processes
- Procedures
- Patents
- Reference works
- Formulas
- Best practices
- Forecasts
- Fixes

Management-Level Systems
... provide managers with periodic report that summarize the organization’s performance.

Executive-Support Systems
- Filter and track critical information
- Provides an up-to-date status report.
- Access internal and external data.
- Tools for personal productivity.
Enterprise Resource Planning (ERP)

- Integrates
- Time consuming
- Extremely costly
- Technologically difficult

Computer-based Information System

Standard Components
- Inputs
- Processing
- Outputs
- Feedback
- Control

Additional Components
- Hardware
- Software
- Database

The Process: Data into Information

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Characteristics

- Quality
- Timeliness
- Completeness

Successful System Attributes

A system’s ability to meet the needs and expectations of its users.
Feasibility

- Organizational feasibility
- Economic feasibility
- Technical feasibility
- Operational feasibility

Telecommunications and Networking

- The transmission of information in any form from one location to another using electronic or optical means.
  - Local-area network (LAN)
  - Wide-area network (WAN)

Telecommunication Activities

- Electronic Data Interchange (EDI)
- Electronic Funds Transfer (EFT)
- Telecommuting
- E-mail
- Electronic Commerce
  - Artificial Intelligence – Expert system
  - Artificial Intelligence - Robotics