Lecture 2
FOUNDATIONS OF INFORMATION SYSTEMS IN BUSINESS

LEARNING OBJECTIVES

1. Trends in information Systems.
2. Provide examples of several major types of information systems.
3. Understand how to develop successful information system solutions.

1. TRENDS IN INFORMATION SYSTEMS

The Expanding Roles of IS in Business and Management

The Expanding Participation of End Users and Managers in IS

Enterprise Resource Planning and Business Intelligence: 2000s–2010s

Enterprisewide common-interface applications data mining and data visualization, customer relationship management, supply-chain management

Electronic Business and Commerce: 1990s–2000s

Internet-based e-business and e-commerce systems

Web-enabled enterprise and global e-business operations and electronic commerce on the Internet, intranets, extranets, and other networks

Strategic and End-User Support: 1980s–1990s

End-user computing systems

Direct computing support for end-user productivity and workgroup collaboration

Executive information systems

Critical information for top management

Expert systems

Knowledge-based expert advice for end users

Strategic information systems

Strategic products and services for competitive advantage

Decision Support: 1970s–1980s

Decison support systems

Interactive ad hoc support of the managerial decision-making process

Management Reporting: 1960s–1970s

Management information systems

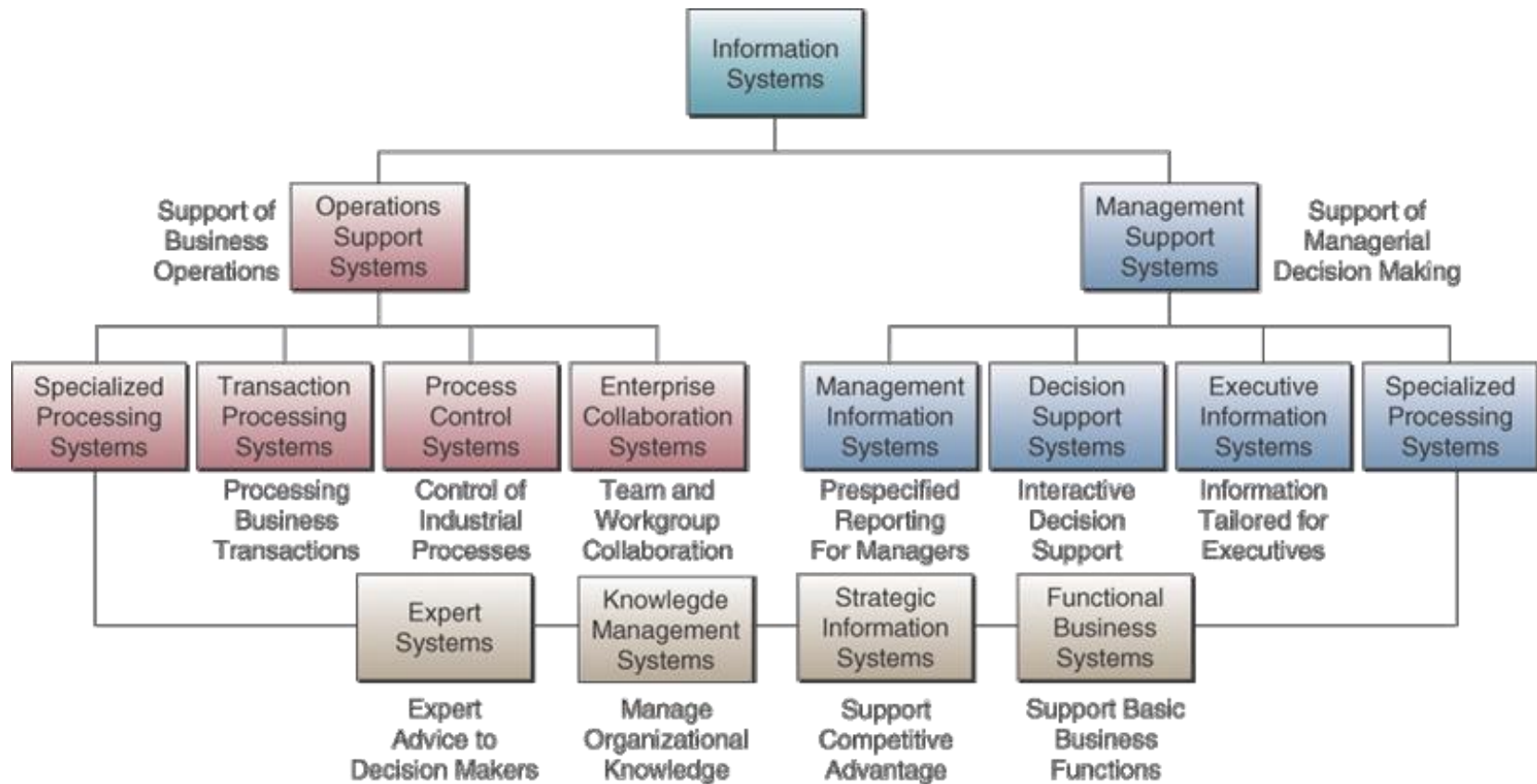Management reports of prespecified information to support decision making

Data Processing: 1950s–1960s

Electronic data processing systems

Transaction processing, record-keeping, and traditional accounting applications

2. TYPES OF IS

OPERATIONS SUPPORT SYSTEMS 1

- What are they?
  - Efficiently process business transactions
  - Control industrial processes
  - Support communications and collaboration
  - Update corporate databases

TYPES OF OPERATIONS SUPPORT SYSTEMS

- Transaction Processing Systems
  - Record and process data from business transactions
  - Examples: sales processing, inventory systems, accounting systems
- Process Control Systems
  - Monitor and control physical processes
  - Example: in a petroleum refinery use sensors to monitor chemical processes
- Enterprise Collaboration Systems
  - Enhance team and work group communications
  - Examples: e-mail, chat, videoconferencing

TWO WAYS TO PROCESS TRANSACTIONS

- Batch Processing:
  - Accumulate transactions over time and process periodically
  - Example: a bank processes all checks received in a batch at night
- Online (real time) Processing:
  - Process transactions immediately
  - Example: a bank processes an ATM withdrawal immediately
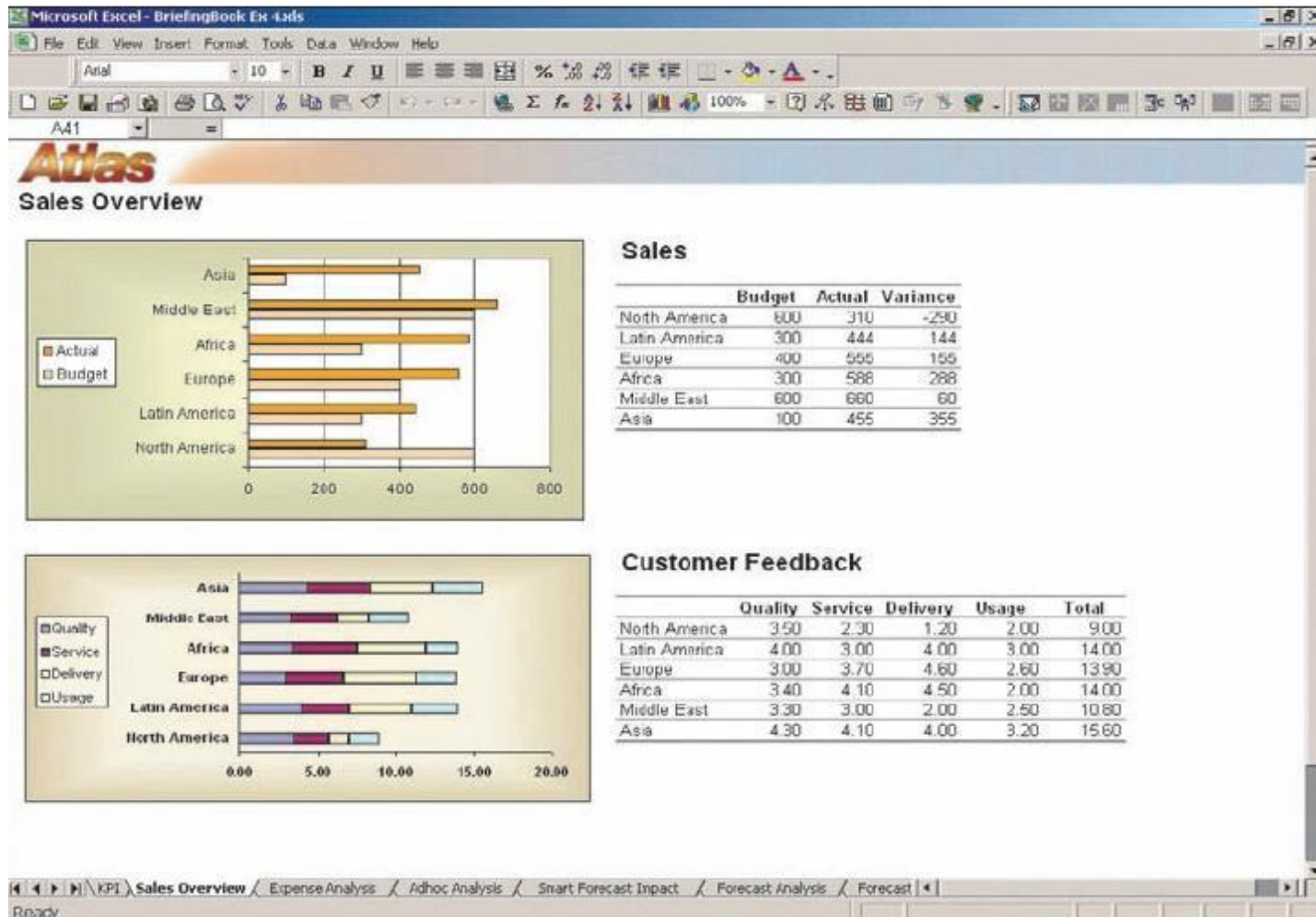
MANAGEMENT SUPPORT SYSTEMS 1

- What are they?
  - Provide information and support for effective decision making by managers

TYPES OF MANAGEMENT SUPPORT SYSTEMS

- ## Management Information Systems (MIS)
  - Provide reports and displays to managers
  - Example: daily sales analysis reports
- ## Decision Support Systems (DSS)
  - Provide interactive ad hoc support for decision making
  - Example: A what-if-analysis to determine where to spend advertising dollars; profitability forecasting
- ## Executive Information Systems (EIS)
  - Provide critical information for executives and managers
  - Example: easy access to analyses of business performance, actions of competitors

AN EXAMPLE OF AN MIS REPORT

MIS provide information to business professionals in a variety of easy-to-use formats.

OPERATIONAL OR MANAGEMENT SYSTEMS

- Expert Systems
  - Provide expert advice
  - Example: credit application advisor
- Knowledge Management Systems
  - Support creation, organization and dissemination of business knowledge throughout company
  - Example: Intranet access to best business practices

OPERATIONAL OR MANAGEMENT SYSTEMS (CLASSIFICATIONS OF IS BY SCOPE)

- Functional business systems
  - Focus on operational and managerial applications of basic business functions
  - Examples: support accounting, finance or marketing
- Strategic information systems
  - Help get a strategic advantage over its customers
  - Examples: shipment tracking, e-commerce web systems
- Cross-functional information systems
  - Systems that are combinations of several types of information systems
  - Provide support for many functions

MEASURING SUCCESS OF AN IS

- ## Efficiency (IS)
  - Minimize cost, time and use of information resources

- ## Effectiveness (IT)
  - Support business strategies
  - Enable business processes
  - Enhance organizational structure and culture
  - Increase the customer and business value

3. PROBLEM SOLVING PHASES

Developing IS Solutions – an Information Systems is a Solution to a Business Problem

- ❖ <u>Investigate</u> (Plan) – recognize the problem exists
- ❖ <u>Analyze</u> – investigate the current system
- ❖ <u>Design</u> – designing the new system
- ❖ <u>Implement</u> – put the new system into effect
- ❖ <u>Maintain</u> (Use) – use, monitor, and maintain the new system

THANK YOU