Information Systems

Introduction and overview

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Outline

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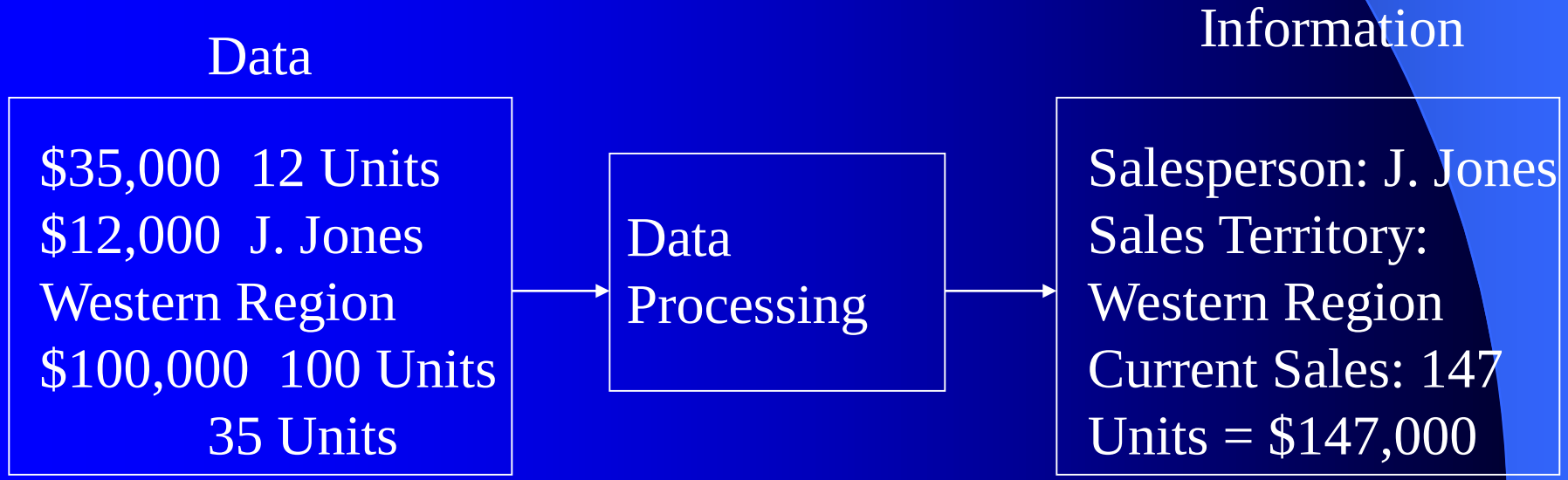
Definitions

Data

Raw facts such as an employee's name and number of hours worked in a week, inventory part numbers or sales orders.

Information

A collection of facts organized in such a way that they have additional value beyond the value of the facts themselves.



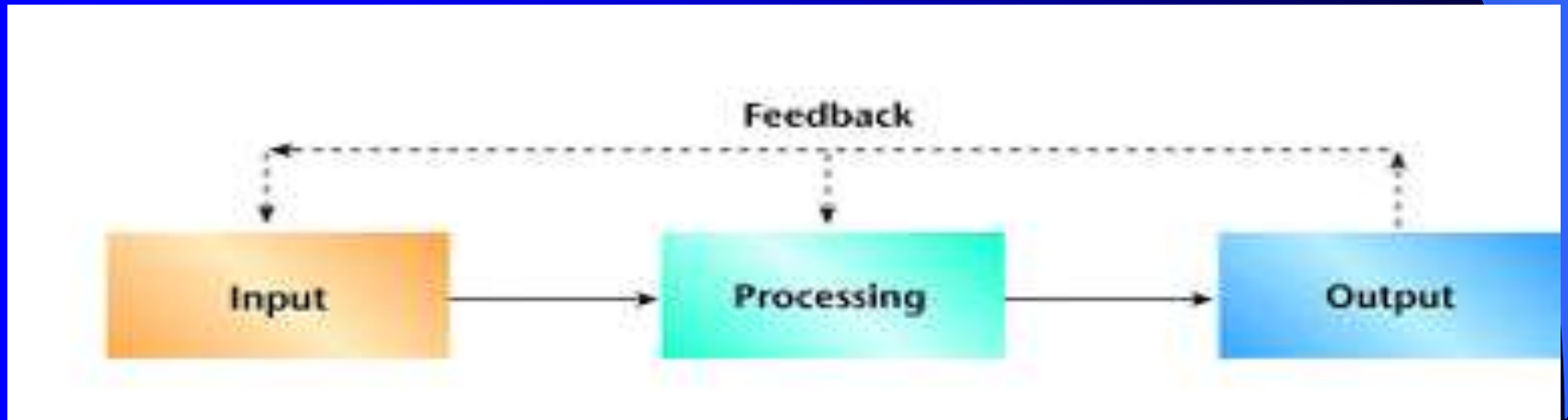
Definitions

Information Systems

An information system(IS) is typically considered to be a set of interrelated elements or components that collect(input), manipulate(processes), and disseminate (output) data and information and provide a feedback mechanism to meet an objective.

Open System

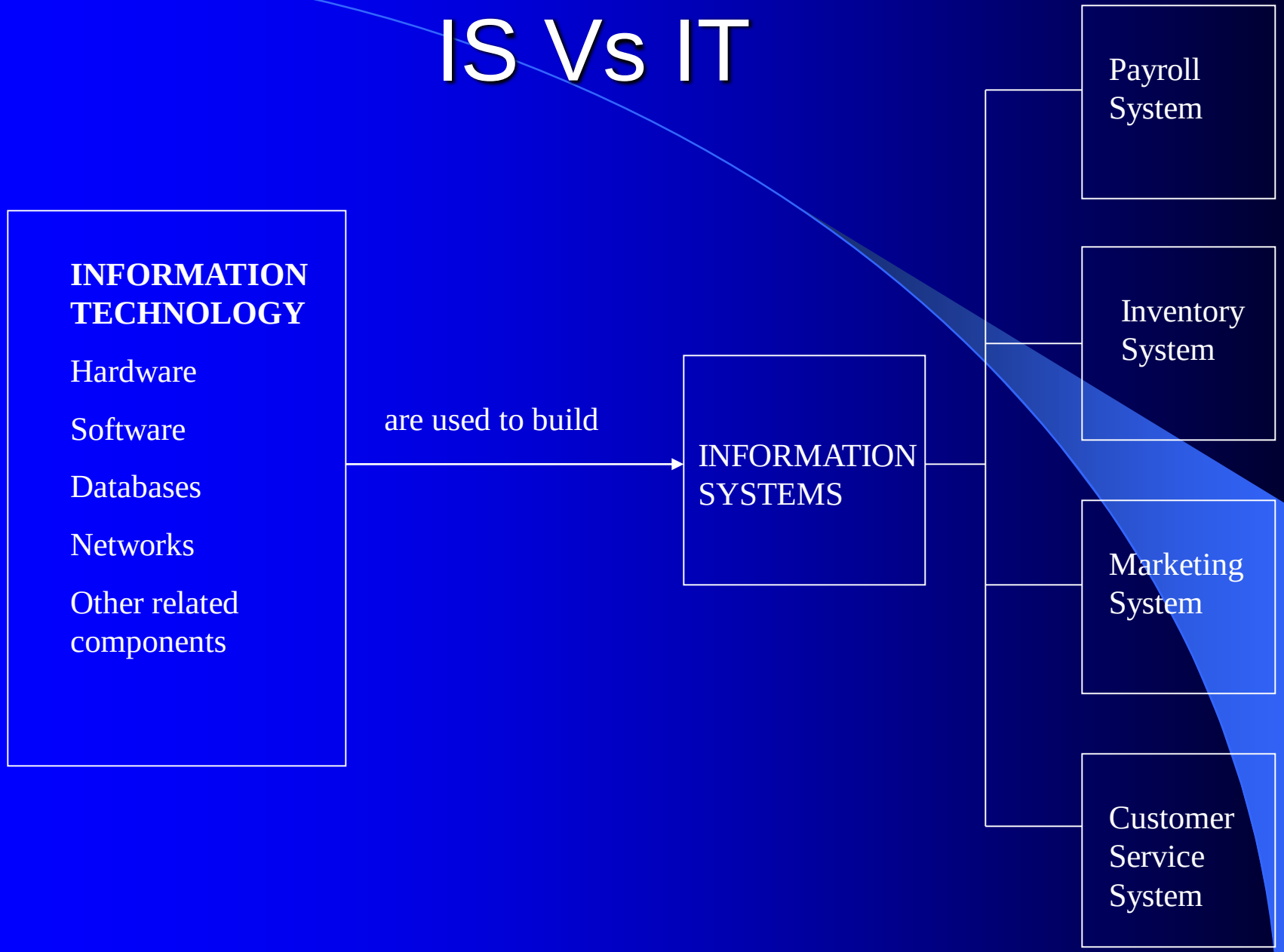
Close System



Computer-based Information System

An Information System is an organized combination of people, hardware, software, communication networks and the data resources that collects, transforms and disseminates information in a organization.

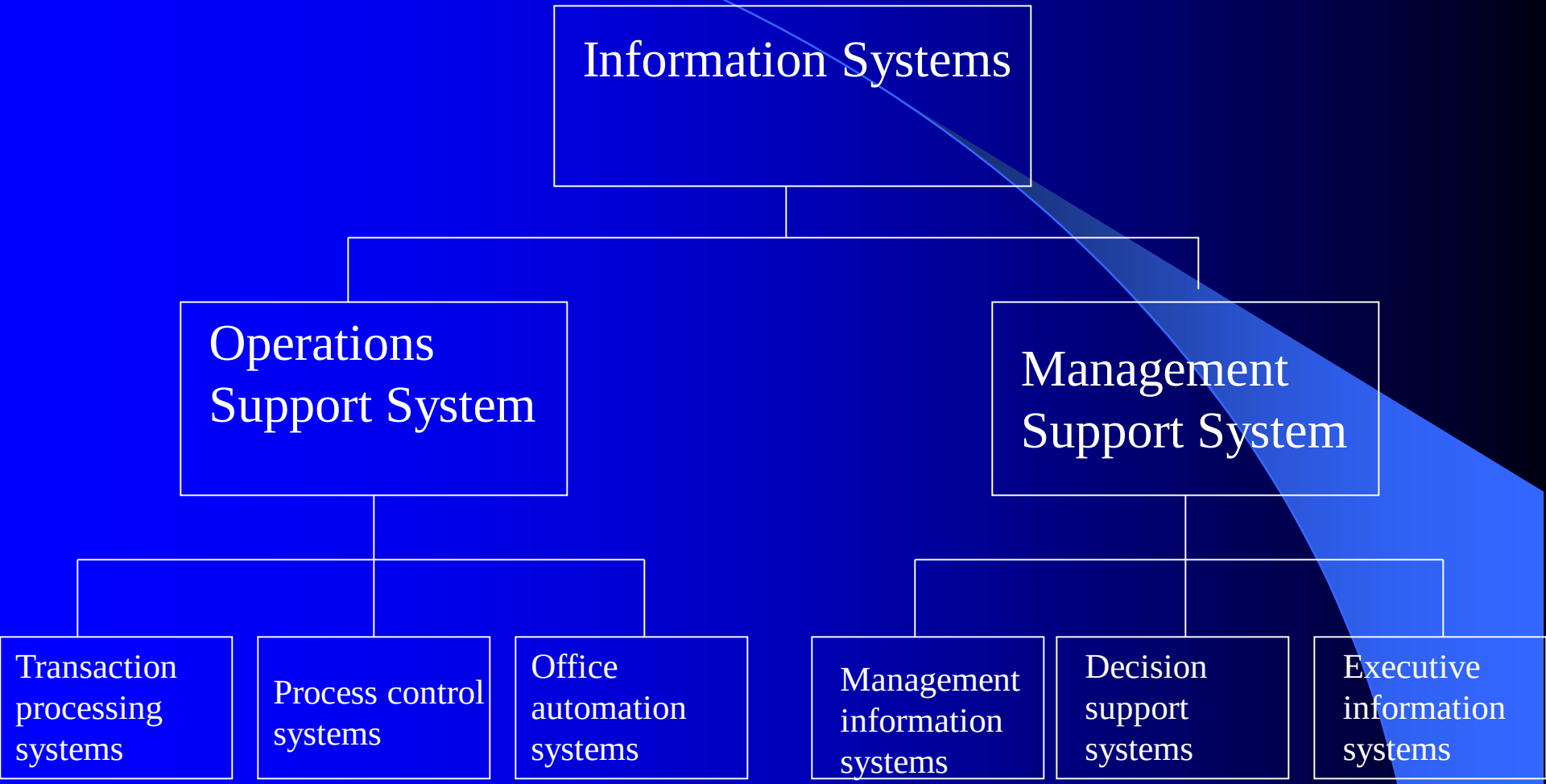
IS Vs IT


INFORMATION TECHNOLOGY
Hardware
Software
Databases
Networks
Other related components
are used to build
INFORMATION SYSTEMS
Payroll System
Inventory System
Marketing System
Customer Service System

Expanding Roles of IS

1. **Data Processing: 1950s-1960s**
2. **Management Reporting: 1960s-1970s**
3. **Decision support: 1970s-1980s**
4. **Strategic and End User Support: 1980s-1990s**
5. **Global Internetworking: 1990s-2000s**

Classification of IS



1. Operations support systems process data generated by business operations

Major categories are:

i) Transaction processing systems

ii) Process control systems

iii) Office automation systems

2. Management Support Systems provide information and support needed for effective decision making by managers

Major categories are

i) Management Information System

ii) Decision Support Systems

iii) Executive Information System

1. Operations Support System

i) Transaction processing systems

- Process business exchanges
- Maintain records about the exchanges
- Handle routine, yet critical, tasks
- Perform simple calculations

ii) **Process control systems** monitor and control industrial processes.

iii) **Office automation systems** automate office procedures and enhance office communications and productivity.

2. Management support systems provide information and support needed for effective decision making by managers

Major categories are:

i) Management information systems

- Routine information for routine decisions
- Operational efficiency
- Use transaction data as main input
- Databases integrate MIS in different functional areas

ii) Decision Support System

- Interactive support for non-routine decisions or problems
- End-users are more involved in creating a DSS than an MIS

iii) Executive information systems

provide critical information tailored to the information needs of executives

Other categories

a) Expert systems

b) End user computing systems

c) Business information systems

d) Strategic information systems

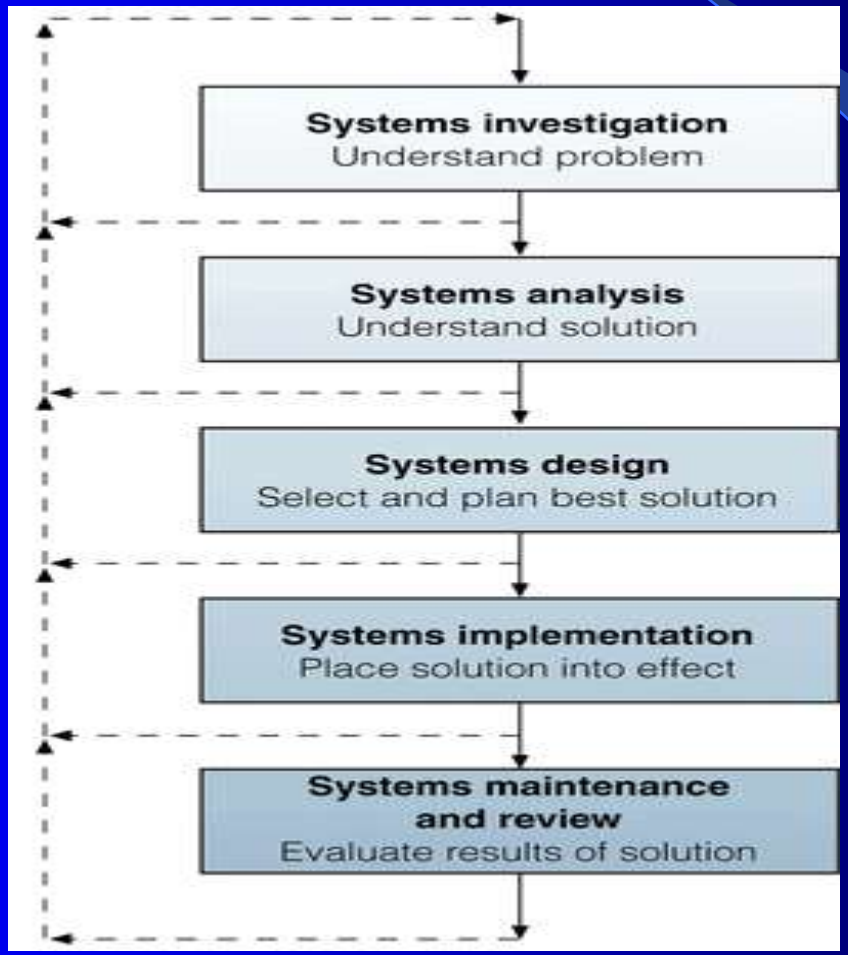
a) Expert Systems are knowledge-based systems that provides expert advice and act as expert consultants to the users

b) End user computing systems support the direct, hands on use of computers by end users for operational and managerial applications

c) Business information systems support the operational and managerial applications of the basic business functions of a firm

d) Strategic information systems provide a firm which strategic products, services, and capabilities for competitive advantage

Information Systems Development



IS as Discipline

IS is an interdisciplinary field influenced by Computer Science, Political Science, Psychology, Operations Research, Linguistics, Sociology, and Organizational Theory.

Challenges

1. Workforce downsizing
2. Information overload
3. Employee mistrust
4. Difficult to built
5. Security breaches

Opportunities

1. Enhanced global competitiveness
2. Capture market opportunities
3. Support corporate strategy
4. Enhance worker productivity
5. Improve quality of goods and services

Conclusion

Information Systems are indispensable to the business, industry, academia and any organization to meet the future challenges