

MANAGEMENT INFORMATION SYSTEMS 8/E

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Chapter 1

Introduction to the Computer-Based Information System

Objectives :

- **Know the main types of resources that are available to a firm.**
- **Appreciate that information must be managed just as any other resource.**
- **Have an introductory understanding of systems concepts.**
- **Know the difference between data and information. Know the elements of the computer-based information system (CBIS) and how they evolved.**
- **Be familiar with the types of information specialists who can assist the user in developing information systems.**
- **Understand that users are doing more and more of their application development, as well as understand how this trend affects information specialists.**
- **Understand how a computer system evolves through a life cycle and recognize the roles played by the manager and information specialists.**
- **Understand that information systems belong to their users, not to the information specialists.**

Information Management

Information:

The most valuable resource

Five Main Resources

- Personnel

- Material

- Machines

 - (including facilities and energy)

} Physical

- Money

- Information (and data)

} Conceptual

How Resources are Managed

- Acquire
- Assemble, or prepare
- Maximize use
- Replace

Factors Stimulating Interest in Information Management

- **Increasing complexity of business activity**
 - International economy
 - Worldwide competition
 - Increasing complexity of technology
 - Shrinking time frames
 - Social constraints
- **Improved computer capabilities**
 - Size
 - Speed

Who are the Users ?

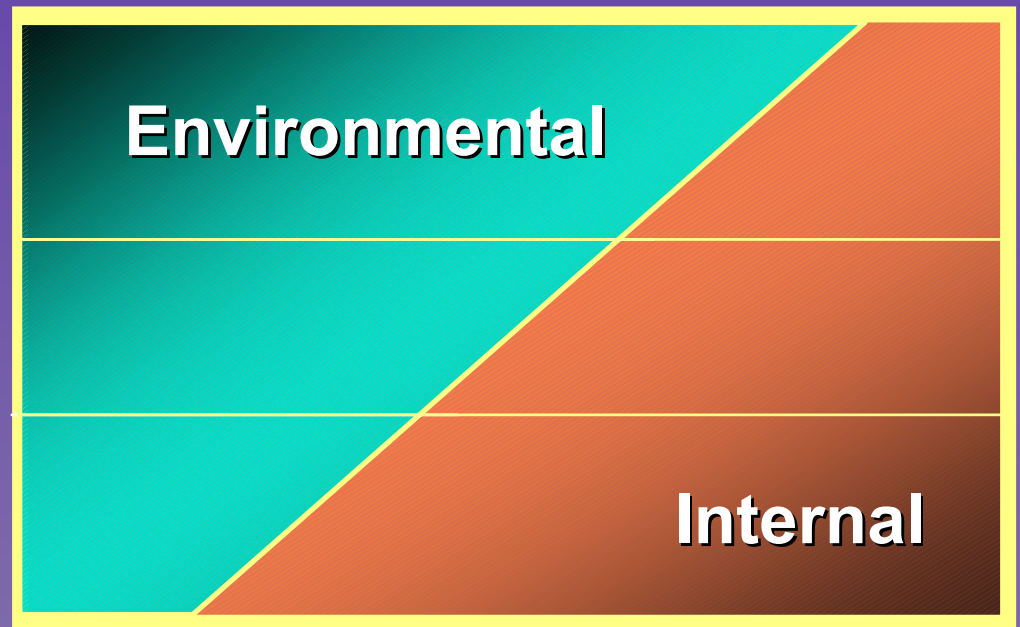
- **Managers**
- **Nonmanagers**
- **Persons & organizations in the firm's environment**

The Influence of Management Level on Information Source

Strategic planning level

Management control level

Operational control level

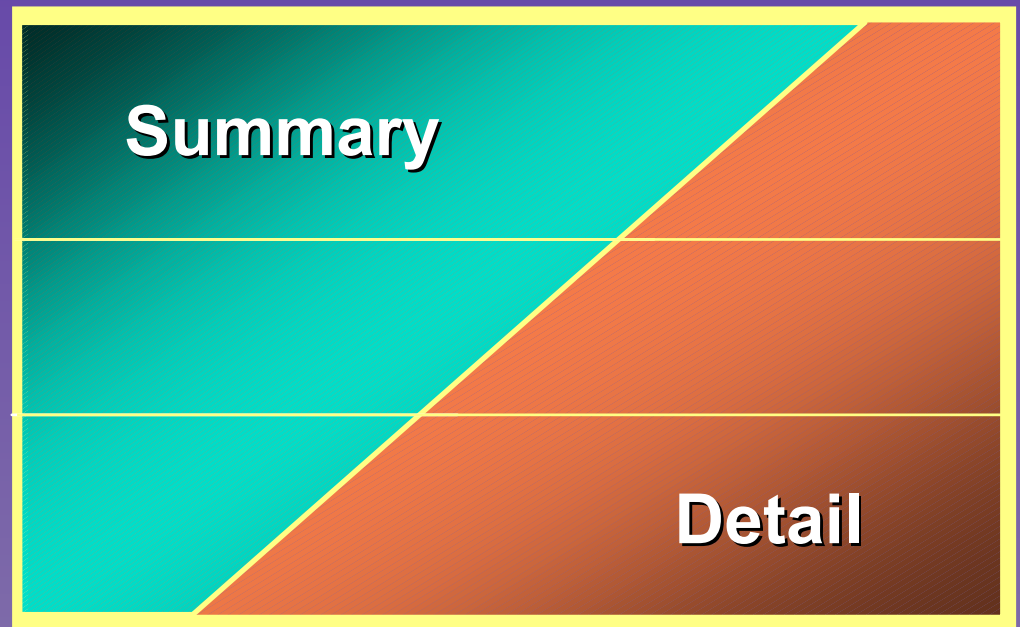


The Influence of Management Level on Information Form

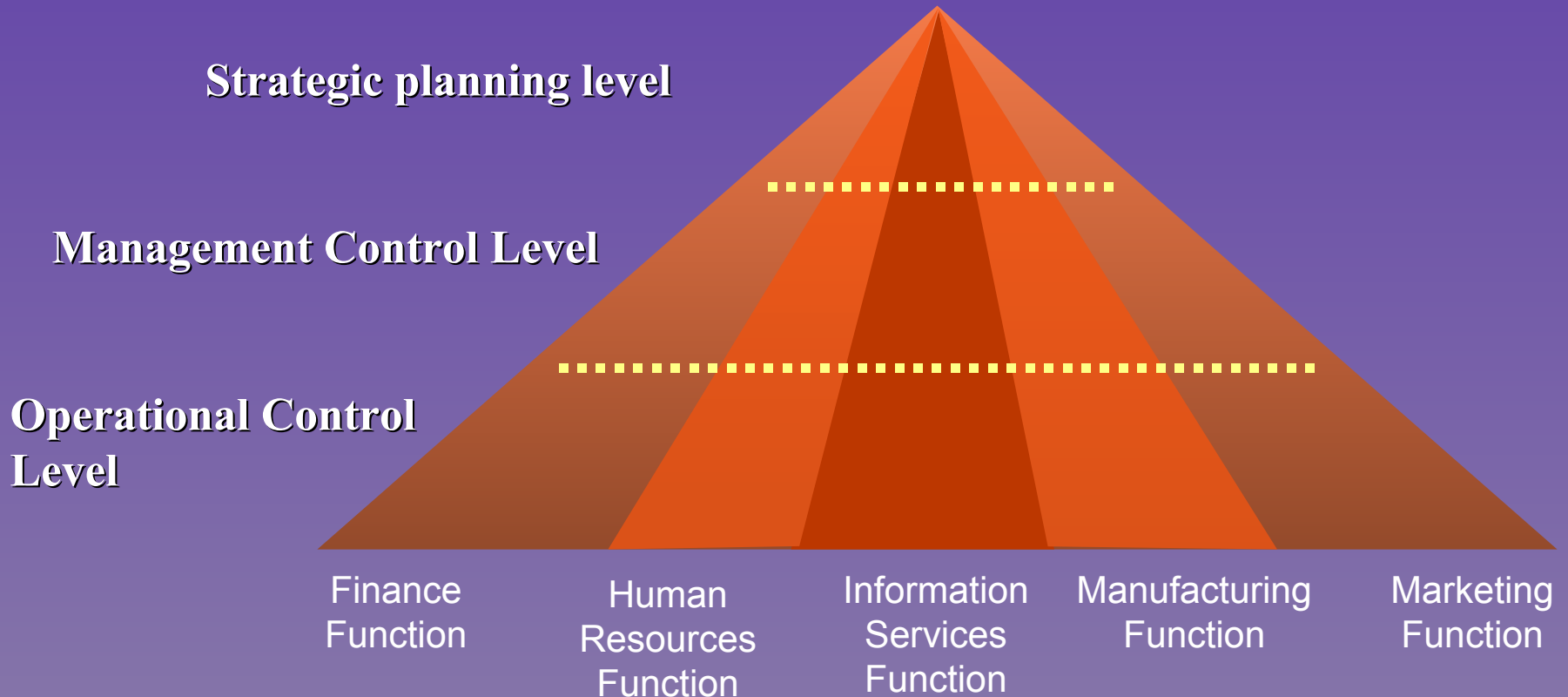
Strategic planning level

Management control level

Operational control level



Managers Can Be Found on All Levels and in All Functional Areas of the Firm

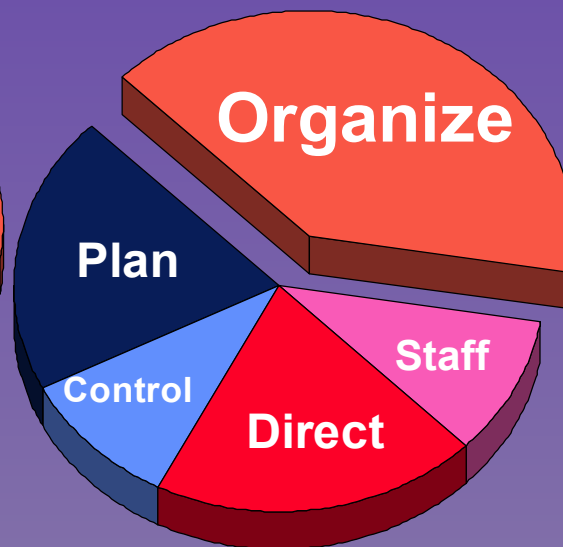


What Managers do -- Fayol's Functions

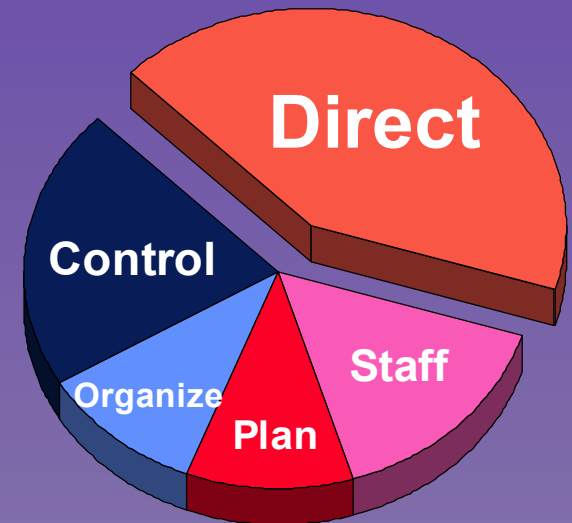
**Strategic
Planning Level**



**Management
Control Level**



**Operational
Control Level**



What Managers do -- Mintzberg's Roles

■ Interpersonal roles

- Figurehead
- Leader
- Liaison

■ Informational roles

- Monitor
- Disseminator
- Spokesperson

■ Decisional roles

- Entrepreneur
- Disturbance handler
- Resource allocator
- Negotiator

Management Skills

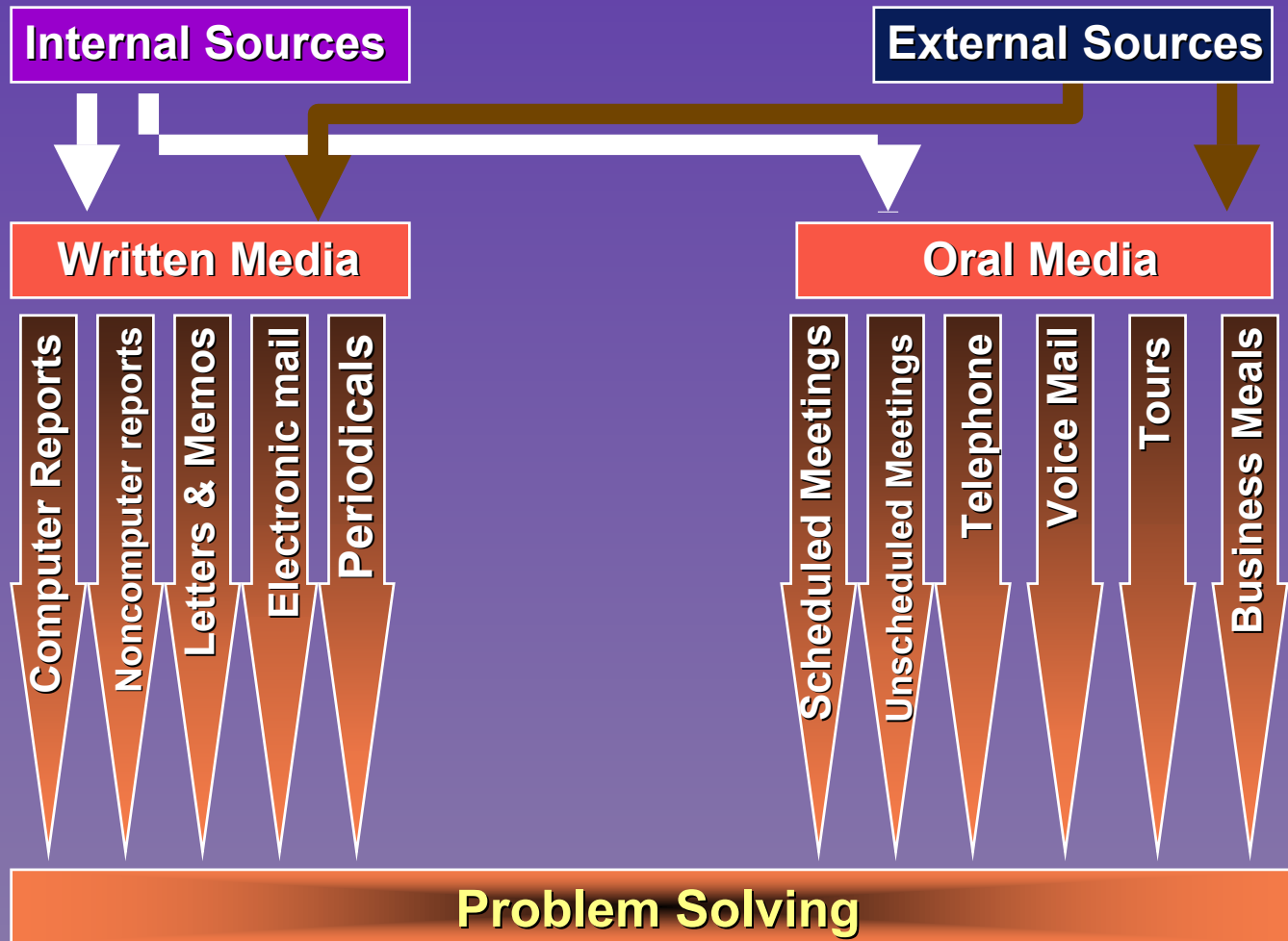
■ Communications

■ Problem solving



How can an
information
specialist help?

Problem Solving Information Comes in Many Forms

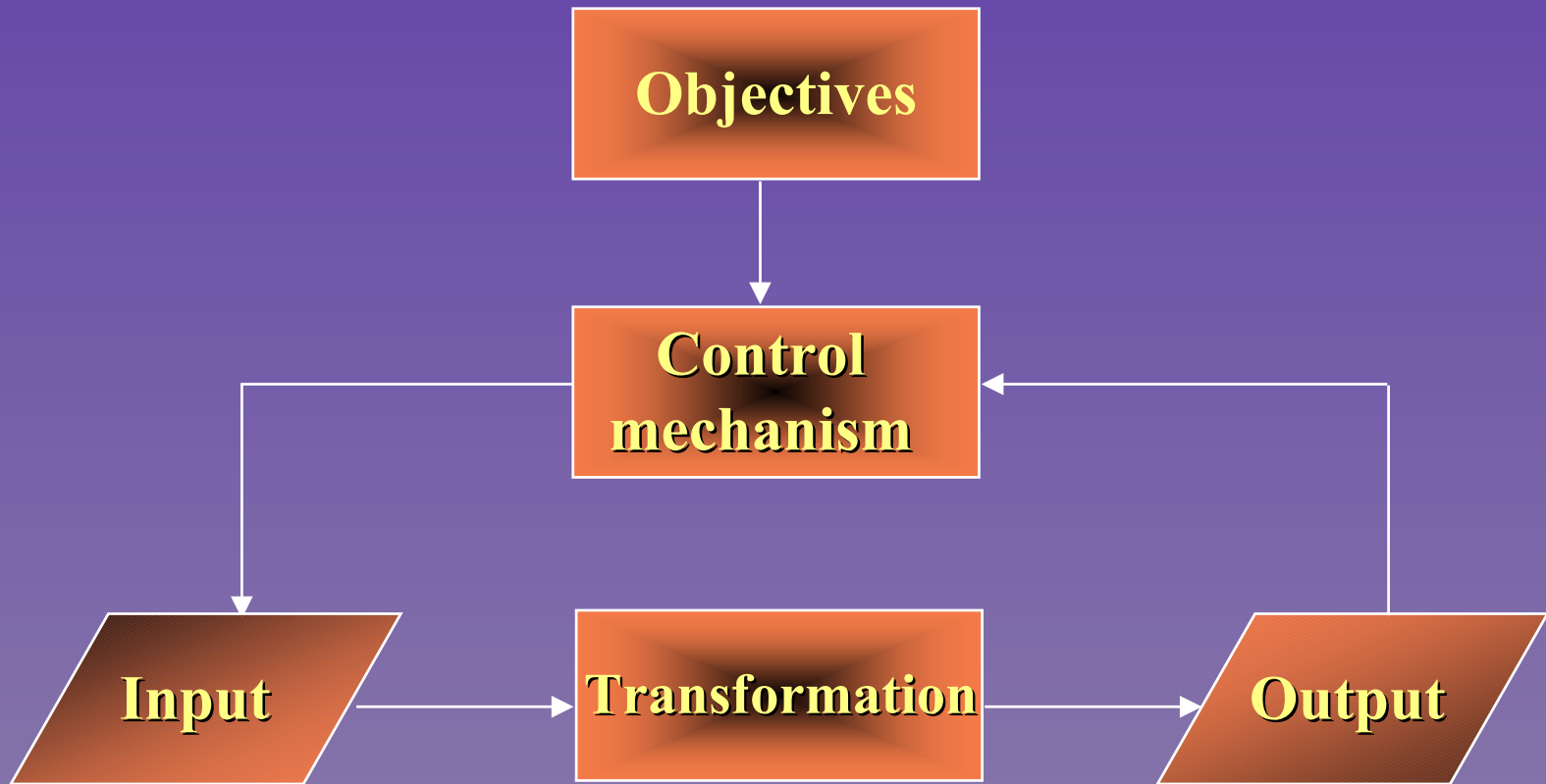


Management Knowledge

- Computer literacy
- Information literacy
- What's the difference?

System Components

Component parts of a system that can control its own operations



Open-Loop System



Open versus Closed Systems

■ Open system

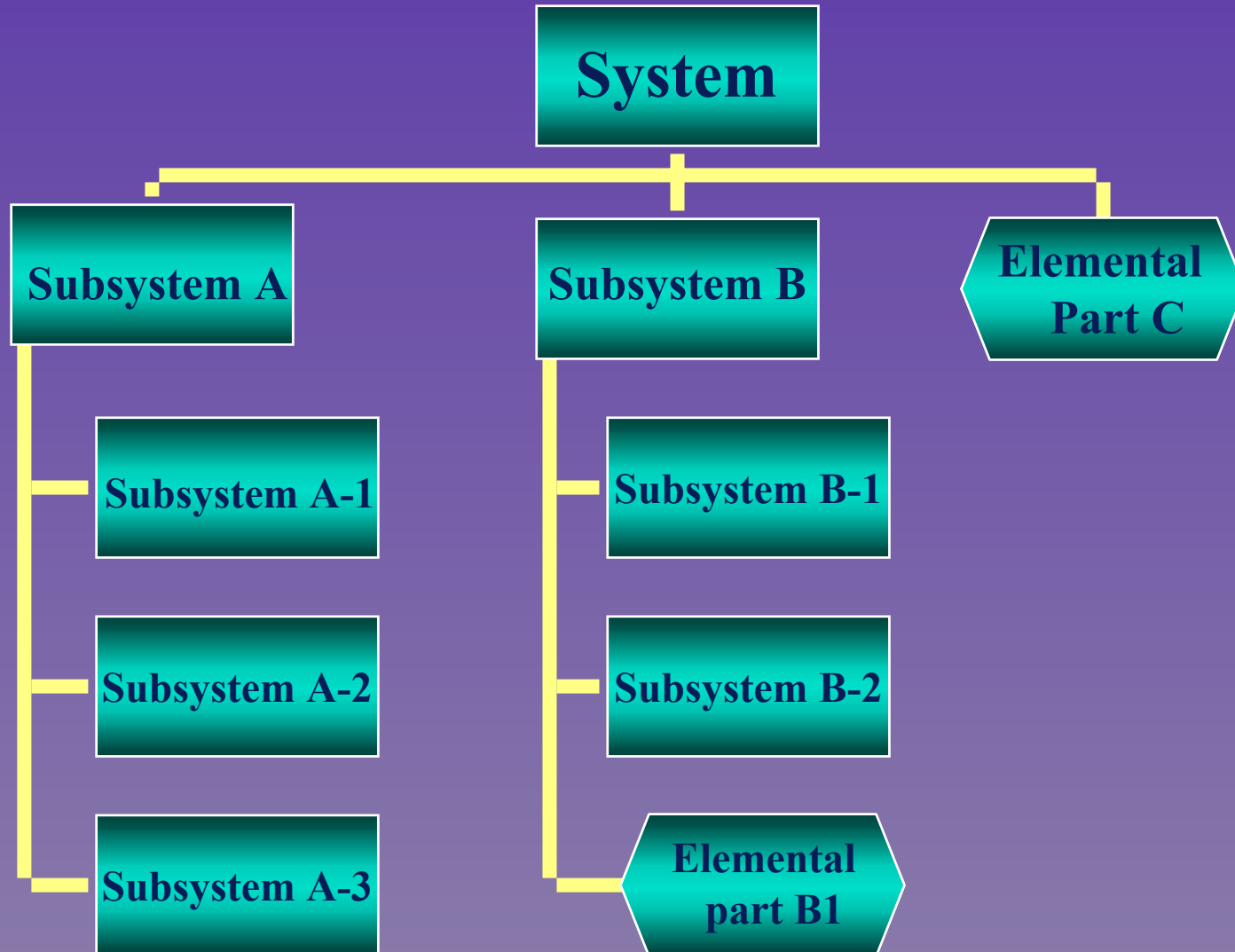
- Connected to its environment by means of resource flows

■ Closed system

- Not connected to its environment

Systems

Can Be Composed of Subsystems or Elemental Parts



Physical and Conceptual Systems

■ Physical system

- The business firm
- Composed of physical resources

■ Conceptual system

- Represents a physical system
- Uses conceptual resources
 - » Information
 - » Data

A Systems View

- **Business operations are embedded within a larger environmental setting**
 - **Reduces complexity**
 - **Requires good objectives**
 - **Emphasizes working together**
 - **Acknowledges interconnections**
 - **Values feedback**

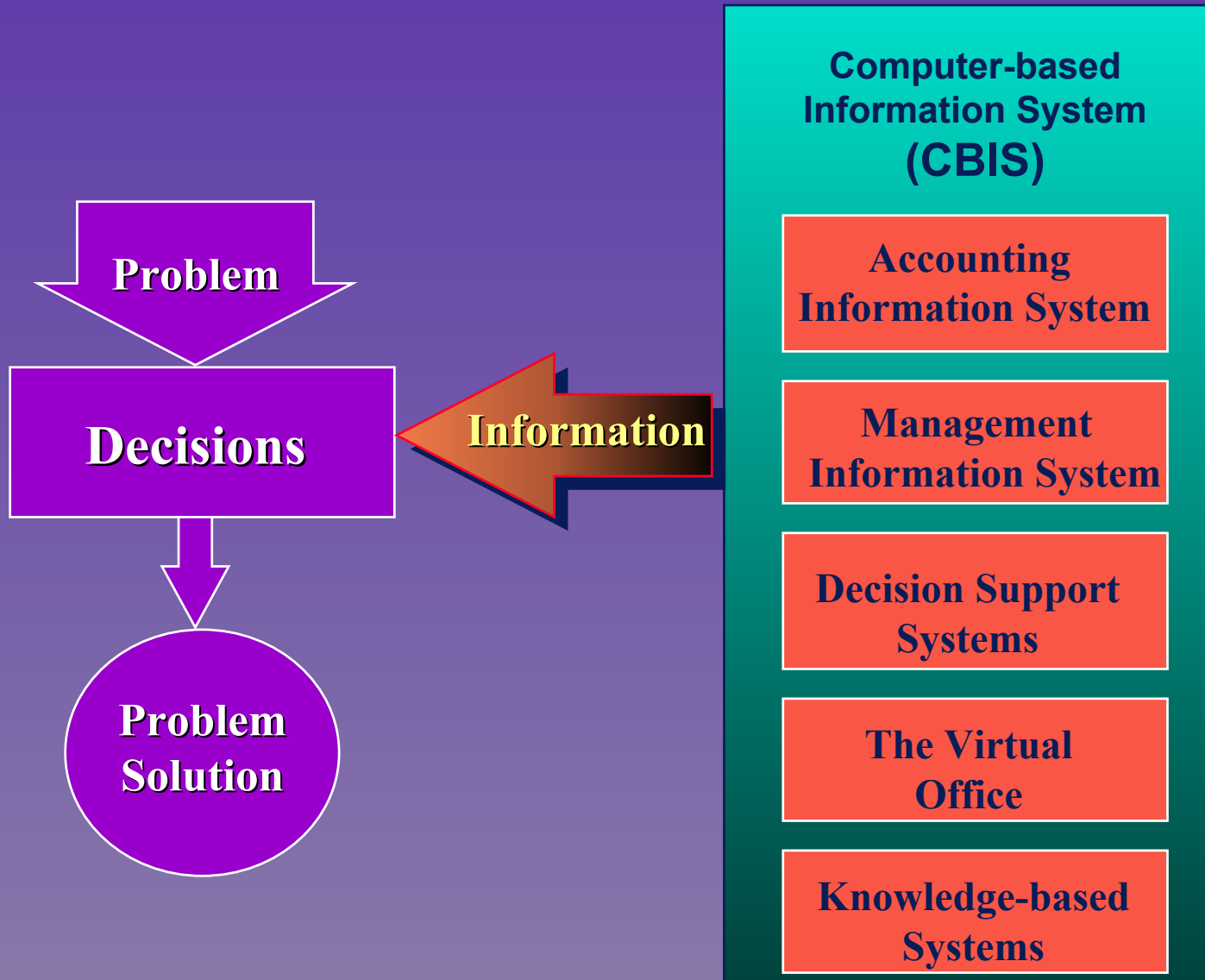
Data and Information

- Information processor
 - Key element in the conceptual system
 - Computer
 - Noncomputer
 - Combination
- Data is the raw material transformed into information

Evolution of the CBIS

- **Data Processing (DP)**
- **Management Information Systems (MIS) 1964**
 - IBM promoted the concept as a means of selling disk files and terminals
- **Decision Support Systems (DSS) 1971**
 - Text book's distinction:
 - » MIS: Organizational/group - general
 - » DSS: Individual - specific
- **Office Automation (OA) 1964**
- **Artificial Intelligence (AI)/ Expert Systems (ES) - 1990s**
 - Heavy investment by businesses

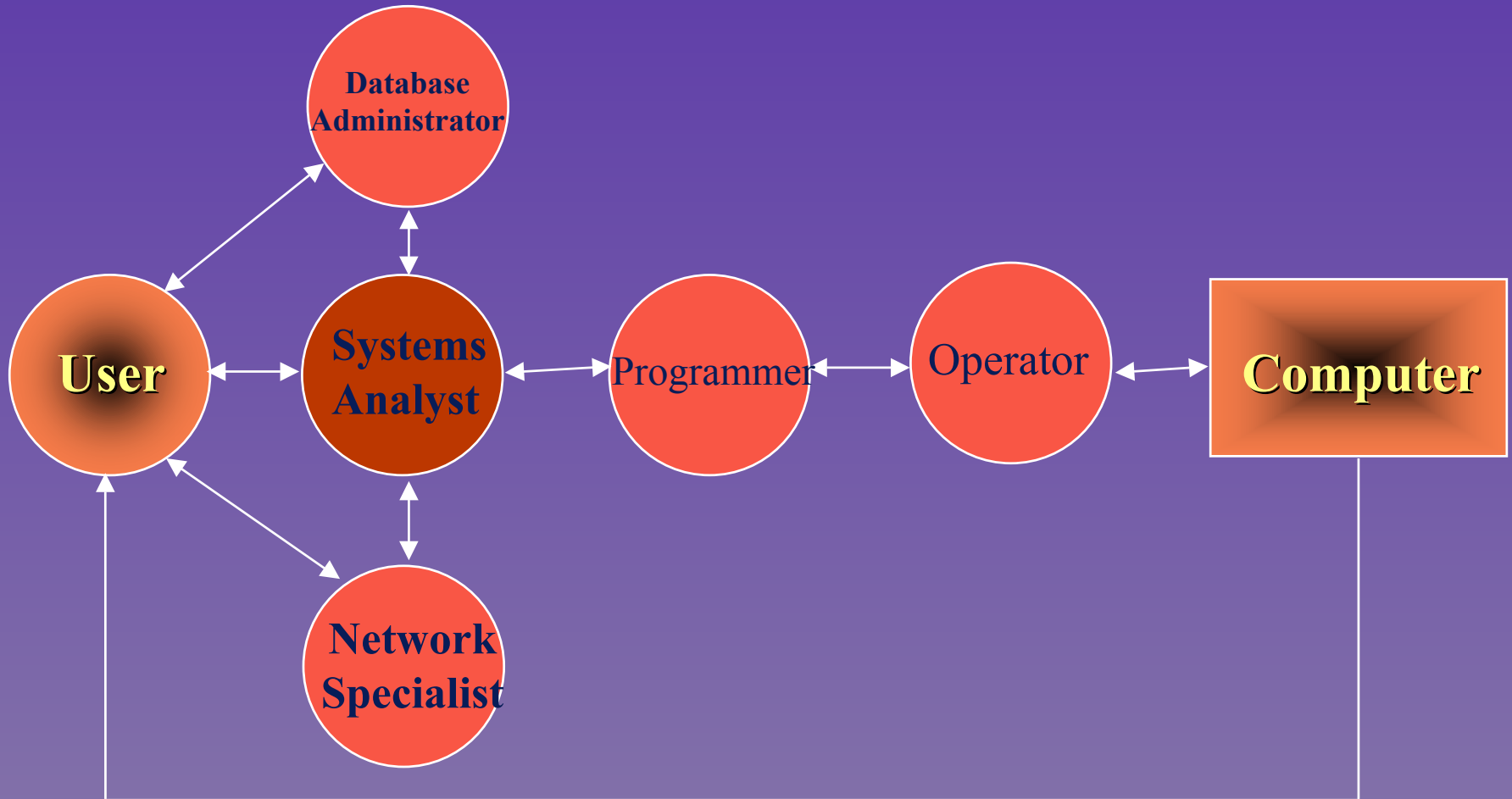
The CBIS Model



Information Services

Information specialists have
full-time responsibility for
developing and maintaining
computer-based systems

Traditional Communication Chain



End-User Computing (EUC)

■ End-user computing

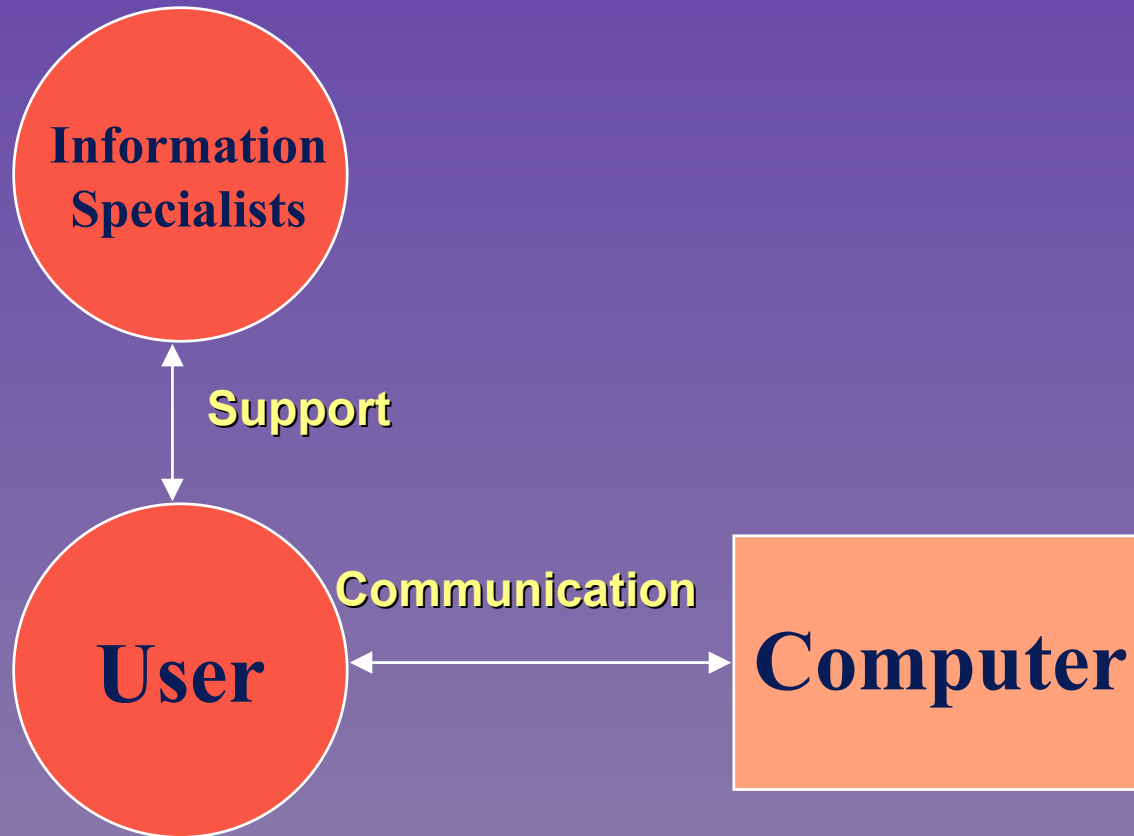
- Development of all or part of applications
- Information specialists act as consultants

■ Stimulants to EUC

- Increased computer literacy
- IS backlog
- Low-cost hardware (the PC)
- Prewritten software (electronic spreadsheets)

IS and EUC

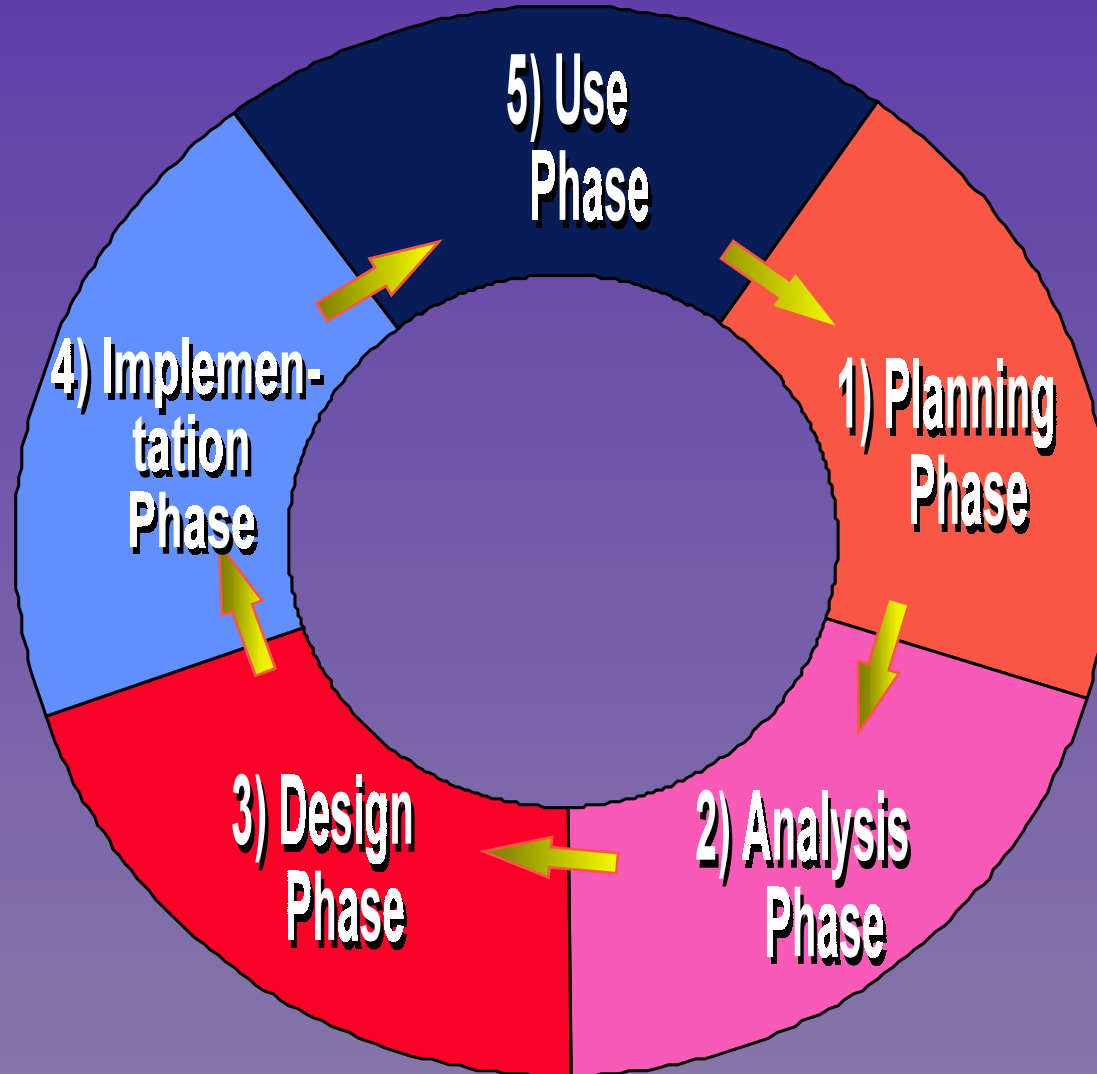
The End-User Computing Communication Chain



Justifying the CBIS

- Justify in the same manner as any other large investment
- Economic
 - Cost reduction
 - Reduced inventory investment
 - Increased productivity (CAD/CAM)
- Noneconomic
 - Perceived value

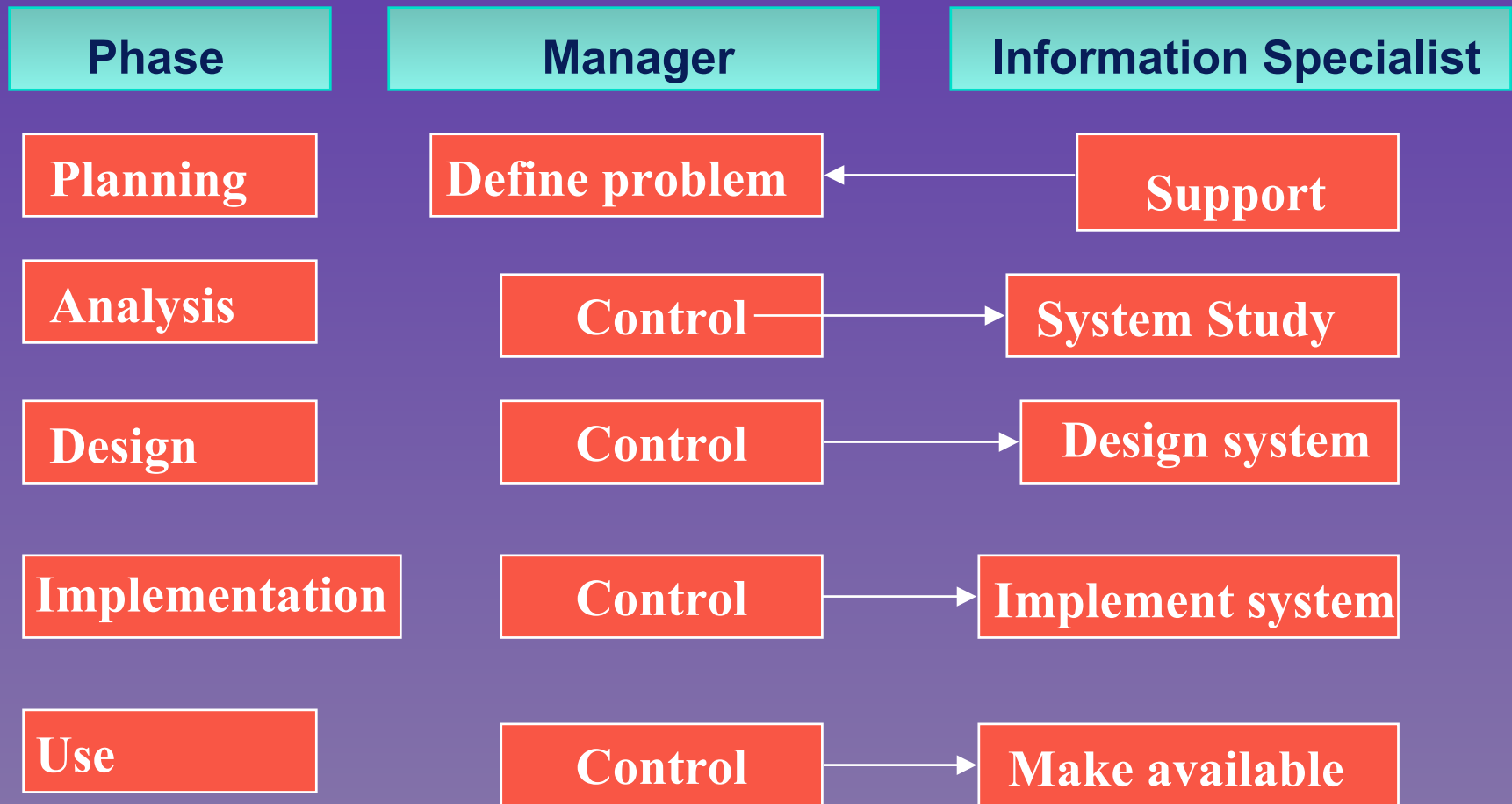
Achieving the CBIS



Reengineering the CBIS

- **Business Process Reengineering (BPR)**
 - Reworking systems
 - Good system features retained
 - Becoming development methodology of choice

Roles Played by the Manager and by the Information Specialist



Summary

- Information is one of five main resources
- Computer output used by managers and nonmanagers
- A system is an integration of elements working toward an objective
 - Physical
 - Conceptual
- Data vs. Information

Summary (cont.)

- CBIS composed of various components
 - AIS
 - MIS
 - DSS
 - Virtual office
 - Knowledge-based systems
- End-user computing trends
- CBIS development

Kategori Sistem Berdasarkan pada Tom Pike, Information Renaissance (Coral Springs, FL : Shoerwood Publishing, 1993). ©

Tinggi	Gambaran Situasi	Membuat Keputusan
Volume Transaksi	Pengendalian	Komunikasi
Rendah	Sedikit	Banyak

Mendukung Keputusan

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