MANAGEMENT INFORMATION SYSTEMS 8/E

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Chapter 16

Executive Information Systems

Objectives

- Have a better understanding of what executives do, and how they think
- Understand the general characteristics of EIS in term of where the information comes from and the form that it takes
- Recognize the need for a computer-based EIS, to satisfy some of the informatio needs of executives
- Know 5 steps that executives can take to improve their information systems
- See how management concept can be incorporated into EIS
- Be aware of the options that exist for acquiring EIS software
- Know the factors that influence the success of an EIS
- Be alert to possible future EIS trends

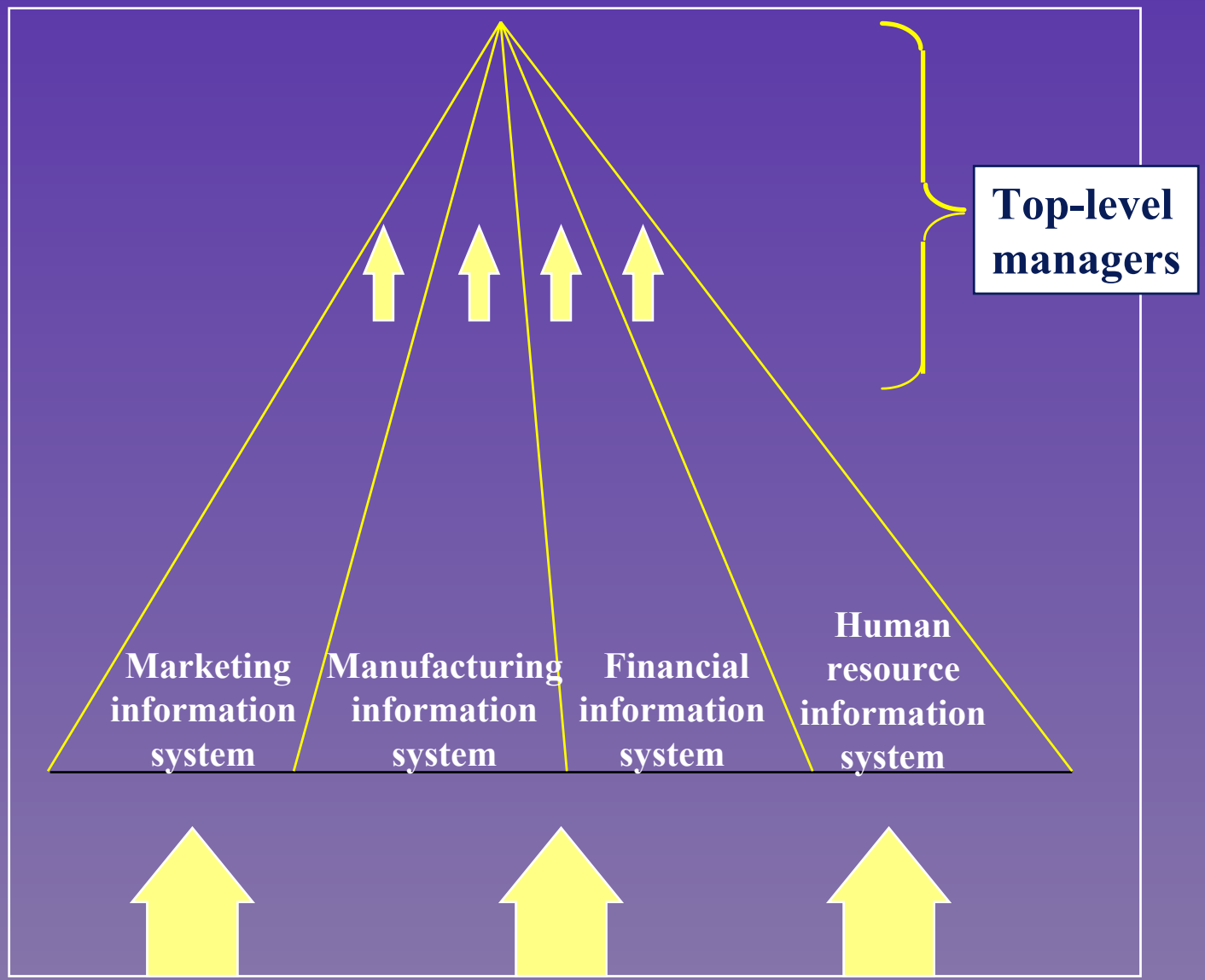
The Executive Position

- Unique demands of the executive position

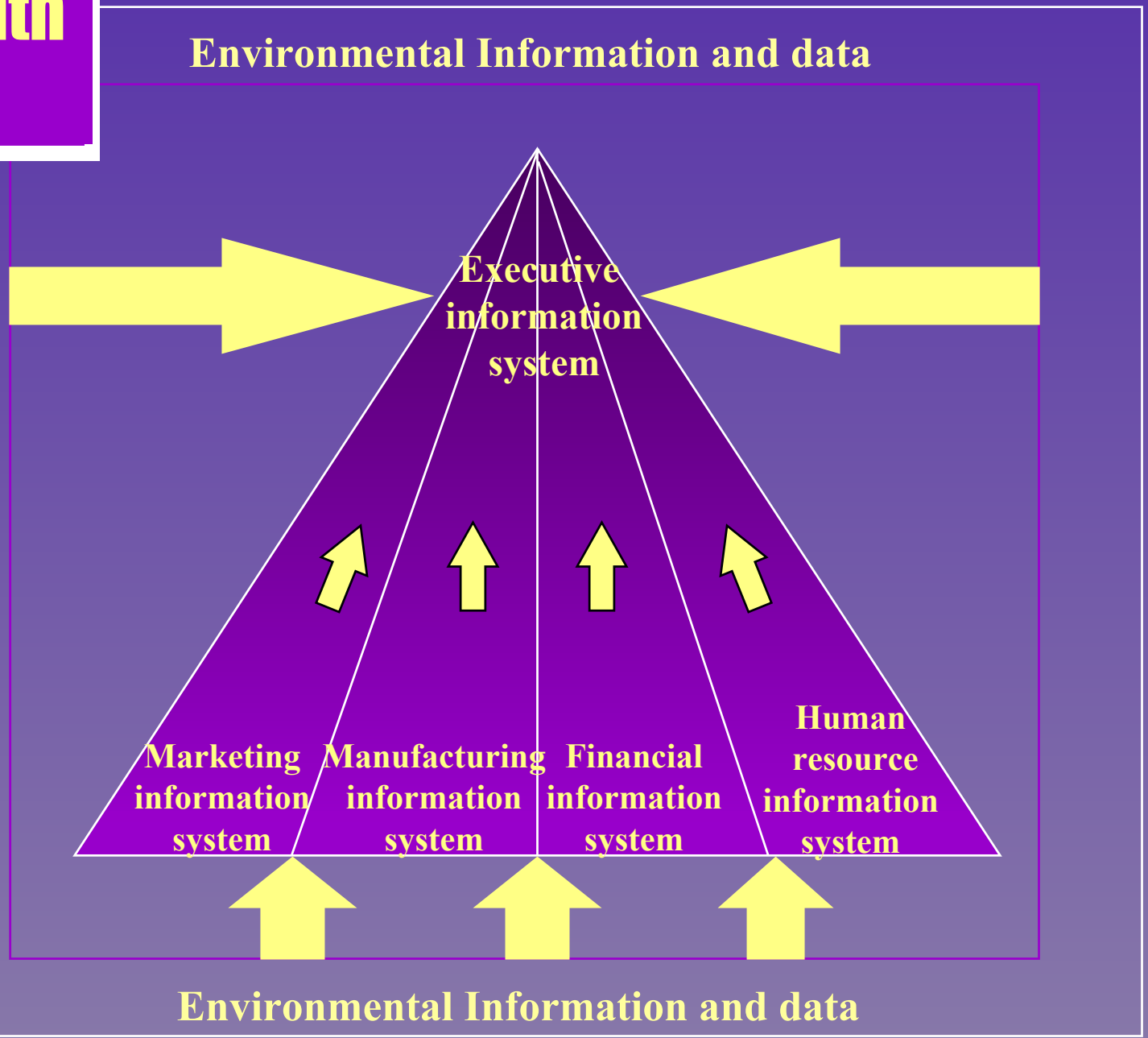
> An executive is not just a lower-level manager on a higher level!

- Executives require unique information processing

A Firm Without An EIS



A Firm With An EIS



What Do Executives Do?

- Term executive is loosely applied
  - No clear dividing line between executives and other managers
- Executive manager on the upper level of the organizational hierarchy who exerts a strong influence on the firm
- Long term planning horizon

Fayol's Management Functions

- Plan
- Organize
- Staff
- Direct
- Control

Mintzberg's Managerial Roles

- Different levels of management perform same roles but relative time spent on each differs
- High-level management focus
  - Long-range, entrepreneurial improvements
  - Responding to unanticipated situations

Kotter's Agenda and Networks

- John P. Kotter, Harvard professor
- Executives follow a three step strategy
  - Agenda -- objectives the firm is to achieve
  - Networks -- cooperative relationships
    - » Hundreds or thousands
    - » Inside and outside the firm
  - Environment -- norms and values so the network members can achieve agendas

How Do Executives Think?

- Daniel J. Isenberg, Harvard professor
- Studied more than one dozen executives over a 2-year period
- What they think about
  1. How to get things done
  2. A few overriding issues

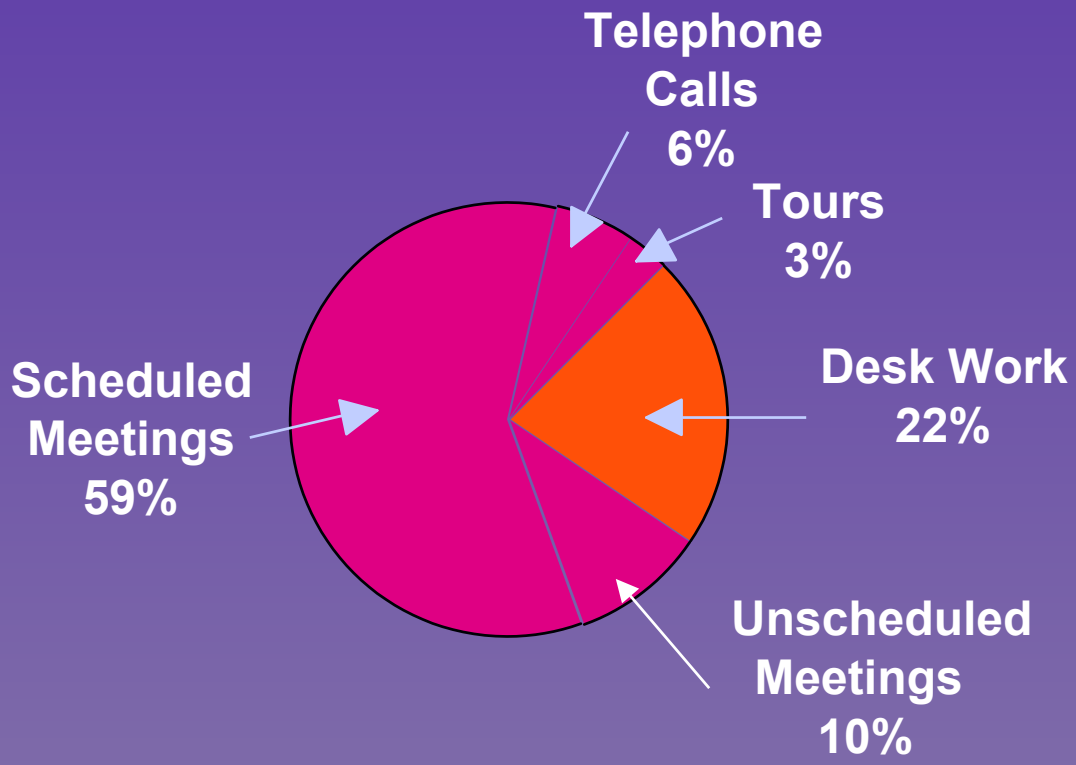
How Do Executives Think? (cont.)

- More concerned with process than solution
- Thought processes do not always follow the step-by-step patterns of the systems approach
- Intuition is used at each step

Unique Information Needs

- Mintzberg was first to conduct a formal study of executive information needs
- Studied 5 executives in early 1970s
- Five basic activities
  - desk work
  - telephone calls
  - unscheduled meetings
  - scheduled meetings
  - tours

How Minzberg's CEOs Spent Time

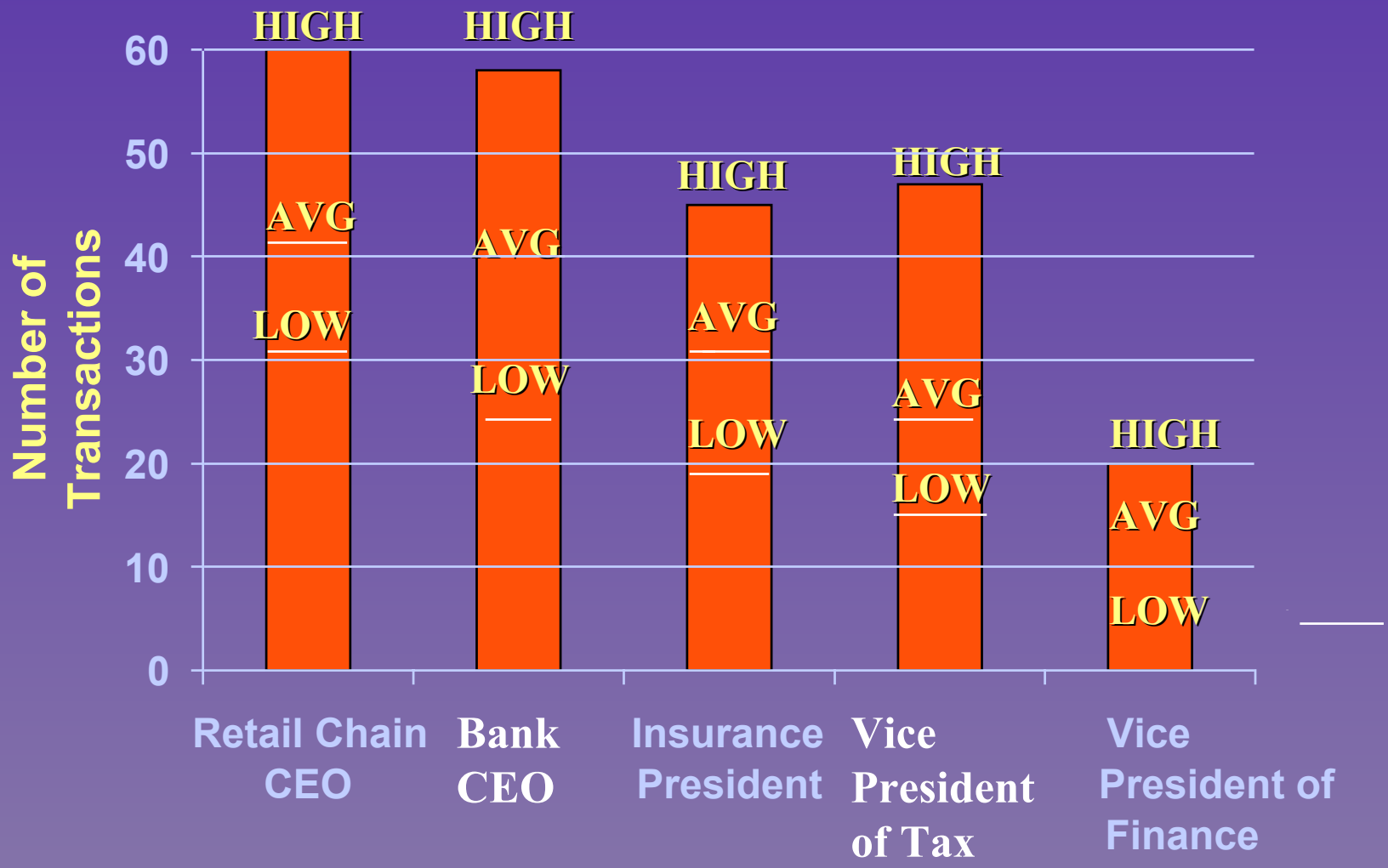


Legend:
Interpersonal Communication

Unique Information Needs

- Jones & McLeod Study
- Studied 5 executives in early 1980s
- Questions
  1) How much information reaches the executive ?
  2) What was the information value ?
  3) What are the information sources ?
  4) What media are used to communicate the information ?
  5) What use is made of the information ?

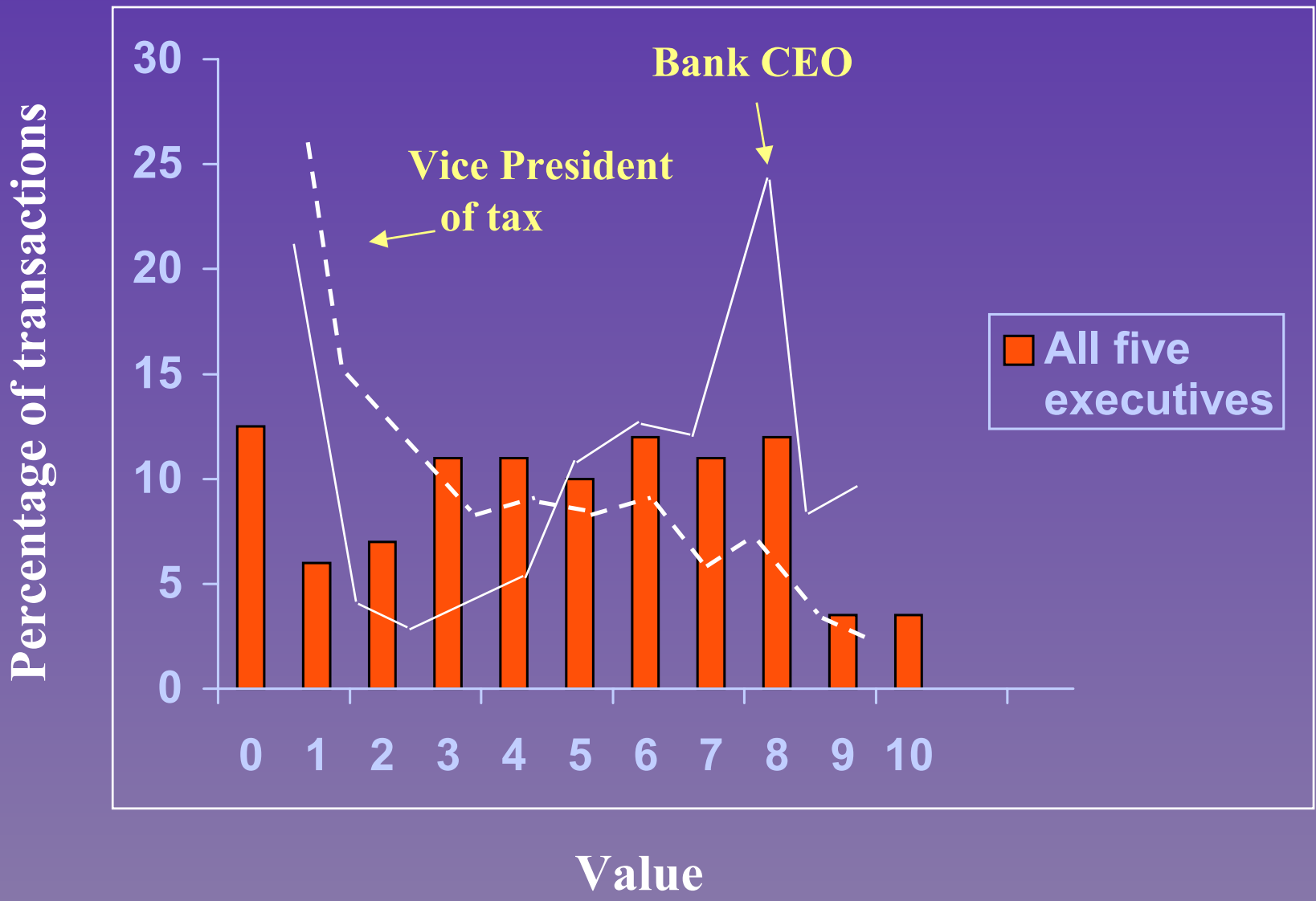
The Volume of Information Reaching the Executives



Jones & McLeod Study (cont.)

- How much information reaches the executive
  - A transaction - a communication involving any medium
  - Daily volume
    - » Varies from executive to executive
    - » Varies from day to day

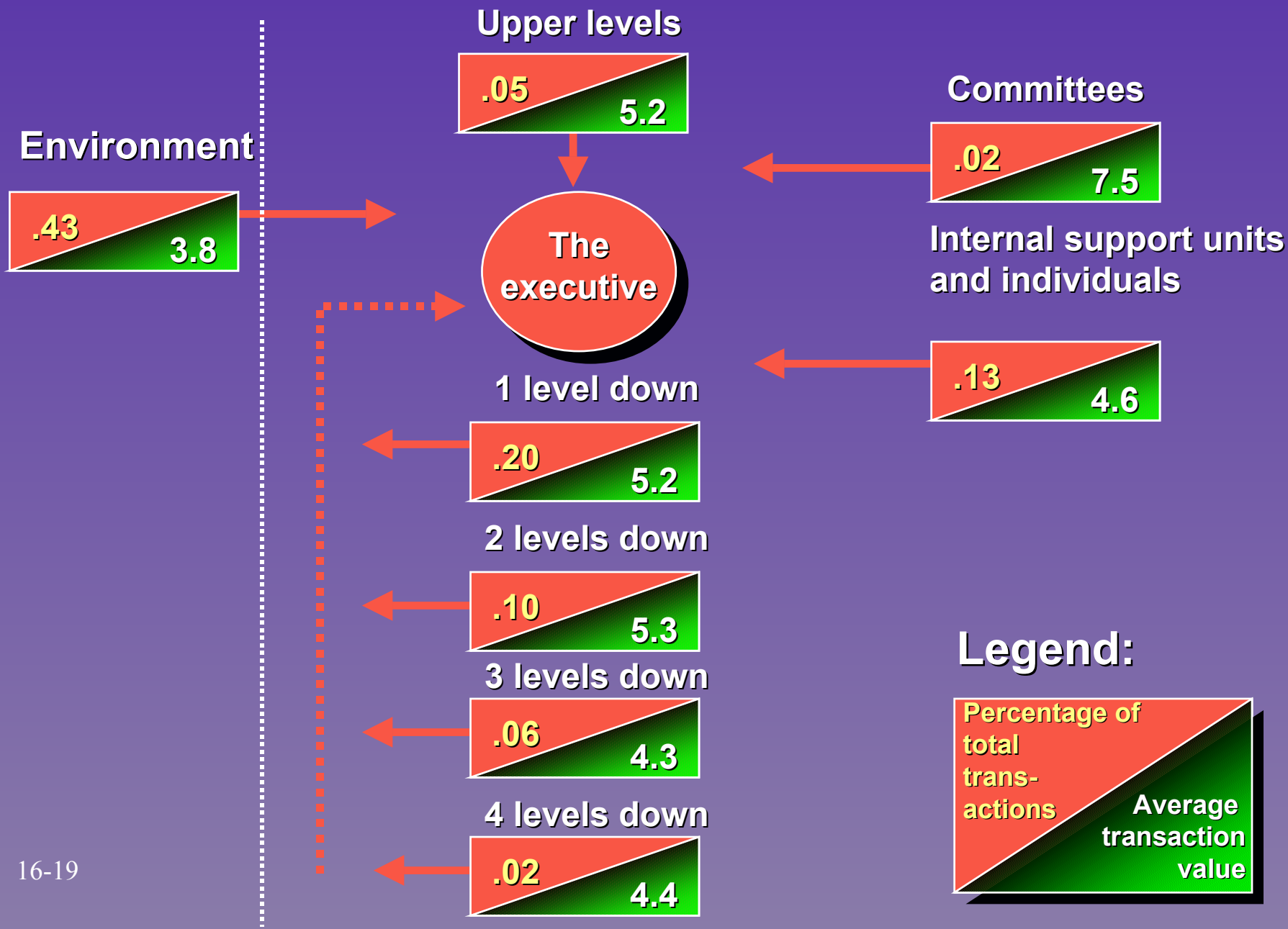
The Value of Information Reaching Executives



Sources of Information

- Some executives went down 7 levels to gather information
- Sources were internal and external
- External sources provided the most volume but also the lowest average value

The Sources of Information Reaching the Executives



Media Used for Communication

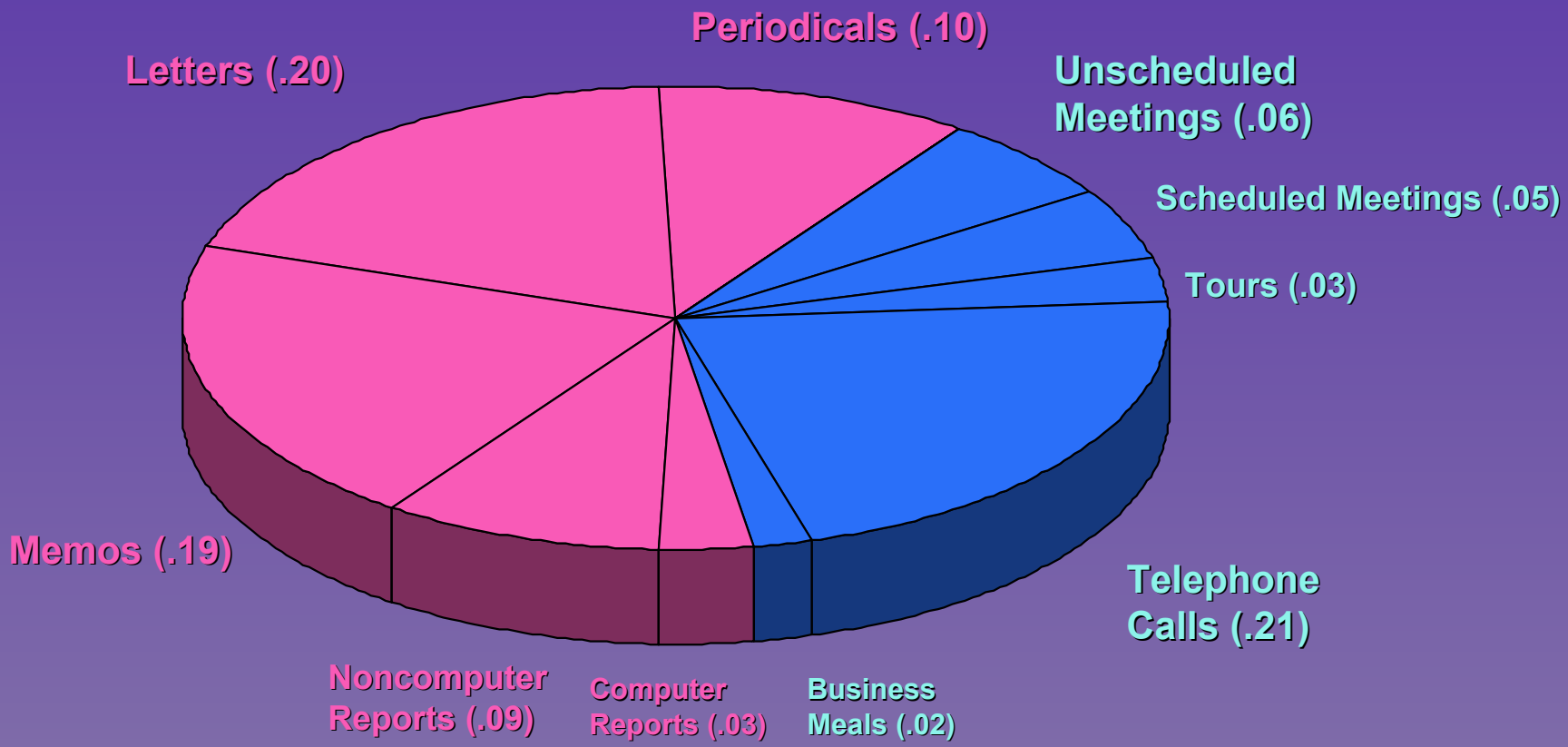
- Written media accounts for 61% of the transactions
  - Computer reports
  - Letters and memos
  - Periodicals
- Oral media is preferred by executives
  - Tours
  - Business meals
  - Telephone calls

The Executive Does not Control:

- Letters
- Memos
- Telephone calls
- Unscheduled meetings

The Media Pie

(in Percentages of Total Transactions)

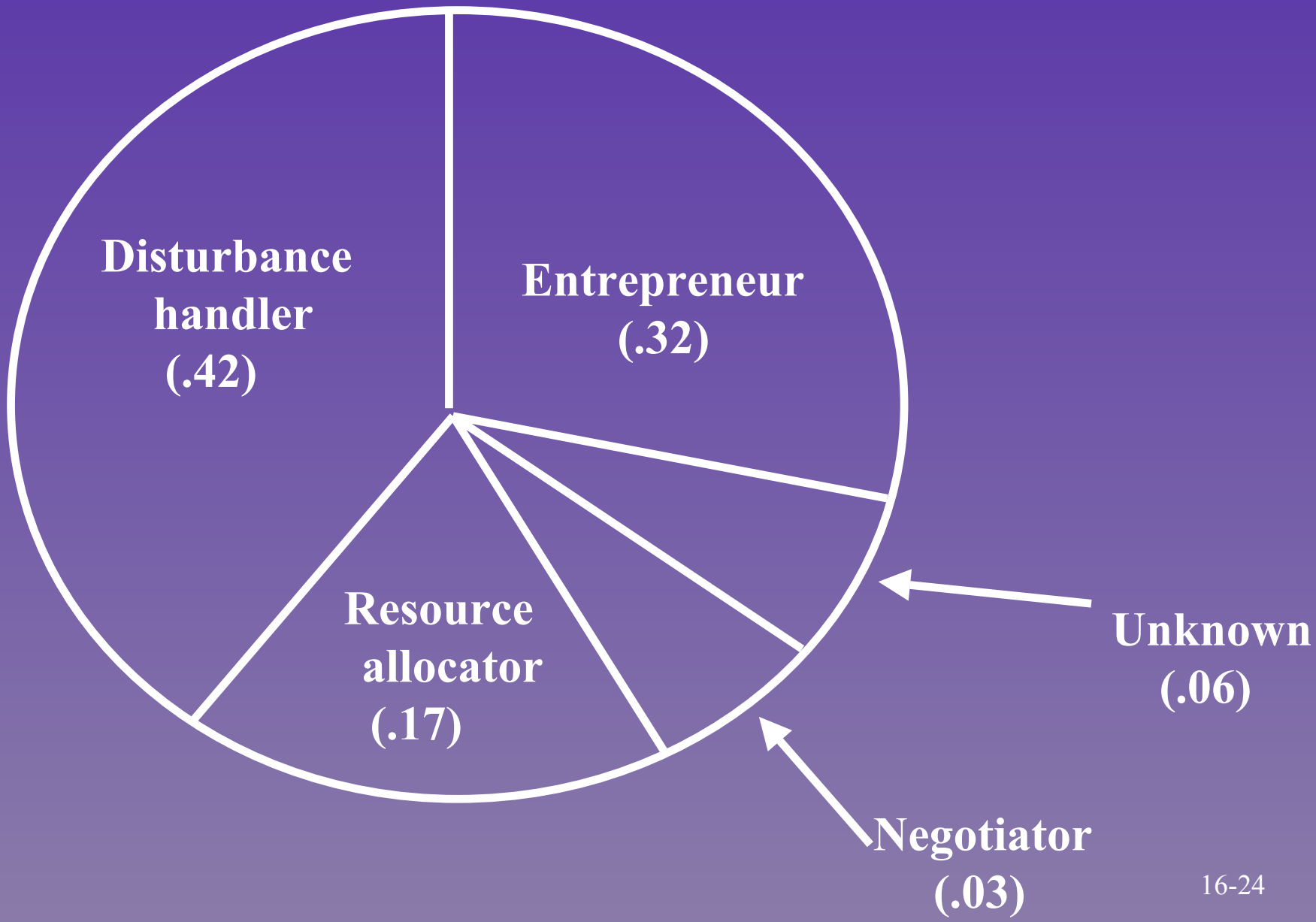


Note:
Percentages do not add to 1.00 due to rounding

Ranking of Media by Value

Medium	Mode	Average Value
Scheduled meetings	Oral	7.4
Unscheduled meetings	Oral	6.2
Tours	Oral	5.3
Social activity	Oral	5.0
Memos	Written	4.8
Computer reports	Written	4.7
Noncomputer reports	Written	4.7
Letters	Written	4.2
Telephone calls	Oral	3.7
Business meals	Oral	3.6
Periodicals	Written	3.1

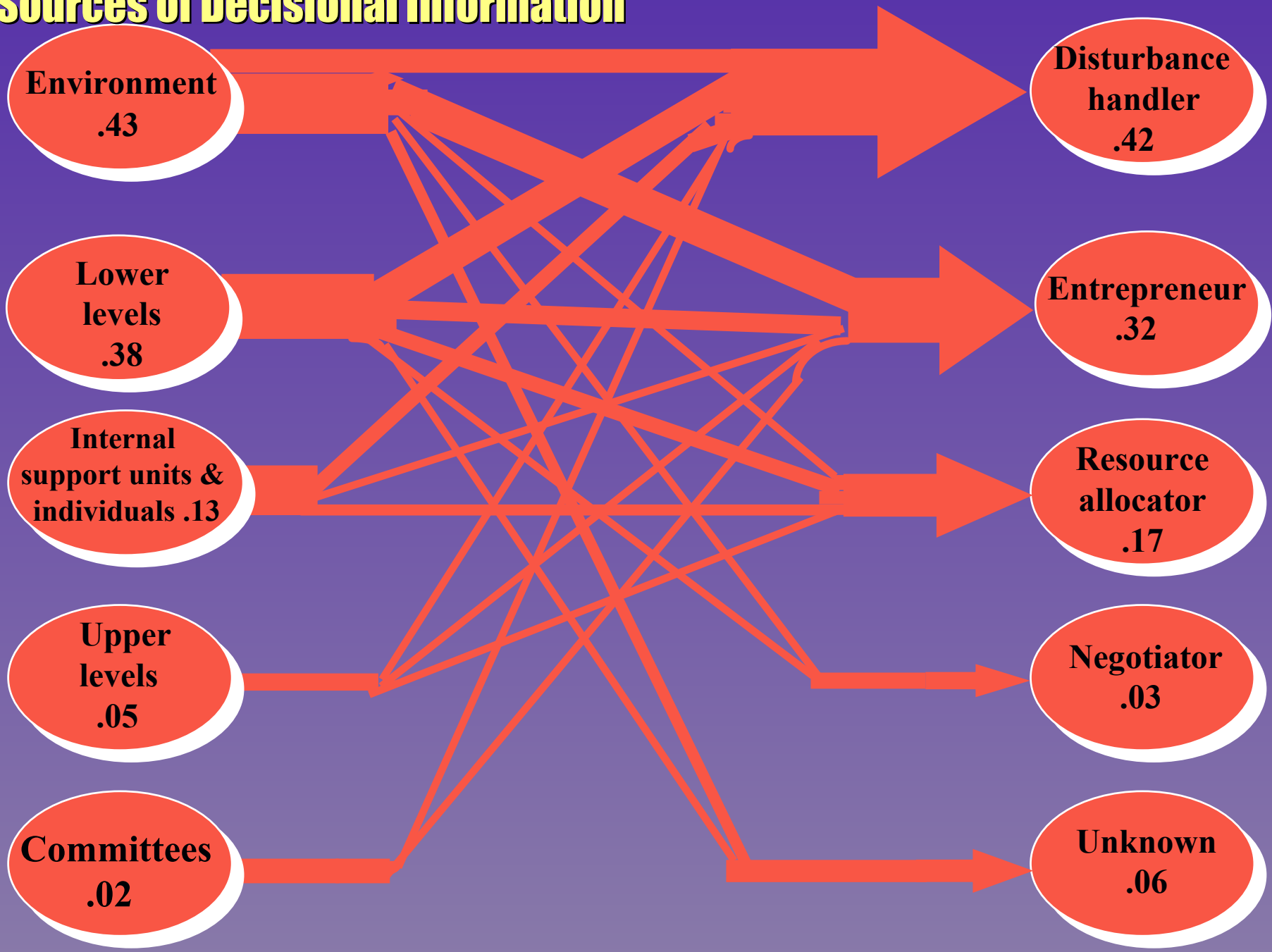
Information Use by Decisional Role



Jones & McLeod Study Findings

- Most executives' information came from environmental sources, but the internal information was valued higher
- Most of the executives' information came in written form, but the oral information was valued higher
- Executives receive very little information directly from a computer

Sources of Decisional Information



Unique Information Needs

- Study conducted by John Rockart and Michael Treacy, both of MIT
- Studied 16 companies in early 1980s
- Found many computer users
- Found some executives interested in detail
- Coined the term “executive information system”

EIS Features

- A central purpose
- A common core of data
- Two principal methods of use
  - Retrieve reports
  - Conduct analyses
- A support organization
  - EIS coach
  - EIS chauffeur

From Rockart and Treacy

Putting Computer Use in Perspective

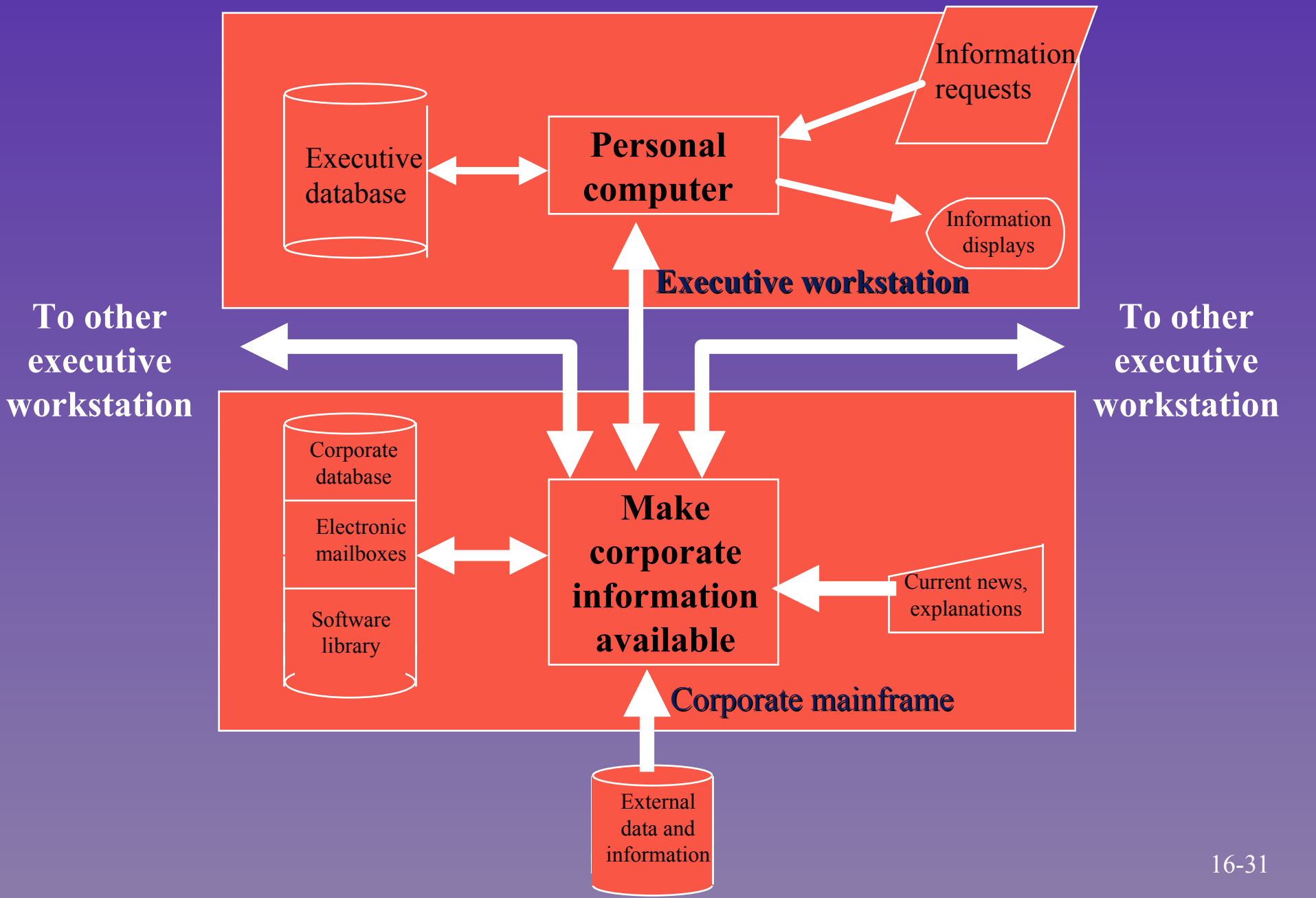
Two key points:

1. Computer use is personal
2. Computer produces only a portion of the executive's information

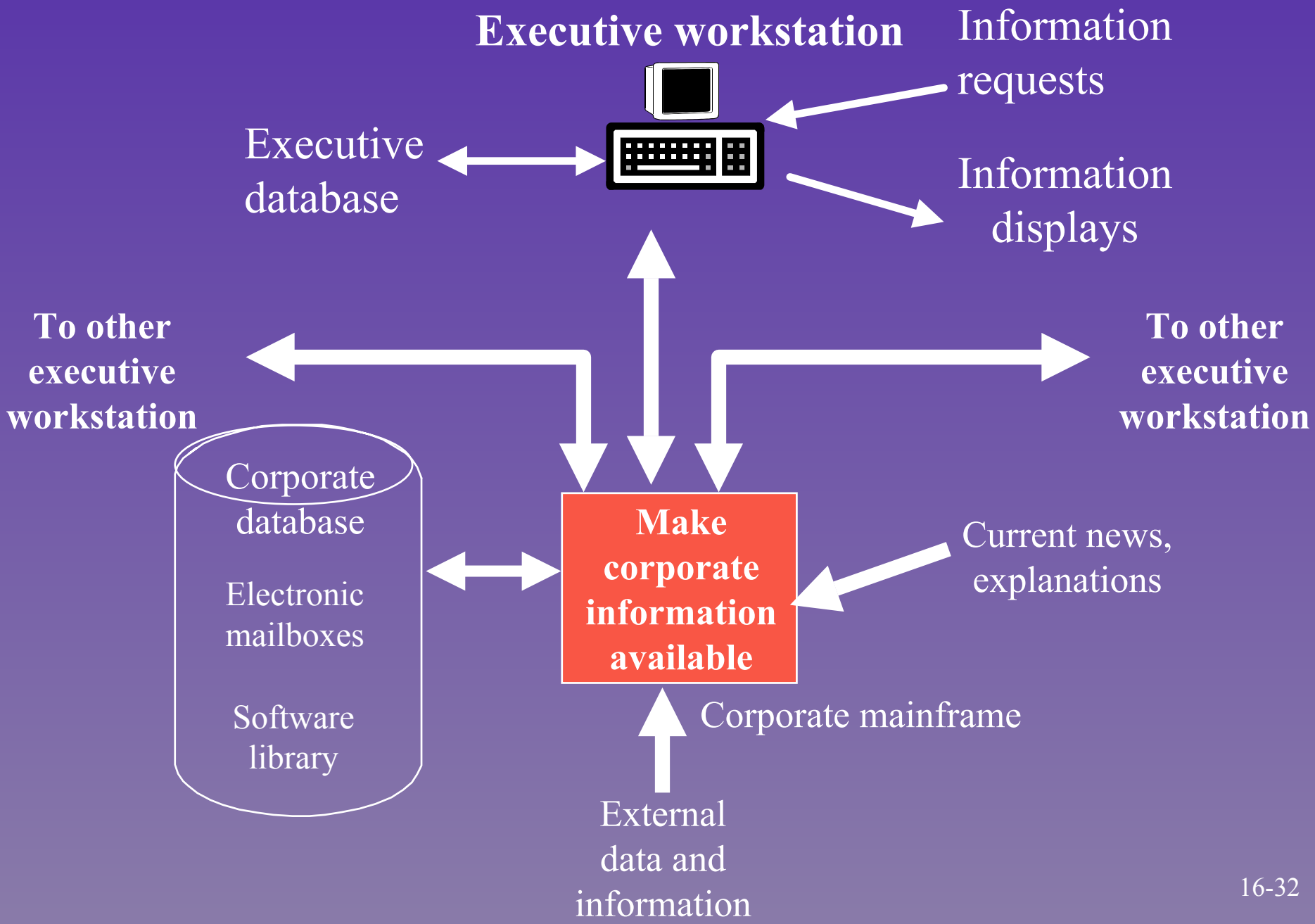
Suggestions to Improve EISs

1. Take an inventory
2. Stimulate high-value sources
3. Take advantage of opportunities
4. Tailor the system to the executive
5. Take advantage of technology

An EIS Model


Information requests
Executive database
Personal computer
Information displays
Executive workstation
To other executive workstation
To other executive workstation
Corporate database
Electronic mailboxes
Software library
Make corporate information available
Current news, explanations
Corporate mainframe
External data and information

An EIS Model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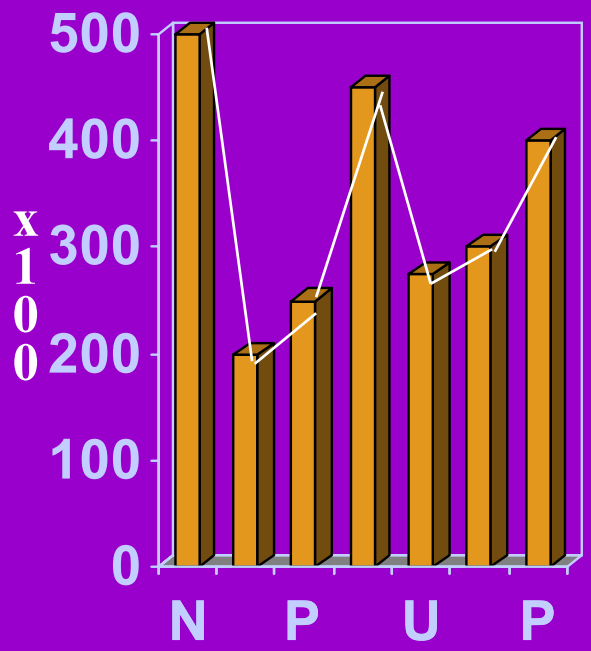
External data and information

Dialogue Between Executive and EIS

- Typically by a series of menus, keyboarding is minimized
- Drill down to specific information needed from the overview level

An Information Display That Includes a Computer-Generated Narrative Explanation

MEDIAL INTERNATIONAL GROUP MIG



Product Profitability Analysis

Magazines in Europe have been performing poorly. While sales are up, production costs have soared. This is due to the labor disputes in the pulp and paper industry. Starting next month, costs should be back in line with earlier projections.

	Actual	Planned	Variance	%Variance
Newspapers	1,421,709	1,559,184	(137,475)	(8.82)
Magazines	490,855	518,687	(27,832)	(5.37)
Periodicals	1,912,564	2,077,872	(165,308)	(7.96)

Incorporation of Management Concepts

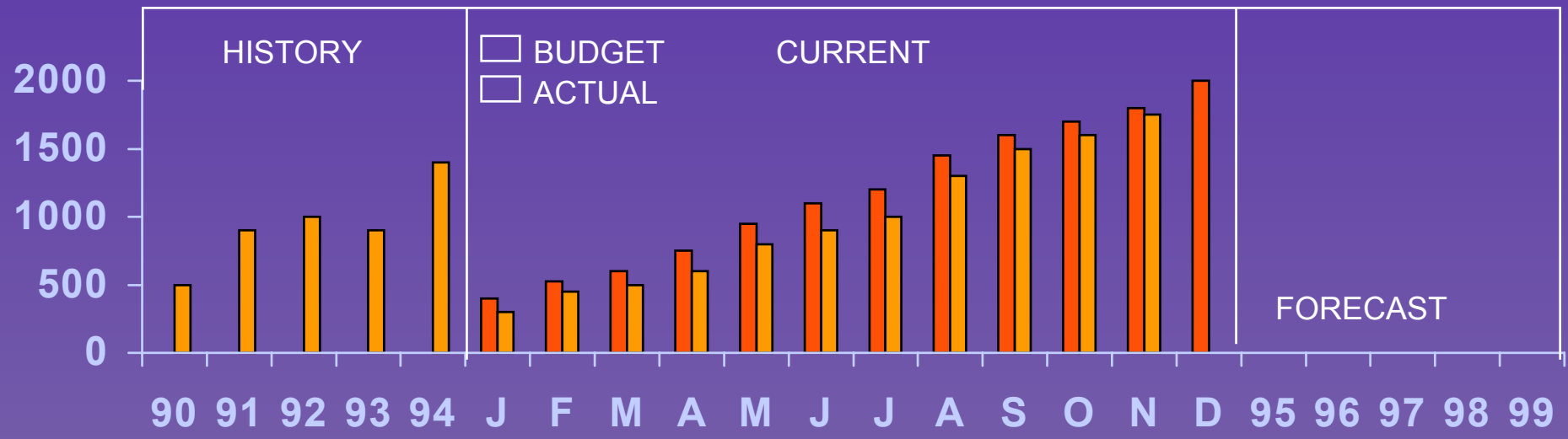
- Critical success factors
- Management by exception
- Mental model
  - Information compression

SALES

SALES - $ IN MILLIONS

AS OF NOVEMBER 1994

SOURCE
GLORIA YANDERS
BILL BLASS



YEAR TO DATE		OVER/ UNDER MB	
PROGRAM	ACTUAL	THIS MO	LAST MO
HERC	$861.4	$30.7	$59.1
C-5B	621.9	0.3	4.5
OTHER	398.7	12.9	10.1
TOTAL	$1,882.0	$43.9	$44.4

YEAR-END FORECAST	
Y-L	O/U MB
$949.8	$28.6
699.0	1.2
458.8	13.6
$2107.6	$43.4

CURRENT FORECAST		
YR	CURRENT	O/ U PRIOR
95	$2102.6	$ 8.0
96	2400.0	105.0
97	3130.0	98.0
98	3390.0	58.0
99	2110.0	281.0

COMMENTS FAVORABLE VARIANCE PRIMARILY DUE TO TWO ADDITIONAL HERCULES SALES

EIS Implementation Decisions
Three Key Questions:

1. Do we need an EIS?
2. Is there application-development software available?
3. Should we purchase prewritten EIS software?

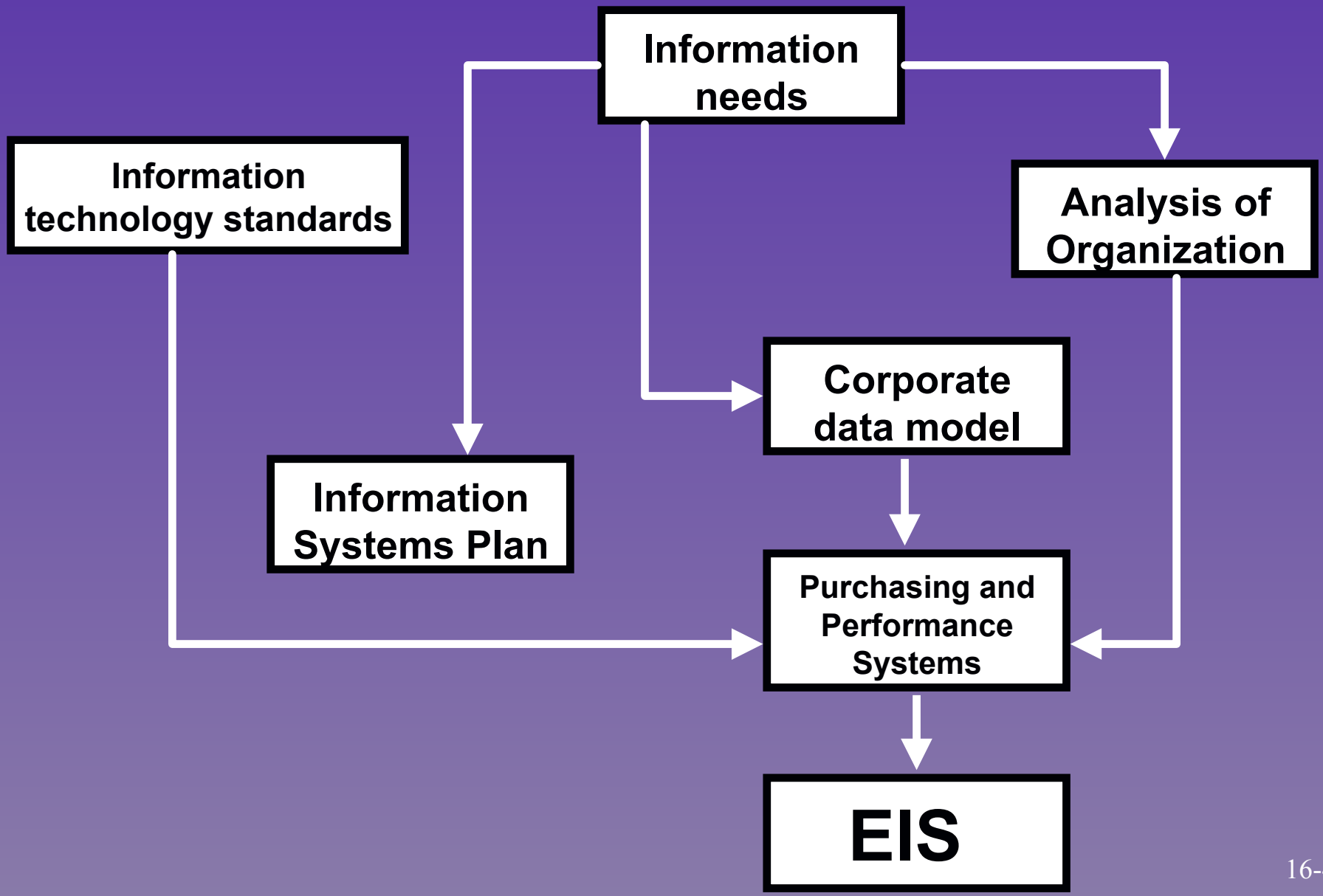
Advantages of Prewritten Software

1. Fast
2. Doesn't strain information services
3. Tailored to executives

EIS Critical Success Factors Rockart and DeLong

1. Committed/informed executive sponsor
2. Operating sponsor
3. Appropriate information services staff
4. Appropriate information technology (IT)
5. Data management
6. Link to business objectives
7. Manage organizational resistance
8. Manage the spread and evolution

Prerequisite Activities for the EIS



Future EIS Trends

- Use will become commonplace
- Decreasing software prices
- Will influence MIS/DSS
- The computer will always play a support role

Summary

- Executives have unique information needs
  - Need for EIS
  - Specific uses of EIS
- EIS development
  - Personal productivity software
  - Prewritten
  - Custom
- EIS success factors

Case Study

1. Although lower-level managers frequently use personal computers to aid decision-making, EISs seldom include a personal computer.

   A) true B) false

2. One of the critical success factors for achieving a successful EIS is linking the EIS to a business objective.

   A) true B) false