INFORMATION SYSTEMS PROGRAM

ANNUAL REPORT

INPUT

NOVEMBER 1987

INPUT

NOTES:

OVERVIEW

- Objectives
- Annual Planning Procedures
- Major Issues
  - Driving Forces
  - Issues and Objectives
  - New Technology
- New Applications
- Budget Analysis

INPUT

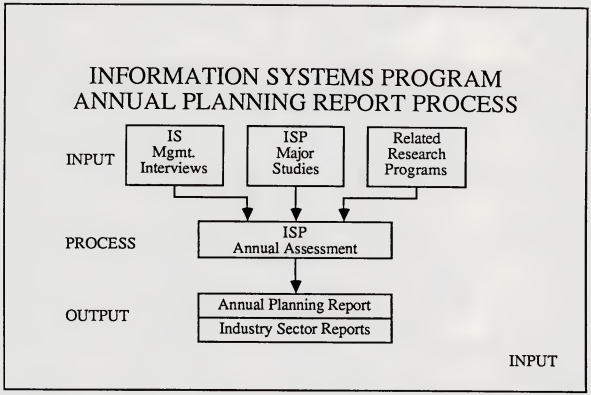
NOTES:

OBJECTIVES

- Identify and Analyze
  - Business Forces Impacting Information Systems
  - New Technologies of High Impact
  - Trends in Information Systems Spending
- Provide INPUT's Views on
  - Resulting Objectives for IS
  - Key Opportunities & Applications Trends

INPUT

NOTES:


INFORMATION SYSTEMS PROGRAM
ANNUAL PLANNING REPORT PROCESS
INPUT
IS Mgmt. Interviews
ISP Major Studies
Related Research Programs
PROCESS
ISP Annual Assessment
OUTPUT
Annual Planning Report
Industry Sector Reports
INPUT

NOTES:

INFORMATION SYSTEMS PROGRAM

ANNUAL REPORT

MAJOR ISSUES

INPUT

NOTES:

ISSUE HIERARCHY

MAJOR ISSUE SECTION	FOCUS	TIMEFRAME
Driving Forces	Strategic	Over 3 Years
Issues	Tactical	2 - 3 Years
Objectives	Operational	0 to 2 Years

INPUT

NOTES:

DRIVING FORCES

- Rising Expectations of Senior Management
- Expanding Wealth of New Technologies
- Cost-Sensitive Business Environment

INPUT

NOTES:

DRIVING FORCES
(Continued)

- Ability to Conceptualize More Complex Applications
- Growing Interaction Between Large Corporations
- Unstable Organizational Environments

INPUT

NOTES:

MAJOR ISSUES-1988 AND BEYOND

- Data Management
- Connectivity
- Integration
- User Involvement
- Development Productivity
- Business Contribution

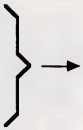
INPUT

NOTES:

MAJOR ISSUES

ELEMENTS

Current
Status/
Activities



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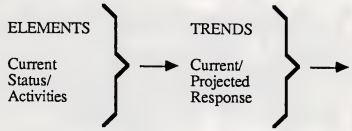
NOTES:

MAJOR ISSUES



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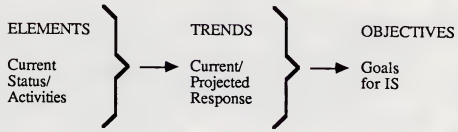
NOTES:

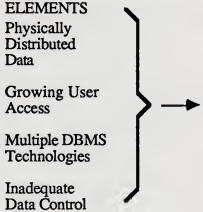
MAJOR ISSUES



INPUT

NOTES:

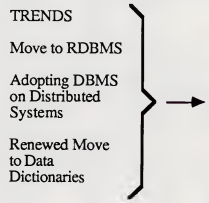
MAJOR ISSUE-DATA MANAGEMENT



INPUT

NOTES:

MAJOR ISSUE-DATA MANAGEMENT



INPUT

NOTES:

MAJOR ISSUE-DATA MANAGEMENT

OBJECTIVES

Learn RDBMS

→ Train the User on RDBMS

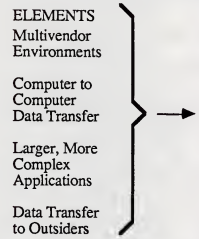
Select a Standard for Each Level

Strengthen Data Processes

INPUT

NOTES:

MAJOR ISSUE-INTEGRATION



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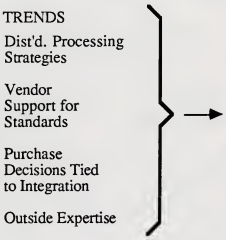
NOTES:

MAJOR ISSUE-INTEGRATION



INPUT

NOTES:

MAJOR ISSUE-INTEGRATION

OBJECTIVES

Standards,
Standards,
Standards

→ Pressure
the Vendor

Educate
the User

INPUT

NOTES:

MAJOR ISSUE-CONNECTIVITY

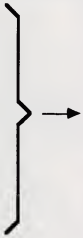
ELEMENTS

More PCs than Terminals

PC is the Manager's Terminal

Bi-Directional Data Transfer

Power of the Workstation Growing Quickly



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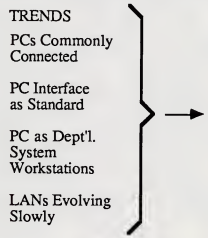
NOTES:

MAJOR ISSUE-CONNECTIVITY



INPUT

NOTES:

MAJOR ISSUE-CONNECTIVITY

OBJECTIVES

Standards for Connectivity

→ Info Center in Charge

Programmable Workstation Preference

INPUT

NOTES:

MAJOR ISSUE-USER INVOLVEMENT

ELEMENTS

Mgmt. is the User

Appetite for Data

Dept'l. Computers vs. PCs

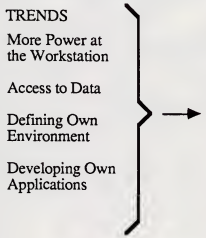
Applications without Rules

Power User's Growing Influence

INPUT

NOTES:

MAJOR ISSUE-USER INVOLVEMENT



INPUT

NOTES:

MAJOR ISSUE-USER INVOLVEMENT

OBJECTIVES

Strengthen
End-User Computing
Function

→ Flexible Standards

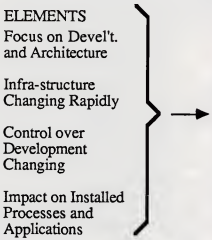
Education about
Application
Development

Education about
IS Strategy

INPUT

NOTES:

MAJOR ISSUE-
DEVELOPMENT PRODUCTIVITY



INPUT

NOTES:

MAJOR ISSUE-
DEVELOPMENT PRODUCTIVITY

TRENDS

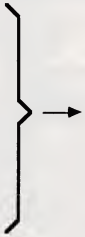
Addressing
Entire Process

Many CASE Tools-
No Proven Leader

4GLs Not the
Long-Term Answer

Go Slow Attitude

Professional Services
Co's. Leading the Way



INPUT

NOTES:

MAJOR ISSUE-
DEVELOPMENT PRODUCTIVITY

OBJECTIVES

Study CASE-Don't Jump Too Fast

→ User Involvement in Large Applications

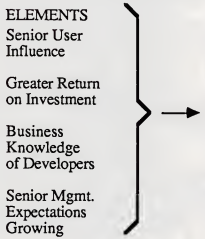
Set Rules for User Applications

User Education on Planning for Computing

INPUT

NOTES:

MAJOR ISSUE-
BUSINESS CONTRIBUTION



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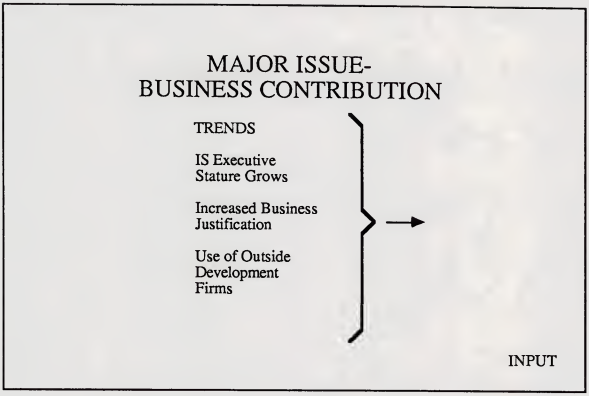
NOTES:


MAJOR ISSUE-
BUSINESS CONTRIBUTION
TRENDS
IS Executive
Stature Grows
Increased Business
Justification
Use of Outside
Development
Firms
INPUT

NOTES:

MAJOR ISSUE-
BUSINESS CONTRIBUTION

OBJECTIVES

Assume Strategic Role

→ Expose Senior Mgmt. to Technology

Monitor Competition's IS Program

Proactively Consider Outside Experts

INPUT

NOTES:

INFORMATION SYSTEMS RECOMMENDED CHANGES OF EMPHASIS

1987-1992	
Data Processing	→ Information Flow
Information Quantity	→ Information Quality
Automation of Process	→ Improvement of Process

INPUT

NOTES:

INFORMATION SYSTEMS PROGRAM

ANNUAL REPORT

IMPACTS OF NEW TECHNOLOGY

INPUT

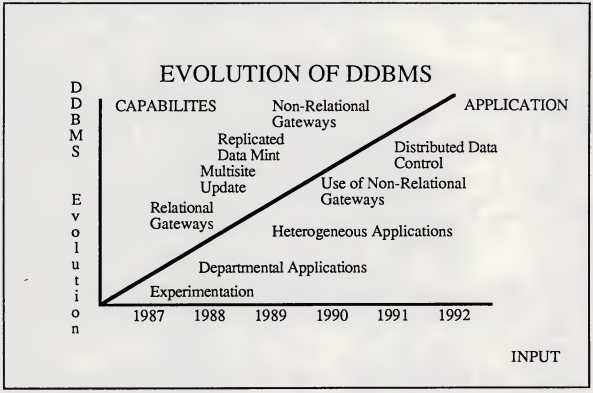
NOTES:

TECHNOLOGICAL DEVELOPMENTS OPTIONS AND ISSUES

- Data Base–Relational and Distributed
- Workstations
- Networking
- Electronic Data Interchange
- Managing Technology

INPUT

NOTES:


EVOLUTION OF DDBMS
DDBMS Evolution
CAPABILITES
APPLICATION
Non-Relational Gateways
Replicated Data Mint
Multisite Update
Distributed Data Control
Use of Non-Relational Gateways
Relational Gateways
Heterogeneous Applications
Departmental Applications
Experimentation
1987
1988
1989
1990
1991
1992
INPUT

NOTES:

DDBMS-CRITICAL SUCCESS FACTORS

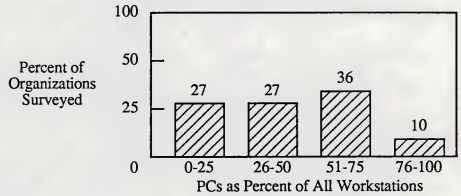
1. Know Relational DBMS Technology
2. Audit the Data Administration Function
3. Do a Controlled Experiment
4. Use a Homogeneous DBMS Environment
5. Involve a Mature End User
6. Use a Geographically Dispersed Application
7. Select a Non-Strategic Aplication

INPUT

NOTES:

WORKSTATION TRENDS

PERSONAL COMPUTERS AS A PERCENTAGE OF ALL WORKSTATIONS

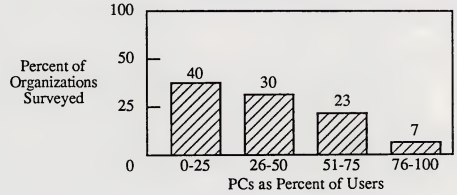


INPUT

NOTES:

WORKSTATION TRENDS

PERSONAL COMPUTERS AS A PERCENTAGE OF USERS



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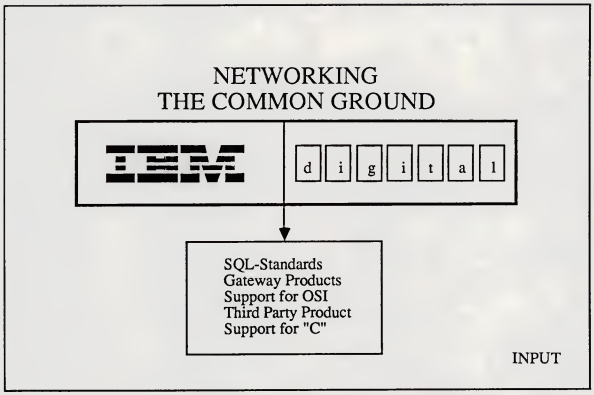
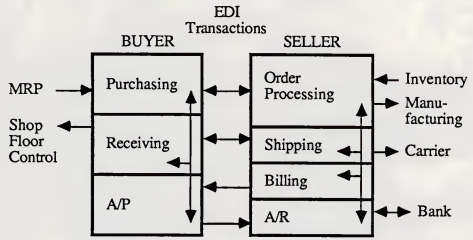
NOTES:


NETWORKING
THE COMMON GROUND
IBM
d i g i t a l
SQL-Standards
Gateway Products
Support for OSI
Third Party Product
Support for "C"
INPUT

NOTES:

EDI APPLICATIONS



INPUT

NOTES:

EDI
"THE WAVE OF THE FUTURE"

- Applications
- Enhanced Services: E-mail, E-forms, Data Bases
- Internetworking
- Media (Data, Graphics, Voice, Video)

INPUT

NOTES:

IS MANAGEMENT FOCUS

AREA	NEED
TECHNOLOGY INTEGRATION	Infrastructure Data Management User Interfaces
MANAGEMENT OF IS	Productivity of IS Simplification of Support User-Managed Development
STRATEGIC AND ADVANCED SYSTEMS	

INPUT

NOTES:

INFORMATION SYSTEMS PROGRAM

ANNUAL REPORT

NEW APPLICATION TRENDS AND DEVELOPMENT RESOURCE ALLOCATION

INPUT

NOTES:

NEW APPLICATION TRENDS
CROSS INDUSTRY SUMMARY

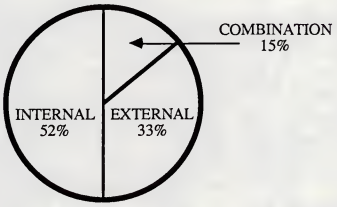
- Electronic Data Interchange
- Business Analysis and Management Tools
- Purchasing Package Software
- Strategic Applications
- RDBMS on the Minicomputer (MID) Level

INPUT

NOTES:

SOURCE OF DEVELOPMENT RESOURCES

GROUP ONE

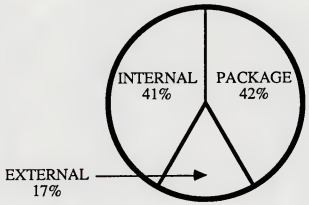


INPUT

NOTES:

SOURCE OF DEVELOPMENT RESOURCES

GROUP TWO



INPUT

NOTES:

ASSIGNMENT OF APPLICATIONS

DEVELOPMENT STAFF

INPUT

NOTES:

INFORMATION SYSTEMS PROGRAM

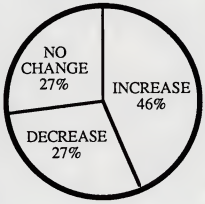
ANNUAL REPORT

BUDGET ANALYSIS 1987-1988

INPUT

NOTES:

BUDGET CHANGE FOR ALL INDUSTRIES

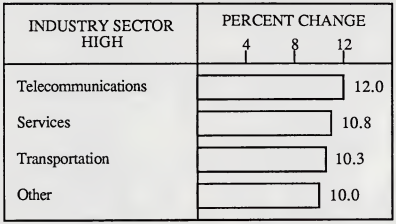


INPUT

NOTES:

UP87: V-2

INDUSTRY COMPARISON



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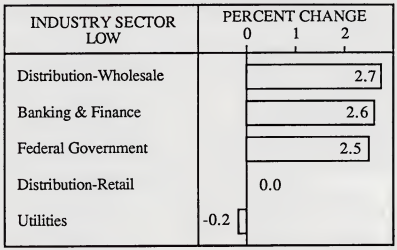
NOTES:

INDUSTRY COMPARISON



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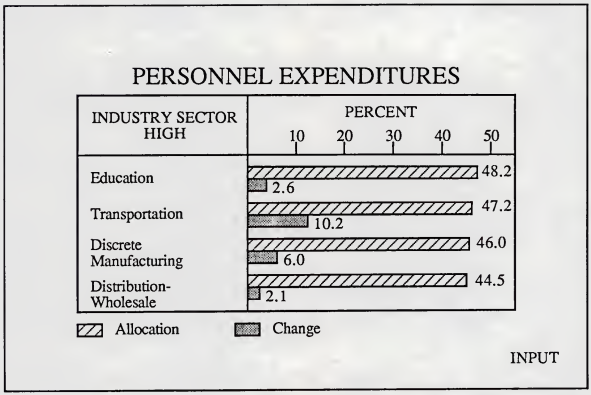
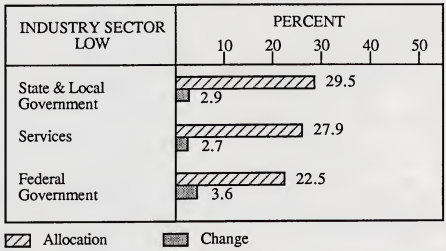
NOTES:


PERSONNEL EXPENDITURES
INDUSTRY SECTOR HIGH
PERCENT
10
20
30
40
50
Education
48.2
2.6
Transportation
47.2
10.2
Discrete Manufacturing
46.0
6.0
Distribution-Wholesale
44.5
2.1
Allocation
Change
INPUT

NOTES:

PERSONNEL EXPENDITURES



INPUT

NOTES:

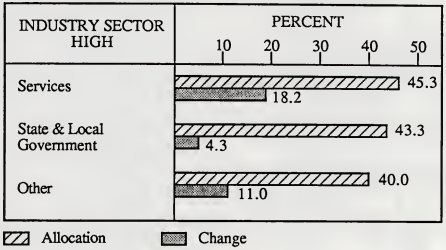
PERSONNEL EXPENDITURES

INDUSTRY SECTOR	ALLOCATION (Percent)	CHANGE (Percent)
Largest Change Insurance	34.1	15.3
Smallest Change Distribution-Retail	41.8	1.1

INPUT

NOTES:

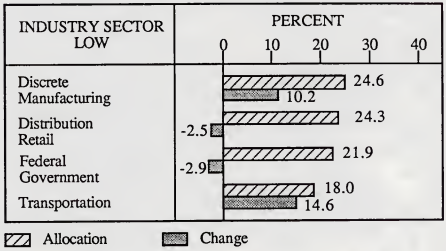
HARDWARE EXPENDITURES



INPUT

NOTES:

HARDWARE EXPENDITURES



INPUT

NOTES:

HARDWARE EXPENDITURES

INDUSTRY SECTOR	ALLOCATION (Percent)	CHANGE (Percent)
Largest Change Services	45.3	18.2
Smallest Change Federal Government	21.9	-2.9

INPUT

NOTES:

HARDWARE EXPENDITURES

PERCENT CHANGE
MAINFRAME-MINI-MICRO

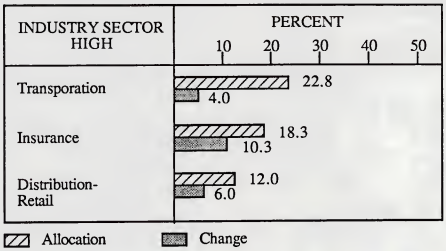
INDUSTRY SECTOR	MAIN	MINI	MICRO	MASS	OTHER	TOTAL
Services	18.8	0.0	18.8	0.0	17.8	18.2
Transport.	16.4	8.5	7.1	0.0	0.0	14.6
Discr. Mfg.	10.9	6.2	15.1	8.0	3.5	10.2

INPUT

NOTES:

UP87: V-11

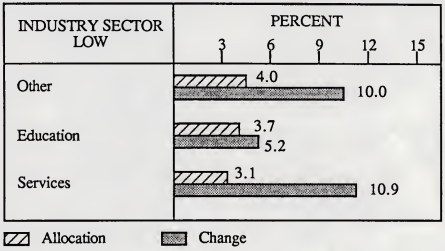
DATA COMMUNICATIONS EXPENDITURES



INPUT

NOTES:

DATA COMMUNICATIONS EXPENDITURES



INPUT

NOTES:

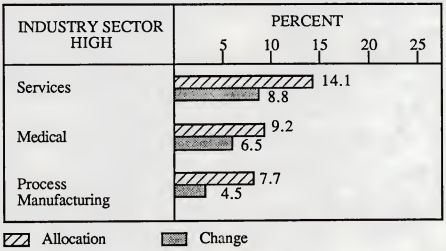
DATA COMMUNICATIONS EXPENDITURES

INDUSTRY SECTOR	ALLOCATION (Percent)	CHANGE (Percent)
Largest Change Insurance	18.3	10.3
Smallest Change Telecommunications	5.3	-12.0

INPUT

NOTES:

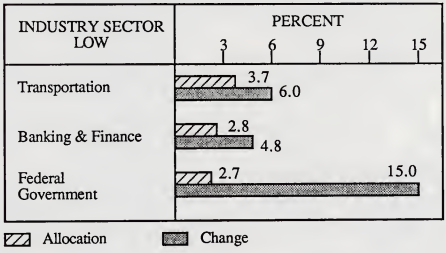
EXTERNAL SOFTWARE EXPENDITURES



INPUT

NOTES:

EXTERNAL SOFTWARE EXPENDITURES



INPUT

NOTES:

EXTERNAL SOFTWARE EXPENDITURES

INDUSTRY SECTOR	ALLOCATION (Percent)	CHANGE (Percent)
Largest Change Telecommunications	7.2	19.0
Smallest Change Distribution-Retail	6.1	-1.4

INPUT

NOTES:

INFORMATION SYSTEMS PROGRAM
ANNUAL REPORT

1988 PLAN

INPUT

NOTES:

INFORMATION SYSTEMS PROGRAM FOCUS

- Advising IS on Planning for the Future by
  - Assessing & Interpreting the Management Aspects of Key Technology Trends
  - Understanding & Setting Objectives on Critical Issues
  - Analysing the Application Development & Spending Trends

INPUT

NOTES:

INFORMATION SYSTEMS PROGRAM
1988 OBJECTIVES

- Provide Year to Year Program Continuity
- Increase Client Contact
- Increase Vendor Input to Research
- Focus on the Large IS Organization
- Provide Planning & Management Guidance - Not Technology Analysis

INPUT

NOTES:

INFORMATION SYSTEMS PROGRAM
1988 PROGRAM

2 SEMINARS	3 REPORTS	2 REPORT SERIES
March June	DBMS CASE Annual	Workstation Strategies DEC vs. IBM

INPUT

NOTES:

UP87:VI-4

INFORMATION SYSTEMS PROGRAM
1988 PROGRAM

- Seminars
  - One Day
  - Current Research
  - Other Program Research
  - Outside Speaker

INPUT

NOTES:

INFORMATION SYSTEMS PROGRAM
1988 PROGRAM

- Reports
  - DBMS — Focus on Relational DBMS & Data Management Process
  - CASE — State of the Technology & its Application
  - Annual — Larger Interview Sample & First Half Publication

INPUT

NOTES:

INFORMATION SYSTEMS PROGRAM
1988 PROGRAM

- Report Series
  - Objective — Continuity of Information & Increased Depth
  - Workstation Strategies — Completion of 1987 Assessment - Vendor Views
  - DEC/IBM — Closer Look at Key Issues

INPUT

NOTES:

UP87:VI-7

INFORMATION SYSTEMS PROGRAM
1988 PROGRAM

- Client Support
  - Hotline
  - Quarterly Vendor Watch
  - Annual Client Conference
  - Annual Onsight Presentation (Oct/Nov)

INPUT

NOTES: