SYSTEMS INTEGRATION

VENDOR ISSUES AND PERSPECTIVES

INPUT

OVERVIEW

- Markets and Components
- Customer Requirements
- Products and Services
- Vendor Focus/Characteristics
- INPUT's Observations
- US Players (1987)/Rising Stars
- A View of IBM

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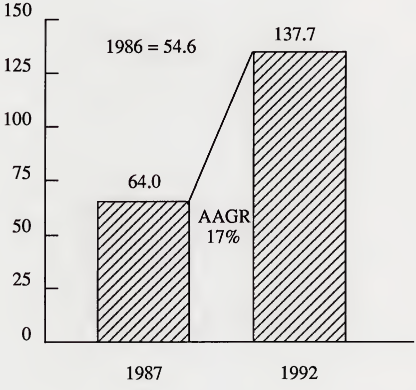
INFORMATION SERVICES MARKET
($ Billions)



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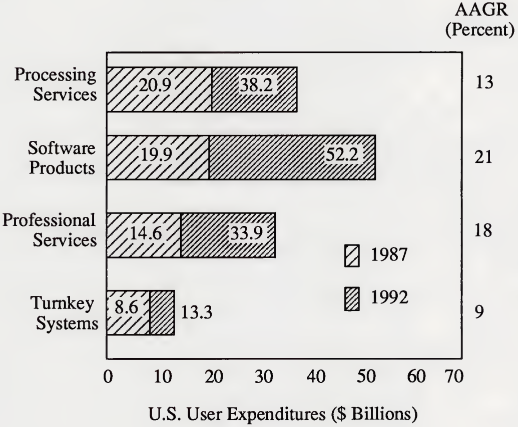
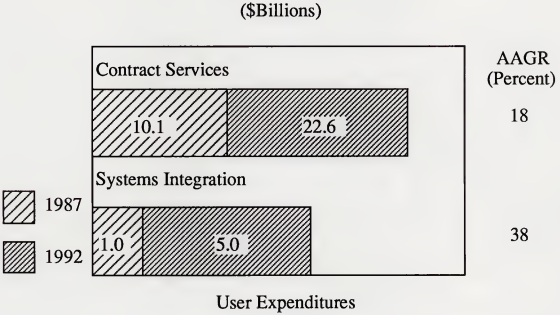
INFORMATION SERVICES INDUSTRY BY DELIVERY MODE



PROFESSIONAL SERVICES MARKETS COMMERCIAL SEGMENTS 1987-1992



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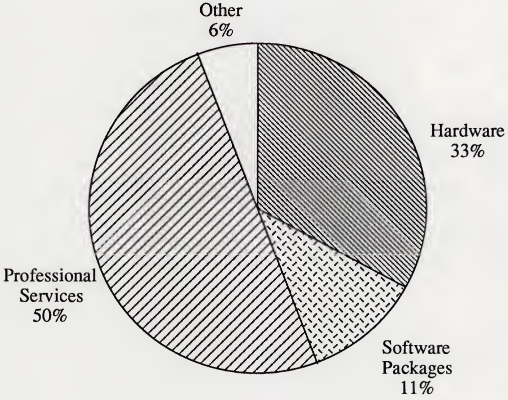
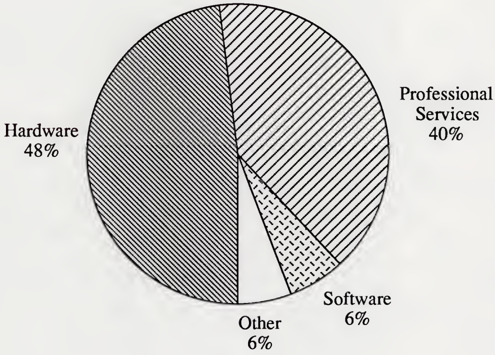
EXPENDITURES BY COMPONENT GROUP
1987 COMMERCIAL PROJECT SAMPLE



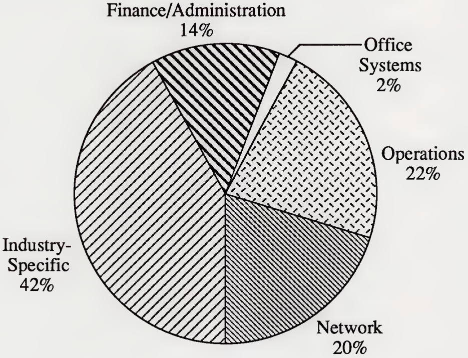
N = 24 Projects

EXPENDITURES BY COMPONENT GROUP 1987 FEDERAL PROJECT SAMPLE



N = 27 Projects

COMMERCIAL SI APPLICATIONS



N = 64

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SYSTEMS INTEGRATION CUSTOMER REQUIREMENTS

- Single-Source Solution/Accountability (Risk Aversion)
- Rapid and Cost-Effective Implementation
- Applicable Range of Technical Skills
- Reputation—Credibility—Experience

PRODUCTS/SERVICES IN SYSTEMS INTEGRATION PROJECTS

- Equipment
  - Information Systems
  - Communications

- Software Products
  - Systems Software
  - Applications Software

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PRODUCTS/SERVICES IN SYSTEMS INTEGRATION PROJECTS

- Professional Services
  - Consulting
    - ° Feasibility and Trade-off Studies
    - ° Selection of Hardware, Network, and Software
  - Project Management

PRODUCTS/SERVICES IN SYSTEMS INTEGRATION PROJECTS

- Design/Integration
  - Systems Design
  - Installation of Hardware, Network, and Software
  - Demonstration and Testing

PRODUCTS/SERVICES IN SYSTEMS INTEGRATION PROJECTS

- Software Development
  - Modification of Software Packages
  - Modification of Existing Software
  - Custom Development of Software

- Education/Training and Documentation

- Operation and Maintenance (During Contract)

PRODUCTS/SERVICES IN SYSTEMS INTEGRATION PROJECTS

- Other Products/Services
  - Data Processing Supplies
  - Processing/Network Services
  - Data/Voice Communication Services
  - Engineering Services
  - Other

SYSTEMS INTEGRATION VENDOR FOCUS

- Present a Full-Service Image
- Leverage and Promote Proprietary Technology
- Establish Strategic Partnerships (Alliances)
- Initiate and Maintain Overall Account Control

SYSTEMS INTEGRATION VENDOR CHARACTERISTICS

- Large, Fiscally Responsible
- Technologically Advanced
- Innovative
- Network-Based
- Operational Capability
- Application/Industry Expertise

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INPUT'S OBSERVATIONS

- Macro Issues
- Competitive Environment

MAJOR CUSTOMER ISSUES—
INFORMATION SERVICES

- Focusing on End-User Needs (Vertical)
- Complexity Begets Customization
- Implementation Skill Mix Shortfall Begets Professional Services Boom
- Competitive Advantage Drives Systems Integration
- Alliance Selection and Formation

COMPETITIVE ENVIRONMENT
VENDORS

- Consolidation
- Increasing Overlap
- 'Power Player' Game
  - New Entrants
- Positioning/Control

THE PLAYERS

- By Market Share, 1987
- Commercial Component
- Federal Component
- By Class of Competition
- Rising Competition

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SYSTEMS INTEGRATION MARKET SHARE, 1987

Vendor	Market Share	
	Revenue($M)	Percent
IBM	515	15
EDS	450	13
AA & Co.	265	8
CSC	195	6
CDC	133	4
Unisys	95	3
Total Leading Vendors	1,653	49

Total Mkt = $3,400 Million

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COMMERCIAL SI
MARKET SHARE, 1987

Vendor	Market Share	
	Revenue($M)	Percent
IBM	375	21
AA & Co.	225	13
EDS	130	7
Control Data	108	6
Total Leading Vendors	838	47

Total Mkt = $ 1,800 Million

FEDERAL SI
MARKET SHARE, 1987

Vendor	Market Share	
	Revenue($M)	Percent
EDS	320	20
CSC	185	12
IBM	140	9
MMDS	80	5
BCS	60	4
Total Leading Vendors	785	50

Total Mkt = 1,600 Million

MARKET SHARE BY CLASS OF COMPETITION
1987

	Percent of Market	
Vendor Class	Federal	Commercial
Hardware Manufacturers	31	45
Communication Vendors	4	6
Professional Services	38	20
"Big 8"	11	21
Aerospace	12	5
Other	4	3

RISING COMPETITION

CTG

Systemhouse

AT & T

AMS

Wang

Cincinnati Bell

AGS

Digital

Nontraditionals:
Baxter & Travenol,
Harnischfager,
Bechtel,
Nippon

IBM'S STRENGTHS

- Product Suite
- Major Position in Professional Services
- Network Services Offering
- Demonstrated Project Management Capability
- Fiscal Capability
- Vertical Industry Expertise
- Account Control
- Customer Service/Support Orientation

IBM'S WEAKNESSES

- Perceived Lack of Objectivity
- Lack of Integrated Project Offering
- Lack of Focus on "SI" as a Product

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LEVERAGE POINTS

- Network Services/EDI
- Financial Sell/Project Financing
- SAA/SNA/SQL Integrating Capability
- Systems Operations
- Use of Existing Alliances
- Customer Base

FUTURE TRENDS TO WATCH

- Move Toward Systems Operations
- Growth of Communications-Based Applications
- “SI” in Increasing Control of Hardware Sales
- Integration of Distributed Data Environments

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