The Computer Industry in the 1990s

What is Different?

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Open Systems

- Removes shield of proprietary technology
- Strengthens networking capabilities
- Removes price protection
- Changes the competitive rules

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Open Systems—Level by Level

- Chip Set
- Processor
- Operating environment and networking
- Data base management
- Applications interface/GUI
- Business applications

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Notes

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The Computer Industry in the 1990s

Technology Revolutions

\+

Organizational Evolutions

=

All the rules have changed

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The Changing Buyer

- Decisions become larger—take longer
- The budget is decentralized—multiple buyers

IS-64b

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Notes

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Re-engineering IS

- Used to be a separate function
- Now being integrated into organization
- Will it disappear?

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MACFC-PAC - 12

Notes

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Revolutions or Evolutions?

- Re-engineering
  - Organization: All or parts
  - IS Organization

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Open Systems—Level by Level

- Chip Set
- Processor
- Operating environment and networking
- Data base management
- Applications interface/GUI
- Business applications

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Downsizing

Application Driven Description

- Transfer of the application, either user interface or all, to a workstation or LAN environment.

UIISP-PAC - 12

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Notes

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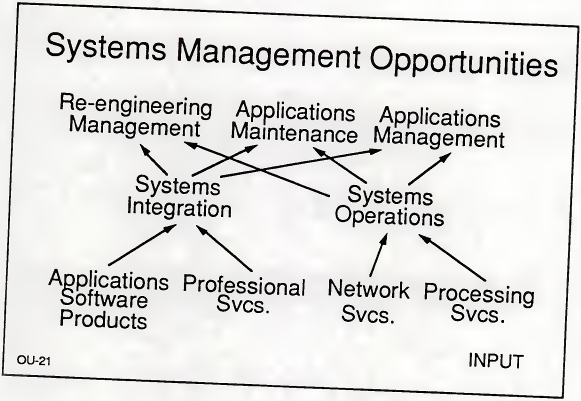
Systems Management Opportunities
Re-engineering Management
Applications Maintenance
Applications Management
Systems Integration
Systems Operations
Applications Software Products
Professional Svcs.
Network Svcs.
Processing Svcs.
OU-21
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Notes

8/8/91

The Computer Industry in the 1990s

Impacts on IBM

Douglas Tayler

Vice President
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Topics

- The Computer Industry in the 1990s
- The "New" IBM
- The Computer Industry in 2001

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Notes

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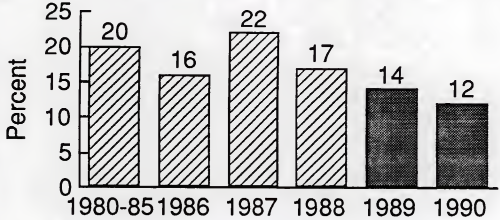
Consolidation in the Industry

- Dominant industry phenomenon in the 1990s:
  - A smaller number of larger vendors
  - Providing a broader range of integrated offerings
  - Supported by smaller niche vendors
  - Targeted at providing solutions

INPUT
MPRE-45

Notes

U.S. Information Services Industry—Annual Growth Rates



IS-57

Notes

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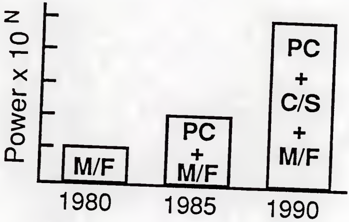
Computing Power



MS-24

INPUT

Notes

4/5/91

The Systems Industry—Past

Demand increase - 30% to 40% per year

+

Price/performance improvement - 20% per year

=

Industry growth - 10% to 20% per year

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MACFC-PAC - 6

Notes

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The Systems Industry—Now

Demand increase - 30% per year ?

+

Price performance improvement - 40% per year

=

Industry Shrinkage

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MACFC-PAC - 7

Notes

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The Systems Industry—Past

Operating environments protected core systems prices

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MACFC-PAC - 8

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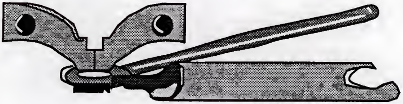
The Systems Industry—Now

Open Systems

=



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MACFC-PAC - 9

Notes

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Revolutions

- Downsizing
- Outsourcing
- Networking

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MACFC-PAC - 3

Notes

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LAN Use—Active Central Applications

Application	% Act. 1990	% to be Act.—1992
Accounting	45	60
Executive Info Sys	27	65
Mainframe DBS Queries	40	72

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I-95

Notes

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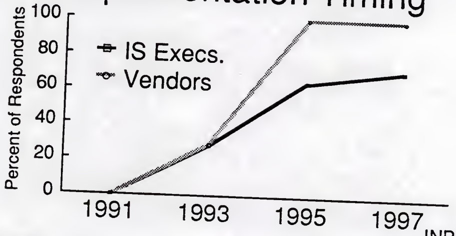
Downsizing

Major Client/Server Applications Implementation Timing



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MACFC-DT- 26

Notes

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IS Outsourcing Areas

1. Systems operations
2. Applications maintenance
3. Applications management
4. Network operations
5. Desktop services

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OU-7

Notes

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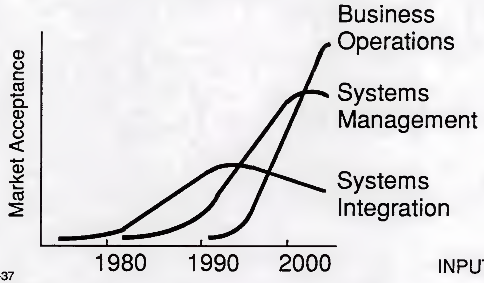
Outsourcing Market Waves



IS-37

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Notes

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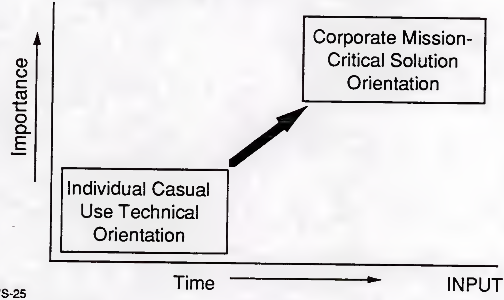
Changing Role of Network



NS-25

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Notes

Electronic Commerce

The New Foundation for Trade

ED- 27

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Notes

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Definition of EDI

- EDI is the application-to-application exchange of intercompany business data in structured, standard data formats

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ED-53

Notes

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Electronic Commerce

Effects and Dynamics

- New economies of scale - community versus individual organization-based
- High risk for early adopters
- Unpredictable alliances

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ED-59b

Notes

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The New IBM

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The New IBM

- Performance
- What is different?
- What may follow?

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Notes

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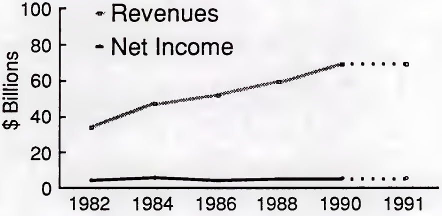
IBM Financial Performance



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Notes

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IBM Performance

Category	5-Yr. Growth Rate (%)
Processors	6
PCs/Workstations	25
Peripherals	5
Software	16
Services	12

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Notes

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IBM Performance

What used to work
doesn't work now

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IBM Performance Strategies No Longer Work

- Wait-and-see strategy
  - 4-year plus cycles
  - Enter established markets
- Average technology—high price

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IBM Performance Strategies No Longer Work

- Conflicting proprietary products
  - Too many—10,000
- Overpower with service
  - On-site intelligence
- Favoring the whole versus the parts

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Notes

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The New IBM—Leveraging Underutilized Assets

- Underlying technology
- Manufacturing strengths
- Financial strengths
- Pure research

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The New IBM—Organizational Experimentation

- Minority investments
- Multiple reorganizations
- Re-enter processing/network services market
- Original PC launch
- Systems integration division

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Notes

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The New IBM
The Restructure

- New business units
- 10% fewer employees
- More organizational complication
- Beginning decentralization of control
- Promise of more change

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AUPN-DT- 17

Notes

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The New IBM
More Business Units

- Storage products business
- Pennant Systems Company (printer products)
- Further separation of PC business
- ISSC Division
- ???

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The New IBM Organizational Complication

- Increased internal competition
  - Sales
  - Products
  - Services

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The New IBM
Organizational Complication

- Increased pressure on the customer
  - Product conflicts
  - Increased choices
  - Decreased support
- More minority investments

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The New IBM
Decentralization of Control

- Investment authority
- Sales organization measurement
  - Profits versus units
- Smaller central staffs
- Promise of more change

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Notes

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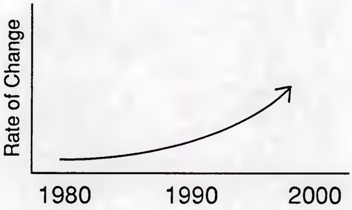
The New IBM
Evolution versus Revolution



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Notes

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The New IBM
What May Follow?

- SAA includes non-proprietary technologies
- Competing sales forces
  - Captive to IBM
  - Noncaptive—VARs and OEMs

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Notes

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The New IBM
What May Follow?

- Competing technologies
  - OS/2 and UNIX
  - AS/400 and RISC
  - Client/server at all levels
- Even less service and support

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Notes

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The New IBM
What May Follow?

- Licensing of Technology
  - Apple—future UNIX operating system
  - Seimens—chip technology
  - Bull—processor technology
  - Wang—applications software

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Notes

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The New IBM
Where IBM Can Grow

	IBM Rev. ($B)	Market ($B)	IBM Share (%)
Mainframes	12.0	20	60
Minicomputers	3.5	25	<15
PCs	14.0	50	25
Software	10.0	60	15
Services	5.0	60	<10

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Notes

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The New IBM Success Indicators

- Base technology sales to others
- Learning to compete with itself
- Success in selling to new buyer
- Signs of employee reflecting
- Business unit management

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Notes

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The Computer Industry in 2001

Information Systems Function

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Notes

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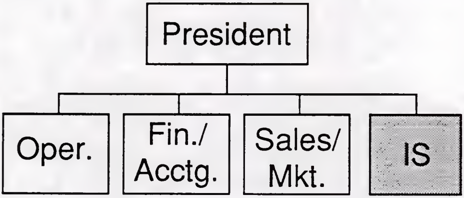
IS Function

Information Systems View



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Notes

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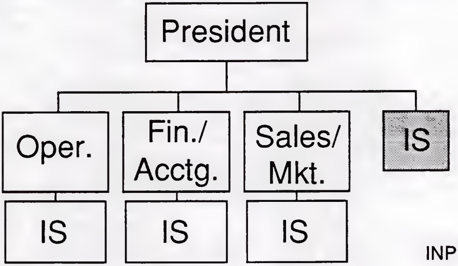
IS Function

General Management View



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Notes

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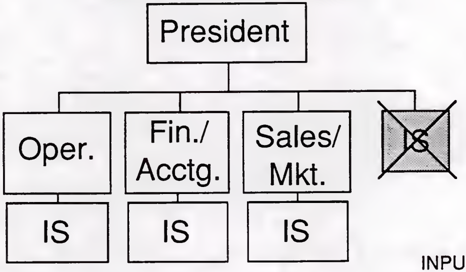
IS Function

The View in 2001



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Notes

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The Computer Industry in 2001—Vendor Role

Services
Replace
Proprietary Technology

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Notes

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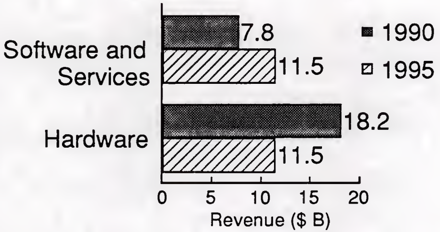
IBM—Europe



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Notes

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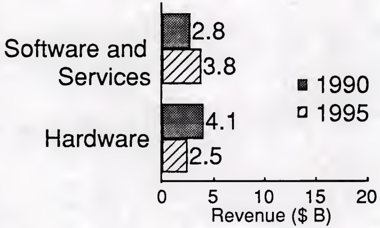
DEC—Europe



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Notes

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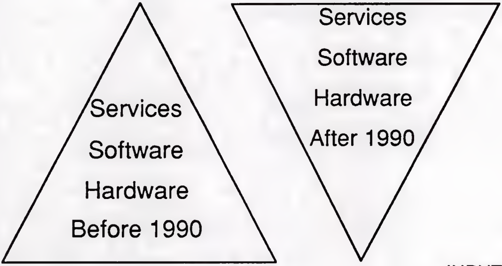
Industry Turned Upside Down



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Notes

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The Computer Industry in 2001

- IS is a process, not an organization
- Solutions and services are bought
- Services vendor role greatly enhanced
- Hardware role greatly diminished
- IBM remains on top

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Notes

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IBM in 2001

- Directly competing sales forces
- Directly competing divisions
- Directly competing technology
- Significant revenue from other vendors
- Less revenue growth, more income growth

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IBM in 2001

More Than 1
Company!!

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Notes

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