

U.S. Information Services Industry

INPUT



Topics

- Economic impacts
- Technology trends
- U.S. information services industry

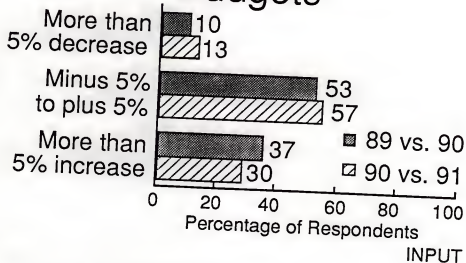
MS-16

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Notes



Information Systems Budgets



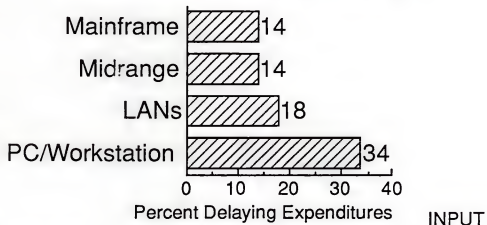
I-56

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1991 Economic Impacts on Hardware Spending

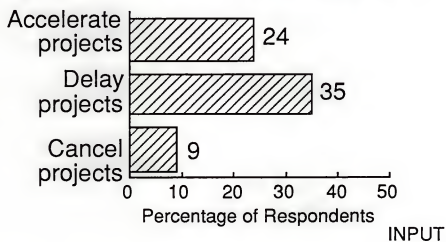


I-65

Notes



Recessionary Impacts on Application Development



I-67

Notes



Information Technology Implementation Trends

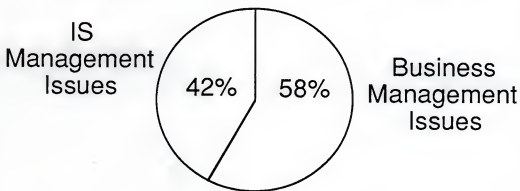
I-80

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Technology Implementation IS vs. Business Inhibitors



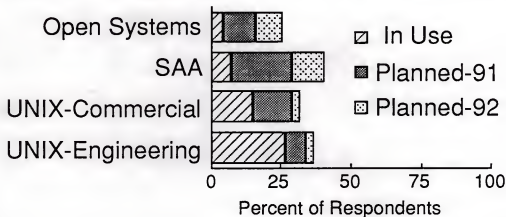
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Notes



Technology Status and Timing Operating Systems/Architecture



I-88

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Notes



Major Vendors UNIX Commitment

	Before 1990	After 1990
NCR	High	Full
DEC	Low	High
Computer Assoc.	Low	High

SP-130

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Notes



Major Vendors UNIX Commitment

	Before 1990	After 1990
Microsoft	Low	Medium
Unisys	Low	Medium

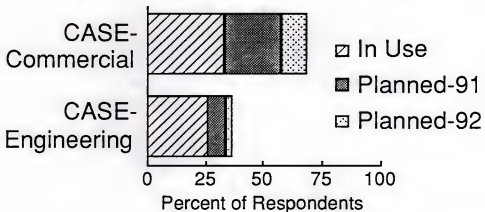
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Technology Status and Timing Application Development



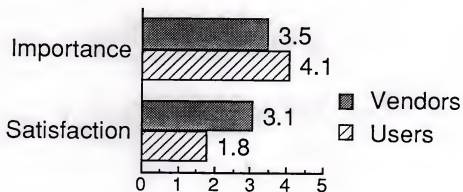
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Case Standards



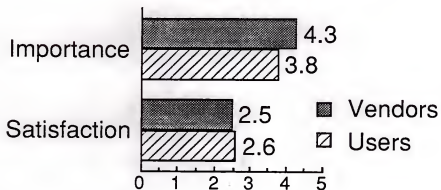
AD-58

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Notes



Re-engineering



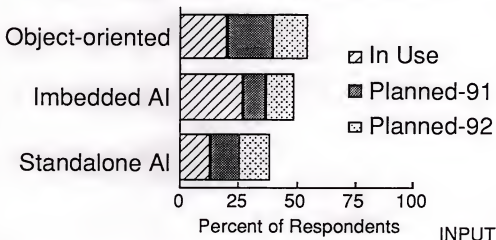
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Technology Status and Timing Application Development

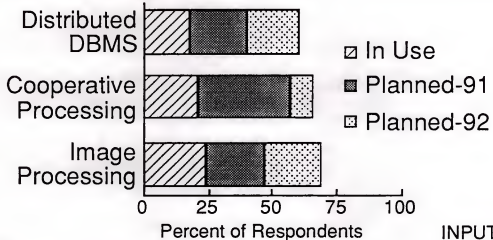


I-91

Notes



Technology Status and Timing Operating Systems/Architecture



I-89

Notes



SI Electronic Image Justification

Reason	Rank
Improved customer service	1
Improved records management	2
Personnel savings	3
Media storage savings	4
Space savings	5

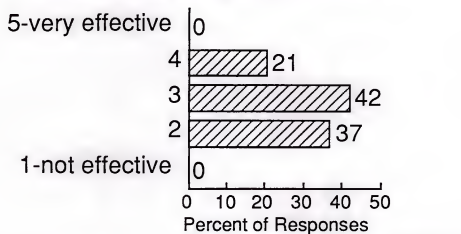
SI-115

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Notes



Effectiveness of Image Processing Systems

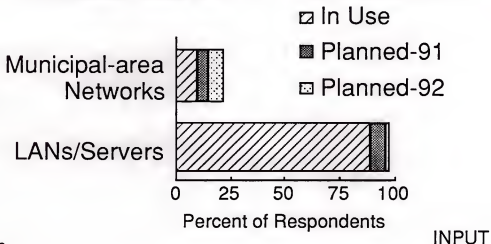


I-105

Notes



Technology Status and Timing Networks/Communications

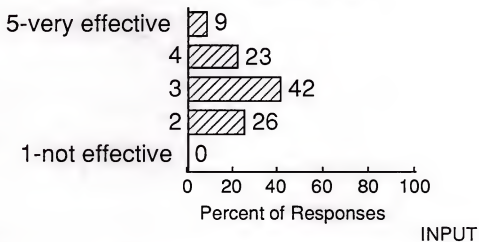


I-92

Notes



Effectiveness of LAN Interconnections



I-98

Notes



Systems Downsizing

- 52% implementing downsizing
- 20% planning or considering

I-66a

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Notes



U.S. Information Services Market 1990-1995

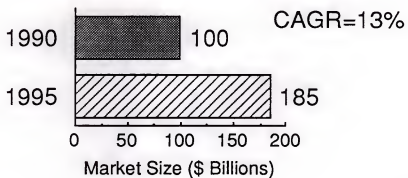
MS-17

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Notes



U.S. Information Services Market, 1990-1995



MF-3

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Notes



Systems Management

- Market of the 1990s
- Evolution and revolution
- Offerings to become mix of
 - Information technology
 - Professional expertise
 - Business execution

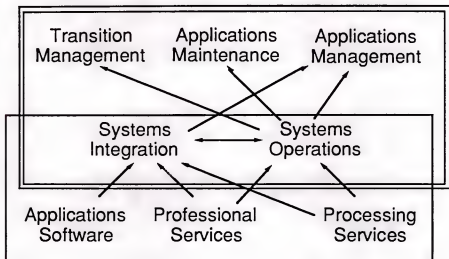
IS-36

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Notes



Systems Management Opportunities



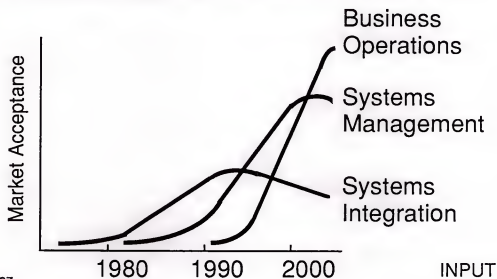
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OU-21

Notes



Outsourcing Market Waves



Notes



Business Operations Market

- Potential market 2 to 5 times information systems expenditures
- Contractors will show reduction in overall costs of 25% or more

IS-38

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Notes



Business Operations Examples

- Insurance claims processing
- Telephone company yellow pages operation
- Credit card operations
- Coupon processing for retailers
- Fulfillment for direct marketing

IS-39

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Notes



Systems Operations (SO)

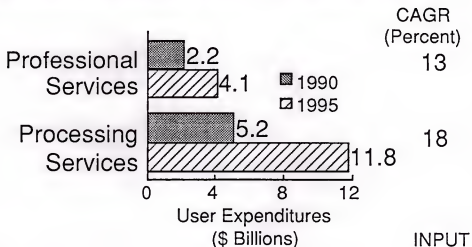
SO-1

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Notes



U.S. Systems Operations Market Forecast, 1990-1995

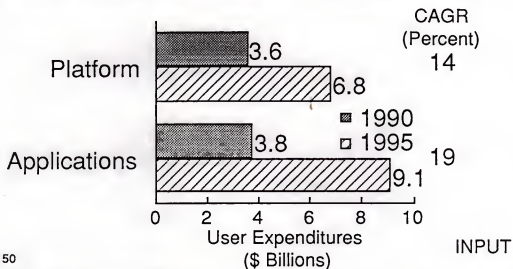


SO-20

Notes



U.S. Systems Operations Market Forecast, 1990-1995



S0-150

Notes



Leading U.S. SO Vendors

Vendor	Market Share (Percent)
Electronic Data Systems	16
Computer Sciences Corp.	5
Systematics	3

SO- 25

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Notes



Systems Integration

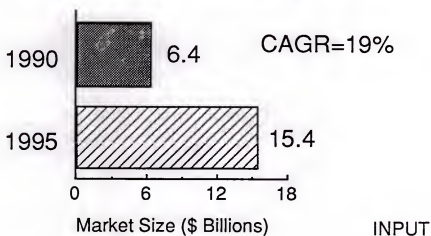
SI-1

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Notes



U.S. Systems Integration Market 1990-1995

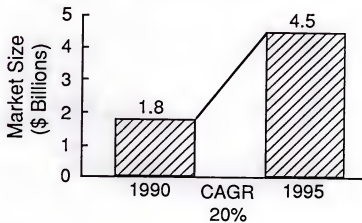


SI-8

Notes



Network Integration Market 1990-1995



SI-15

INPUT

Notes



Processing Services

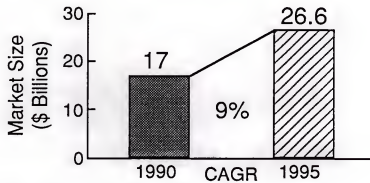
PC-1

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Notes



U.S. Processing Services Market*, 1990-1995



*Without Systems Operations

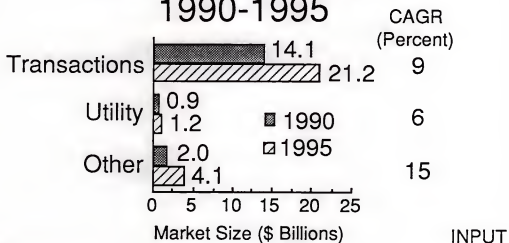
PC-3

INPUT

Notes



U.S. Processing Services Market by Submode 1990-1995



PC-4

INPUT

Notes



Processing Services Driving Forces

- Concentration in core business
- Emphasis on productivity
- Vendor consolidation
- Lower-risk alternatives
- Staying with proven vendors



PC-13

Notes



Processing Services Inhibitors

- Economy—short-term
- Micro/mini/WS solutions
- Price/performance disadvantage
- Market entry costs
- Market maturity



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PC-7

Notes



Network Services

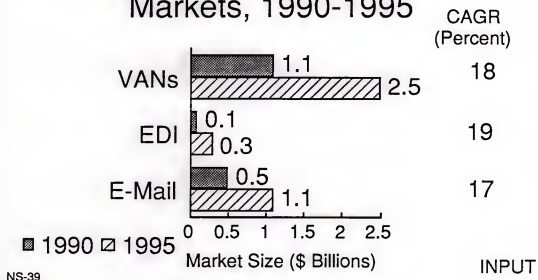
NS-1

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Notes



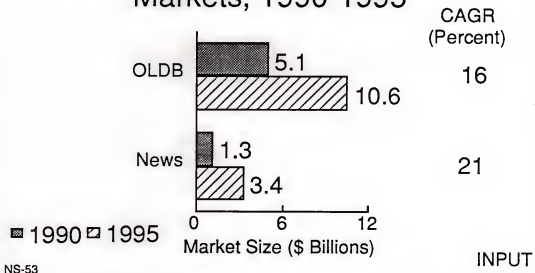
U.S. Network Applications Services Markets, 1990-1995



Notes



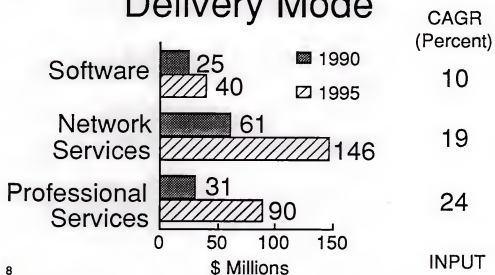
U.S. Electronic Information Services Markets, 1990-1995



Notes



EDI Market Growth by Delivery Mode



ED- 8

Notes



EDI Input-Output Matrix

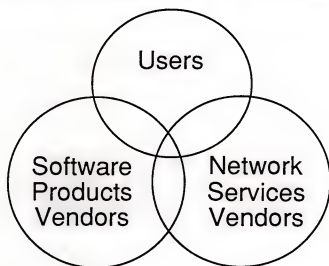
<u>Sellers</u>	<u>Buyers</u>	Auto	Apparel	Electronics	Aerospace
Auto		■			
Apparel			■		
Electronics				■	■
Aerospace					■

ED-14 INPUT

Notes



EDI Players Overlap



ED-13

INPUT

Notes



The Network Will Become the System

- Implications for users
 - Nodes are almost equal in power
 - Telecommunications skills are vital
 - IS management at many nodes
 - More complex systems design

NS-13

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Notes



Professional Services

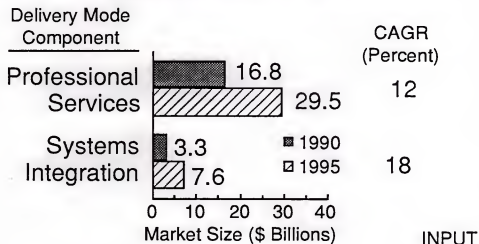
PF-1

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U.S. Professional Services Market Aggregates, 1990-1995

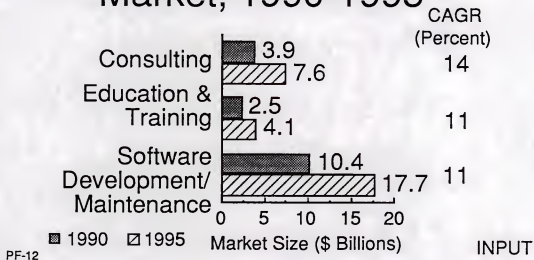


PF-13a

Notes



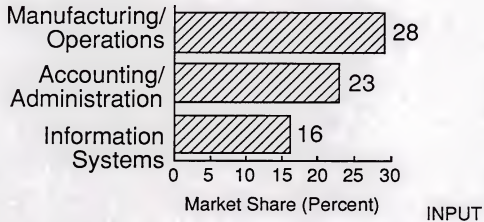
U.S. Professional Services Market, 1990-1995



Notes



Professional Services Expenditures by Area

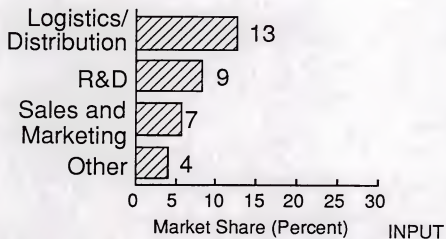


PF-14

Notes



Professional Services Expenditures by Application Area



PF-15

Notes



Software Products

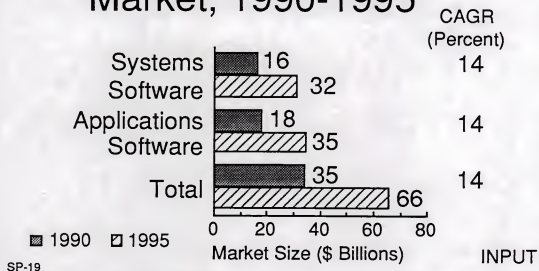
SP-1

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Notes



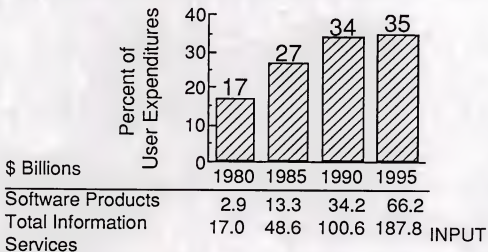
U.S. Software Products Market, 1990-1995



Notes



Software Products Portion of Information Services, 1980-1995



SP-18

Notes



Software Products Major Trends

- Downsizing—gathering speed
- Graphical user interfaces—windows
- Network integration—interoperability
- UNIX—major vendor momentum
- Reengineering—new focus for CASE

SP-132

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Notes



Turnkey Systems/VARs

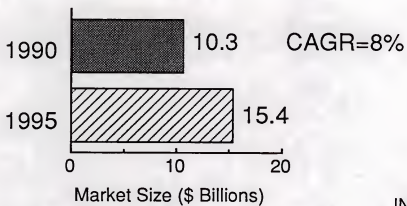
TS-1

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Notes



U.S. Turnkey Systems Market, 1990-1995



TS-10

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Notes



Turnkey Systems Market Reduced Size

- Major vendors shifting to software
 - Interleaf
 - Metaphor

TS-30a

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Notes



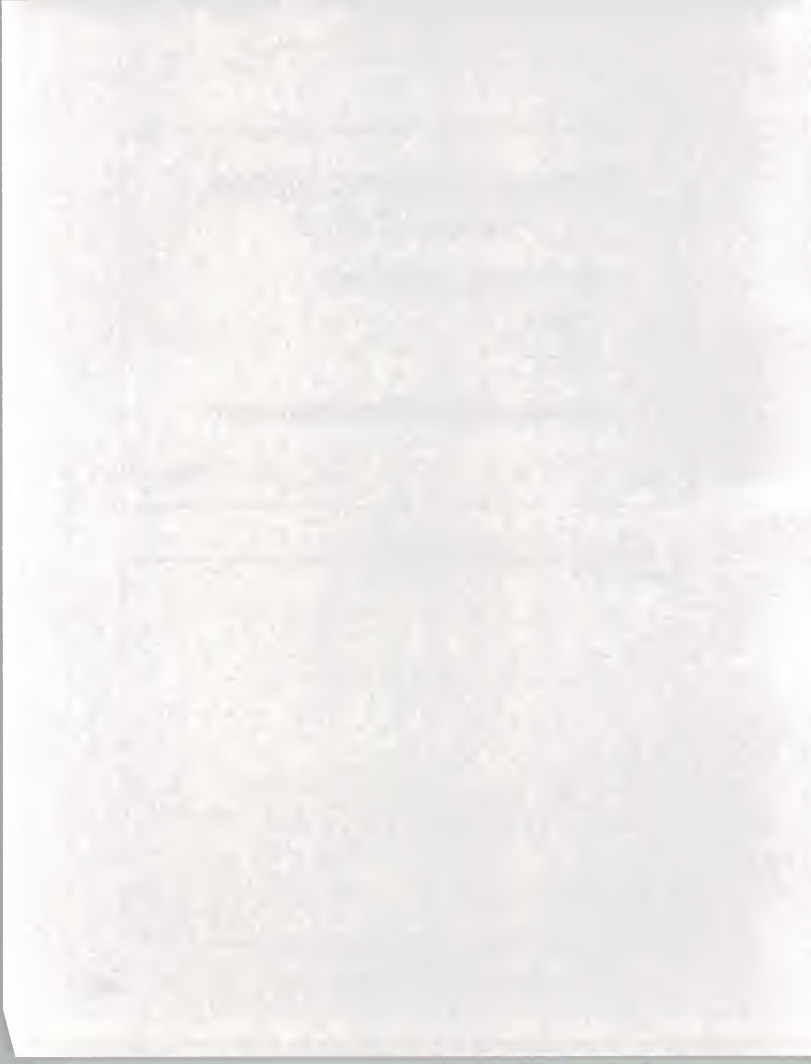
Turnkey Systems Market Reduced Size

- Hardware sold direct
 - IBM
 - DEC
- Downsizing of hardware sold

TS-30b

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Notes



Vendor Direction

CT-35

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Notes



Vendor Direction—EDS

- Services based on technology and execution
 - Systems operations
 - Systems integration
 - Business operation
- Vertical focus—large companies

CT-36

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Notes



Vendor Directions Computer Associates

- Slowdown in acquisitions
- CA90s—framework for development
- Major emphasis on UNIX

CT-37

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Notes



Vendor Directions Microsoft

- Windows vs. OS/2
- Attention to UNIX
- Alliances beyond IBM
- Focus on LANs
- Professional services offerings

CT-38

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Notes



Vendor Directions Andersen Consulting

- Services based on technology
 - Systems integration
 - Application management
 - Systems operations
- Software focus—CASE plus applications

CT-39

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Notes



Conclusions

MS-18

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Notes



Impact of Economic Slowdown (Short-Term)

	Change in Growth Rate
Professional Services	↓
Systems Integration	↓
Systems Operations	↑

MF-14

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Notes



Impact of Economic Slowdown (Short-Term)

	Change in Growth Rate
Processing Services	—
Network Services	—
Software Products	↓
Turnkey Systems	↓

MF-13

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Notes



U.S. IS Industry Conclusions

- Slower growth in near term
- Shift to broad-based services zones
- Large services vendors grow fastest
- Software products—turmoil continues

IS-40

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Notes



U.S. Information Services Industry

March ~~12~~, 1991

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Topics

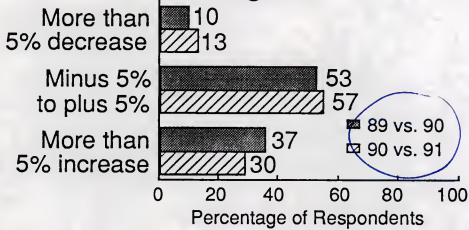
- Economic impacts
- Technology trends
- U.S. information services industry

MS-16

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Notes

Information Systems Budgets



I-56

size

89 vs. 90
90 vs. 91

Notes

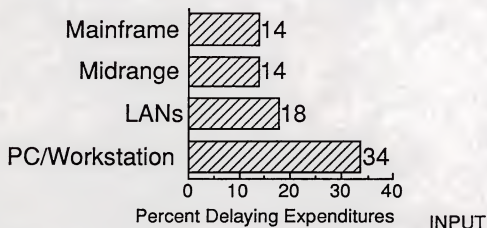
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1991 Economic Impacts on Hardware Spending



I-65

Notes

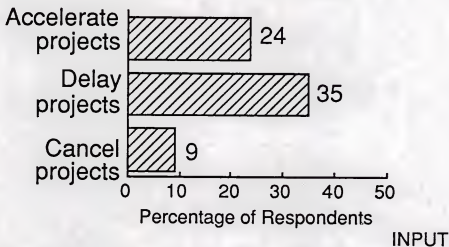
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Recessionary Impacts on Application Development



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Information Technology Implementation Trends

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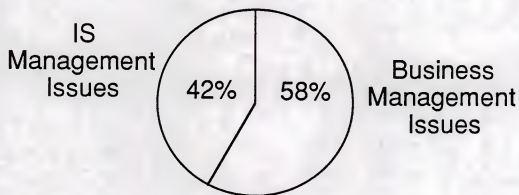
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Technology Implementation IS vs. Business Inhibitors



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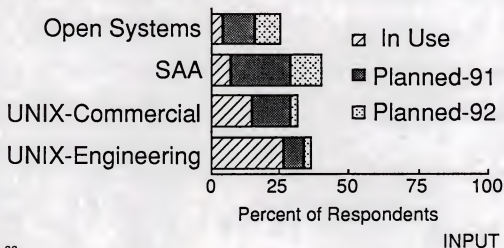


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Technology Status and Timing Operating Systems/Architecture



I-88

Notes

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8

Major Vendors UNIX Commitment

	Before 1990	After 1990
NCR	High	Full
DEC	Low	High
Computer Assoc.	Low	High

INPUT

SP-131a

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Notes



Major Vendors UNIX Commitment

	Before 1990	After 1990
Microsoft	Low	Medium
Unisys	Low	Medium

SP-1346

131

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Notes

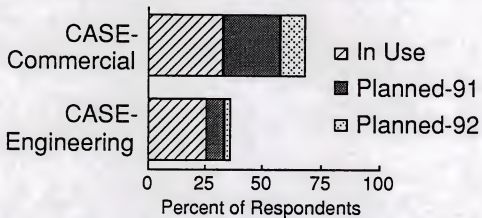
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Technology Status and Timing Application Development



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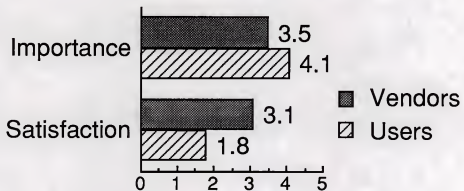


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Case Standards



AD-58

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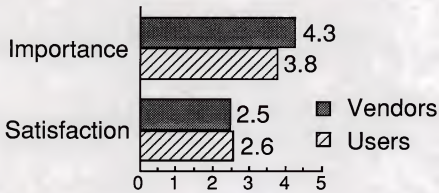
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Re-engineering



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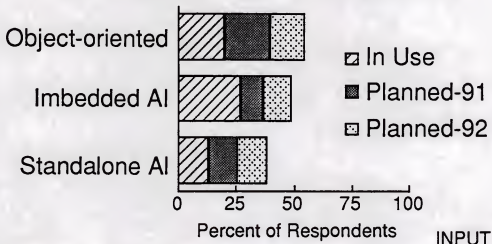
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Technology Status and Timing Application Development



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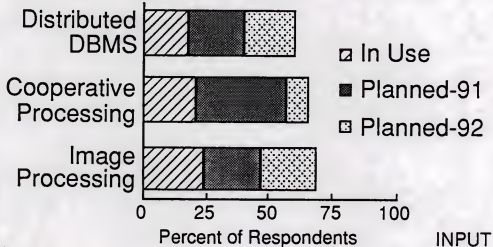
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Technology Status and Timing Operating Systems/Architecture



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Image Justification Factor

Reason	Rank
Improved customer service	1
Improved records management	2
Personnel savings	3
Media storage savings	4
Space savings	5

IP-11

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Notes

SI Electronic Image Justification

like SI-115

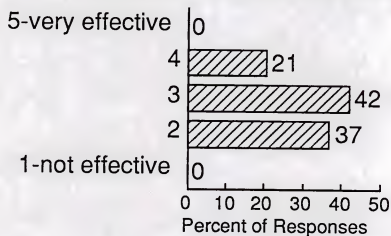
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Effectiveness of Image Processing Systems



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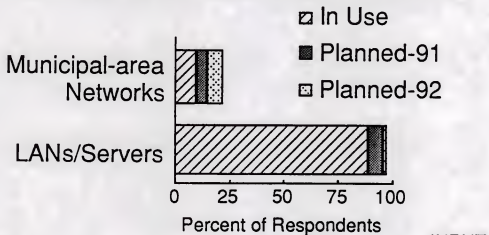
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Technology Status and Timing Networks/Communications



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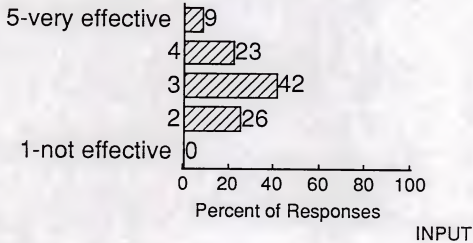
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Effectiveness of LAN Interconnections



I-98

Notes

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Systems Downsizing

- 52% implementing downsizing
- 20% planning or considering

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U.S. Information Services Market 1990-1995

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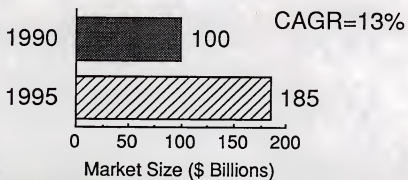
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U.S. Information Services Market, 1990-1995



MF-3

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Systems Management

Markets for the!

- Markets of the 1990s
- Evolution and Revolution
- Offerings to become mix of
 - Information Technology
 - Professional Expertise
 - Business ~~Operations~~ Execution

IS - 39 36

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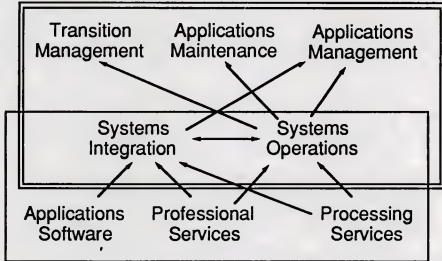
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Systems Management Opportunities



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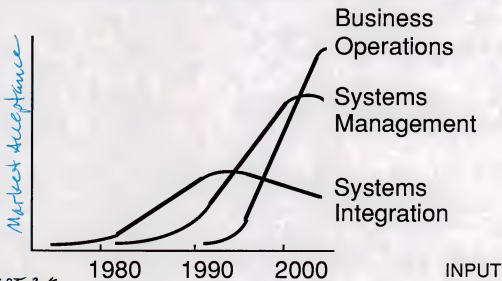
Notes

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Outsourcing Market Waves



IS-97 36

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Notes

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25

Business Operations Market

- Potential market 2 to 5 times information systems expenditures
- Contractors will show reduction in overall costs of 25% or more

IS-40

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Notes

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Business Operations Examples

- Insurance claims processing
- Telephone company yellow pages operation
- Credit card operations
- Coupon processing for retailers
- Fulfillment for direct marketing

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Notes

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Systems Integration

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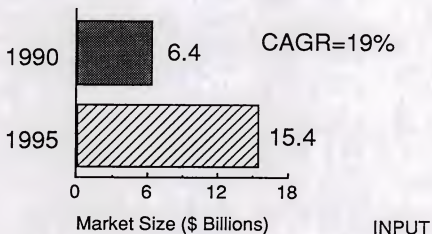
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U.S. Systems Integration Market 1990-1995



SI-8

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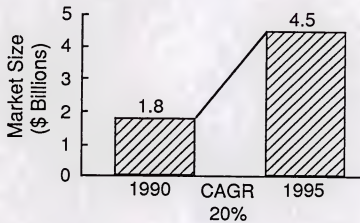
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Network Integration Market 1990-1995



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Notes

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Processing Services

PC-1

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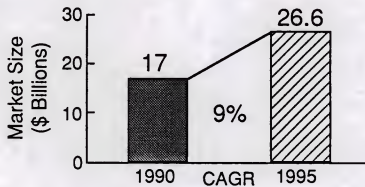
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U.S. Processing Services Market*, 1990-1995



*Without Systems Operations

PC-3

INPUT

Notes

3/4/91

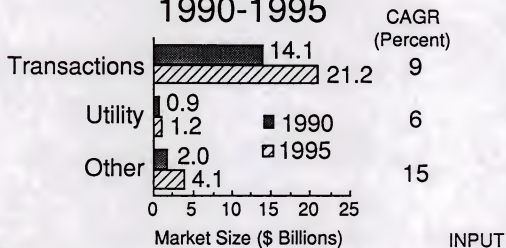
36

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INPUT

10

U.S. Processing Services Market by Submode 1990-1995



PC-4

Notes

24/91

37

Processing Services Driving Forces

- Concentration in core business
- Emphasis on productivity
- Vendor consolidation
- Lower-risk alternatives
- Staying with proven vendors



INPUT

PC-13

Notes

3/4/91

38

Processing Services Inhibitors

- Economy—short-term
- Micro/mini/WS solutions
- Price/performance disadvantage
- Market entry costs
- Market maturity



INPUT

PC-7

Notes

3491

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110

Network Services

INPUT
MPRE-127

Notes

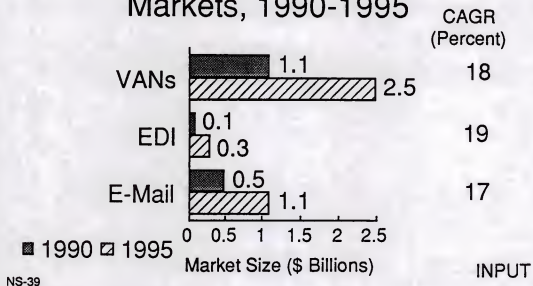
NS-1

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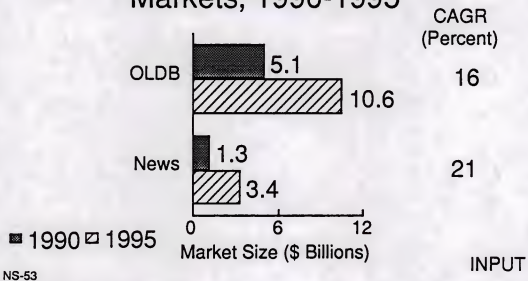
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U.S. Network Applications Services Markets, 1990-1995



Notes

U.S. Electronic Information Services Markets, 1990-1995



Notes

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42

60

EDI

④43 ED-8

④44 ED-14

④45 ED-13

1874

1875

1876

The Network Will Become the System

- Implications for users
 - Nodes are almost equal in power
 - Telecommunications skills are vital
 - IS management at many nodes
 - More complex systems design

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MPRE-377

Notes

NS-13

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INPUT

Professional Services

PF-1

INPUT

Notes

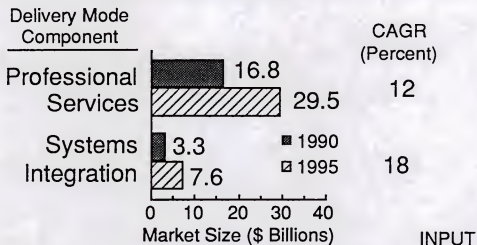
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INPUT



U.S. Professional Services Market Aggregates, 1990-1995



PF-13a

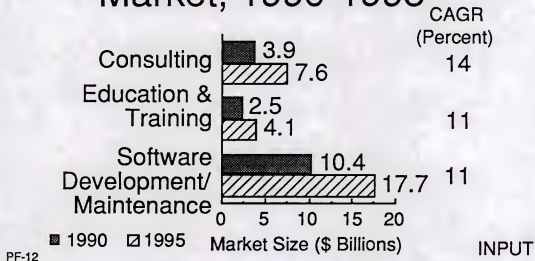
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Notes

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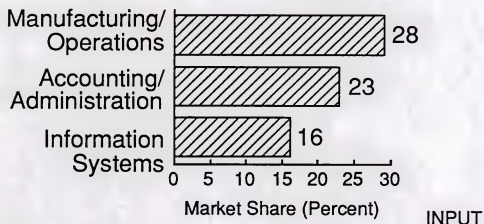
U.S. Professional Services Market, 1990-1995



Notes



Professional Services Expenditures by Area



PF-14

Notes

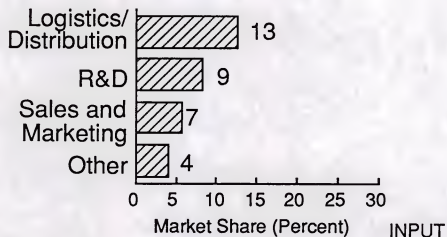
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INPUT

Professional Services Expenditures by Application Area



PF-15

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51

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Software Products

Need new stuff

- Downsize
- Network
- GUIs
- Microsoft

Windows

In each case

MIT check
issue.
Vendor check

(not share but
what they use down)

What's happening!

INPUT
MPRE-407

Notes

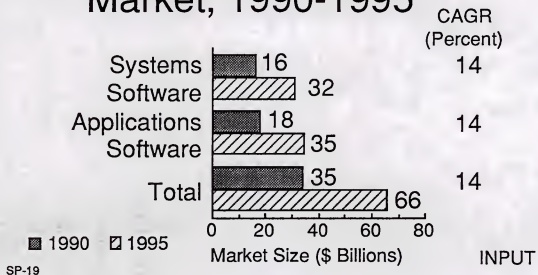
SP-1

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U.S. Software Products Market, 1990-1995

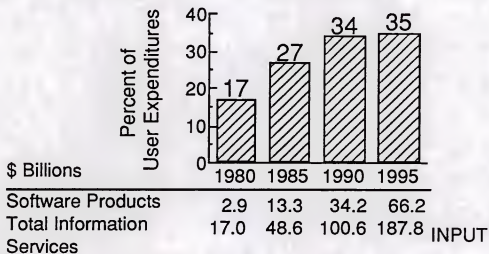


Notes

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153

Software Products Portion of Information Services, 1980-1995



SP-18

Notes

2/9/91

54

22

Software Products Major Trends

- Downsizing—gathering speed
- Graphical user interfaces—windows
- Network integration—interoperability
- UNIX—major vendor momentum
- Reengineering—new focus for *PCASE*

SP-185 132

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Notes

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22

TS

56 TS-1

57 TS-10

58

30a

59

30b

107

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109

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Verlos Verloren

60

CT -35

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TJ

52

Vendor Direction

EOS

~~System Integration plus Systems Operations~~

o Services ~~based~~ based on technology and ~~process~~ execution

- Systems Operation

- Systems Integration

- Business Operations

o Vertical focus - key companies

CT - 36

(61)

10/10/10

10/10/10

10/10/10

10/10/10

10/10/10

10/10/10

10/10/10

10

10

Vanderbilt Computer Associates

- Slow down in acquisitions
- CA90s - framework ^{for development} ~~for ~~CA~~~~
- Major emphasis on UNIX

CT-37

(62)

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62

Vendor Directions

Microsoft

- Windows vs OS/2
- Attention to UNIX
- Professional Services offerings
- ~~◦ Antitrust~~
- Alliances beyond IBM
- Focus on LANs

CT-38

63

1945

1946

1947

1948

1949

1950

1951

23

Vendor Direction

Reverse Consulting

- Service based on Technology
 - System Integration
 - Application Management
 - System Operation
- Software Focus - COTS plus applications

CT-39

(64)

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Conclusions

MS-18

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Notes

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Impact of Economic Slowdown (Short-Term)

	Change in Growth Rate
Professional Services	↓
Systems Integration	↓
Systems Operations	↑

INPUT

MF-14

Notes

66

2/4/91

Impact of Economic Slowdown (Short-Term)

	Change in Growth Rate
Processing Services	—
Network Services	—
Software Products	↓
Turnkey Systems	↓

MF-13

INPUT

Notes

67

2/4/91



U.S. IT Industry

Conclusions

- Slower growth in hardware
- Shift to broad based services growth
- ~~• Big hardware growth~~
- Large service vendors grow fastest
- Software Products - ~~shifting leadership~~
turmoil continues

15-40

68

Unit 2 Test 7/13

in class

Monday - 10/10

Unit 2 Test 7/13

in class

Monday - 10/10

Unit 2 Test 7/13

12

89