

4/6

These slides have
been updated in
new (Times)

format:

FPRB 41, 5, 76, 76,

83a, 83b, 86

newly formatted document
has replaced old document.



**CUSTOMER SERVICE
IN THE
UNITED STATES**

Customer Service in the United States

Agenda

9:30-10:00 *Registration*

10:00-12:00 **The Tides of Change in Customer Services**
The Strategic
• Implications
• Opportunities

This presentation identifies the key players, describes the current environment, analyses the actions of IBM and others in the marketplace, and concludes with the overall strategic implications/opportunities, as well as the implications/opportunity for each key player.

12:00-1:00 *Lunch*

1:00-2:30 **The U.S. Customer Service Market**

This presentation defines the U.S. market in categories of large systems, small systems, microcomputers, peripherals, and third-party maintenance. It provides INPUT's projection of each market segment, as well as the methodology and the reasons behind the projections.

2:30-2:45 *Break*

2:45-4:30 **User Requirements versus Service Delivered**

This presentation will provide the results of INPUT's 1988 user research. User requirements for large systems, small systems, and third-party maintenance will be compared with service delivered. Comparisons are made between major vendors on all key areas of service and support.

4:30-5:00 **Questions and Answers**

—INPUT—



Customer Service and Support

H. W. Stigler
Manager, Customer Service Program
INPUT

THE TIDES OF CHANGE IN CUSTOMER SERVICES

The Strategic

- Implications
- Opportunities

INPUT

AGENDA

- Key Players
- Environment
- IBM's Actions
- Press Clippings
- Strategic Implications Overall
- Key Players Implications/Opportunities
- Overview of 1989 INPUT CSP Program

—INPUT—

ENVIRONMENT

- Technology/Architecture
- Support
- Warranty
- Contract Coverage
- Vendor Services—A Key Asset
- Marketplace
- User Needs vs. Service Delivered

INPUT

THE KEY PLAYERS

- Vendors (Hardware and Software)
 - Product Designers
 - Service Operational Management
 - Business Managers (Service or Product?)
- Dealers/VARs
- TPM (Third-Party Maintenance)
- I/S Users

INPUT

TECHNOLOGY/ARCHITECTURE

- Very High Reliability/Low Failure Rates
- High Speed
- Multivendor Architecture Support
 - Applications
 - Networks
 - Operating Systems
- Sophisticated Network Design and Network Management Tools
- Fewer Field Replaceable Units
- Increased Cost per Replaceable Unit
- Sophisticated Diagnostics
- Less On-Site Skill to Service
- Powerful PCs/Workstations

INPUT

SUPPORT

- Remote Diagnostics
- Remote System Monitoring
- TP Distribution for Software and Microcode
- Problems Data Base
- Parts Logistics
- Problem Management System
- Call Management System
- Expert Systems

INPUT

VENDOR CONTRACT COVERAGE

Large Systems	90+%
Small Systems	60+%
PC/Workstations	20-%

VENDOR WARRANTY COVERAGE

Large Systems

CPU's

1 Year

Peripherals

3 Months-1 Year

Small Systems

3 Months-1 Year

PC's/Workstations

3 Months-1 Year-3 Years-?

INPUT

VENDOR SERVICE—A KEY ASSET

- Significant Revenue Source

	1987 (\$ Millions)	Total IS Revenues (Percent)
IBM	7,691	15.2
DEC	3,087	29.7
UNISYS	2,002	22.9
NCR	1,556	30.7

- Key Ingredient in Cost of Ownership
- Key to Account Control
- Key to Quality Product Support
- History of High Profits

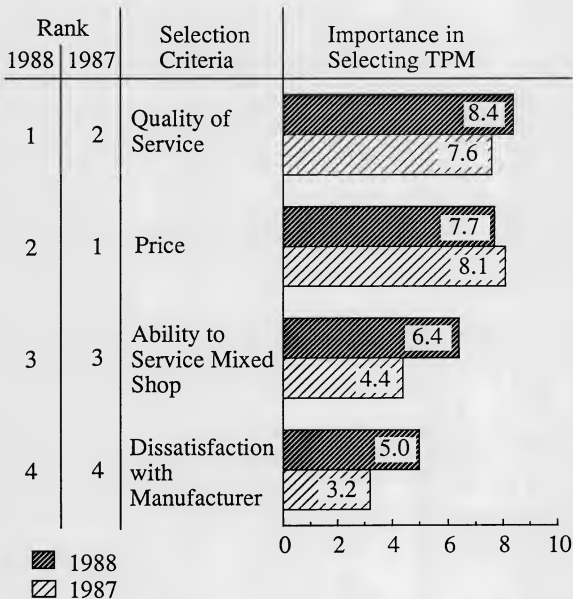
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MARKETPLACE

- Discounting of Hardware Leads to Discounting Service
- Systems Integration Leads to Multivendor Service/Support
- Users Releasing RFPs for Service
- TPMs Very Active
- Sellers to Buyers Market
- Special Bids/Let's Make a Deal!

INPUT

TPM SELECTION CRITERIA

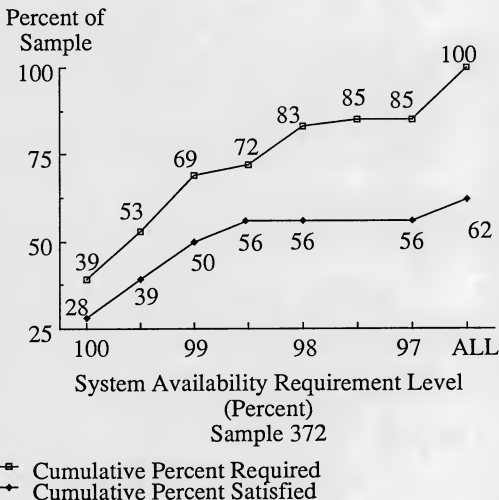


INPUT

USER NEEDS
VS.
SERVICE DELIVERED

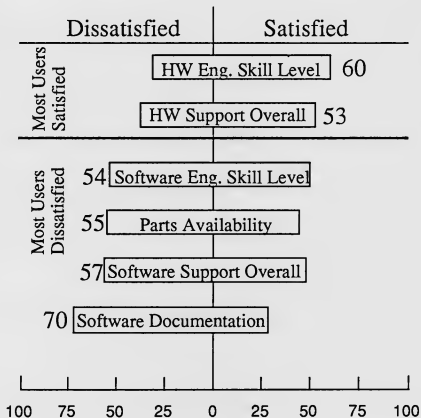
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SYSTEM AVAILABILITY SATISFACTION AT SPECIFIC REQUIREMENT LEVELS LARGE SYSTEMS



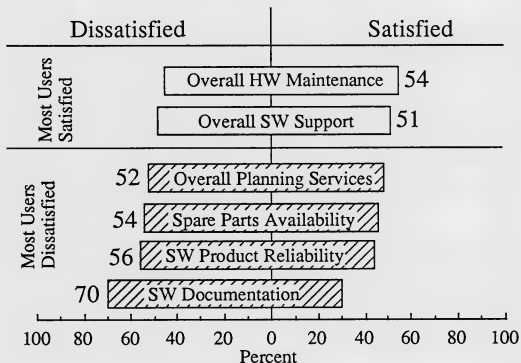
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USER SATISFACTION WITH HIGH-PRIORITY SERVICES LARGE SYSTEMS



INPUT

SMALL SYSTEM USER SATISFACTION WITH KEY SUPPORT SERVICES



INPUT

IBM'S ACTIONS 1986 - 1989

1986

- Corporate Service Amendment Announced
 - Initialization Fee and IBM Assessment
 - Entire Product Line except Copiers and Typewriters
- OEM Support Reinstated
 - Problem Determination
 - Personal Computers
- LPSA Withdrawn (Bundled with Software License)

INPUT

IBM'S ACTIONS 1986 - 1989

1987

- IBM Key Goals Modified
 - IBM/Customer Partnership
 - Year of the Customer
 - Openness
- All Sales Personnel Assigned Maintenance Quotas
 - Marketing Support Moved to Marketing Divisions

IBM'S ACTIONS 1986 - 1989

1987 (continued)

- Offering Changes
 - Enhanced CSA
 - 1-, 3-, 5-Year Options
 - 21 Shifts at N/C
 - Simplified Assessment
 - Reduced Withdrawal Terms
 - 5-Year Discounts from 19% to 45%
 - MRSA
 - 3X, 4300, 9370
 - No Initialization Fee
 - Customer Certifies Using Procedures
 - 3 and 5 Year, 21 Shifts
 - 5-Year Discounts from 17% to 30%
 - Enhanced OEM Support (PC and System Integration)
 - 4-Hour On-Site Response Time
 - 21 Shift Standard M/A
 - Per Call (M-F 7 a.m. to 6 p.m.)
 - 2-Hour Minimum on Every Call
 - Limited OTC Parts Sales/Raised Fees

INPUT

IBM'S ACTIONS 1986 - 1989

1987 (continued)

- HVLC Services
 - ° IOR, IOE, and COE Only
 - ° National Courier Service
- Administrative Consolidations
- Major Non-Field Headcount Reductions
- Midrange Customer Appreciation Program
- New Increased Field Manpower

INPUT

IBM'S ACTIONS 1986 - 1989

1988

- Custom Operational Services Announced
 - Site Planning/Preparation
 - Cabling
 - Relocation
- IBM Buys Pactel's Spectrum Services Division
- A/S 400 Announced
 - Very Low Service Prices
 - Sophisticated Remote Support
- Extended Maintenance Option Announced
 - Prepayment Discount
 - 3-, 4-, 5-Year Term
 - Selected Machine Types

INPUT

IBM'S ACTIONS 1986 - 1989

1988 (continued)

- Technical Services Management
 - Mixed Vendor Support
 - Repair Coordination
 - Maintenance Coordination
 - Service Management
- Telecommunications Services, Network Support
 - Remote Network Management Assistance
 - Mixed Vendor Coordination
 - Advanced Network Monitoring and Diagnostic Tools

INPUT

IBM'S ACTIONS 1986-1989

1989

- Service Plan
 - All Service Offering under One Contract
- Estimated Billing Option
 - Five-Year Contract with One-Year Increments
 - Fixed Price
 - Single Invoice—Monthly, Quarterly, Semiannual, Annual
 - Enterprise, Establishment, or Customer Number
 - Includes non-IBM Devices
- Extended Maintenance Option
 - Extended to All except Usage Products
 - Three-, Four-, and Five-Year Prepayments

INPUT

IBM'S ACTIONS 1986-1989

1989 (continued)

- Design and Contractor Services for Data Centers
 - Turnkey
 - Evaluation, Design, Contractor Services
- Equipment Modification Enhancement
 - Custom-Furnished Parts
 - 308X, System 36, System 38
 - Faster Response Time
- Service Director
 - P/S 2-Mod 80
 - Monitors Log Rec Thresholds
 - Autocalls Support Center
 - Accounts with Over 16 Spindles
- Remarketer Program
 - Customer Orders IBM Service from Remarketer
 - IBM Sells to Remarketer, Who then Sells to Customer

INPUT

IBM ServicePlanSM

ServicePlan Offerings



ServicePlan Offerings Selection Page

International Business Machines Corporation (IBM) is pleased to offer the Customer (you) the ServicePlan Offerings listed below. You may select one or more ServicePlan contract Offerings by initialing the spaces indicated and signing below. IBM will issue a confirming document for each Offering to confirm your selected service coverage. Contracts previously executed and still in effect will continue until expiration or termination, and need not be initialed. The information in parentheses below indicates the current contract version number for each Offering you initial.



Maintenance Services

- IBM MA (MA V3275-02)
- Multiple Vendor Services (MVS V4150-01)



Availability Services

- Network Support (NS V4173-01)



MA Financial Options

- EMO (EMO V4140-01)
- CSA (CSA V3927-03)
- MRSA (MRSA V4035-01)
- VMA (VMA V3777-01)
- CFMS (CFMS V3333-03)



Professional Services

- (Including Customized Operational Services)
- Agreement for IBM Professional Services (PS V4193-00)



Invoicing Options

- Estimated Billing (EB V4116-00)



Information Network Services

- IBM Information Network Agreement (IBM IN V3242-03)

SM Service mark of International Business Machines Corporation.

THE PARTIES ACKNOWLEDGE THAT THEY HAVE READ EACH AGREEMENT AND AMENDMENT DESIGNATED BY YOUR INITIALS, AND INCLUDED HERewith, UNDERSTAND THEM, AND AGREE TO BE BOUND BY THEIR TERMS AND CONDITIONS.

Accepted by:

International Business Machines Corporation
Armonk, New York 10504

Customer Name

By

Authorized Signature

By

Authorized Signature

Name (Type or Print)

Date

Agreement No.:

IBM Branch Office No.:

IBM Branch Office Address:

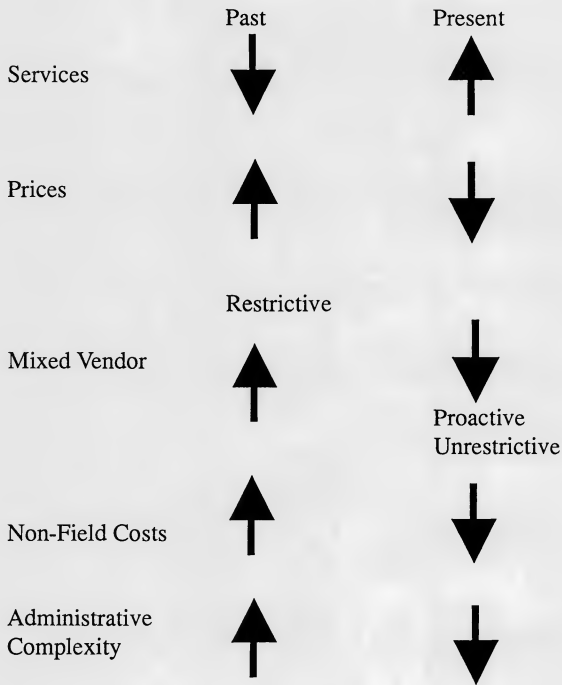
Name (Type or Print)

Date

Customer No.:

Customer Address:

IBM



INPUT

IBM WORLDWIDE

\$ Millions

	<u>1985</u>	<u>1986</u>	<u>1987</u>	1st 9 Months <u>1987</u>	1st 9 Months <u>1988</u>
Maintenance Revenue	6,103	7,413	7,691	5,764	5,507
Maintenance Cost	2,561	3,032	3,417	N/A	N/A
Gross Profit	58.0%	59.1%	55.6%	N/A	N/A

IBM U.S.

\$ Billions

	<u>1986</u>	<u>1987</u>	1988 (Est.)
Maintenance	4.0	3.7	3.2

INPUT

CUSTOMER SUPPORT: HIGHLIGHTS, 1987-88

- 3/87 DEC Extends Warranty to 1 Year on Everything
- 3/87 Harris Enters TPM Market
- 6/87 CDC Responds to CSA
- 7/87 TRW Responds with Service Plus
- 7/87 DSI/DEC Settle Lawsuit—Proprietary Diagnostics
- 8/87 Servcom Targets WANG and Datapoint Users
- 9/87 Intelogic Trace Offers Response Guarantees
- 10/87 Hypoint Sues Hewlett-Packard
- 11/87 Sorbus Enters DEC Market
- 11/87 Decision Data Responds to MRSA
- 1/88 Sorbus Sells MAI-Basic Four Service
Sorbus Layoffs Result
Sell Service to Large National Accounts

CUSTOMER SUPPORT: HIGHLIGHTS, 1987-88 **(Continued)**

- 1/88 CDC Matches 24 Hour/7 Day IBM Offering
Plus More Savings for 8 Hour, 5 Day Services
- 2/88 Prime's 1987 Service Revenue Increases 24% to
\$320 Million
- Digital's 1987 Service Revenue Increases 29% to
\$3.43 Billion
- Data General's 1987 Service Revenue Increases 7%
to \$435 Million
- 4/88 Data Serve Cuts 5% of Work Force
- 5/88 TSSI Terminates 60 Employees, 17% of Work
Force
- 5/88 CDC Offers Software and System Management
Services (ProAct)
- 5/88 Sorbus Announces European Clone of U.S.
Operation

INPUT

CUSTOMER SUPPORT: HIGHLIGHTS, 1987-88

(Continued)

- 5/88 Computerland Steps Up Efforts to Sell Service to Large National Accounts
- 5/88 Hewlett-Packard Service Revenue Grew 20% Over 1987 to \$1,775 Million
- 7/88 DEC Offers New Field Service Product Profiles
- 7/88 Allen-Millard Lawsuit against IBM Dismissed
- 7/88 Grumman Files Antitrust Suit against Data General
- 7/88 Data Gate's Suit Against Hewlett-Packard Dismissed
- 8/88 Intellogic Trace Offers Guaranteed On-Site Response, also 24 Hour, 7 Day per Week Service for Sys 34, 36 Users
- 8/88 TRW to Acquire 3M TPM Business
- 9/88 Data General Offers 5 New Services at 3-, 4-, 5-Year Terms

INPUT

STRATEGIC IMPLICATIONS OVERALL

- Reduced revenue and profit opportunities for base maintenance
 - 1st — Service of IBM products
 - Followed by — Service of all vendors' products
- Total cost of ownership reduced
 - 1st — IBM products
 - Followed by — All vendors' products
- User equity will emerge as a key issue as market changes from seller's to buyer's
- Key objective of hardware, software, and service vendors should be high availability at lowest cost
- Service offerings will broaden to cover everything a customer needs to achieve high availability at lowest cost
- Cost pressures and economies of scale will result in more mergers and acquisitions

INPUT

STRATEGIC IMPLICATIONS—VENDORS' FOCUS ITEMS

Hardware Product Managers

- Account Control

- Total Cost of Ownership (New Products)

- High Availability

- Third-Party Entry

Software Product Managers

- Improved Training, Documentation, On-Site Support

Service Operational Management

- Customers' Total Needs vs. Service Delivered

- Marketing of Service

- Cost of Service

Service Business Managers

- Equity

- Third-Party Entry

- VAR/VAD Support

- Third-Party Support

- Broadened Offerings

 - Multivendor

 - Network Management

 - Ancillary Services

- Reducing Administrative Complexity

INPUT

STRATEGIC IMPLICATIONS—DEALERS/VARS' FOCUS ITEMS

- Profit Opportunity for Service
- Account Control Opportunity
- Press for Maximum Vendor Support
 - Training
 - Documentation
 - Proprietary Diagnostics
 - Use of Support Structure
 - Parts Logistics
- Broaden Offerings to Customers' Total Needs

INPUT

STRATEGIC IMPLICATIONS—TPMs FOCUS ITEMS

- Reduced Margins Will Result in More Mergers/Acquisitions
- Sophisticated Support Will Be Required to Achieve High Availability at Lowest Cost
 - Remote Support
 - Parts Logistics
- Vendor Support Will Decrease, Prices Will Increase
- Key Strengths Will Be Full Multivendor Support and Level of Service
- Price Differential with Vendors Will Decrease

INPUT

STRATEGIC IMPLICATIONS—USERS' FOCUS ITEMS

Differences in System Availability Received

Differences in Support Required/Received

Software Education/Documentation

Problem Management Records

Equity

—INPUT—

Customer Service Program—U.S.

EFFECTIVE PLANNING FOR EFFECTIVE PERFORMANCE

The Customer Service Program—U.S. analyzes and forecasts the computer equipment and software maintenance and support industry. It emphasizes the determination of user needs and vendor performance in meeting these needs.

Through research-based studies and support services the program provides information you need to forecast service requirements, analyze competition, and address the challenges of new technology.

SCOPE

The program provides an overall examination of the computer customer service industry through a major market report, newsletters, and support services. It contains 4 modules, each of which addresses one segment of the industry in detail:

Large Systems
Midrange Systems
PCs/Workstations
Third-Party Maintenance

One module selected by you is part of the basic program: you may select additional modules to complete your program.

"CUSTOMIZED" CUSTOMER SATISFACTION SURVEY

INPUT conducts a customer satisfaction survey for each subscribing company. INPUT surveys up to fifty customers from names you provide. You receive a proprietary report, and the data is incorporated into INPUT's data base.

CUSTOMER SERVICE MARKET REPORT

This major report:

- Presents forecasts of user expenditures for service for each market category
- Examines key customer service issues
- Identifies trends that could help or hinder success
- Pinpoints new opportunities for service revenue
- Recommends specific action to increase revenue

CUSTOMER SERVICE USER REQUIREMENTS REPORTS

Four Customer Service User Requirements Reports are produced: Large Systems, Midrange Systems, PCs/Workstations, and Third-Party Maintenance (TPM). Each report measures the importance of service components and user satisfaction with vendor performance for:

- Equipment maintenance
- Software support
- Professional services
- Education and training services
- Documentation

CUSTOMER SERVICE VENDOR ANALYSIS REPORTS

Four Customer Service Vendor Analysis Reports are produced: Large Systems, Midrange Systems, PCs/Workstations, and TPM. Each report:

- Profiles key service vendors
- Analyzes service discounting, warranty, and pricing practices and trends
- Addresses marketing tactics and strategies
- Examines specific service offerings

CLIENT SUPPORT

Access to INPUT Consultants

Clients receive continuous support from INPUT's consultants and executives. Call them for reactions and opinions.

"Hotline" Inquiry Service

The "Hotline" Inquiry Service provides fulfillment of 'short-term' research needs (requiring less than two hours) as well as clarification/amplification of report and presentation data.

Customer Service Newsletter

Questions posed by our clients through the "Hotline" Inquiry Service along with answers are reported. Current topics in the U.S. and Europe in customer service are analyzed—e.g., new vendor pricing strategies or service offerings.

On-Site Visit

An INPUT consultant presents research results and industry forecasts at your site. Your issues and interests are discussed together with industry trends.

Customer Service Conference

INPUT analyses and forecasts are presented and discussed. Vendor strategies and key industry trends will be presented.

Joint Client Conference

This annual conference enables INPUT's clients to be updated on key strategic industry trends and developments, as well as to meet senior staff from other INPUT clients. Attendance at this conference is available at a reduced fee for full subscribers.

RELATED SERVICES

- Customer Service Program—Europe covers the European equipment and software maintenance and support industry.
- Custom Research and Consulting projects analyze market opportunities, user needs, competitive environment, acquisition targets, etc.
- Consultant Presentations—INPUT's consultants are available to provide presentations for planning meetings, user groups, or other functions.

PROGRAM DESCRIPTION

CUSTOMER SERVICE MARKET REPORT

- Contains Market Forecasts (1989-1994)
- Customer Service Market Categories:
 - Large Systems
 - Midrange Systems
 - PC/Workstations
 - Third-Party Maintenance

LARGE SYSTEMS MODULE

- User Requirements Report
- Vendor Analysis Report

MIDRANGE SYSTEMS MODULE

- User Requirements Report
- Vendor Analysis Report

PCs/WORKSTATIONS MODULE

- User Requirements Report
- Vendor Analysis Report

THIRD-PARTY MAINTENANCE MODULE

- User Requirements Report
- Vendor Analysis Report

CLIENT SUPPORT

- Access to INPUT Consultants
- "Hotline" Inquiry Service
- On-Site Visit
- Customer Service Newsletter
- Customer Service Conference
- Joint Client Conference

H.W. Stigler
Manager, Customer Service Program
INPUT

H.W. (Buddy) Stigler is Manager of INPUT's Customer Service Program research. Mr. Stigler brings to INPUT more than 39 years of experience in a diversified career with IBM. His information services and customer service background is vast. Mr. Stigler has been involved in the installation, maintenance, and software support of systems for most of his career. Additionally, he has considerable experience in competitive analysis, customer satisfaction, customer requirements, and needs evaluation. Mr. Stigler has served as a director of planning, measurements, I/S, staff services, offerings, and special bids. He holds a B.S. in electrical engineering from Mississippi State University and an M.S. from MIT (Sloan Fellow) in industrial management.

U.S. Customer Service Market

INPUT



Service Market Definition

- U.S. Service Market Includes
 - Hardware Maintenance
 - Professional Services
- Software Support Separate
 - Cannot Separate from Software
 - Includes New Versions

INPUT

NOTES:

FPRB-97

Forecast Methodology

- 1987 Base Year
 - Vendor Surveys
 - Annual Reports
 - 10Ks
- 1988 Forecast
 - Vendor Surveys
 - Quarterly Reports

INPUT

NOTES:

FPRB-98

Forecast Methodology

- Product Categories
 - Installed Base
 - Configuration/Pricing Model
- Forecast 1988-1993
 - Expected Product Shipments
 - Technology/Pricing Trends

INPUT

NOTES:

FPRB-99

Market Analysis and Forecast

- Overview/Product Category
- Market Share
- TPM Market
- Fourth-Party Maintenance
- Professional Service
- Software Support

INPUT

NOTES:

FPRB-75

U.S. Service Market* 1988-1993

Product	User Expenditures		
	1988 (\$B)	1993 (\$B)	88-93 AAGR (Percent)
Large Systems	1.2	1.4	4
Small Systems	3.6	5.1	7
Micro/Workstations	1.1	1.7	10
Peripherals	6.6	8.9	6
Total	12.6	17.1	6

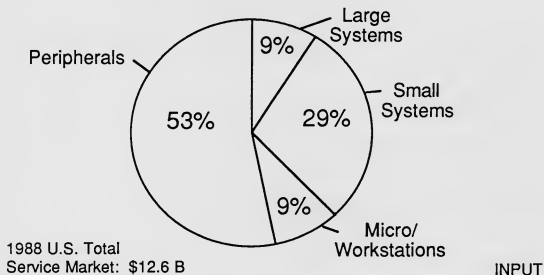
*Does not include software support

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NOTES:

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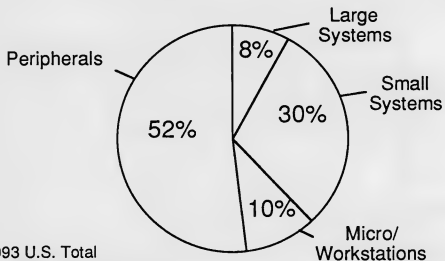
1988 U.S. Customer Service Market



NOTES:

FPRB-77

1993 U.S. Customer Service Market



1993 U.S. Total
Service Market: \$17.1 B

INPUT

NOTES:

FPRB-78

Top Eight Large System* Service Vendors By Market Share

Rank	Company	87 Revs (\$M)	Market Share (Percent)
1	IBM	1900	63
2	Unisys	410	14
3	CDC	156	6
4	Amdahl	125	4

*Includes Associated Peripheral Service Revenue

INPUT

NOTES:

FPRB-79

Top Eight Large System* Service Vendors By Market Share

Rank	Company	87 Revs (\$M)	Market ** Share (%)
5	Honeywell-Bull	120	4
6	NAS	116	3
7	Cray	100	3
8	NCR	75	2

* Includes Associated Peripheral Service Revenue

** Manufacturer-Supplied Market

INPUT

NOTES:

FPRB-80

Top Ten Small System* Service Vendors By Market Share

Rank	Company	87 Revs (\$M)	Market Share (Percent)
1	DEC	1,698	23
2	IBM	1,600	21
3	NCR	900	12
4	Unisys	501	7
5	HP	424	6

*Includes Associated Peripheral Service Revenue

INPUT

NOTES:

FPRB-81

Top Ten Small System* Service Vendors By Market Share

Rank	Company	87 Revs (\$M)	Market ** Share (%)
6	Data General	261	3
7	Wang	255	3
8	Prime	190	3
9	Honeywell-Bull	160	2
10	AT&T	150	2

* Includes Associated Peripheral Service Revenue

** Manufacturer-Supplied Market

INPUT

NOTES:

FPRB-82

U.S. TPM Market, 1988-1993

Product	User Expenditures		
	1988 (\$M)	1993 (\$M)	88-93 AAGR (Percent)
Large Systems	100	110	2
Small Systems	370	490	6
Micro/Workstations	580	850	8

INPUT

NOTES:

FPRB-83a

U.S. TPM Market, 1988-1993

Product	User Expenditures		
	1988 (\$M)	1993 (\$M)	88-93 AAGR (Percent)
Peripherals	530	640	4
Telecom	150	220	8
Total	1730	2310	6

INPUT

NOTES:

FPRB-83b

Top Ten TPMs by Market Share

Rank	Company	87 Revs (\$M)	Market Share (%)
1	TRW	255	15
2	Sorbus	220	13
3	GE	198	12
4	Intellogic Trace	134	8
5	CDC	100	6

INPUT

NOTES:

FPRB-84

Top Ten TPMs by Market Share

Rank	Company	87 Revs (\$M)	Market Share (%)
6	Servcom	79	5
7	Decision Data	70	4
8	Dataserv	67	4
9	Unisys	45	3
10	Grumman	40	2

INPUT

NOTES:

FPRB-85

Fourth-Party Maintenance Market

Service	User Expenditures		
	1988 (\$M)	1993 (\$M)	88-93 CAGR (Percent)
Refurb	40	90	17
Refeature	10	50	29
Recondition	160	370	19
Total	210	510	21

INPUT

NOTES:

FPRB-86

U.S. Professional Service Market—1988-1993

Product	User Expenditures		
	1988 (\$M)	1993 (\$M)	88-93 CAGR (Percent)
Large	350	900	21
Small	400	1050	21
Total	750	1950	21

INPUT

NOTES:

FPRB-87

U.S. Software Support Market*

1988-1993

Software	User Expenditures		
	1988 (\$B)	1993 (\$B)	88-93 CAGR (Percent)
Applications	2.2	5.9	22
Systems	2.4	6.2	21
All Software**	4.6	12.1	21

* Includes new versions

** Software support is not included
in U.S. customer service market

INPUT

NOTES:

FPRB-88

User Requirements
vs.
Service Delivered

INPUT



Service Contract Coverage All Large-Systems

Contract Component	Sample Responding (Percent)	
	1987	1988
• Days of coverage		
- Monday – Friday	55	46
- Monday – Saturday	7	2
- Monday – Sunday	38	52

INPUT

NOTES:

FPRB-23a

Service Contract Coverage All Large-Systems

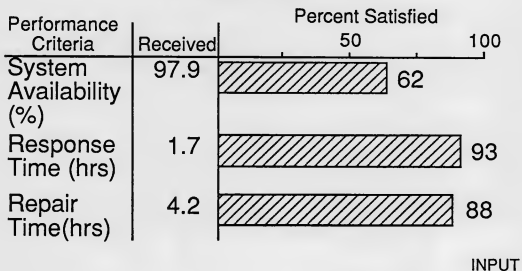
Contract Component	Sample Responding (Percent)	
	1987	1988
• Hours of coverage		
- 1 to 9 hours	39	34
- 10 to 16 hours	21	11
- 17 to 24 hours	40	55

INPUT

NOTES:

FPRB-23b

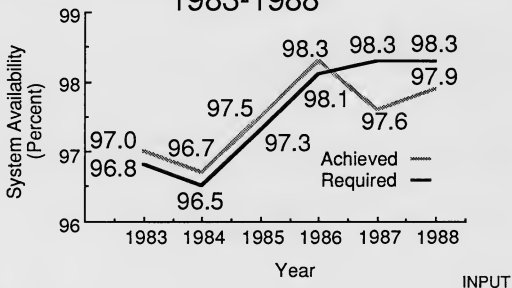
System Availability Analysis All Large Systems



NOTES:

FPRB-24

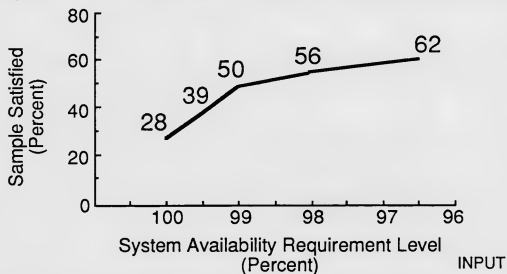
Large Systems System Availability 1983-1988



NOTES:

FPRB-25

System Availability Satisfaction by Requirement Level—All Large Systems



NOTES:

FPRB-26

System Interruption Analysis—All Large Systems

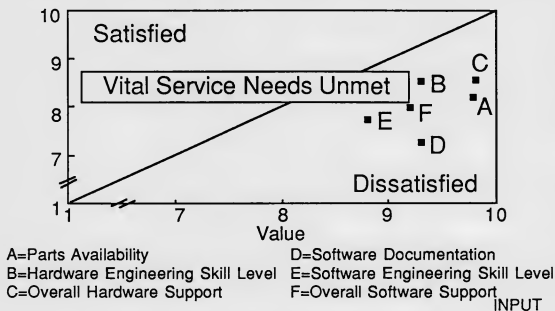
• Systems Interruptions (per month)	1.6
	Percent
- Hardware caused	49
- System Software caused	21
- Application Software caused	11
- Other caused	19

INPUT

NOTES:

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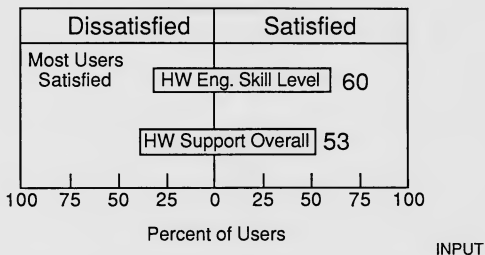
Large-Systems User Needs Still Unmet



NOTES:

FPRB-28

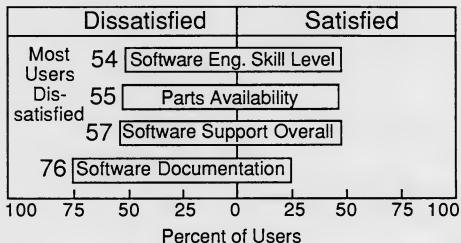
Large System User Satisfaction with High-Priority Services



NOTES:

FPRB-29a

Large System User Satisfaction with High-Priority Services

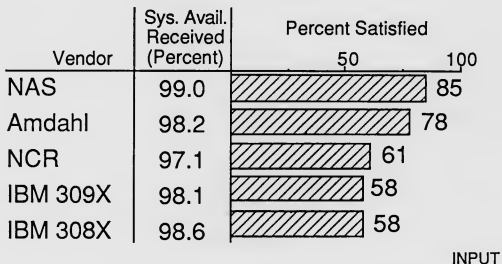


INPUT

NOTES:

FPRB-29b

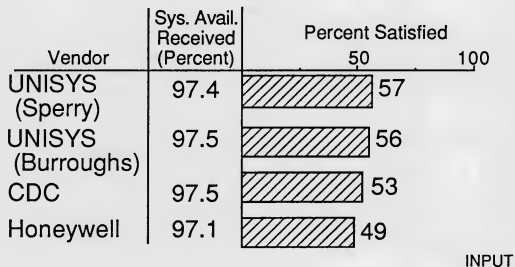
Systems Availability Performance— Large Systems



NOTES:

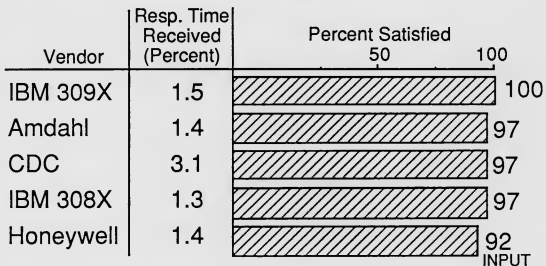
FPRB-31

Systems Availability Performance— Large Systems



NOTES:

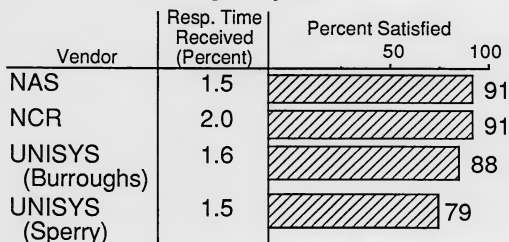
Response Time Performance— Large Systems



NOTES:

FPRB-33

Response Time Performance— Large Systems



INPUT

NOTES:

FPRB-34

User Surveys

Small Systems

INPUT

NOTES:

FPRB-37

Service Contract Coverage All Small Systems

Contract Component	Sample Responding (Percent)
Days of Coverage	
Monday – Friday	66
Monday – Saturday	4
Monday – Sunday	30

INPUT

NOTES:

FPRB-38a

Service Contract Coverage All Small Systems

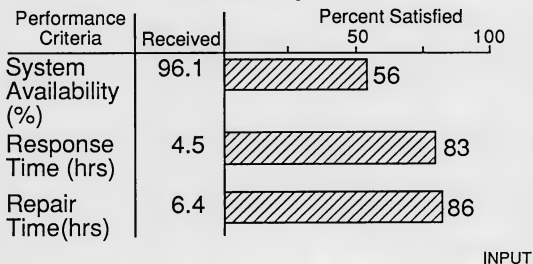
Contract Component	Sample Responding (Percent)
Hours of Coverage	
1-9 Hours	54
10-16 Hours	14
17-24 Hours	32

INPUT

NOTES:

FPRB-38b

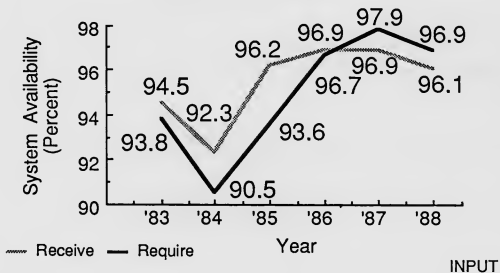
System Availability Analysis All Small Systems



NOTES:

FPRB-39

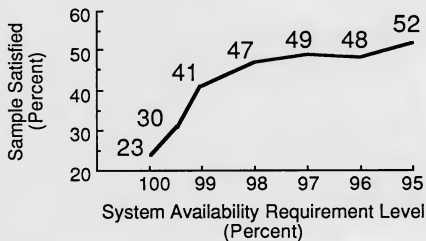
Small Systems System Availability 1983-1988



NOTES:

FPRB-40

System Availability Satisfaction by Required Level All Small Systems



INPUT

NOTES:

FPRB-41

System Interruption Analysis All Small Systems

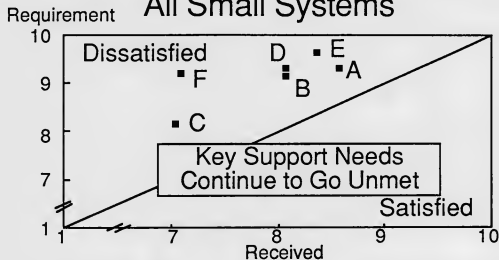
System Interruptions (per Month)	1.2
	Percent
Hardware Caused	56
System Software Caused	15
Applications Software Caused	8
Other Caused (i.e., user-caused)	21

INPUT

NOTES:

FPRB-42

Key Service Requirements vs. Received All Small Systems



A=Overall HW Maintenance
B=Overall SW Support
C=Overall Planning Services

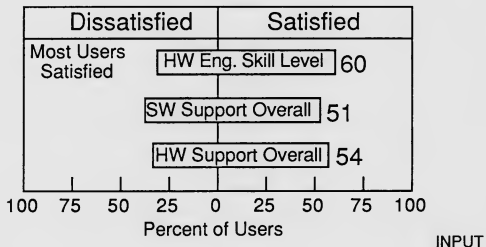
D=Spare Parts Availability
E=SW Product Reliability
F=SW Documentation

INPUT

NOTES:

FPRB-43

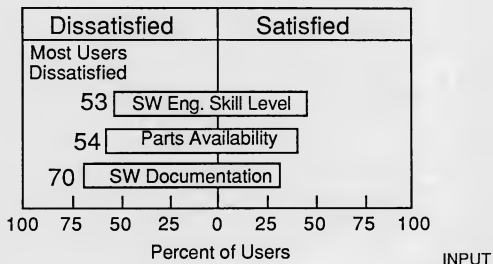
Small System User Satisfaction with High-Priority Services



NOTES:

FPRB-44a

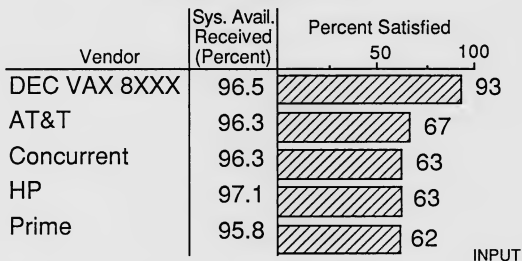
Small System User Satisfaction with High-Priority Services



NOTES:

FPRB-44b

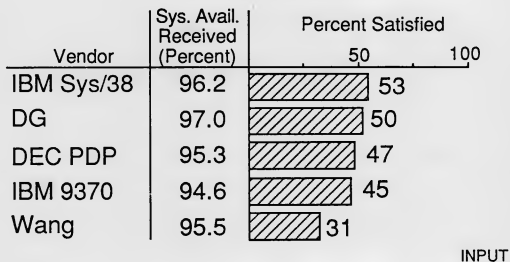
Systems Availability Performance— Small Systems



NOTES:

FPRB-45

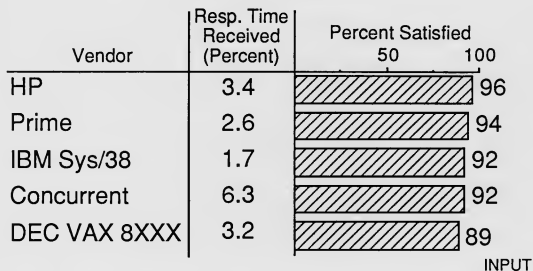
Systems Availability Performance— Small Systems



NOTES:

FPRB-46

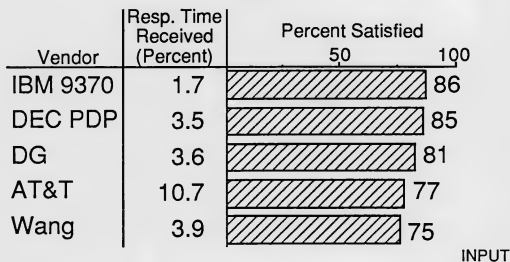
Response Time Performance— Small Systems



NOTES:

FPRB-47

Response Time Performance— Small Systems



NOTES:

FPRB-48

User Surveys

Third-Party Maintenance

INPUT

NOTES:

FPRB-51

TPM Contract Coverage— All Users

Service Coverage	Sample (Percent)
Days of Coverage	
Monday—Friday	71
Monday—Saturday	4
Monday—Sunday	25

INPUT

NOTES:

FPRB-52a

TPM Contract Coverage— All Users

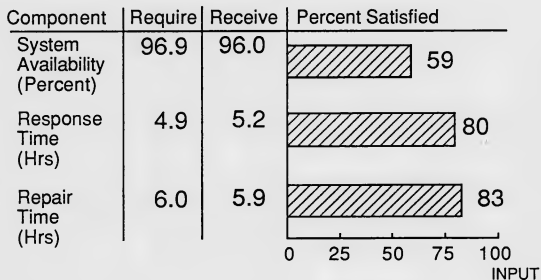
Service Coverage	Sample (Percent)
Hours of Coverage	
1—9 Hours	62
10—16 Hours	9
17—24 Hours	29

INPUT

NOTES:

FPRB-52b

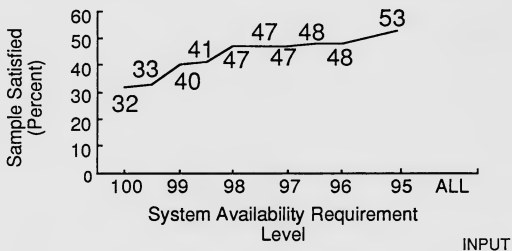
TPM System Availability Analysis— All Users



NOTES:

FPRB-53

TPM System Availability Satisfaction by Requirement Level—All Users



NOTES:

FPRB-54

TPM System Interruption Analysis—All Users

System Interruptions (per Month)	2.0
	Percent
Hardware Caused	57
System Software Caused	14
Applications Software Caused	8
Other (i.e., User Caused)	21

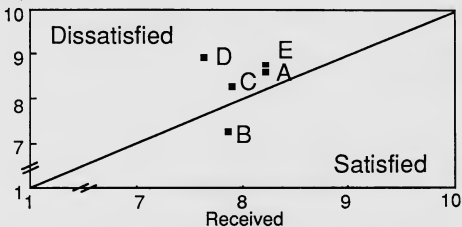
INPUT

NOTES:

FPRB-55

TPM Hardware Maintenance Required vs. Received, All Users

Requirement



A=Hardware Engineer Skill

B=Hardware Phone Support Staff

C=Hardware Dispatch

D=Spare Parts Availability

E=Overall Hardware

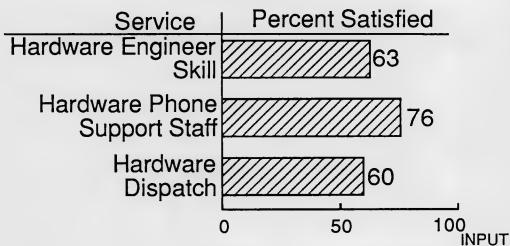
Maintenance

INPUT

NOTES:

FPRB-56

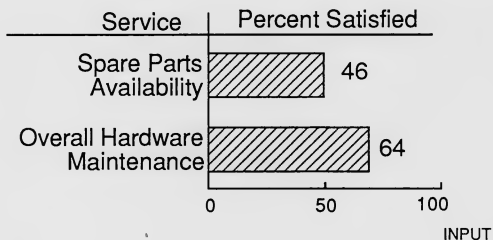
TPM Hardware Maintenance Satisfaction— All Users



NOTES:

FPRB-57a

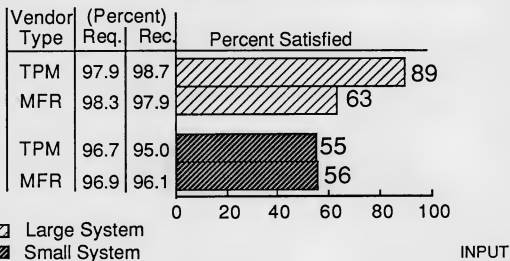
TPM Hardware Maintenance Satisfaction— All Users



NOTES:

FPRB-57b

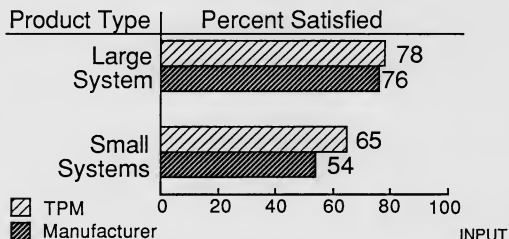
TPM Versus Manufacturer System Availability Performance



NOTES:

FPRB-58

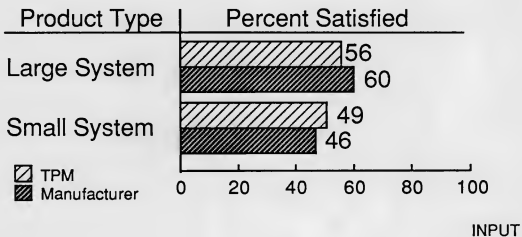
User Satisfaction With Hardware Maintenance— TPM Versus Manufacturer



NOTES:

FPRB-59

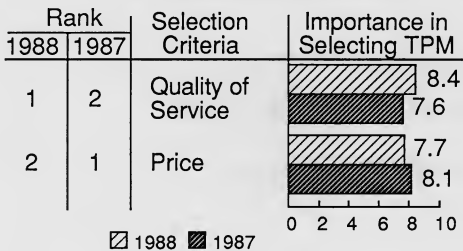
User Satisfaction with Parts Availability TPM Versus Manufacturer



NOTES:

FPRB-60

TPM Selection Criteria

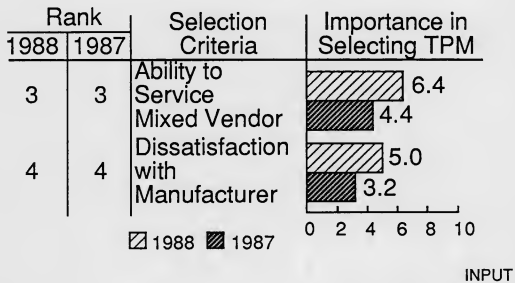


INPUT

NOTES:

FPRB-61a

TPM Selection Criteria



NOTES:

FPRB-61b



User Surveys

- Large Systems
- Small Systems
- Third Party Maintenance

INPUT

NOTES:

FPRB-21



Conclusions

INPUT



Conclusions

- Customer Needs Not Being Met
- System and Network Availability Are Objectives
- Software Documentation and Support Are Key

INPUT

NOTES:

FPRB-90a

Conclusions

- Term and Prepayment Discounts Will Spread
- Selective Discounting Will Increase
- Margins Will Continue to Decline

INPUT

NOTES:

FPRB-90b

Conclusions

- Complexity Issues Will Become a Major Problem
- Role of Channels Will Become More Important
- Vendors Will Harden TPM Policies

INPUT

NOTES:

FPRB-91a

Conclusions

- Mergers and Acquisitions Will Continue
- Customer Equity Will Become a Key Issue
- Service Offerings Will Broaden to Achieve High Availability

INPUT

NOTES:

FPRB-91b