

USER ISSUES AND TRENDS
IN EUROPEAN CUSTOMER SERVICES

1992

INPUT

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Customer Services Programme—Europe
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User Issues and Trends
In European Customer Services, 1992

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Abstract

This study presents a review of trends and issues in user satisfaction with vendor customer services in Europe.

The study provides a summary of data published by INPUT as part of the 1992 Customer Services Europe programme in three reports entitled, User Satisfaction in Europe 1992. These three reports refer to the large, mid-range and PC sectors of the market respectively.

The data presented in this study was collected by INPUT in a survey of computer users in the following countries:

- Austria
- Belgium
- Denmark
- France
- Germany
- Ireland
- Italy
- The Netherlands
- Norway
- Spain
- Sweden
- Switzerland
- The United Kingdom

Trend data presented covers a five-year period from 1988 to 1992; thereby, allowing a comparison of changing user needs with actual service performance.



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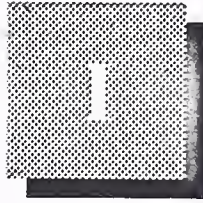
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Introduction

A

Objectives and Scope

This study is aimed at providing data relating to user perception of vendor customer services performance in Europe.

The study has three objectives:

- To provide data indicating trends in user satisfaction with customer services over a five-year period from 1988 to 1992.
- To provide data indicating trends in user perception of system and vendor service performance over a five-year from period 1988 to 1992.
- To provide analysis and identification of trends in key user issues over a five-year period from 1988 to 1992.

B

Methodology

The data presented in this report was compiled from interviews with computer users throughout Europe. Users were chosen at random and interviewed by telephone in their native language. The basis of the interview was a questionnaire relating to some 150 aspects of service and support, which were compiled in discussion with major service vendors. A copy of the 1992 user questionnaire is included as Appendix A.

INPUT's samples in successive years have, wherever possible, consisted of companies that have contributed to the survey in previous years. This gives our samples the characteristics of a continuous panel. This also implements our main design aim, which is to measure changes in user perceptions of customer satisfaction from year to year.

A breakdown of the 1992 user interview sample is provided in Exhibits I-1 and I-2.

EXHIBIT I-1

1992 User Interview Programme User Sample by Country

Country	System Range		
	Large	Mid-Range	Total
Belgium	7	6	13
France	66	36	102
Germany	55	55	110
Italy	28	12	40
Spain	13	28	41
Switzerland	7	5	12
Netherlands	10	10	20
U.K.	38	47	85
Other European Countries	16	3	19
Total	240	202	442

In addition, 60 user organisations responsible for running multiple PCs in stand-alone mode, or in networks, were interviewed as an initial study into this sector of the market.

This study is reported on in the companion report entitled, "User Satisfaction with PCs and Workstations in Europe, 1992".

This year's mid-range category comprises the medium and small systems ranges covered in INPUT's previous reports on user satisfaction in Europe.

EXHIBIT I-2

**1992 User Interview Programme
User Sample by Vendor**

Country	System Range		
	Large	Mid-Range	Total
Amdahl	85	1	86
Bull	3	30	33
Digital	7	34	41
Hewlett Packard	-	23	23
Hitachi	47	6	53
IBM	74	48	122
ICL	7	8	15
NCR	2	3	5
Siemens/Nixdorf	5	13	18
Stratus	-	31	31
Unisys	9	4	13
Other Vendors	1	1	2
Total	240	202	442

C**Structure**

The remaining chapters of this study are structured as follows:

- Chapter II explains the interpretation of the data presented in this study.
- Chapter III is an Executive Overview that summarises the key service trend indicators in Europe and presents the data in a condensed form.
- Chapter IV presents an analysis of trends in key user issues.

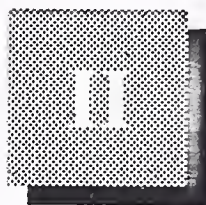
- Chapter V contains an analysis of key service trends in Europe, segmented by systems range.
- Chapter VI presents an analysis of the service performance of the three leading vendors in each system size market segment.
- Appendix A contains the 1992 user questionnaire used for telephone interviews.

D

Related INPUT Reports

Data used in compiling previous years comparative data was sourced from the following reports:

- User Satisfaction with Vendor Customer Services, 1991, which was published in three volumes:
 - Large systems
 - Medium systems
 - Small systems
- *Customer Services in Europe, 1990 Annual Report*
- *Customer Services in Europe, 1989 Annual Report*
- *Customer Services in Europe, 1988 Annual Report*



Interpretation of the Data

A

Definition

- Hardware: any computer system or peripheral system.
- Software: operating systems software, not applications.
- Large system: a system that is considered by the vendor part of that vendor's large system product range, for example, an IBM 309X and 308X, Bull DPS 8, or Digital VAX 8XXX.
- Mid-range system: a system that is considered by the vendor part of that vendor's mid-range system product range, for example, an IBM 43XX and AS/400, Bull DPS 7, or Digital VAX 6XXX.

B

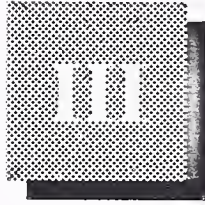
Ratings and Satisfaction Index

In this study, ratings for importance and satisfaction are on a scale of 0 to 10 where:

- Importance
 - 0 = of no importance whatsoever or not applicable
 - 1 = of very low importance
 - 5 = of average importance
 - 10 = extremely important
- Satisfaction
 - 0 = not applicable or not experienced
 - 1 = very low satisfaction
 - 5 = average satisfaction
 - 10 = total satisfaction

The satisfaction index throughout this report is based on the difference between the importance and satisfaction ratings for specific aspects of service. The questions concerning importance and satisfaction were asked at the same time and the answers, therefore, reflect the respondent's value judgment at that time.

- Ratings of 10 and 10, or 6 and 6, etc., give a difference value of zero, indicating that the importance needs are fully satisfied.
- Ratings of importance 8 and satisfaction 9 would indicate overfulfilment of the importance needs and would give a satisfaction index of -1. In INPUT's analysis, an overfulfillment of -1 is represented as (1).
- Ratings of importance of 6 and satisfaction 5 indicate underfulfillment of the importance needs and would give a satisfaction index of 1, the degree of fulfillment being related to the magnitude of this difference.
- Satisfaction index can thus be interpreted as follows:
 - (2) = clearly overfulfilled or oversatisfied
 - (1) = overfulfilled or oversatisfied
 - 0 = completely satisfied
 - 1 = concerns and worries
 - 2 = real dissatisfaction
 - 3 = pain level.



Executive Overview

A

Users Signal Marginal Level of Undersatisfaction with Vendor Service

Compared to last year, most of the key service indicators support a relatively little fall in user satisfaction with vendor customer services at the overall European level.

Since 1989, the user surveys indicated improvement in user satisfaction. Nonetheless, if the user survey results for 1992 do not confirm to this trend, then they are not fundamentally different from those of the 1991 survey. Only one series of indicators shows some substantial deterioration: response and repair/fix time performance. Yet the decline in the failure rates continues.

The key service indicators that have been assessed as measures of the improvement in user satisfaction relate to:

- Hardware service
- Systems software support
- System failure rates and system availability
- Vendor responsiveness
- Vendor remedial activities

The key findings that emerge from INPUT's 1992 survey of computer users in Europe are the following:

- User satisfaction indicates a degree of marginal undersatisfaction.
- German users show a significant degree of concern and of real dissatisfaction for most of the key indicators.
- On the other hand, U.K. users express oversatisfaction with customer services on the whole.
- System failure rates show a marked decline over 1991.

B

User Satisfaction Trends, 1988-1992

Exhibit III-1 provides an indication of overall user satisfaction with hardware service and systems software support in 1992. Data provided in this exhibit is the average level of user satisfaction for a number of specific service aspects. For example:

- Hardware service includes:
 - Spares availability
 - Engineer skills
 - Problem escalation
 - Documentation
 - Remote diagnostics

- Systems software support includes:
 - Engineer skills
 - Documentation
 - Software installation
 - Provision of updates
 - Remote diagnostics

One key factor highlighted by Exhibit III-1 is that a high degree of consistency exists between system ranges.

Exhibits III-2 and III-3 indicate trends in user satisfaction with hardware service and systems software support over the five-year period 1988 to 1992. In both exhibits, it is apparent that there was an improvement in user satisfaction in 1990 and 1991 and that there is a small fall in 1992.

EXHIBIT III-1

User Satisfaction in Europe, 1992

Hardware Service			
Systems Range	Importance Rating	Satisfaction Rating	Satisfaction Index
Large Systems	8.0	8.1	(0.1)
Mid-Range Systems	8.0	7.7	0.3

Systems Software Support			
Systems Range	Importance Rating	Satisfaction Rating	Satisfaction Index
Large Systems	8.6	7.9	0.7
Mid-Range Systems	8.6	7.9	0.7

Sample size: Large systems, 240
Mid-Range systems, 202

EXHIBIT III-2

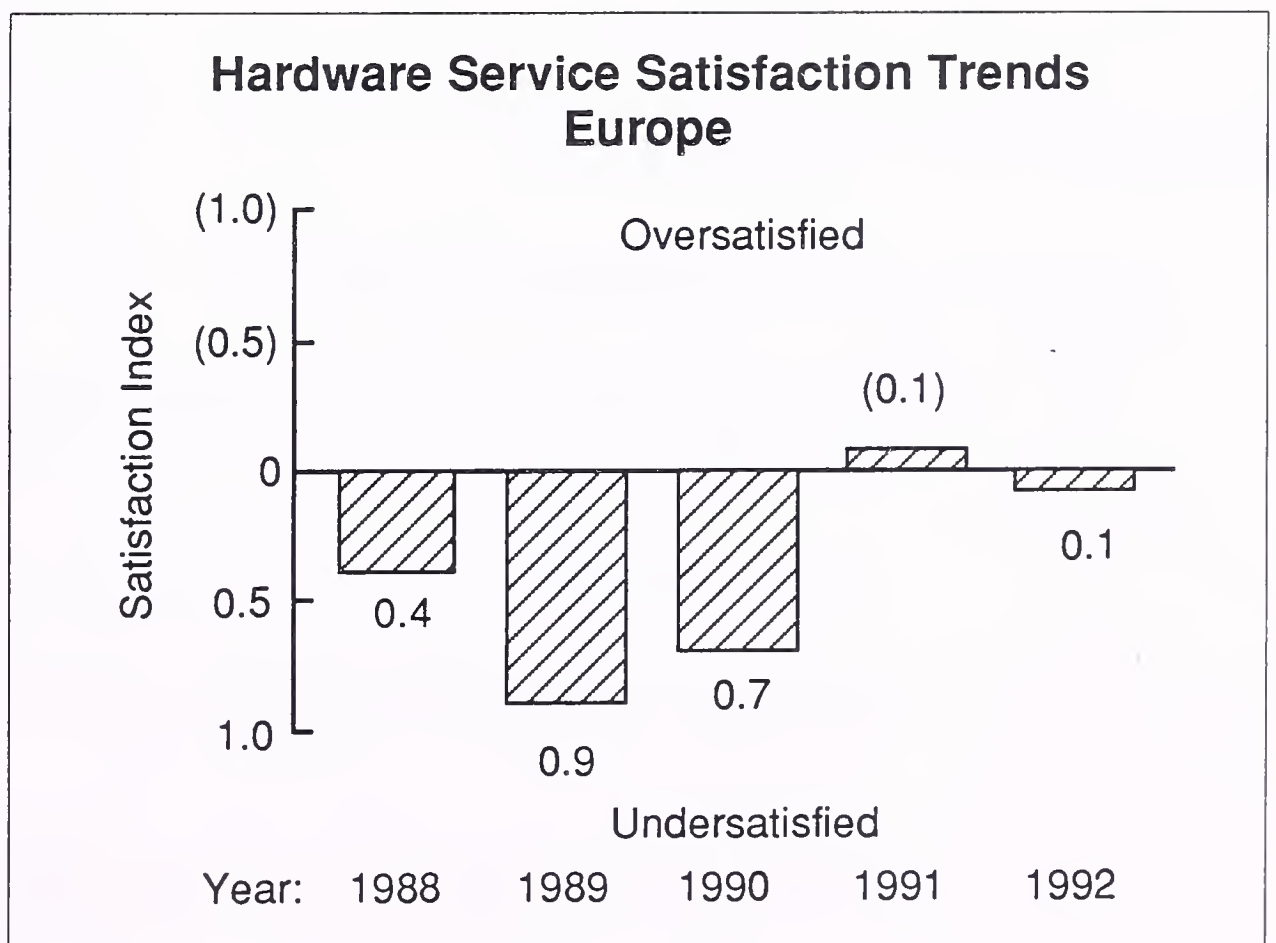
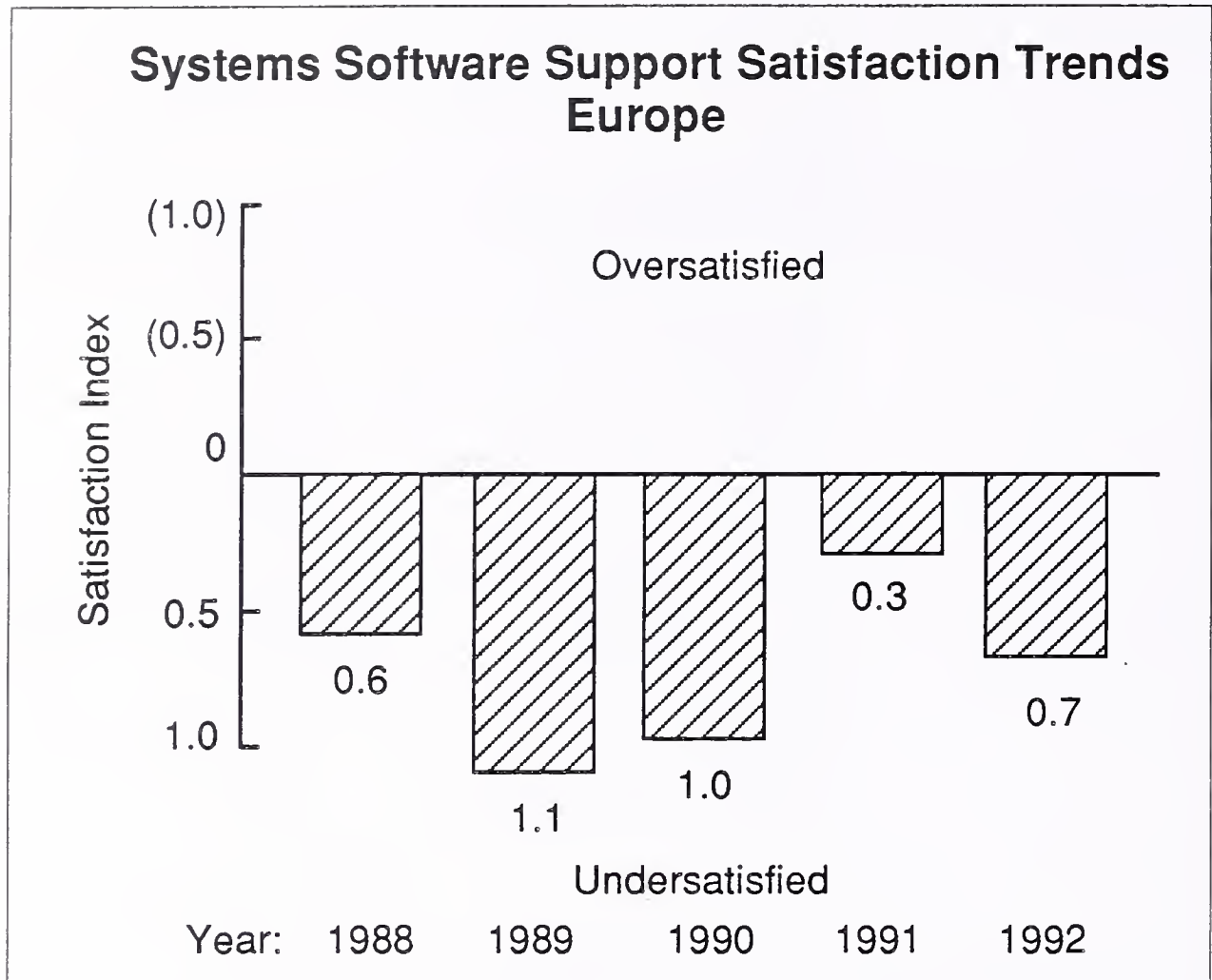


EXHIBIT III-3



C

System Performance Trends, 1988-1992

Exhibit III-4 highlights the trend in user perceived system failure rates over the five-year period 1988 to 1992.

The data provided by Exhibit III-4 is based on user perception of how many times, each year, the computer systems completely fail for a period of one hour or more.

Since 1990, the failure rates have been decreasing significantly.

Trends in user satisfaction with system availability are illustrated by Exhibit III-5. System availability is considered to be one of the most critical aspects of computer system performance.

Since 1989, user satisfaction with systems availability has shown a progressive, rather than dramatic, improvement. At the overall European level, users now indicate an acceptable level of undersatisfaction.

One key factor concerning system performance is that user perceived system failure rates have reduced by 65% between 1989 and 1992.

EXHIBIT III-4

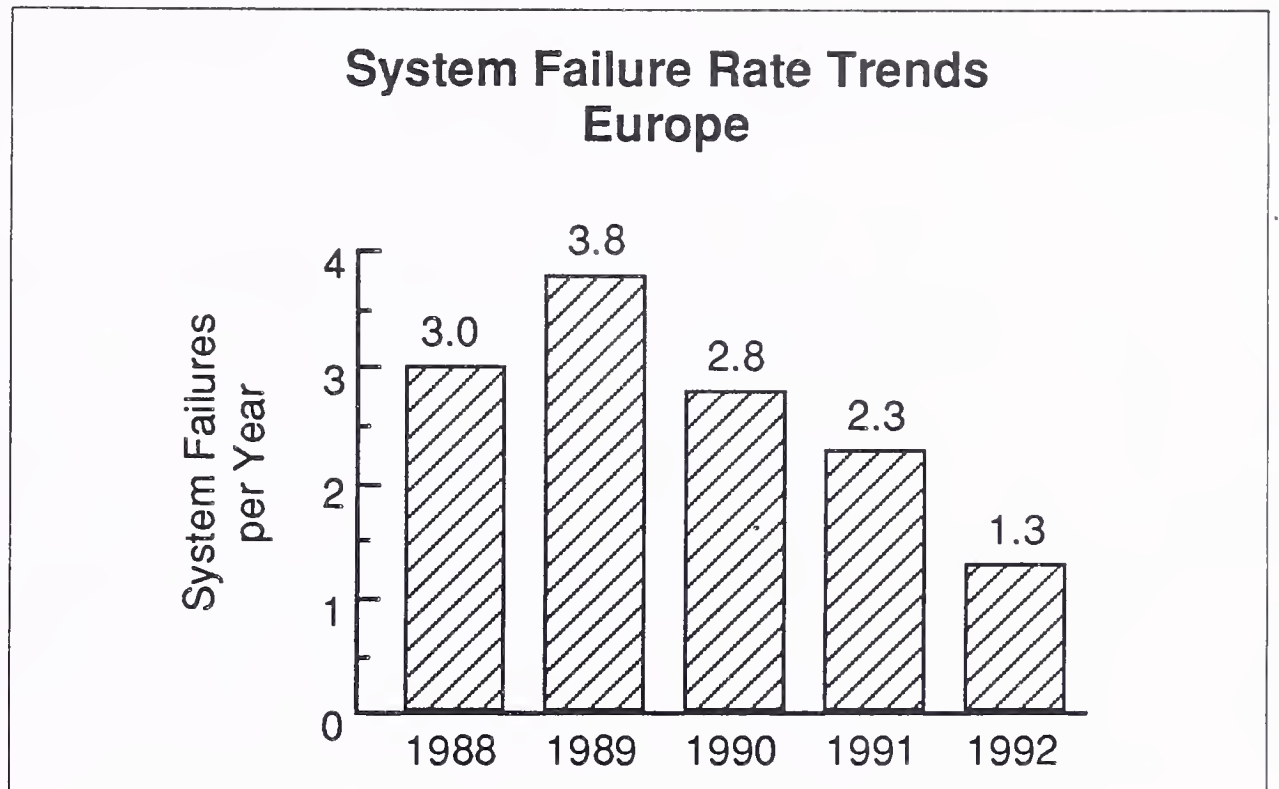
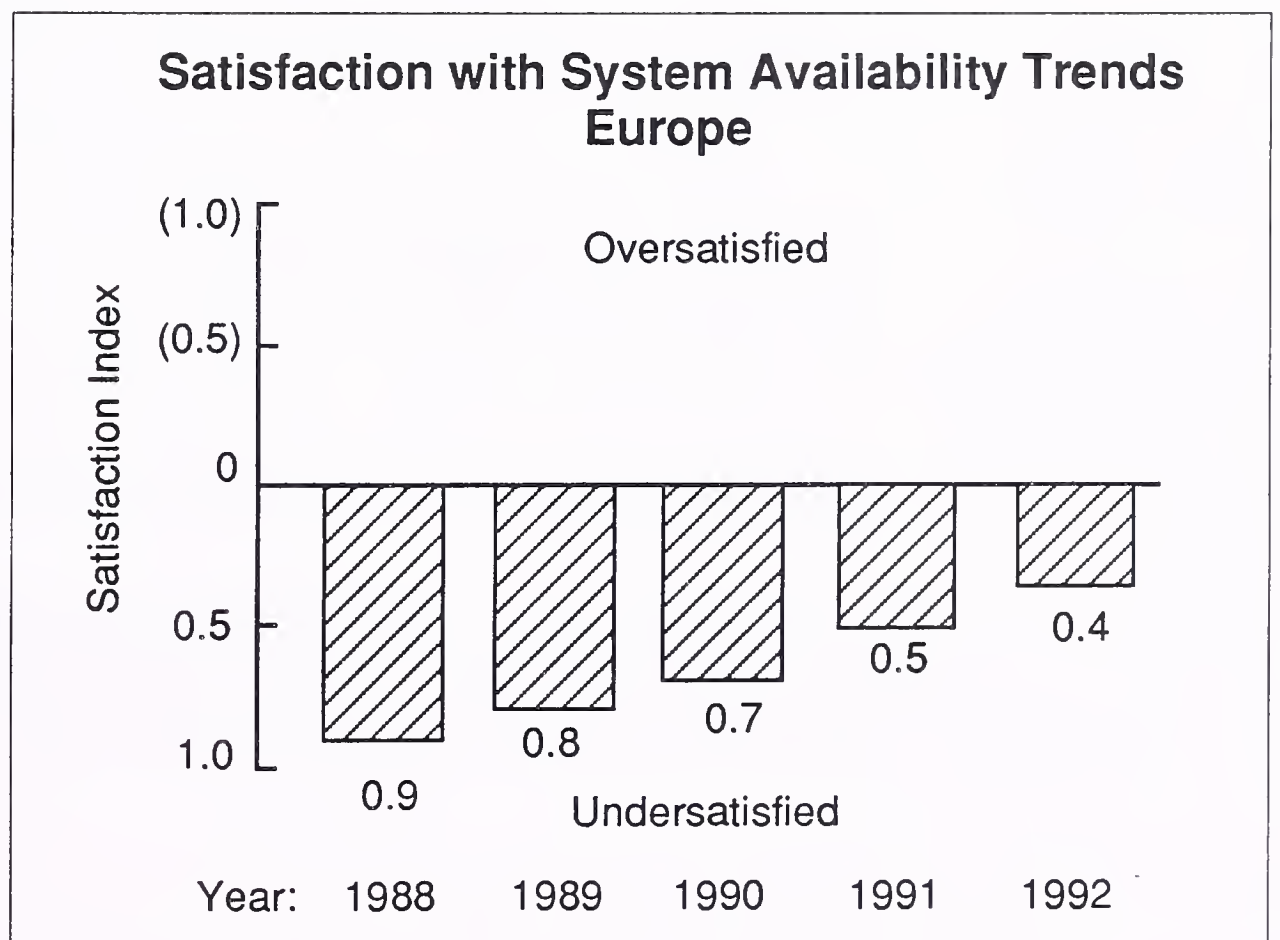


EXHIBIT III-5



D

Service Performance Trends

1. Hardware Service

Exhibit III-6 illustrates trends in user perception of vendor response time performance over the five-year period 1988 to 1992.

Between 1988 and 1990, vendor response time performance was perceived by users as falling short of expectation by an average of about 13%, a marginal but not serious shortfall. In 1991, users claimed that vendor responsiveness had improved at the overall European level to the point in which user requirements are now being oversatisfied. The results of the 1992 survey show that vendor responsiveness falls short of user expectations by 3% only. Coming after a 21% of oversatisfaction, although marginal, this shortfall takes on another meaning: it indicates deterioration.

The calculation carried out to arrive at the data presented in Exhibit III-6 is as follows

$$\left[1 - \frac{\text{Experienced response time}}{\text{Response time expectation}} \right] \times 100\%$$

Trends in user perception of vendor repair time performance are illustrated in Exhibit III-7.

The pattern of trends in vendor repair time performance are similar to those indicated for vendor response time performance. Again, in comparison to the level of 29% of oversatisfaction of user requirements, the shortfall of 15% in 1992 shows a real deterioration.

EXHIBIT III-6

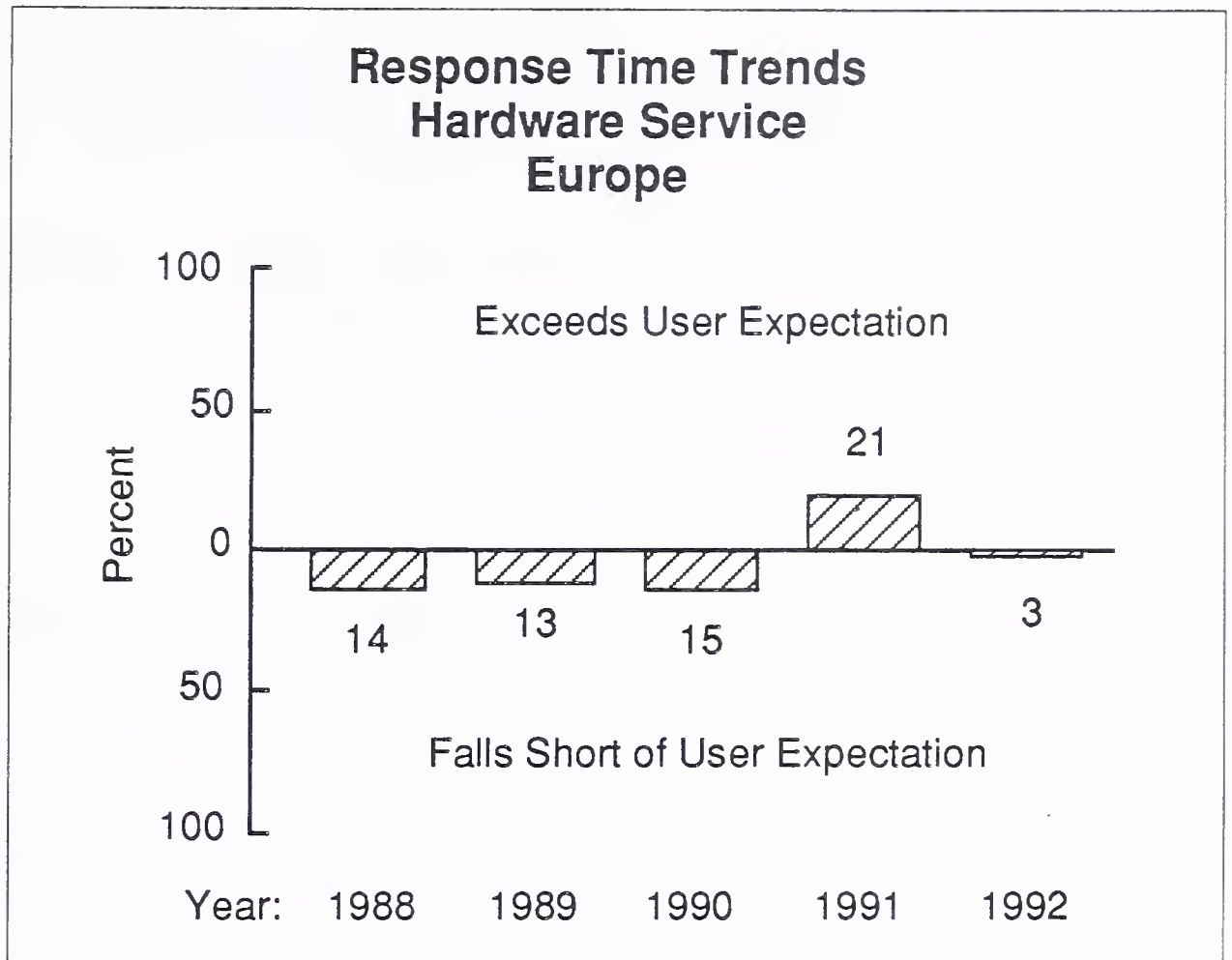
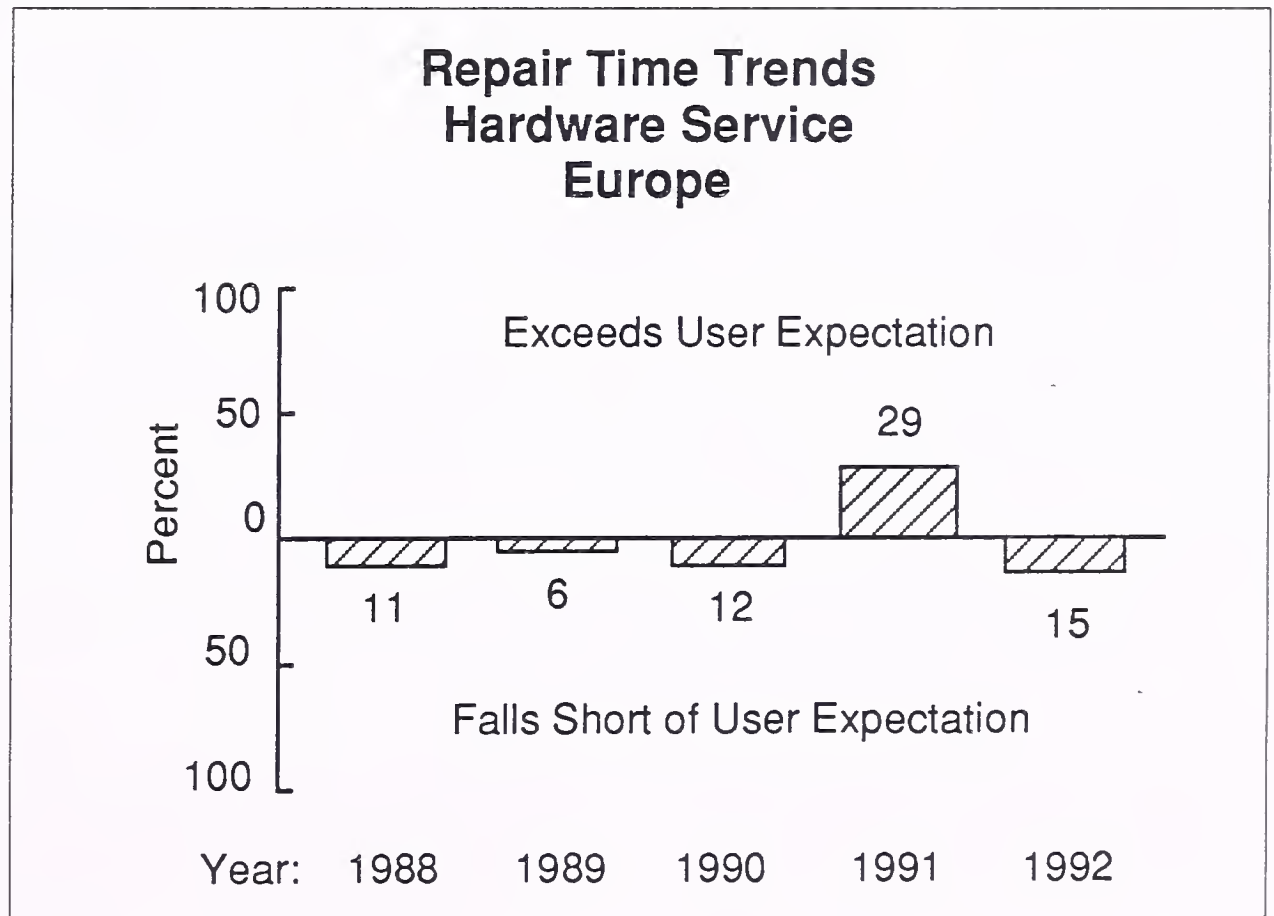


EXHIBIT III-7



2. Systems Software Support

Trends in user perception of vendor systems software support response time performance are illustrated by Exhibit III-8. These trends cover the five-year period 1988 to 1992.

The big gap between the 1991 level of oversatisfaction and the 1992 level of shortfalls of the response time, or of fix time, show serious deterioration in these aspects.

Exhibit III-9 illustrates trends in user perception of vendor systems software "fix" time performance over the period 1988 to 1992.

EXHIBITIII-8

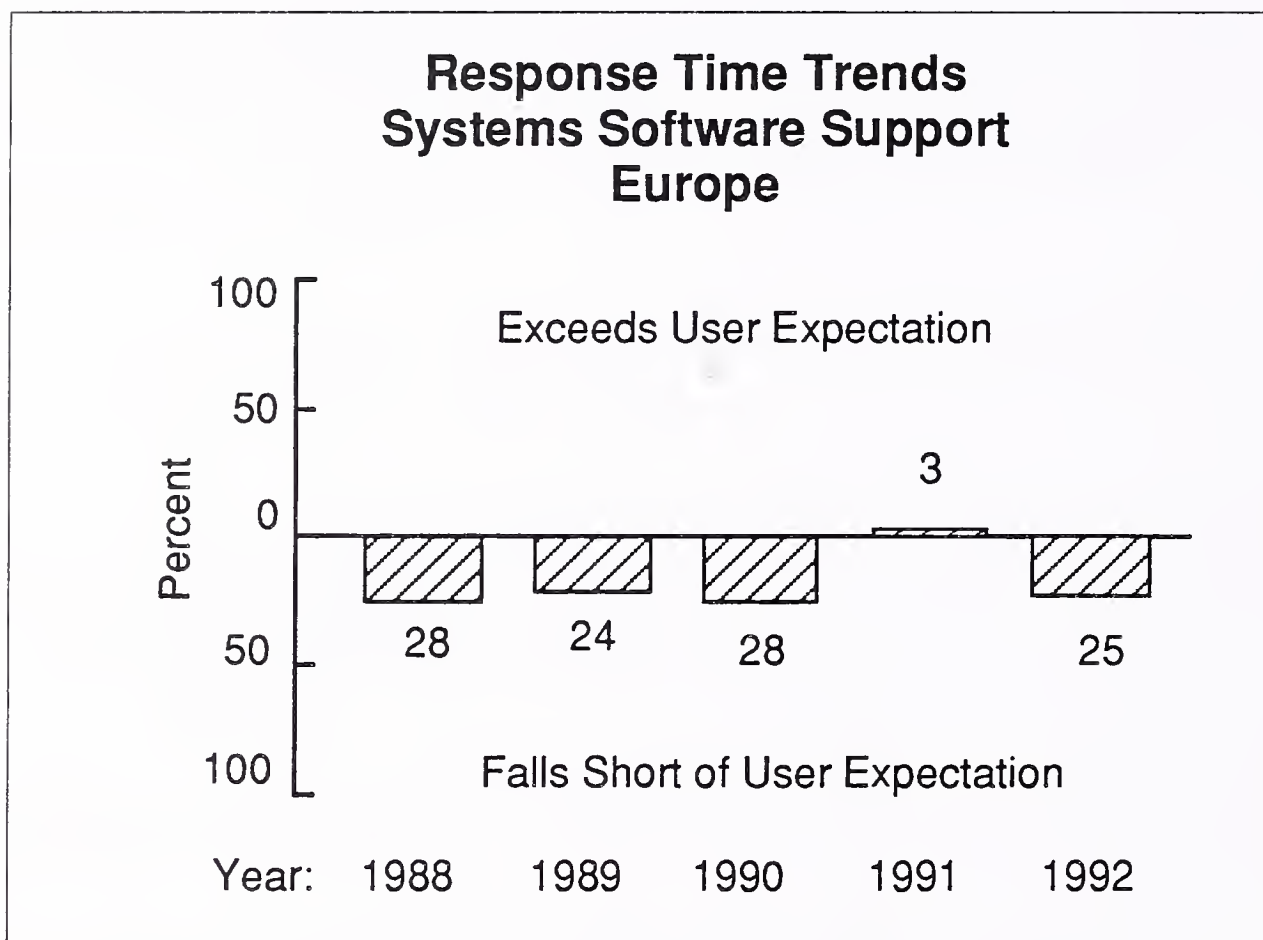


EXHIBIT III-9

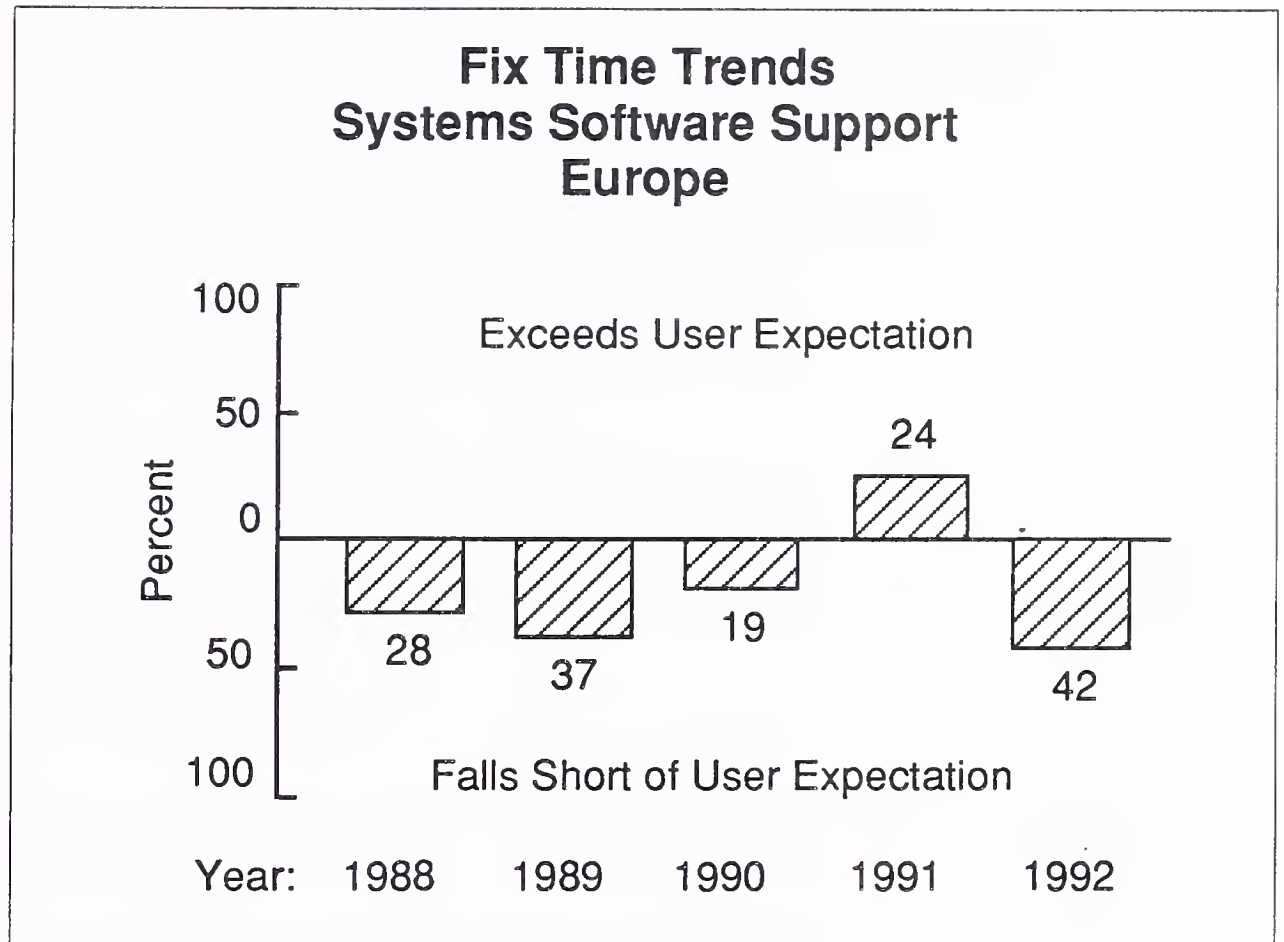
**E****Leading Performers in 1992**

Exhibit III-10 to III-13 list the leading service performers in 1992 based on the size of the sample. The exhibits are sequenced as follows:

- Large systems—hardware services, Exhibit III-10.
- Large systems—systems software support, Exhibit III-11.
- Mid-range systems—hardware service, Exhibit III-12.
- Mid-range systems—systems software support, Exhibit III-13.

These exhibits contain two primary pieces of information:

- Weighted response - refers to the overall average level of user satisfaction achieved across five specific aspects of hardware service or systems software support.
- Quality image - data presented relates to the answer to a single question, "How important is hardware service (or systems software support) to your business and how satisfied are you with your vendors overall performance?"

Previous analysis carried out indicates that:

- User responses to this question tend to relate to measurable service performance factors, rather than an emotional response.
- When answering this question, users responses reflect additional areas of service performance, for example, system failure rates, systems availability and response/repair time performance.
- The quality image questions does not relate only to the performance of accomplished services. They also pertain to those services that could have been bought from the relevant vendors if they were perceived as capable of meeting novel tasks. They take into consideration their ability to play a consulting role.
- Answers to this question are considered to be a measure of each vendor's overall service quality.

INPUT's interpretation of the vendor service quality image ratings, which reflect a degree of user concern, are as follows:

- Large systems, hardware service:
 - Amdahl has improved its overall ratings by (0.4) in weighted responses and by 0.1 in quality image over 1991, an improvement of 20%. This is a magnificent achievement of Amdahl's management combining as it does a reduction in oversatisfaction at the detailed level with a slight quality image improvement overall.
 - IBM, on the other hand, has not fared so well. The overall quality image figure has improved over 1991's figure by 0.3, but at the detailed level, the weighted response has deteriorated by 0.4. INPUT interprets this discrepancy to be caused by an increasingly educated user base that subconsciously uses a greater number of criteria from which to compile their overall reply.
 - Hitachi enters INPUT's ratings for the first time with an oversatisfaction of 1.5 and the best overall quality of the three large system vendors reviewed.
- Large systems, systems software support:
 - Amdahl - The company's detailed level index has worsened by 0.5 since 1991, but the deterioration in the quality image overall has been limited to 0.1, which is within the margin of error of this study.

- IBM - Deterioration of 0.3 in the weighted response at the detail level is matched by a very limited worsening of the overall quality image, again at 0.1, which is well within the accuracy of the measurement.
- Hitachi - An initial entry into INPUT's survey, which is the best of the three at the detail level, and only marginally (0.1 difference) worse than Amdahl at the overall image level.
- Mid-range systems, hardware service:
 - Stratus has this year lowered its oversatisfaction figures of 1991 at detailed and overall levels, i.e., it is closer to hitting the zero level (the ideal). Although the detailed weighted response figure is still negative by 1.0, the overall image figure is as near to zero (at 0.1) as INPUT can measure.
 - Digital's ratings have worsened since 1991.
 - Bull has a very creditable weighted response figure, but still needs to bring its quality image into line with the best.
- Mid-range systems, systems software support:
 - Digital - A worsening performance over 1991 on both levels.
 - Stratus - Trying to cut down on its oversatisfaction levels of 1991, the company has unfortunately "moved into the red" on its overall quality image index. Both figures have worsened by 0.7.
 - Both of Bull's figures give cause for concern.

EXHIBIT III-10

Leading Vendors in Europe, Large Systems—Hardware Service		
	Satisfaction Index	
Vendor	Weighted Response	Quality Image
Amdahl	(0.1)	0.4
IBM	0.7	0.8
Hitachi	(1.5)	0.1

EXHIBIT III-11

**Leading Vendors in Europe,
Large Systems—Systems Software Support**

Vendor	Satisfaction Index	
	Weighted Response	Quality Image
Amdahl	0.5	1.1
IBM	1.0	1.5
Hitachi	0.3	1.2

EXHIBIT III-12

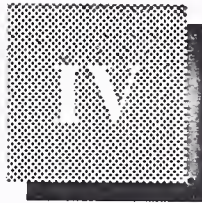
**Leading Vendors in Europe,
Mid-Range Systems—Hardware Service**

Vendor	Satisfaction Index	
	Weighted Response	Quality Image
Stratus	(1.0)	0.1
Bull	0.1	1.1
Digital	0.6	1.2

EXHIBIT III-13

**Leading Vendors in Europe,
Mid-Range Systems—Systems Software Support**

Vendor	Satisfaction Index	
	Weighted Response	Quality Image
Stratus	(0.1)	0.5
Digital	0.4	1.2
Bull	1.4	1.8



Key User Issues

A

Introduction

This chapter of the study provides data outlining trends in key user issues over the period 1988 to 1992, at the overall European level.

As a consequence of relatively significant improvements in user satisfaction with vendor service, at the overall European level, many specific areas of previous user concern had been eliminated by 1991. However, 1992 has seen this trend reverse and key indices have worsened during the year.

User concern is defined as the level at which the satisfaction index reaches a value between 1.0 and 1.9. Real dissatisfaction is defined as the point in which the satisfaction index exceeds a value of 1.9.

B

Spares Availability

Trends in user satisfaction with spares availability are illustrated by Exhibit IV-1. This exhibit covers the time period 1988 to 1992 and the data relates to the overall European level of user satisfaction.

After 1989, the level of user satisfaction indicates a progressive improvement. In 1991, it was showing a marginal level of undersatisfaction. Analysis of the results of the 1992 survey indicates that this is still the case. However, this undersatisfaction has increased by 0.3 in the index and this swing in the trend must be depressing reading for users and vendors alike.

More detailed data relating to user satisfaction with spares availability is provided by Exhibits IV-2 and IV-3.

Exhibit IV-2 indicates that there is a higher level of user dissatisfaction with this aspect of service in the mid-range size system sector of the 1992 user sample than in the large system sector. However, the data presented by Exhibit IV-2 relates to the total sample for Europe and does not yet expose any differences that exist within individual country markets.

Differences in user satisfaction with spares availability between the four largest country markets in Europe are highlighted by Exhibit IV-3. This exhibit indicates the following country market characteristics:

- At the system size level, user satisfaction is less consistent in each set of country market data than it was in 1991 with mid-range systems, showing poorer performance than large systems.
- User satisfaction in Germany suggests a pain level of dissatisfaction for large systems and for mid-range systems.
- Users in the United Kingdom indicate that their needs for spares availability are being largely oversatisfied for large systems and more than fully satisfied for mid-range systems.
- Users in France express marginal, but significant undersatisfaction with vendor performance in the availability of spares.
- In Italy, users of large systems indicate marginal undersatisfaction, with a 0.6 rating, which is a slight improvement from 1991.

EXHIBIT IV-1

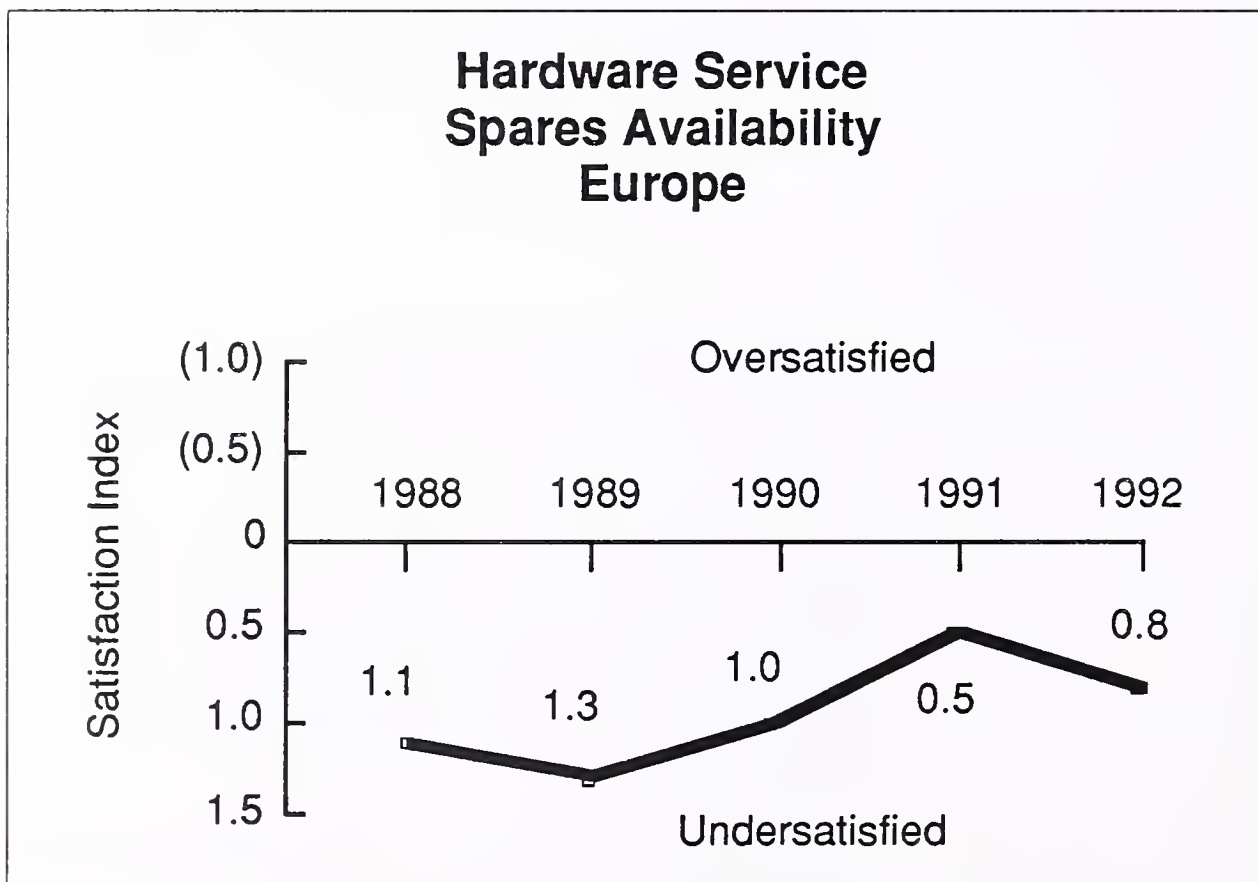


EXHIBIT IV-2

**User Satisfaction in Europe 1992
Hardware Service—Spares Availability**

System Range	Importance Rating	Satisfaction Rating	Satisfaction Index
Large Systems	8.9	8.2	0.7
Mid-Range Systems	8.7	7.6	1.1

Sample sizes 1992: Large systems -240

Mid-Range systems -202

EXHIBIT IV-3

**Country Market User Satisfaction 1992,
Hardware Service—Spares Availability**

Country Market	Satisfaction Index	
	Large Systems	Mid-Range Systems
France	0.8	0.8
Germany	2.9	3.4
United Kingdom	(1.0)	(0.5)
Italy	0.6	Note 1

Sample sizes 1992: France - 102

Germany - 110

United Kingdom - 85

Italy - 28

Note 1: Insufficient sample for analysis

C

Systems Software Support Engineer Skills

Exhibit IV-4 illustrates trends in user satisfaction with systems software support engineer skills at the overall European level over the five-year period 1988 to 1992.

The years 1990 and 1991 showed improvement in user satisfaction with a marginal level of undersatisfaction. This survey indicates concern. Compared to 1991, it is a significant fall of 0.5 in the index reaching again the minimum of the time series curve previously touched-in 1989.

Data subdividing the total 1992 survey results by system size is presented in Exhibit IV-5. It shows that large and mid-range systems users express concern with systems software support engineer skills.

A decline in the index since 1991 is recorded for both system ranges, but the fall (of 0.6) is greater for the mid-range systems.

Exhibit IV-6 subdivides the total 1992 survey results to indicate user satisfaction with systems software support engineer skills in the four largest country markets in Europe. Data presented in this exhibit reveals a continuing consistency within countries across the different system size groups. It also shows marked differences in user satisfaction between countries. The analysis indicates:

- Large and mid-range systems users in France express a significant degree of concern, and significant deterioration since 1991, especially in mid-range systems.
- German users express real dissatisfaction with systems software support engineer skills, although the large systems index shows a very slight improvement over 1991.
- Users in the U.K. indicate that they are only marginally undersatisfied with this aspect of service. Here, there is no significant decline over 1991.
- Within the Italian market, large systems users indicate a growing level of concern with a 0.4 decline in the index since 1991.

EXHIBIT IV-4

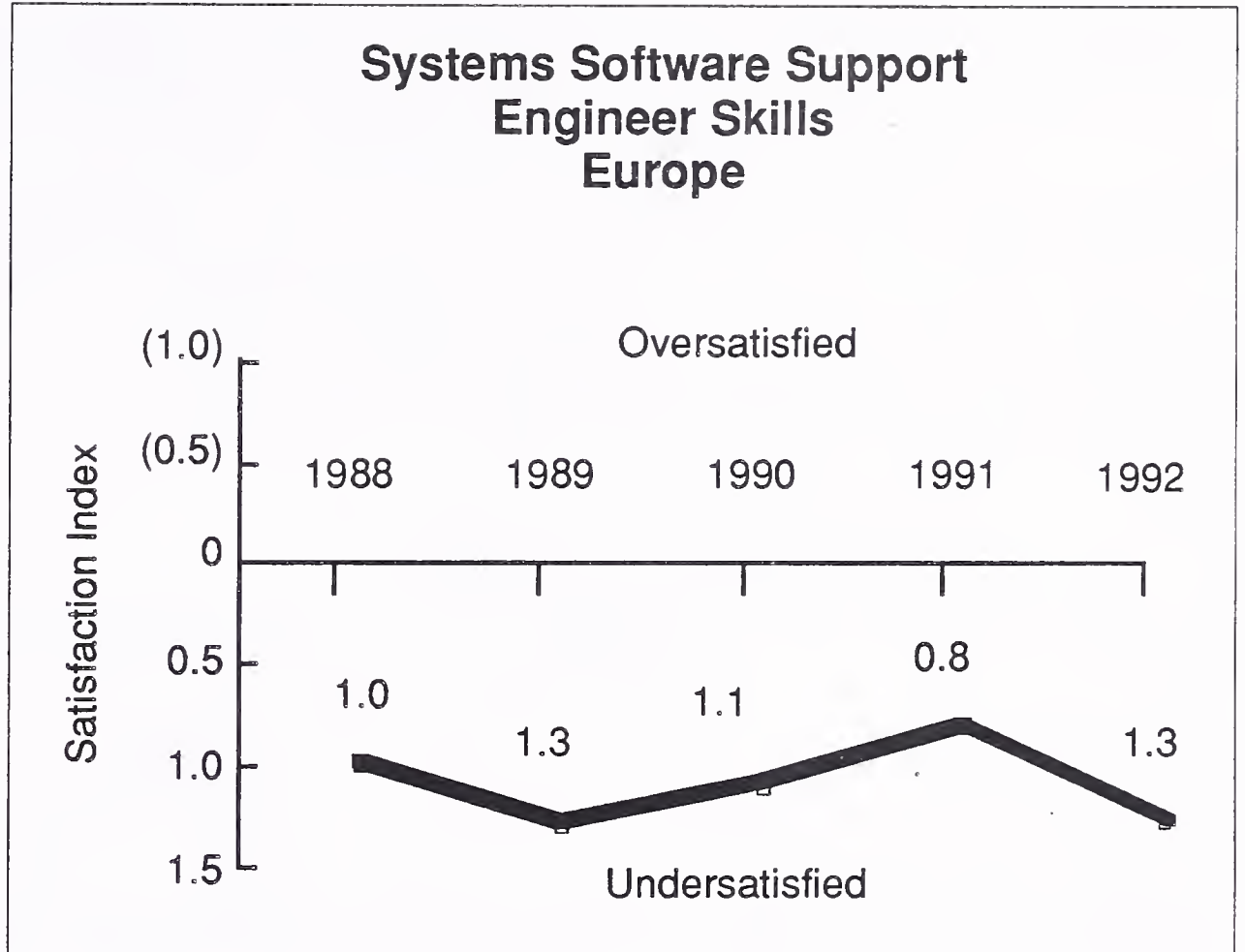


EXHIBIT IV-5

User Satisfaction in Europe 1992 Systems Software Support—Engineer Skills

System Range	Importance Rating	Satisfaction Rating	Satisfaction Index
Large Systems	9.4	8.2	1.2
Mid-Range Systems	9.5	8.1	1.4

Sample sizes 1992: Large systems -240
Mid-Range systems -202

EXHIBIT IV-6

Country Market User Satisfaction 1992 Systems Software Support—Engineer Skills

Country Market	Satisfaction Index	
	Large Systems	Mid-Range Systems
France	1.4	1.6
Germany	2.1	2.6
United Kingdom	0.3	0.2
Italy	1.4	-

Sample sizes 1992: France - 102
 Germany - 110
 United Kingdom - 85
 Italy - 28

Note 1: Insufficient sample for analysis

D

Systems Software Support Documentation

Trends in user satisfaction with systems software support documentation are presented in Exhibit IV-7. These trends cover the five-year period 1988 to 1992 and refer to user satisfaction at the overall European level.

Whereas in 1991 user satisfaction aspect was fully (even ever so slightly over-) satisfied, in 1992 results indicate a marginal level of undersatisfaction. The fall is from (0.1) to 0.3.

Exhibit IV-8 subdivides the total 1992 user survey results by system size. Data presented by this exhibit indicates that there is no significant difference between the satisfaction levels expressed by users of the two different system ranges. At all levels of system size, users indicate that there is a relatively low level of undersatisfaction with this aspect of service. This is in contrast to the previous year's results that showed a level of oversatisfaction at all levels.

The results of the 1992 user survey are presented by Exhibit IV-9 and subdivided by the four largest country markets in Europe. At the country market level, significant differences in user satisfaction are revealed:

- In the U.K., users express very considerable oversatisfaction; in fact, the U.K. levels of over-satisfaction have doubled and trebled respectively over the intervening 12 months. Yet in the other countries, the degrees of satisfaction range from concern to real dissatisfaction.
- Italian large systems users express a marginal level of undersatisfaction, a marked improvement over 1991.
- In France, user satisfaction indicates a degree of concern and real dissatisfaction for large and mid-range systems respectively.

EXHIBIT IV-7

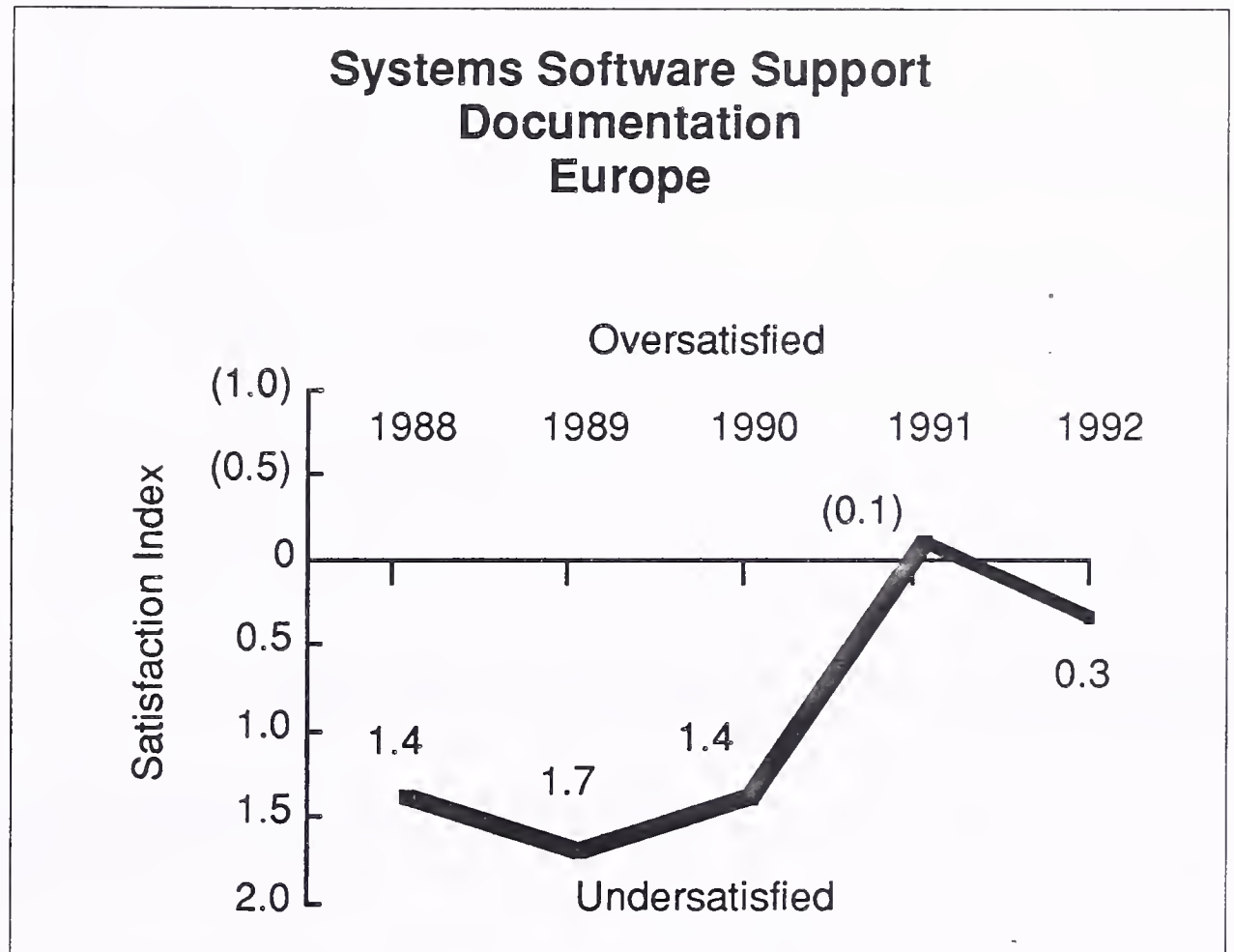


EXHIBIT IV-8

User Satisfaction in Europe 1992 Systems Software Support—Documentation

System Range	Importance Rating	Satisfaction Rating	Satisfaction Index
Large Systems	8.0	7.8	0.2
Mid-Range Systems	7.9	7.5	0.4

Sample sizes 1992: Large systems -240
Mid-Range systems -202

EXHIBIT IV-9

**Country Market User Satisfaction 1992
Systems Software Support—Documentation**

Country Market	Satisfaction Index	
	Large Systems	Mid-Range Systems
France	1.0	2.3
Germany	2.0	1.9
United Kingdom	(3.0)	(3.3)
Italy	0.5	Note 1

Sample sizes 1992: France - 102
 Germany - 110
 United Kingdom - 85
 Italy - 28

Note 1: Insufficient sample for analysis

**E
Systems Software Support Vendor Quality Image**

Trends in user ratings for vendor systems software support quality image are provided in Exhibit IV-10. Data presented in this exhibit, which only covers years 1989 onwards, represents user responses to the single question:

- How important is systems software support to your business and how satisfied are you with your vendors performance?

Answers to this question are considered to provide a measure of a vendor's service quality image and have been found to take into account a number of aspects of measurable service performance. For example:

- Overall user satisfaction with systems software support
- Satisfaction with systems availability
- System failure rates
- Vendor response and software fix time performance.

Exhibit IV-10 indicates that, at the overall European level, vendor systems software support quality image had been improving since 1989. In contrast, the results of the 1992 survey show a considerable degree of concern, i.e., the trend towards improvement has been reversed.

Exhibit IV-11 provides data relating to vendor systems software support quality image in 1992 subdivided by system size.

This exhibit shows marginal undersatisfaction for large systems users, but concern for mid-range systems users. The index for large systems has improved since 1991, while the index for mid-range systems has deteriorated.

Exhibit IV-12 provides analysis of user satisfaction subdivided into the four largest country markets in Europe. Comments relating to the country market level analysis are as follows:

- With the exception of the U.K., users in the other countries express degrees of satisfaction ranging from concern to real dissatisfaction with vendors' systems software support quality image.
- Large systems users in Germany indicate a relatively high degree of real dissatisfaction with this aspect of vendor service, while mid-range systems users express a level of concern, but one which is a marked improvement on 1991's, i.e., 1.1 against the previous year's 2.4.
- Italy's large systems index is virtually unchanged on last year's, while France's two indexes have worsened the most.
- U.K. indexes both show steady improvement.

EXHIBIT IV-10

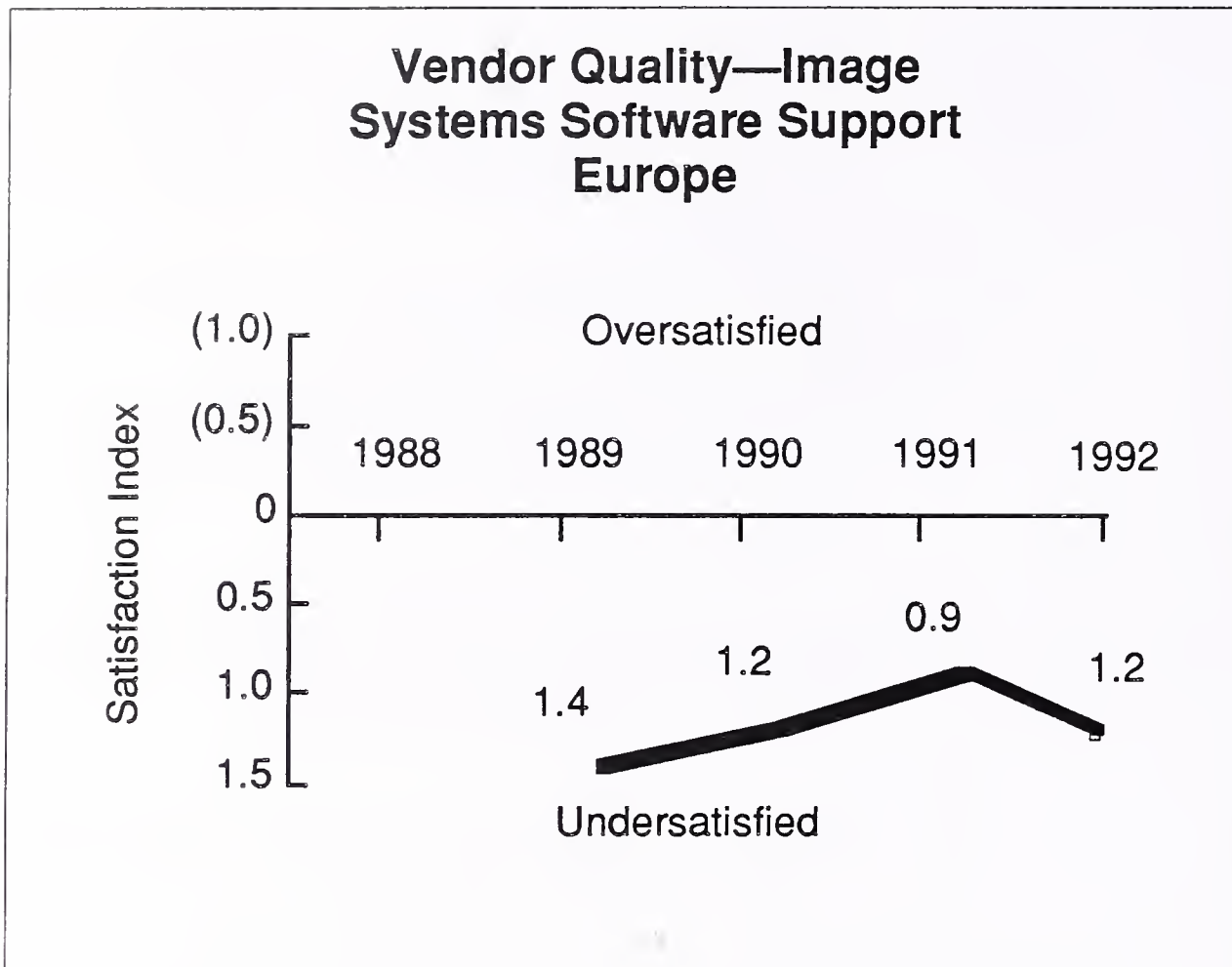


EXHIBIT IV-11

User Satisfaction in Europe 1992 Vendor Quality Image—Systems Software Support

System Range	Importance Rating	Satisfaction Rating	Satisfaction Index
Large Systems	9.6	9.0	0.6
Mid-Range Systems	9.5	8.3	1.2

Sample sizes 1992: Large systems -240
Mid-Range systems -202

EXHIBIT IV-12

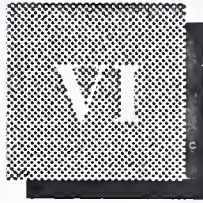
Country Market User Satisfaction 1992 Vendor Quality Image—Systems Software Support

Country Market	Satisfaction Index	
	Large Systems	Mid-Range Systems
France	1.4	1.1
Germany	2.3	1.1
United Kingdom	0.4	0.3
Italy	1.1	Note 1

Sample sizes 1992: France - 102
 Germany - 110
 United Kingdom - 85
 Italy - 28

Note 1: Insufficient sample for analysis

(Blank)



Key Vendors in Europe—Five-Year Service Trends

A

Introduction

This chapter of the study presents five-year trend data for the years 1988 to 1992 for some of the leading vendors in INPUT's 1992 computer user survey in each system size sector, i.e.:

- Large Systems
- Mid-range Systems

Data presented is based on user perception of each leading vendor's service performance in six key areas:

- User satisfaction with hardware service
- User satisfaction with systems software support
- User perception of systems failure rates
- User satisfaction with systems availability
- User perception of vendor hardware service response and repair time performance
- User perception of vendor systems software support response and fix time performance

The criteria for inclusion of a vendor in this analysis are:

- A sample size greater than 20
- At least four years' of continuous data at this sample level.

The format of the data presented is the same as that used in Chapter V and ensues the following sequence:

- Large systems vendors:
 - Amdahl - Exhibits VI-1 to VI-5
 - IBM - Exhibits VI-6 to VI-10
- Mid-range systems vendors:
 - Digital - Exhibits VI-11 to VI-15
 - Stratus - Exhibits VI-16 to VI-20

Exhibits relating to leading vendors are presented in alphabetical order. In order of ranking the leading vendors are as follows:

- Large systems, hardware service:
 - 1 Amdahl
 - 2 IBM
- Large systems, systems software support:
 - 1 Amdahl
 - 2 IBM
- Mid-range systems, hardware service:
 - 1 Stratus
 - 2 Digital
- Mid-range systems, systems software support:
 - 1 Stratus
 - 2 Digital

EXHIBIT VI-1

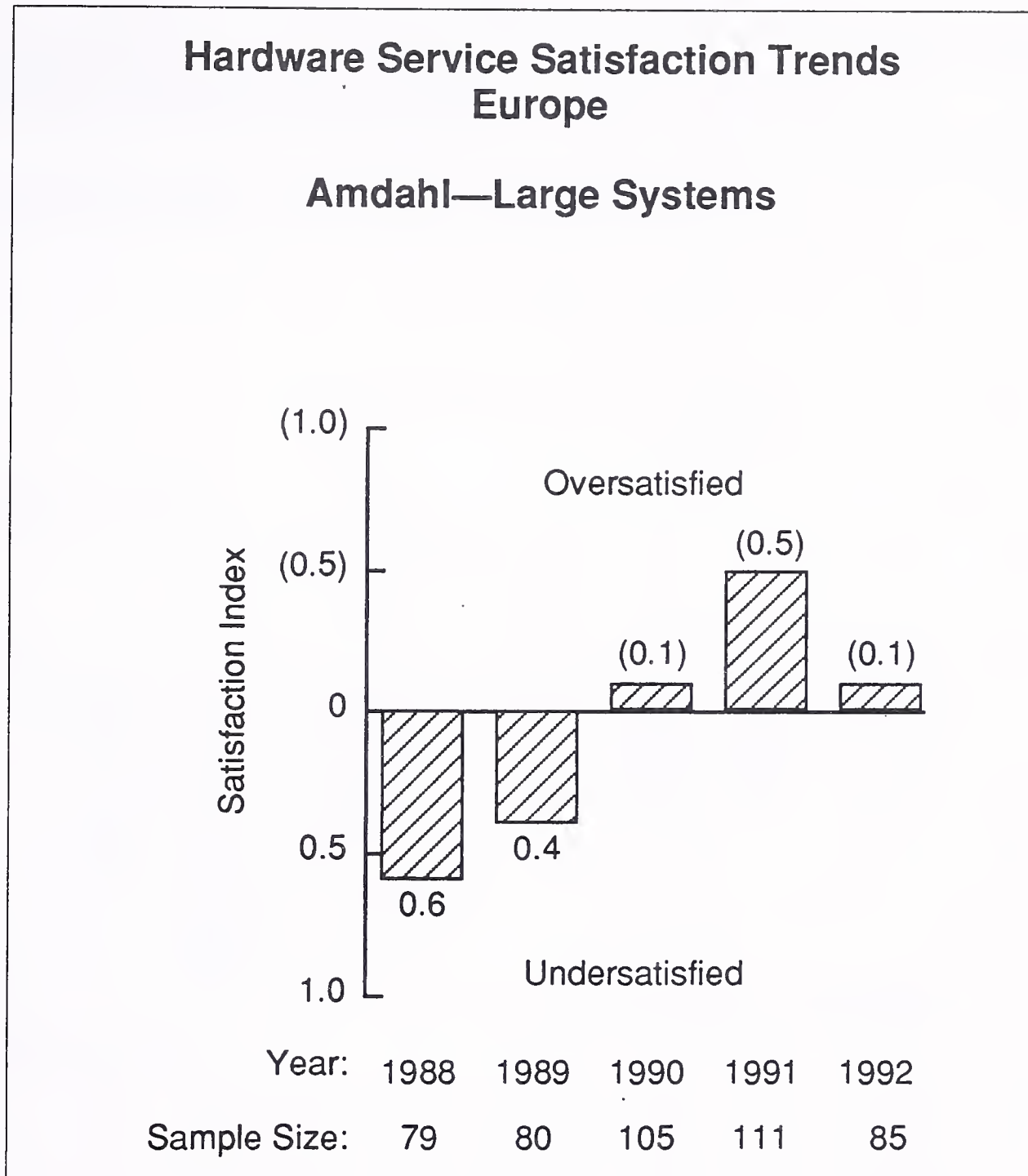


EXHIBIT VI-2

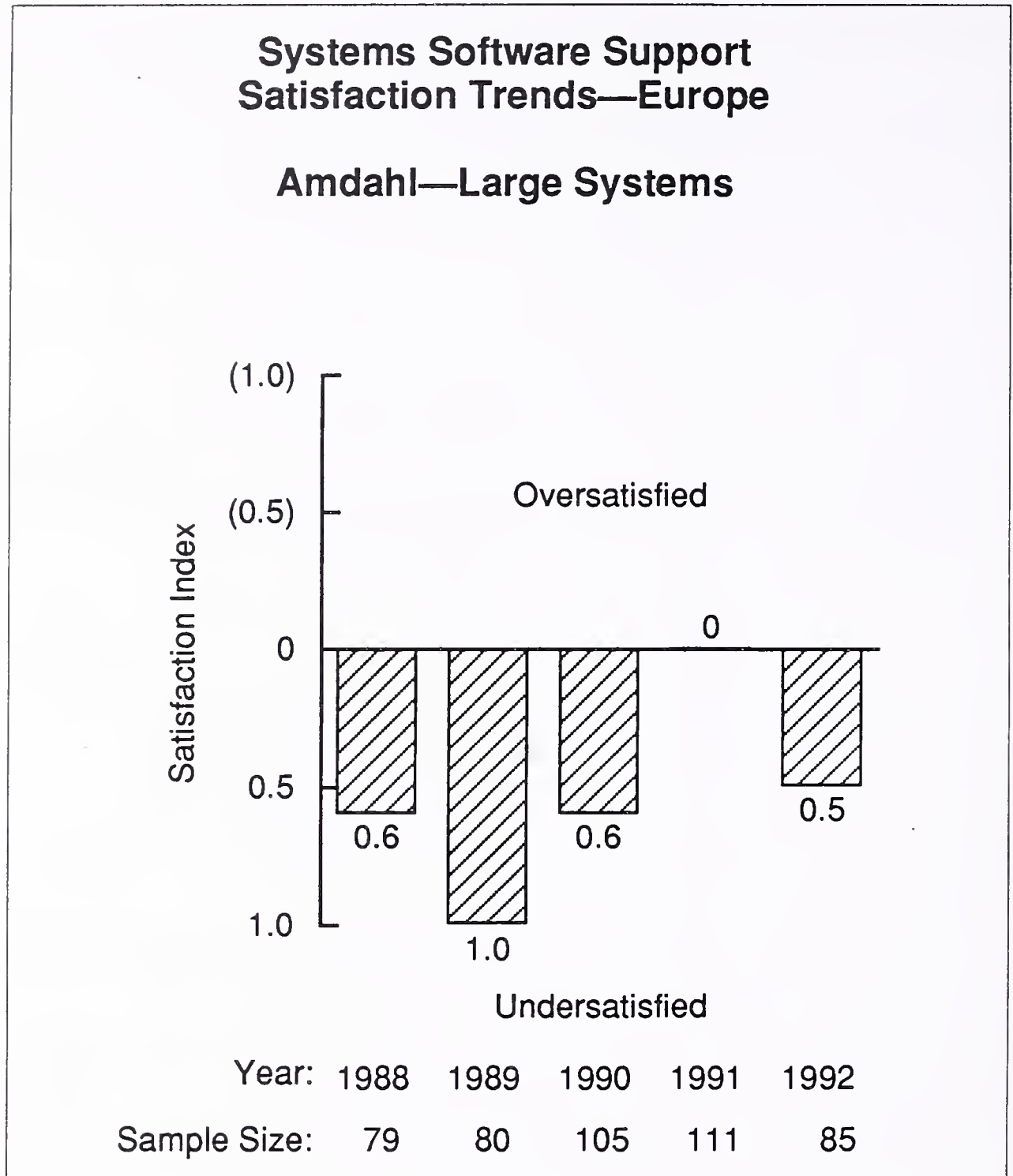


EXHIBIT VI-3

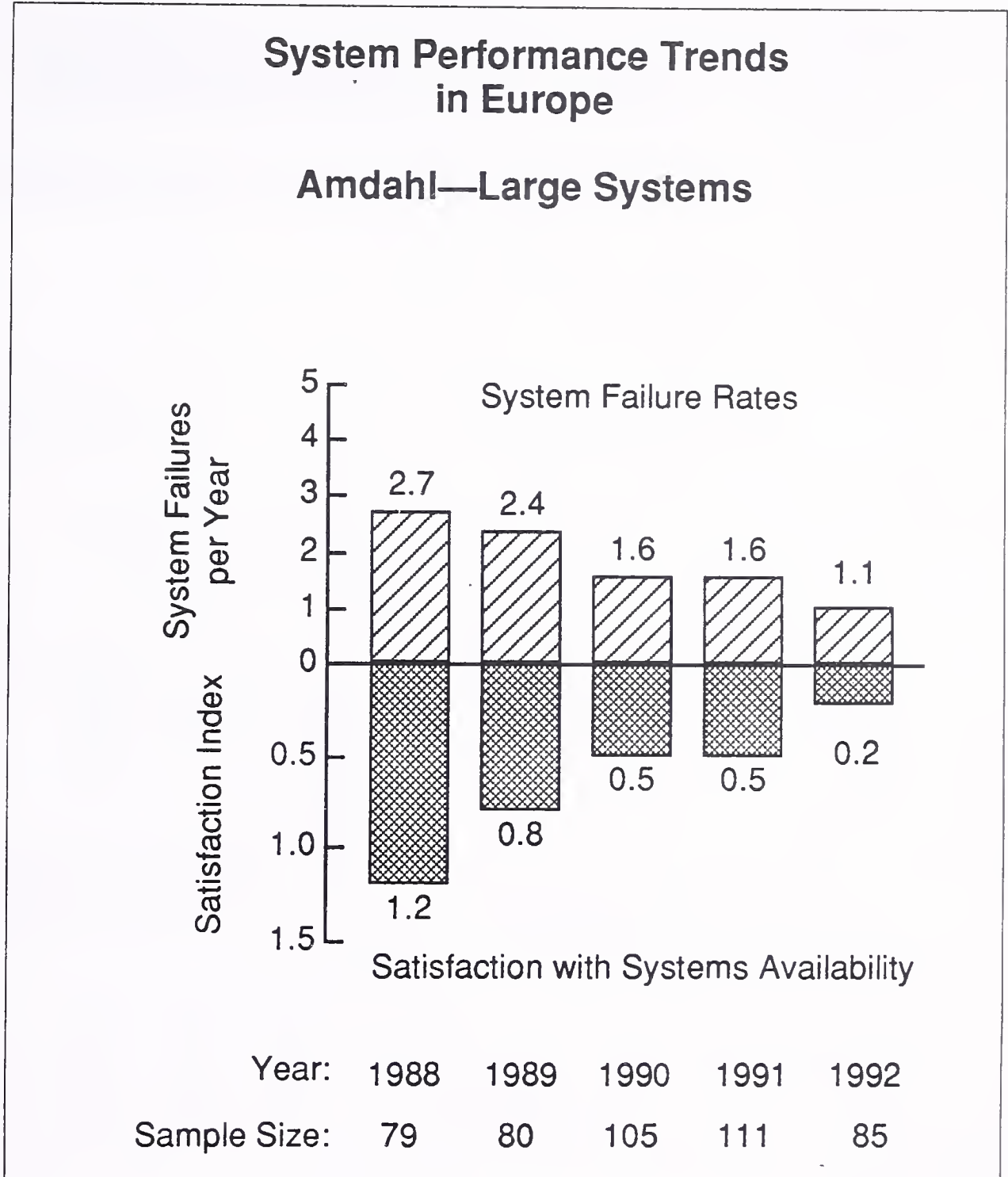


EXHIBIT VI-4

Hardware Service Response/Repair Time Trends in Europe

Amdahl—Large Systems

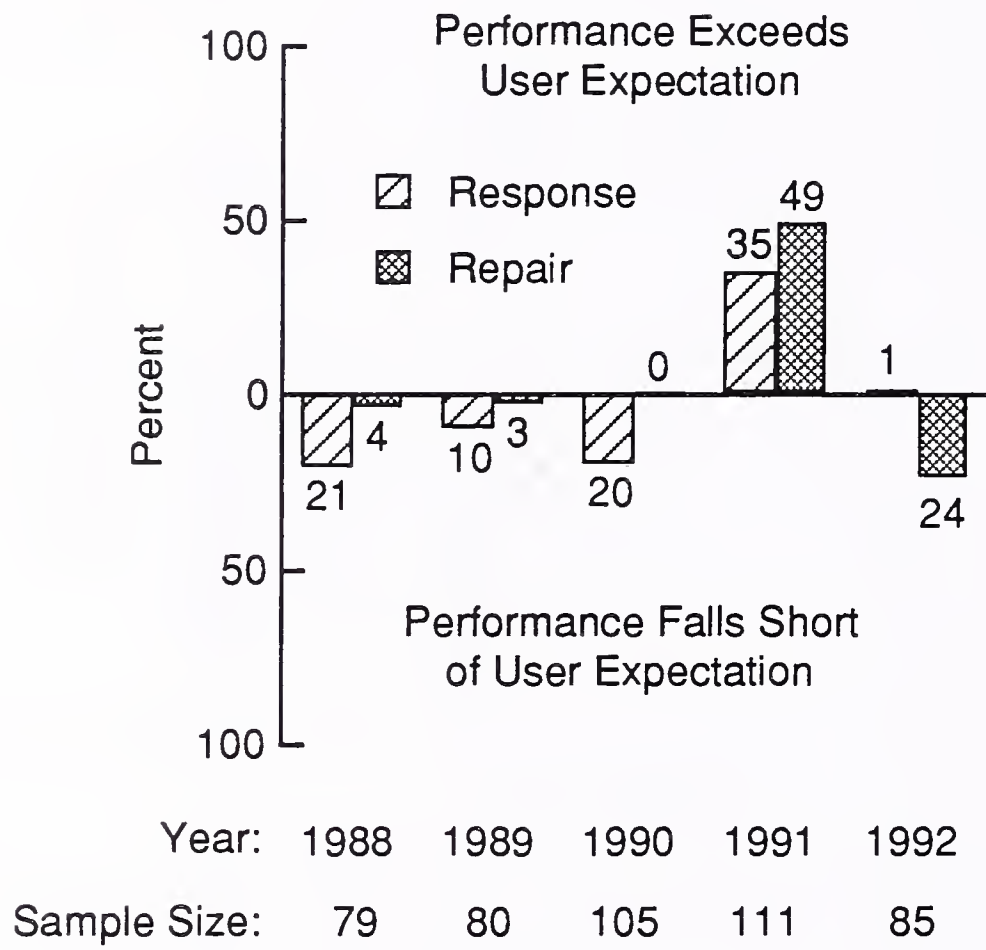


EXHIBIT VI-5

Systems Software Support Response/Fix Time Trends in Europe

Amdahl—Large Systems

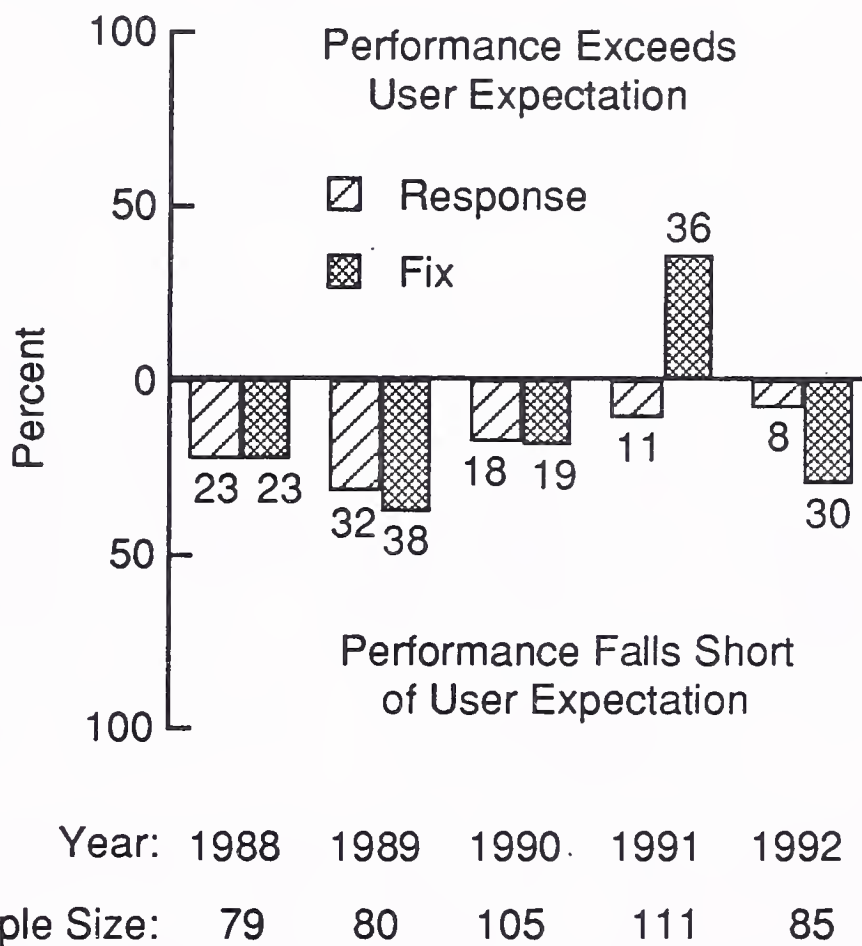


EXHIBIT VI-6

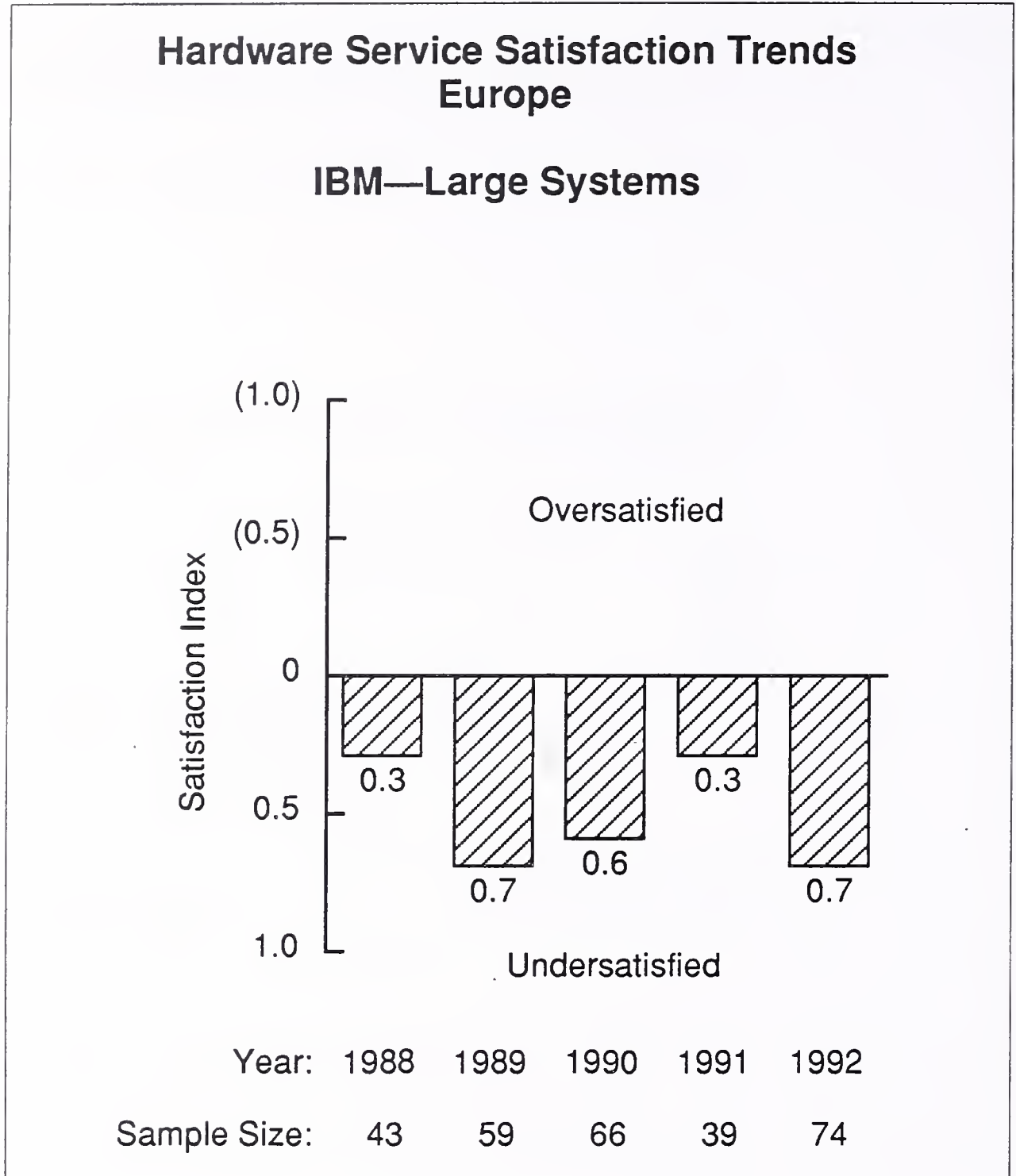


EXHIBIT VI-7

Systems Software Support Satisfaction Trends—Europe

IBM—Large Systems

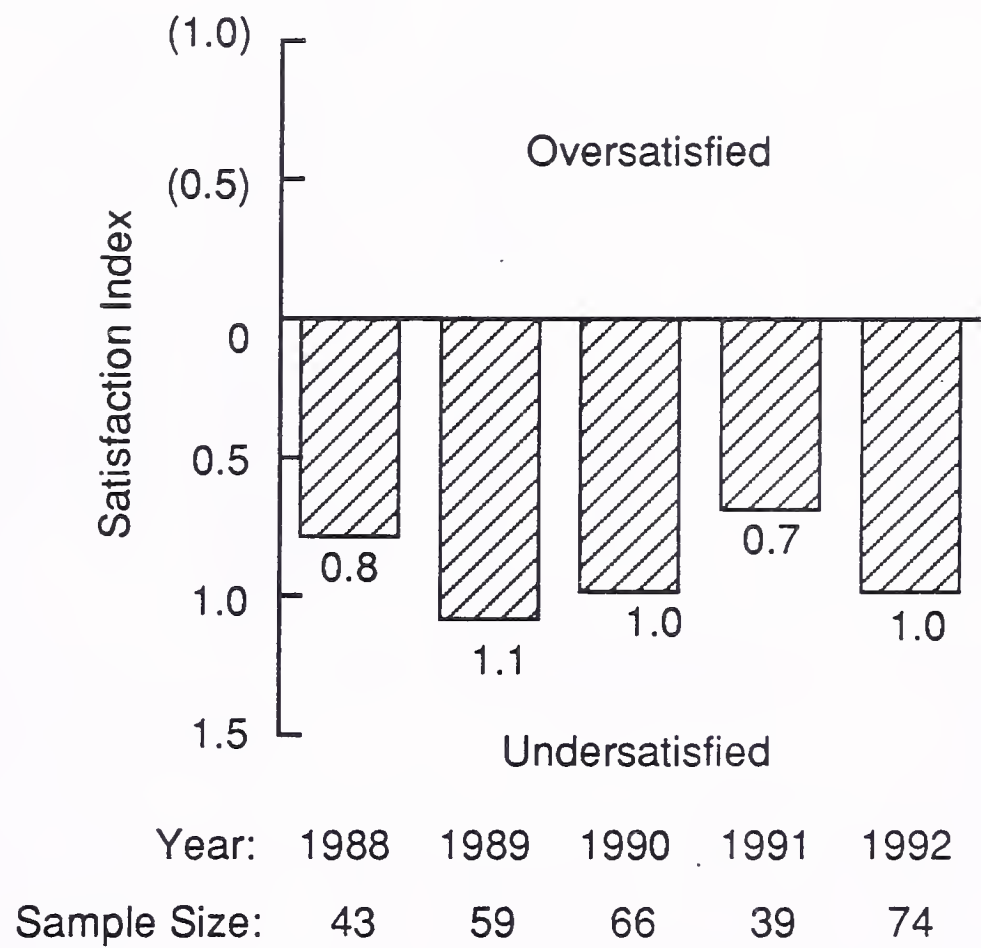


EXHIBIT VI-8

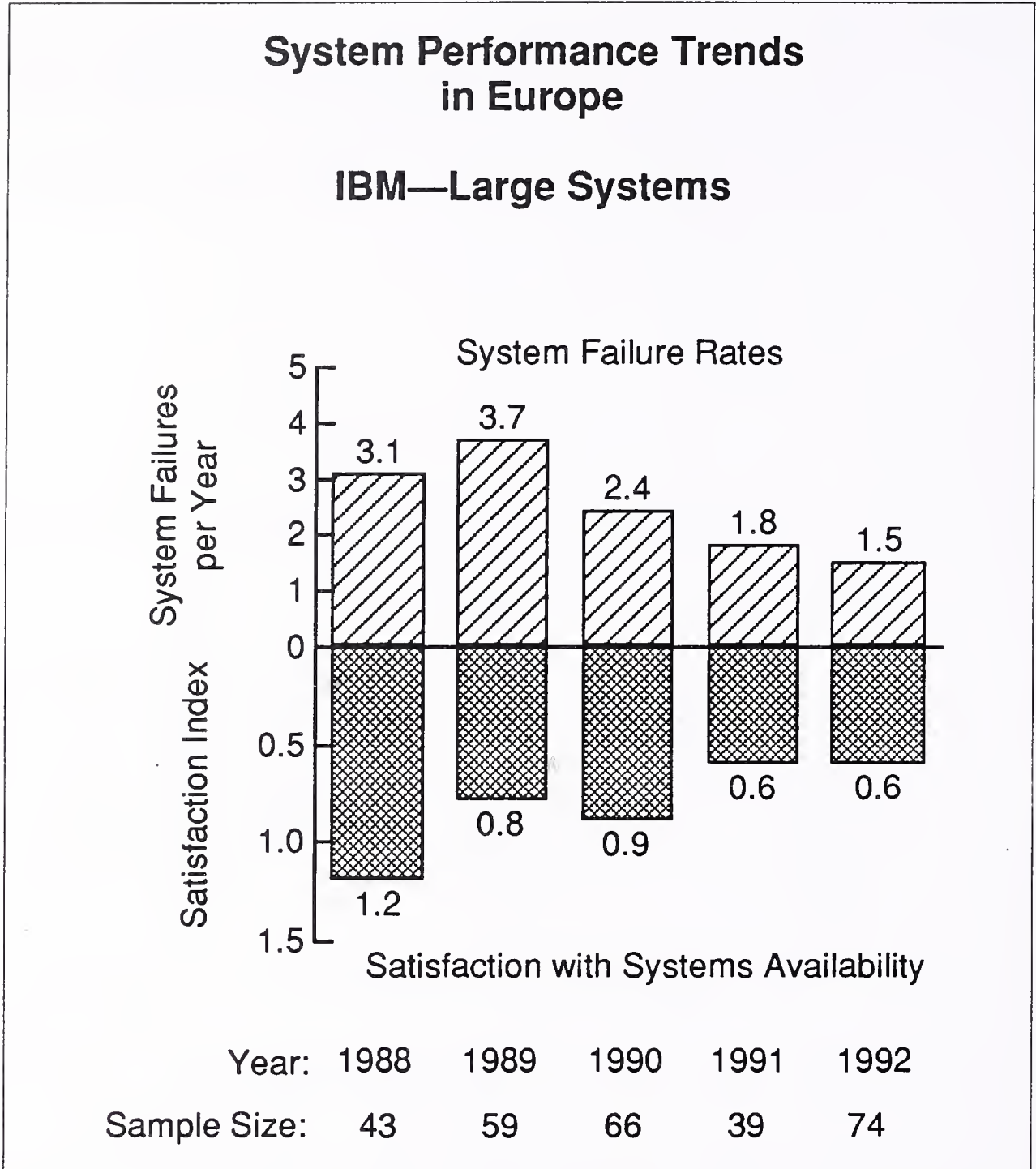


EXHIBIT VI-9

Hardware Service Response/Repair Time Trends in Europe

IBM—Large Systems

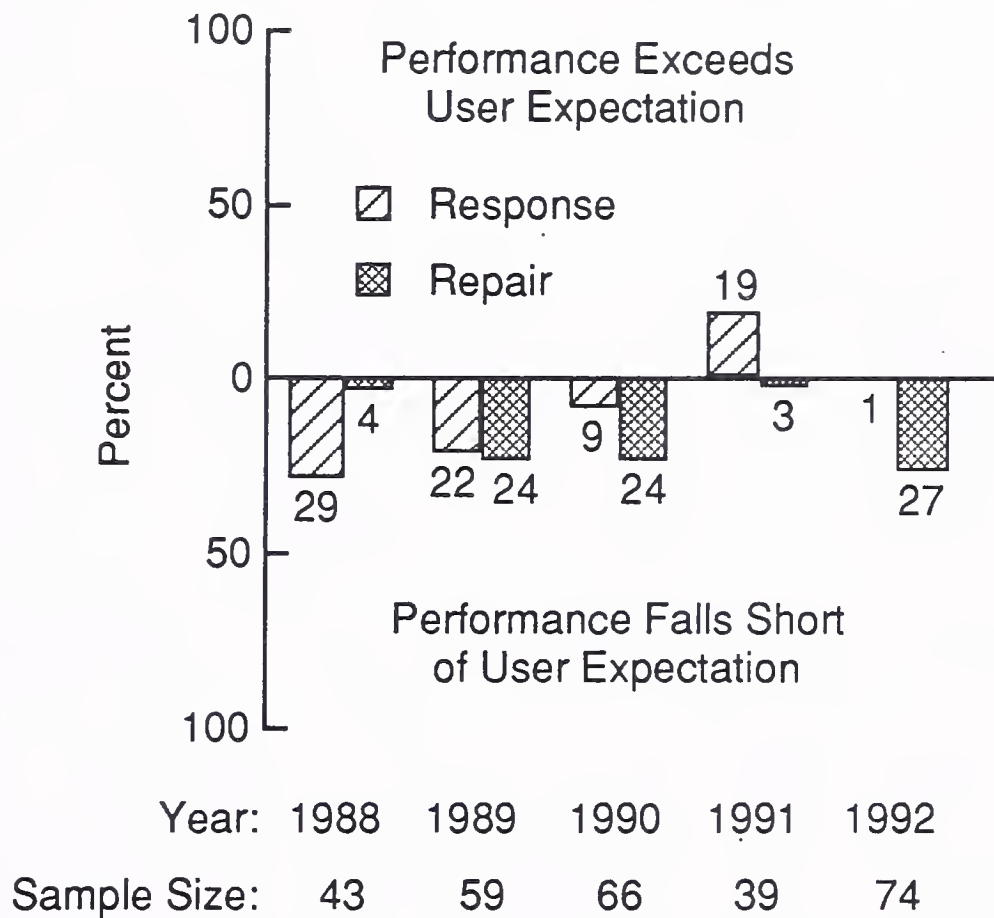
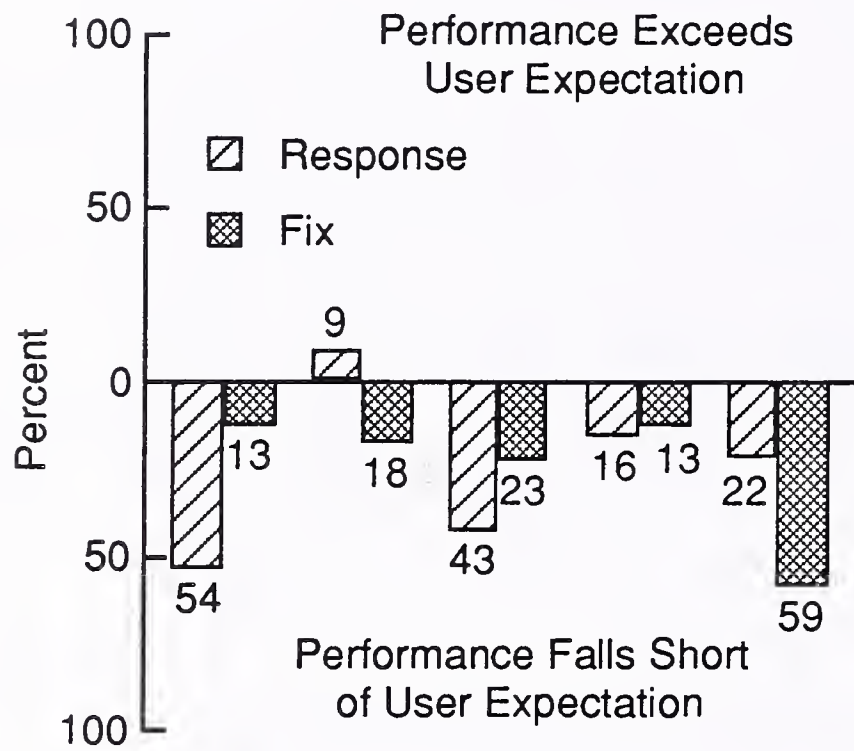


EXHIBIT VI-10

Systems Software Support Response/Fix Time Trends in Europe

IBM—Large Systems



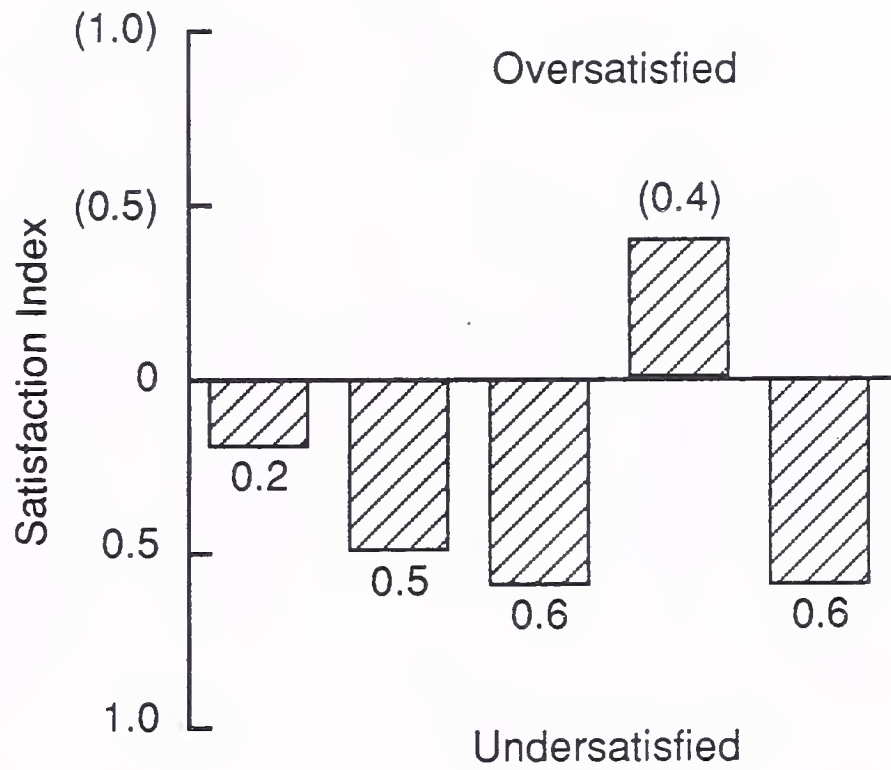
Year: 1988 1989 1990 1991 1992

Sample Size: 43 59 66 39 74

EXHIBIT VI-11

Hardware Service Satisfaction Trends Europe

Digital—Medium/Mid-Range Systems



Year: 1988 1989 1990 1991 1992

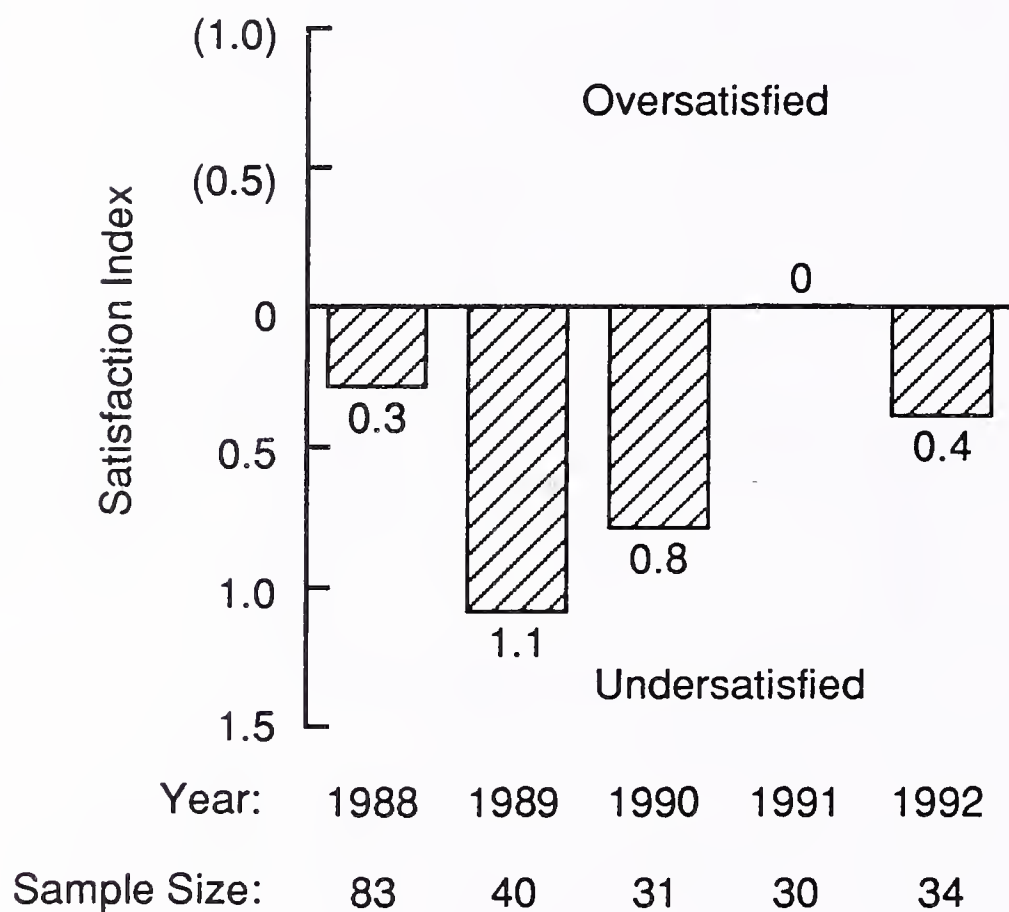
Sample Size: 83 40 31 30 34

Note: Data prior to 1992 refers only to medium systems.

EXHIBIT VI-12

Systems Software Satisfaction Trends Europe

Digital—Medium/Mid-Range Systems

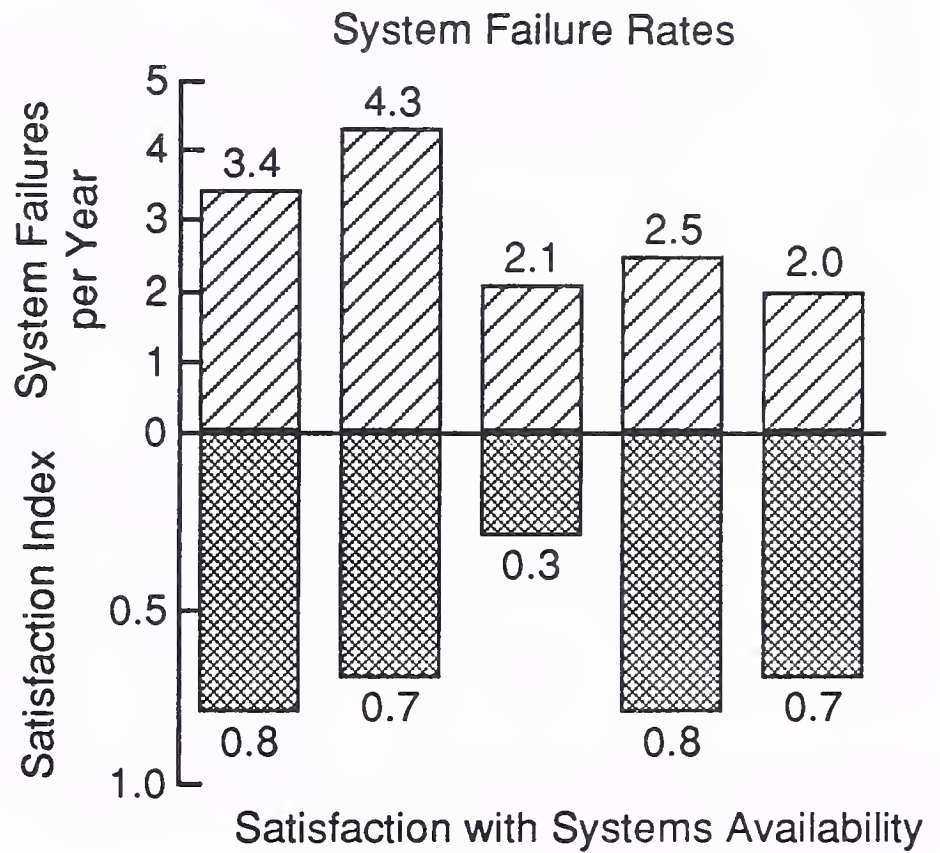


Note: Data prior to 1992 refers only to medium systems.

EXHIBIT VI-13

System Performance Trends in Europe

Digital—Medium/Mid-Range Systems



Year: 1988 1989 1990 1991 1992

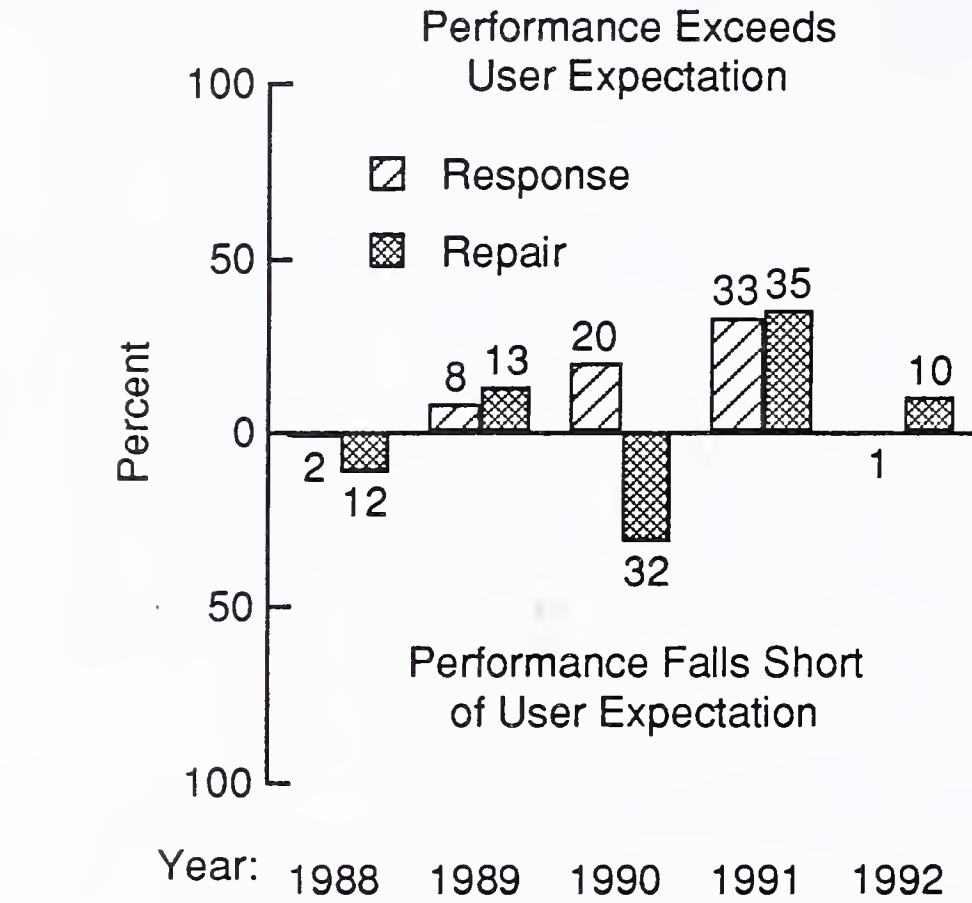
Sample Size: 83 40 31 30 34

Note: Data prior to 1992 refers only to medium systems.

EXHIBIT VI-14

Hardware Service Response/Repair Time Trends in Europe

Digital—Medium/Mid-Range Systems



Year: 1988 1989 1990 1991 1992

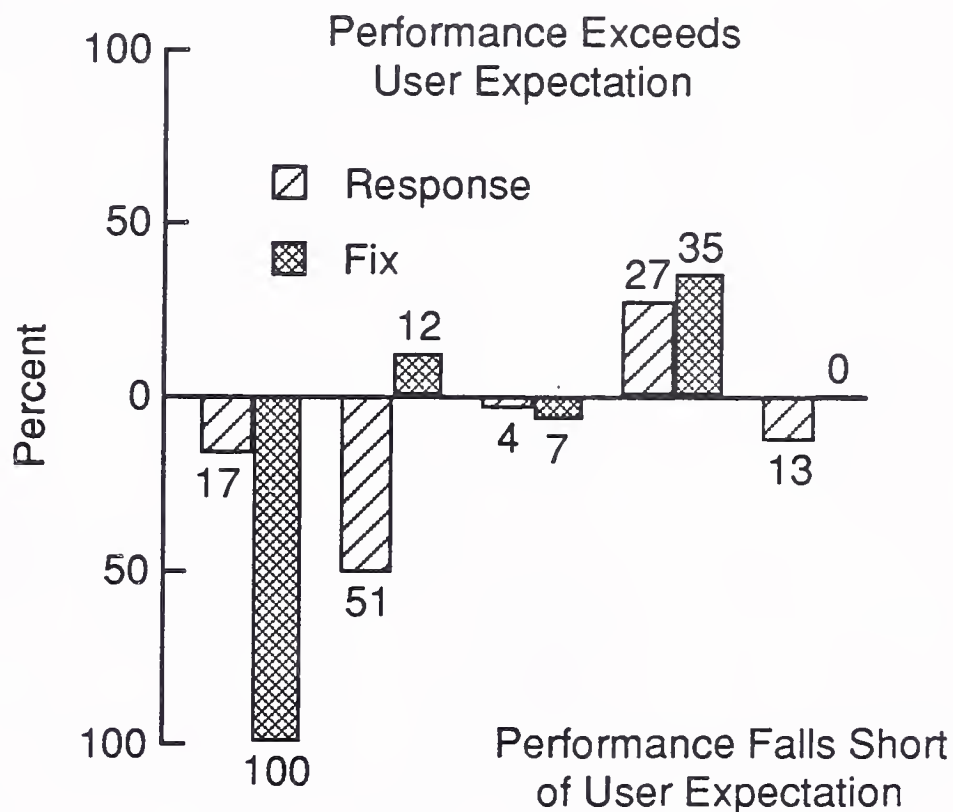
Sample Size: 83 40 31 30 34

Note: Data prior to 1992 refers only to medium systems.

EXHIBIT VI-15

Systems Software Support Response/Fix Time Trends in Europe

Digital—Medium/Mid-Range Systems



Year: 1988 1989 1990 1991 1992

Sample Size: 83 40 31 30 34

Note: Data prior to 1992 refers only to medium systems.

EXHIBIT VI-16

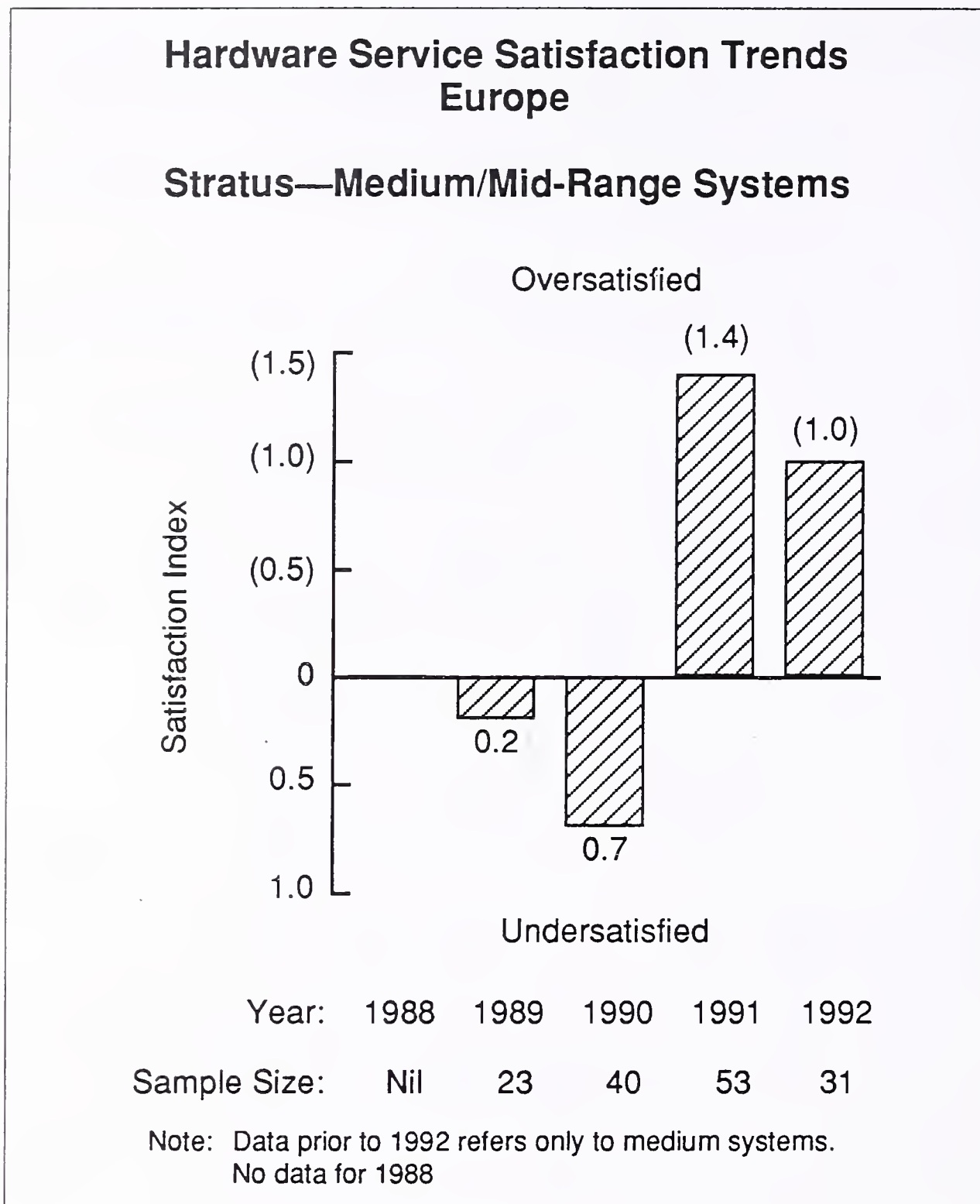


EXHIBIT VI-17

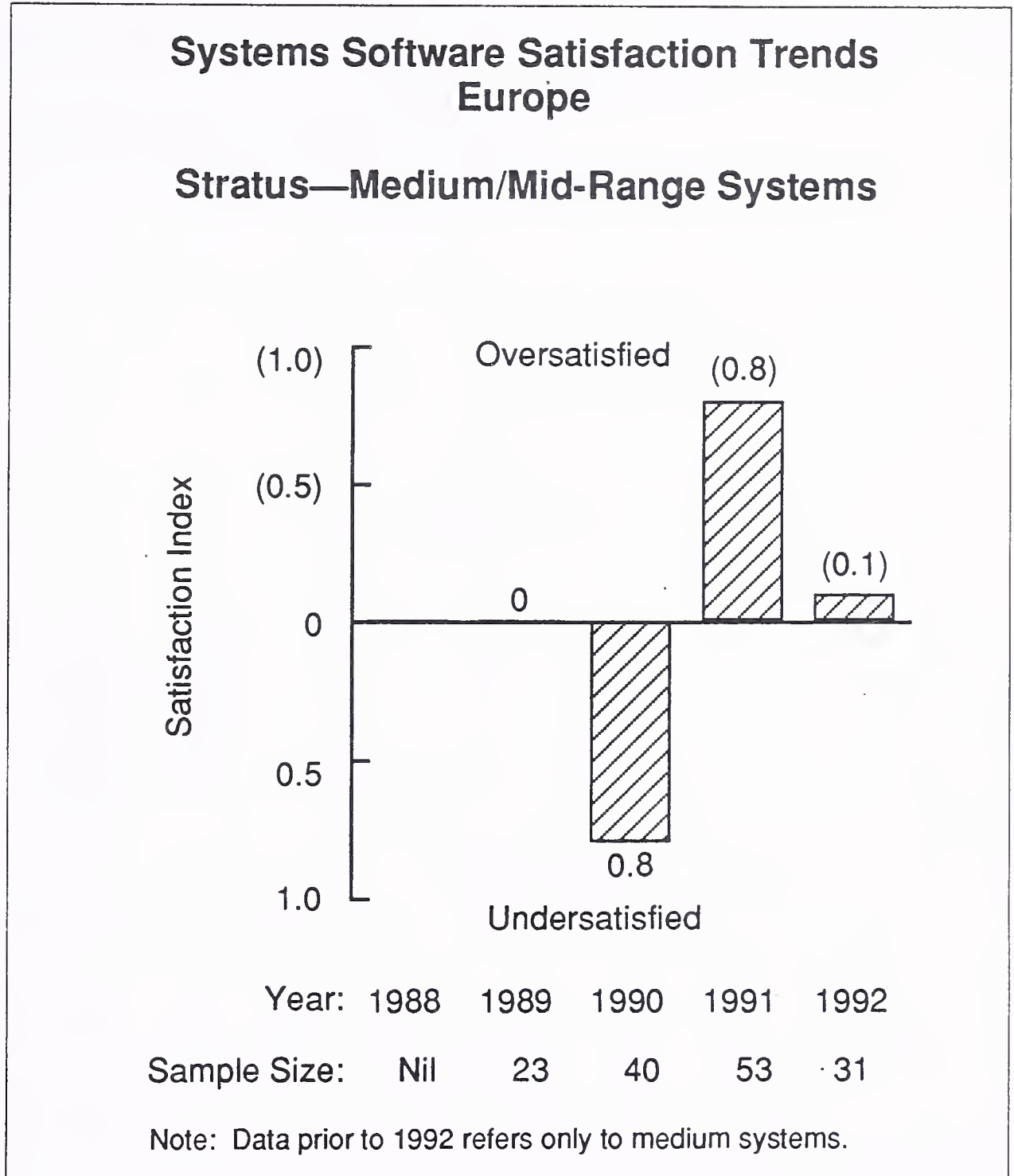


EXHIBIT VI-18

System Performance Trends in Europe Stratus—Medium/Mid-Range Systems

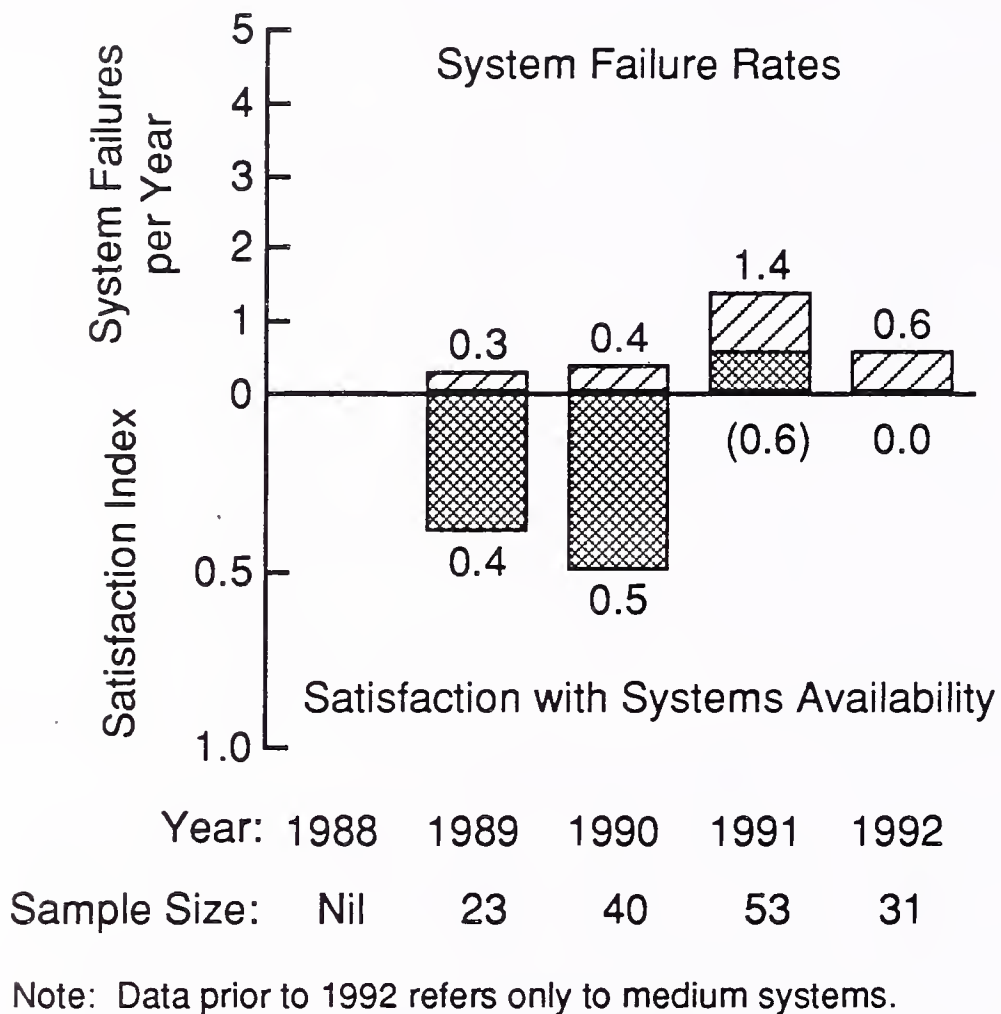
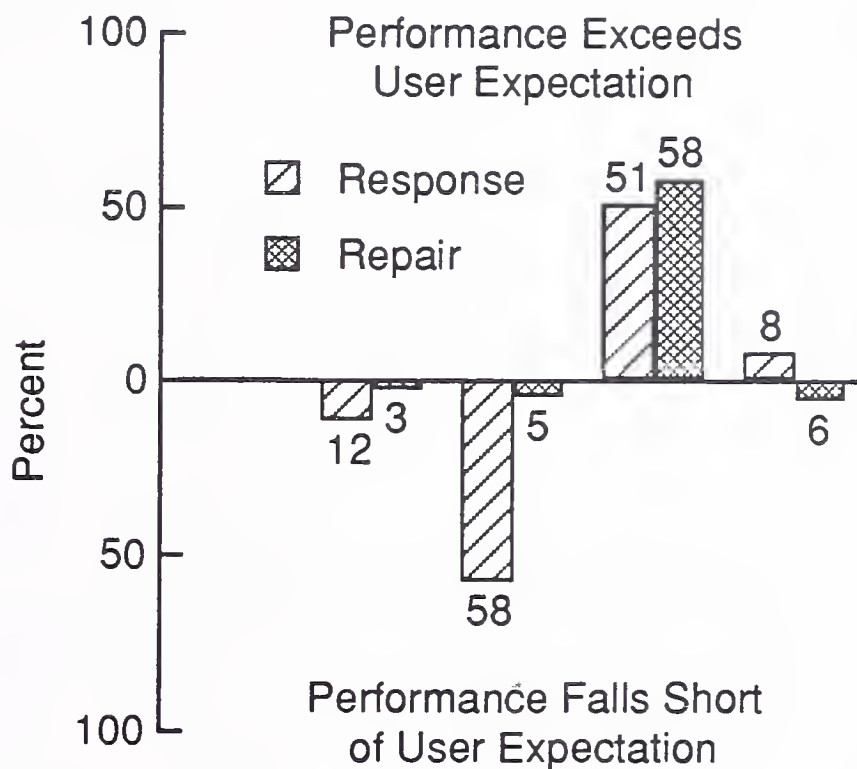


EXHIBIT VI-19

Hardware Service Response/Repair Time Trends in Europe

Stratus—Medium/Mid-Range Systems



Year: 1988 1989 1990 1991 1992

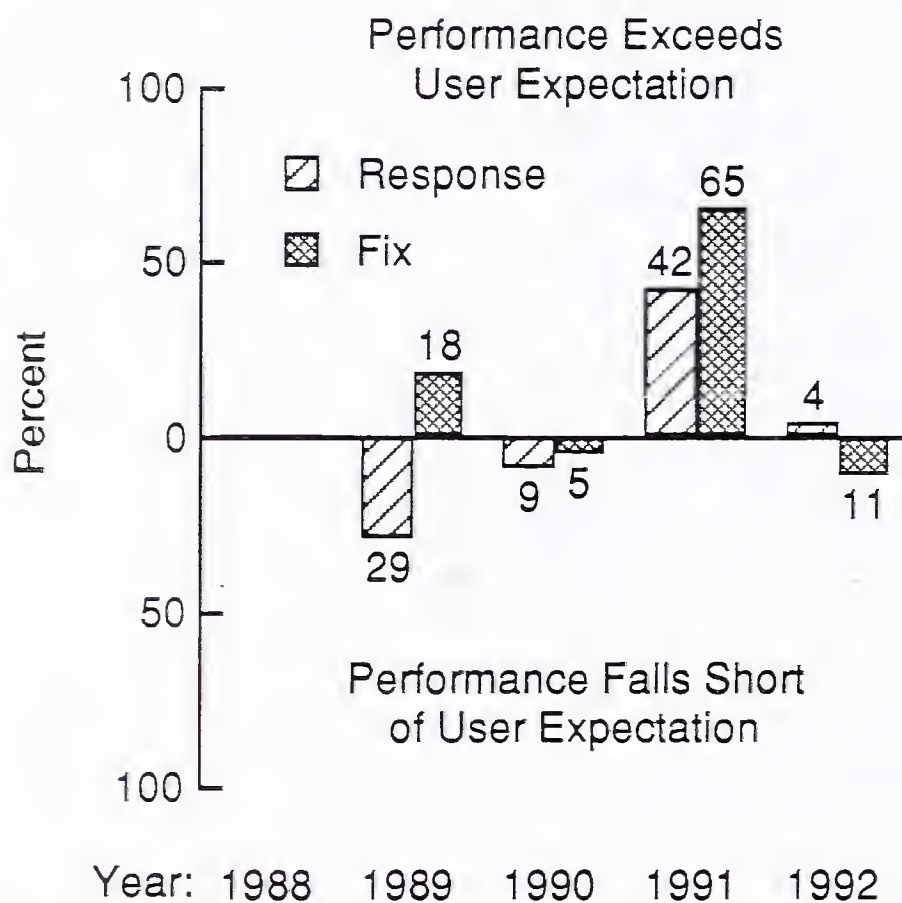
Sample Size: Nil 23 40 53 31

Note: Data prior to 1992 refers only to medium systems.

EXHIBIT VI-20

Systems Software Support Response/Fix Time Trends in Europe

Stratus—Medium/Mid-Range Systems



Sample Size: Nil 23 40 53 31

Note: Data prior to 1992 refers only to medium systems.

A
INPUT 1992 Computer User Survey Questionnaire

A. General

1. What is the make and model number of the main computer on your site and how many do you have?

- Makers Name
- Model (CRITICAL INFORMATION)
- Units

2. Are you the person who is knowledgeable on the servicing of this system?

- Yes No

(If not then obtain the name of the correct person and start again)

Name of person responsible _____

3. Do you have other systems? What are the makes and model numbers of these systems and how many do you have?

	Secondary	Others
· Makers Names	<input style="width: 150px; height: 20px;" type="text"/>	<input style="width: 150px; height: 20px;" type="text"/>
· Model	<input style="width: 150px; height: 20px;" type="text"/>	<input style="width: 150px; height: 20px;" type="text"/>
· Units	<input style="width: 80px; height: 20px;" type="text"/>	<input style="width: 150px; height: 20px;" type="text"/>
	(CRITICAL INFORMATION)	

Most of the following questions that I am going to ask you are related to your main _____ system. (Write in system type). There will be some questions that refer to secondary or other systems or to secondary vendors of support.

(To confirm, read out the chosen make and model number).

4. So that we can ensure that we get a proper cross-section of industry and commerce, can you tell me what is the main business sector of your company?

(Read out the list to allow for the best choice then circle appropriate answer).

Business Sector

- Manufacturing 1
 - Distribution 2
 - Transportation 3
 - Utilities 4
 - Banking and Finance 5
 - Insurance 6
 - Government (including Education) 7
 - Services 8
 - Other 88
-
- Don't Know 99

B. Service Vendor Selection

I would like to ask you some questions relating to the vendors that service your computer systems.

5. Could you please rate the **importance** of the following criteria in selecting your service vendors on a scale of 1 to 5 (1 = low, 5 = high).

Criteria	Rating
a) Quality of service	<input type="text"/>
b) Guaranteed system availability level	<input type="text"/>
c) Guaranteed availability of spare parts	<input type="text"/>
d) Technical expertise	<input type="text"/>
e) Fast response time	<input type="text"/>
f) Availability of software support	<input type="text"/>
g) Ability to provide other services	<input type="text"/>
h) Contract flexibility	<input type="text"/>
i) Ability to service other products (of other types or from other vendors)	<input type="text"/>
j) Vendor reputation	<input type="text"/>
k) Price	<input type="text"/>

Interviewer:
PLEASE ROTATE QUESTION ORDER

6a) Would you please tell me who services your computer systems hardware?

(Please circle appropriate vendor type; multiple answers are allowed in each column).

	<u>Main</u>	<u>Secondary</u>	<u>Other</u>
• Manufacturer	1	1	1
• Dealer/Distributor/VAR	1	1	1
• Independent maintenance organisation (IMO)	1	1	1
• Own company	1	1	1
• Other	1	1	1
<hr/>			
• Don't Know	99	99	99

(If the respondent answered YES to IMO, go to question 6b. If the respondent answered YES to Dealer/Distributor, go to question 6c. If neither, go to question 7.)

- b) I notice that your system, or part of it, is serviced by an independent maintenance organisation. Could you tell me the reason why you use an independent maintenance organisation (IMO)?

(Please circle appropriate answer; multiple answers allowed).

- | | |
|---------------------------------|----|
| · Lower cost | 1 |
| · Local service | 1 |
| · Single-source service | 1 |
| · IMO service is higher quality | 1 |
| · More flexible contract | 1 |
| · Other | 1 |
| <hr/> | |
| · Don't Know | 99 |

Interviewer:
PLEASE ROTATE QUESTION ORDER

(If the respondent answered **YES** to Dealer/Distributor, carry on to question 6c. If **NOT**, go to question 8).

- c) I notice that your system, or part of it, is serviced by a Dealer/Distribution/VAR. Could you tell me the reason why you use maintenance from this source?

(Please circle appropriate answer; multiple answers allowed).

- | | |
|---------------------------------|----|
| · Lower cost | 1 |
| · Local service | 1 |
| · Single-source service | 1 |
| · VAR service is higher quality | 1 |
| · More flexible contract | 1 |
| · Other | 1 |
| <hr/> | |
| · Don't Know | 99 |

Go to question 8a.

7. I notice that you **DO NOT** use an independent maintenance company (IMO); is there a reason for this?

(Please circle appropriate answer; multiple answers allowed).

- | | |
|--------------------------------------|----|
| • Satisfied with manufacturer | 1 |
| • Manufacturer has an advantage | 1 |
| • IMOs cannot support software | 1 |
| • Tied to manufacturer with contract | 1 |
| • Fear of system supplier response | 1 |
| • Considered and rejected IMO | 1 |
| • IMO financial weakness | 1 |
| • Unaware of IMOs | 1 |
| • Other | 1 |
| <hr/> | |
| • Don't Know | 99 |

Interviewer: PLEASE ROTATE QUESTION ORDER

- 8a) Would you prefer all hardware maintenance and systems software support to be provided by one service vendor at each site, or one vendor overall? If yes, what would your interest level for single source service be on a scale of 1 to 5 (1 = Low, 5 = High)

(Circle answer)

- Yes, one vendor per site 1
- Yes, prefer one for all sites 2
- No, prefer multiple vendors 3
- Don't know 99
- Level of interest

(If the respondent answered either **YES**, ask:)

- b) Who would you prefer that vendor to be?

(Please circle appropriate answer; multiple answers allowed).

- The manufacturer of your main hardware 1
 - Dealer/distributor/VAR 1
 - IMO company 1
 - One of your other hardware manufacturers 1
 - Other 1
-
- Don't Know 99

Note: VAR is a value-added reseller.

IMO is an independent maintenance organisation.

C. Hardware Maintenance

I would now like to ask you some questions about the **HARDWARE MAINTENANCE** of your computer systems.

(Reaffirm that questions apply to the main system type)

Some of the questions are scaled with ratings from 0 or 1 to 5. Zero (0) represents not applicable (NA), 1 is low importance or low satisfaction, 3 is average, and 5 represents top importance or full satisfaction.

9. What is your rating for the importance of hardware maintenance to your business and how satisfied are you with your main service vendor's performance.

· Importance rating

· Satisfaction rating

10. If we define **SYSTEMS AVAILABILITY** as the percentage of your normal working hours that the system is operational (disregarding non-critical peripheral breaks), what percentage has that been for your system over the last twelve months?

· Percentage %

11. How many times each year does your system fail completely for a period of greater than one hour?

· Failures per year

And what percentage of these system failures are due to:

· Hardware %

· Systems software %

· Applications software %

· Other (i.e., power failure) %

(Please check that percentages add up to 100).

12. What is your rating for the importance of **SYSTEMS AVAILABILITY** (scale 1-5), and what is your level of satisfaction?

- Importance rating
- Satisfaction rating

13. Defining **HARDWARE RESPONSE TIME** as the time it takes between reporting a fault and the arrival of the service engineer on site (in working hours, that is to say 8 hours = 1 working day), what response time (in hours) do you find acceptable and what did you actually experience as an average over the last twelve months?

- Acceptable Hours
- Experienced Hours

14. If **HARDWARE REPAIR TIME** is defined as the time taken to get the system fully operational from the time the engineer arrives on site, then what time do you find acceptable (in working hours) and what time did you experience in the last twelve months?

(Note: 8 hours = 1 working day or shift)

- Acceptable Hours
- Experienced Hours

15. I would now like to go through a list of five aspects of hardware maintenance and ask you to give an **IMPORTANCE** and a **SATISFACTION** rating for each (scale 0 - 5, 0 = NA, 1 = Low, 5 = High).

	Importance	Satisfaction
· Spares availability	<input style="width: 50px; height: 20px;" type="text"/>	<input style="width: 50px; height: 20px;" type="text"/>
· Engineer skills	<input style="width: 50px; height: 20px;" type="text"/>	<input style="width: 50px; height: 20px;" type="text"/>
· Problem escalation	<input style="width: 50px; height: 20px;" type="text"/>	<input style="width: 50px; height: 20px;" type="text"/>
· Documentation	<input style="width: 50px; height: 20px;" type="text"/>	<input style="width: 50px; height: 20px;" type="text"/>
· Remote diagnostics	<input style="width: 50px; height: 20px;" type="text"/>	<input style="width: 50px; height: 20px;" type="text"/>

16. How important is it that your system supplier provides a hardware **CONSULTANCY/PLANNING** service to support your operations and how satisfied are you with the service provided? (Scale 0 - 5, 0 = NA, 1 = Low, 5 = High).

- Importance
- Satisfaction

D. Systems Software Support

I would like to ask you some questions relating to the service you get from your software support vendor.

These questions relate to **SYSTEMS SOFTWARE**--not applications.

Systems Software includes Networking software for LANs or wide-area networks.

As before, some of the questions are scaled with ratings from 0 or 1 to 5. Zero (0) represents not applicable (NA), 1 is low importance or low satisfaction, 3 is average and 5 is top importance or full satisfaction.

17. Who supports your **SYSTEMS SOFTWARE**?

(Please circle appropriate answer; multiple answers allowed).

	<u>Main</u>	<u>Secondary</u>	<u>Other</u>
• Hardware Manufacturer	1	1	1
• Software House/ Professional Service company	1	1	1
• Software Product vendor	1	1	1
• Dealer/Distributor/ Value-Added Reseller (VAR)	1	1	1
• In-house department	1	1	1
• Other	1	1	1
<hr style="width: 30%; margin-left: 0;"/>			
• Don't Know	99	99	99

18. What is your rating for the **IMPORTANCE** of systems software support to your business and what is your satisfaction with your vendor's systems support activities?
(Scale 1-5)

· Importance rating	<input type="text"/>	<input type="text"/>
· Satisfaction rating	<input type="text"/>	<input type="text"/>

19. What percentage of systems software problems are **SOLVED BY TELEPHONE**, and how long does this take in elapsed time from the time it is alerted to the service engineer?

· Solved by phone	<input type="text"/>	%
· Elapsed time	<input type="text"/>	Hours

20. For those problems **NOT** possible to solve over the telephone, what **RESPONSE TIME** would you find acceptable, and what time (on average and in working hours) have you experienced over the last twelve months? (Take **RESPONSE TIME** to mean from the time the problem is reported to the arrival of the engineer on site).

	Main		2ndary	
· Acceptable	<input type="text"/>	Hours	<input type="text"/>	Hours
· Experienced	<input type="text"/>	Hours	<input type="text"/>	Hours

21. If **FIX TIME** is defined as the time taken to get the system fully operational from the arrival of the engineer on site, then what time (in working hours) do you find acceptable, and what did you experience over the last twelve months?

· Acceptable	<input type="text"/>	Hours	<input type="text"/>	Hours
· Experienced	<input type="text"/>	Hours	<input type="text"/>	Hours

22. I would now like to go through a list of five aspects of **SYSTEMS SOFTWARE SUPPORT** and ask you to give an **IMPORTANCE** and a **SATISFACTION** rating for each. (Scale 0 - 5, 0 = NA, 1 = Low, 5 = High).

	Importance	Satisfaction - Main Supplier	Satisfaction -2ndary Supplier
· Engineer Skills	<input type="text"/>	<input type="text"/>	<input type="text"/>
· Documentation	<input type="text"/>	<input type="text"/>	<input type="text"/>
· Software Installation	<input type="text"/>	<input type="text"/>	<input type="text"/>
· Provision of Updates	<input type="text"/>	<input type="text"/>	<input type="text"/>
· Remote Diagnostics	<input type="text"/>	<input type="text"/>	<input type="text"/>

23. How important is it that your system software suppliers provide a software **CONSULTANCY/PLANNING** service to support your operations and how satisfied are you with the services provided? (Scale 0 - 5, 0 = NA, 1 = Low, 5 = High)

	Main	Secondary
· Importance	<input type="text"/>	<input type="text"/>
· Satisfaction	<input type="text"/>	<input type="text"/>

24. Which type of **SYSTEMS SOFTWARE SUPPORT CONTRACT** do you currently have for your Main system?

(Please circle appropriate answer. Only ONE answer allowed).

- Support included in software licence fee 1
- Three-year contract (or longer) 2
- Annual renewable 3
- None or use Ad-hoc service 4
- Other 88

E. Other Services

25. I am particularly interested in obtaining your views on other services or modified current service offerings that your service suppliers could provide that would help to improve the running of your computer systems.

Could you say which of the following services your service vendor is **CURRENTLY CONTRACTED** to supply and which you would like your service vendor to provide? Also, could you give a level of satisfaction for those contracted and a level of interest rating for those required against each in the range 1 to 5 where 1 = low satisfaction or interest, 3 = average satisfaction or interest and 5 = top satisfaction or must have?

(Please circle appropriate answer and insert Satisfaction or LOI ratings).

	Currently Contracted	Satisfaction Rating	Require	LOI
· Configuration Planning	1	<input type="text"/>	1	<input type="text"/>
· Capacity Planning	1	<input type="text"/>	1	<input type="text"/>
· Environmental Planning	1	<input type="text"/>	1	<input type="text"/>
· Cabling	1	<input type="text"/>	1	<input type="text"/>
· Software Evaluation	1	<input type="text"/>	1	<input type="text"/>
· Consultancy	1	<input type="text"/>	1	<input type="text"/>
· Network Planning	1	<input type="text"/>	1	<input type="text"/>
· Network Management	1	<input type="text"/>	1	<input type="text"/>
· Disaster Recovery/ Business Continuity	1	<input type="text"/>	1	<input type="text"/>
· Facilities Management	1	<input type="text"/>	1	<input type="text"/>
· Problems Management	1	<input type="text"/>	1	<input type="text"/>
· Applications Software Support	1	<input type="text"/>	1	<input type="text"/>
· Desktop Services	1	<input type="text"/>	1	<input type="text"/>

**Interviewer:
PLEASE ROTATE QUESTION ORDER**

26. If you require Desktop Services, which of the following types of service do you need? (Please circle all appropriate).

- PC/Workstation supply/installation 1
 - LAN/Server supply/installation 1
 - PC/Workstation/maintenance 1
 - LAN/Server maintenance 1
 - Network management 1
 - Application software product supply/installation 1
 - End-user training 1
 - End-user applications development 1
 - End-user support 1
 - Other 1
-

This completes the questionnaire. I would like to thank you on behalf of INPUT for helping us to complete this survey. To express our appreciation for your time, we will be sending you a "thank you" package.

