

U.S. CUSTOMER SERVICES MARKET

1991-1996

INPUT

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Customer Service Program (CSP)

U.S. Customer Services Market, 1991-1996

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Abstract

The purpose of the report *U.S. Customer Services Market, 1991-1996* is to show the size of the current market for customer service in the U.S. and provide growth expectations for a five-year forecast period. The report divides the U.S. customer service market into two major categories: manufacturer-supplied service and independent maintenance organization (IMO) service. These categories are further broken down by product groupings: large systems (supercomputers, mainframes, and minisupercomputers), midrange computers (superminicomputers and traditional minicomputers), and PCs/workstations (business-use microcomputers, supermicrocomputers, and workstations).

The report also discusses key issues, trends, and user requirements that will affect computer service market growth over the next five years.

The report contains 52 pages, including 38 exhibits.

US CUSTOMER
SERVICES MARKET
1991-1996

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AUTHOR

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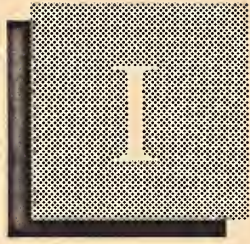
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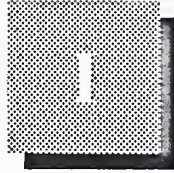
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Introduction



Introduction

U.S. Customer Services Market, 1991-1996 is one of the deliverables for the 1991 Customer Service Plus Program. The report provides a current market size and five-year forecast for the U.S. customer service market, which is segmented into three major product categories: large, midrange, and PC/workstation. The report presents the market size and forecast for service provided by independent maintenance organizations, as well as an analysis of service issues, trends, and new developments that will affect the short-term and long-term growth of the market.

A

Scope

The purpose of this report is to size the current market for customer service in the U.S., provide growth expectations for a five-year forecast period, and present the major issues and trends affecting the market. The report breaks down the market into the two major service sources—manufacturer-supplied service and independent maintenance organization (IMO) service. These service submarkets are further broken into product groupings: large systems (supercomputers, mainframes, and minisupercomputers), midrange computers (superminicomputers and traditional minicomputers), and PCs/workstations (business-use microcomputers, supermicrocomputers, and workstations).

Chapter II provides an Executive Overview of the main points of the report in exhibit format, with accompanying text.

Chapter III presents detailed market size and five-year forecast information for the U.S., as well as forecasts for manufacturer-provided and IMO-provided service by products serviced. Rankings of the top large systems, midrange systems, PC/workstation systems, and IMO vendors are provided in this chapter.

Chapter IV examines issues and trends that have affected, or will affect, service delivery and growth. Pricing trends, manufacturer versus IMO competition, service enhancements, innovative service alternatives, and user requirements are explored.

Chapter V concludes the report with management focus items to improve and enhance service delivery and to uncover future growth markets.

An appendix at the end of the report gives the vendor questionnaire used to gather data for this report.

B

General Methodology

This report was prepared as a culmination of INPUT's 1991 Customer Service Program. During 1991, INPUT surveyed over 400 users of computer equipment in the U.S. The user breakdown is shown by product in Exhibit I-1. The research measured requirements for service and support, and satisfaction with service and support currently received. An examination of attitudes toward alternative services, including service provided by independent maintenance companies, was also conducted.

EXHIBIT I-1

System Size	Number of Respondents
Large Systems	163
Midrange Systems	156
PC/Workstation	100

The results of this research are presented in the following INPUT reports: *U.S. Large Systems User Requirements, 1991*; *U.S. Midrange Systems User Requirements, 1991*; and *U.S. PC/Workstation Systems User Requirements, 1991*.

In addition, INPUT surveyed over 50 leading vendors of customer service regarding their current service operations—including revenue totals, employee totals, services provided, and issues facing their companies. Results of research on other vendors was used to substantiate the issues and trends presented in the INPUT Customer Service issue reports.

This extensive primary research effort has provided INPUT with significant insight into the customer service market. In addition, INPUT tracks hundreds of manufacturer-based and independent maintenance organizations, and collects annual reports, Form 10Ks, press releases, marketing

literature, and news articles from leading service journals. This information is contained in vendor files at INPUT's Information Center and is used, as necessary, to supplement primary research conducted during the year.

The vendor research accounted for over 75% of the U.S. manufacturer-supplied and IMO-supplied service revenue for the 1990 base year. Interview results, as well as quarterly revenue information, allowed INPUT to forecast the 1991 market revenues and future service growth expectations presented in this report.

C

Research Forecast Methodology

In 1991, INPUT accumulated information on the leading manufacturer-based and independent maintenance service organizations. This information was gathered from direct surveys, annual reports, Form 10Ks, and various other sources. When necessary, INPUT made estimates of the revenues of privately held service organizations that declined to reveal their service revenues. Only U.S. service revenue information was considered, to focus the forecast on the U.S. market.

This information became the base for the 1990 service market, which provided each forecast with a base year of reported service revenue. The 1991 information, which forms the starting point of the five-year forecast, was derived from interpretation of public company annual and quarterly reports, 10Ks, 10Qs, and survey information regarding growth expectations.

INPUT uses its proprietary forecast model to examine past service revenue growth trends as affected by product, service delivery, pricing, and user trends. In addition, assumptions regarding future product population growth and releases, technological trends, pricing trends, and other factors are formulated and applied to growth rates.

The resulting forecast for U.S. customer service is then broken down by product serviced (large systems, midrange systems, and PCs/workstations). First, companies that address a single product market are placed in that service market. Companies that address more than one product market are assessed and divided into their component markets. Separate estimates were made for ancillary/other services and, where necessary for comparability, software support. Software support is not included in customer service forecasts.

Total independent maintenance revenues are forecasted using IMO vendor revenue information estimated in the same manner as above. Product breakdowns are estimated from user research reflecting the use of and

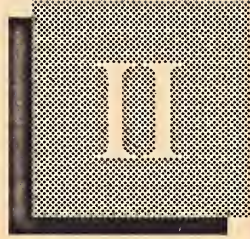
willingness to use IMO service, as well as assumptions based on anticipated manufacturer service pricing and policy changes.

D

Related Reports

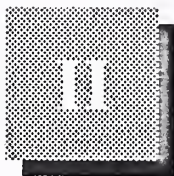
Related INPUT reports for 1991 on the customer service market include:

- *Single-Point-of-Contact Customer Service*
- *Impact of New Support Technologies*
- *Innovative Service Offerings*
- *U.S. Large Systems User Requirements, 1991*
- *U.S. Midrange Systems User Requirements, 1991*
- *U.S. PC/Workstation Systems User Requirements, 1991*



Executive Overview





Executive Overview

This chapter contains the summary information and key findings of this report. Each finding is presented in an exhibit with accompanying text.

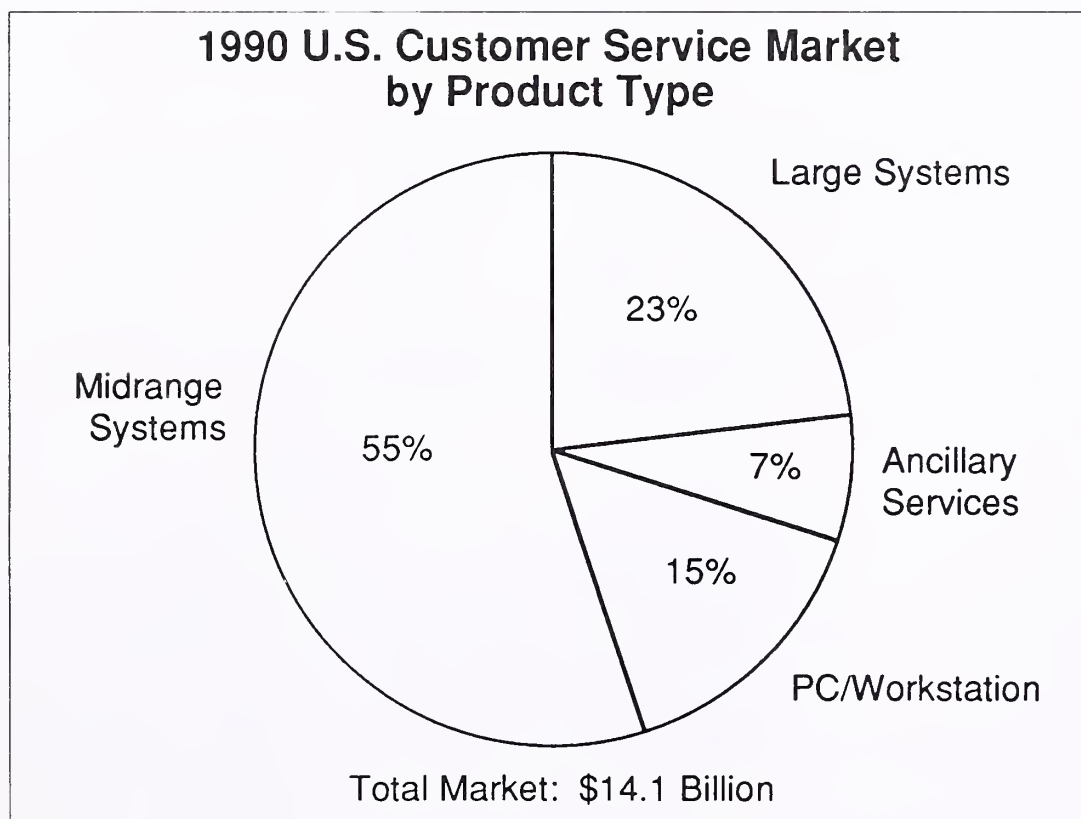
The U.S. customer service market is undergoing a period of variable growth, for reasons analyzed in this report. The purpose of this study is to analyze market directions and growth opportunities available to manufacturer and independent maintenance (IMO) service organizations.

A

1990 Market Overview

The U.S. customer service market totalled \$14.1 billion in 1990. Midrange systems accounted for over half the market, as shown in Exhibit II-1.

EXHIBIT II-1



B

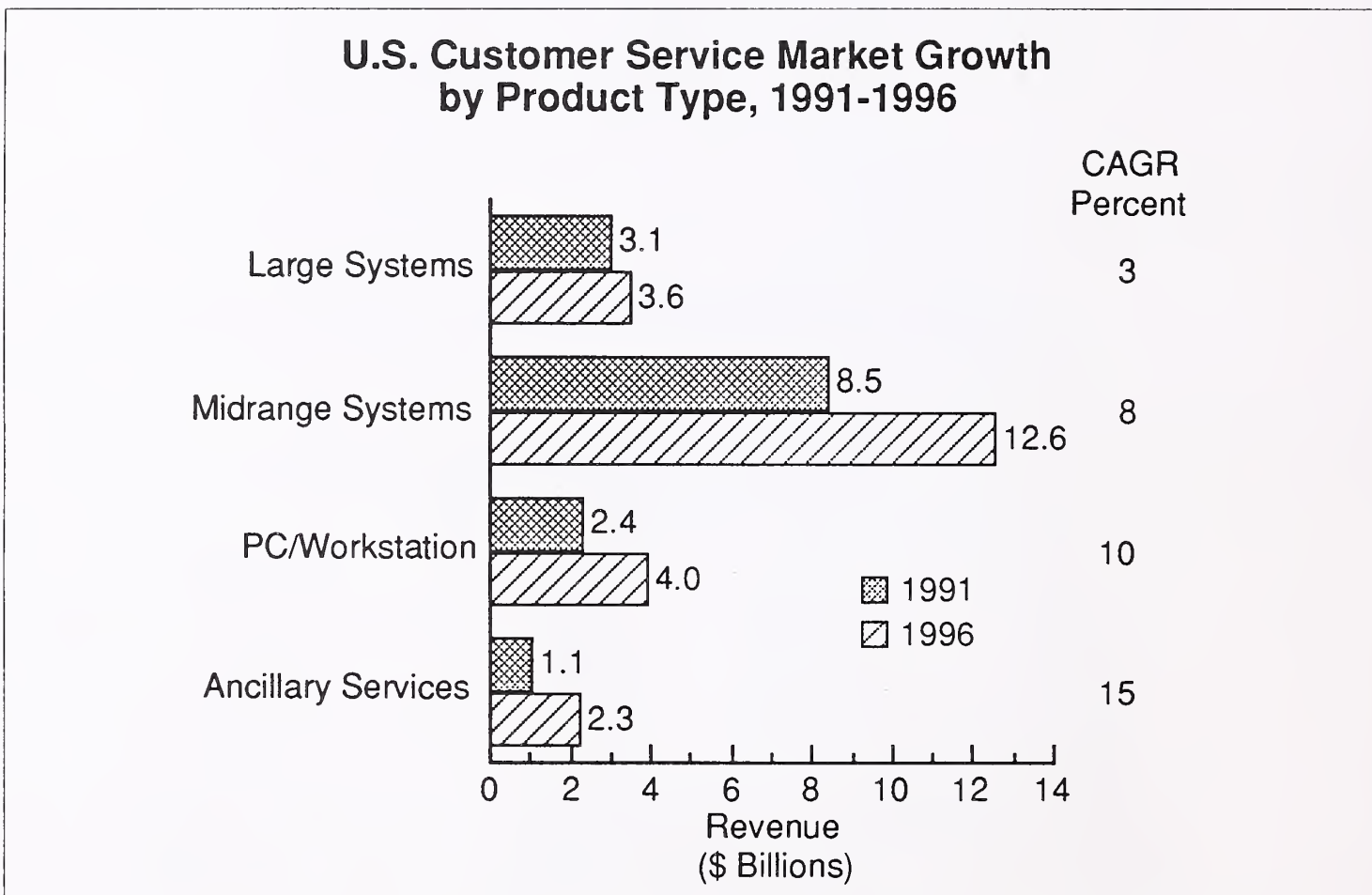
1990-1996 Growth

1. Market Growth

The market will grow to \$22.5 billion in 1996, at a compound annual growth rate of 8%. This growth rate is roughly the same as previously forecasted, and is due largely to the increased pressures that systems manufacturers are finding themselves under to produce higher margins across all lines of business.

Growth rates are expected to vary among types of products (see Exhibit II-2), from a low of 3% for large systems to a high of 15% (from a low base) for ancillary services.

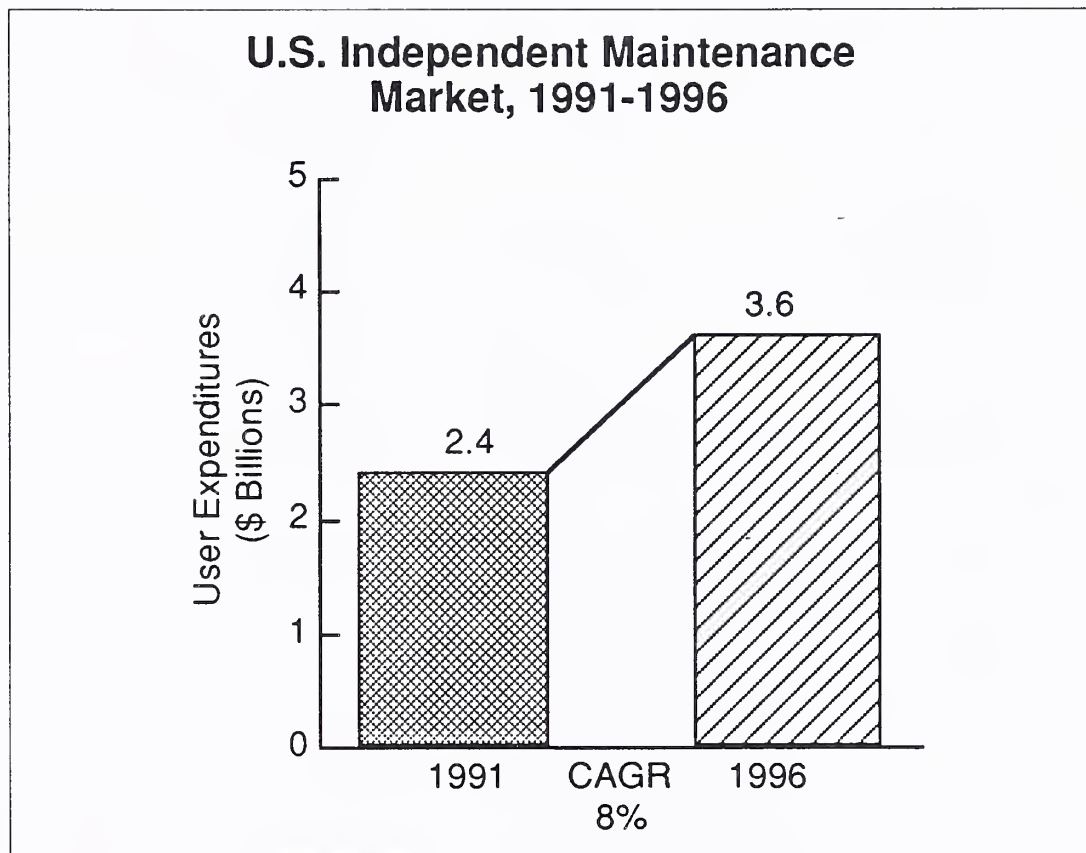
EXHIBIT II-2



PC/workstation service will continue to grow somewhat faster than the rest of the service market, and will increase its share in the overall service market. This market will benefit from continued product sales growth and use of networks and client/server applications, as technological advances improve both product performance and serviceability—currently reflected in IBM’s midrange system, the AS/400, which offers excellent price/performance and advanced remote support facilities.

The independent maintenance segment (figures for which are included in the total market figures in Exhibits II-1 and II-2) is projected to grow at a rate of 8% over the next five years, as shown in Exhibit II-3. This is in line with recent growth, although it is down significantly from the mid-1980s.

EXHIBIT II-3



2. Factors Affecting Growth

The factors affecting growth in customer service continue to be finely balanced, as illustrated in Exhibit II-4. For the last several years, market growth was held back by IBM's actions, which were aimed at reducing the cost of ownership of IBM systems. Now that IBM has begun to increase prices, driven by its need to increase overall revenues (and profitability), this has had the effect of adjusting the IBM price umbrella. IBM's price umbrella has begun to shelter other vendors again.

EXHIBIT II-4

Factors Increasing Customer Service Revenue

Factors Increasing Customer Service Revenue	Impact
IBM price umbrella adjustments	Increased vendor opportunities and competition for IMOs
Need for vendors to increase revenue and profitability	Consideration of new services that require little additional personnel
Increasing customer demand for predictable performance	Increased need for add-on and new services
Growing installed base of new computers and networks (including more complex networks)	Need for more knowledge and experience

On the other hand, revenue growth will be under constant pressure over the next five years as vendors—especially IMOs—try to retain their positions. Customers are increasingly placing pressure on vendors by issuing RFPs and asking for special quotes.

C

Leading U.S. Service Providers

IBM and DEC accounted for over 40% of the customer service market in 1989, as shown in Exhibit II-5. Not surprisingly, IBM dominates the large-scale market even more (see Exhibit II-6), and DEC is the largest player in the midrange market, with over one-quarter of the market (see Exhibit II-7). The PC/workstation market is much more fragmented, with no single vendor having more than one-sixth of the total market, as shown in Exhibit II-8.

EXHIBIT II-5

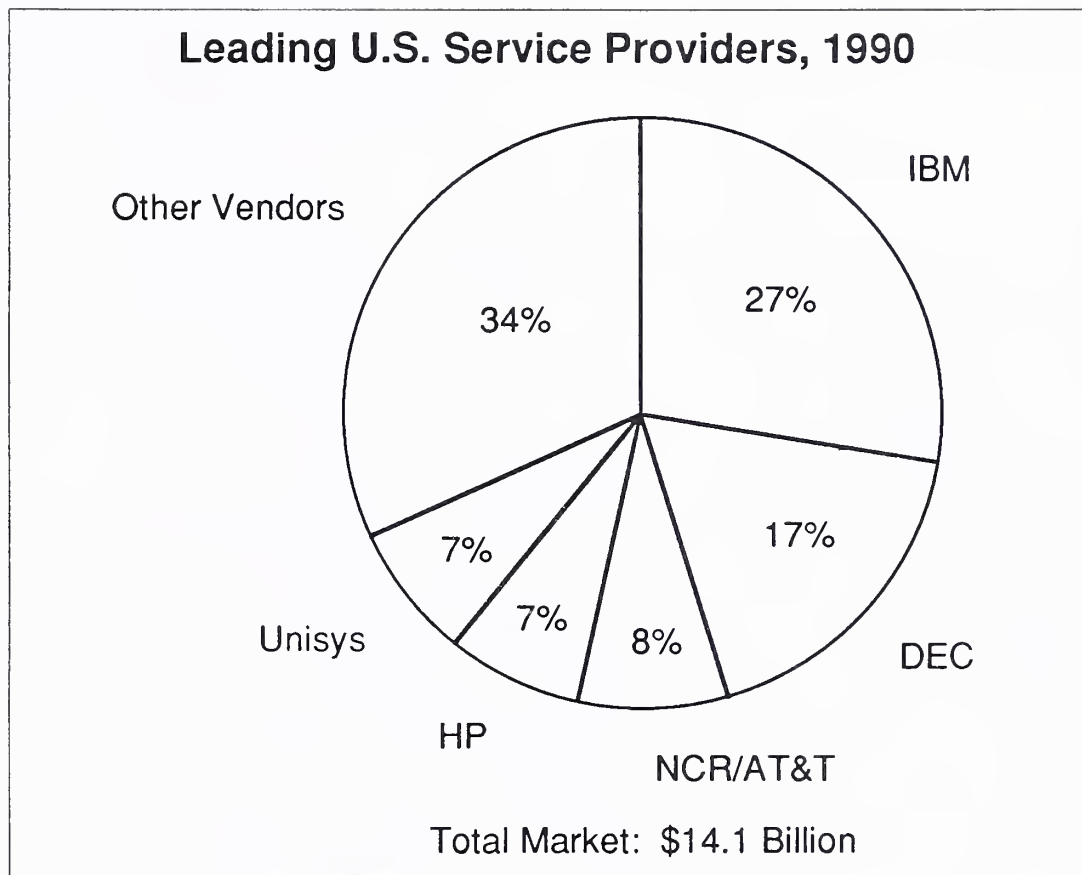


EXHIBIT II-6

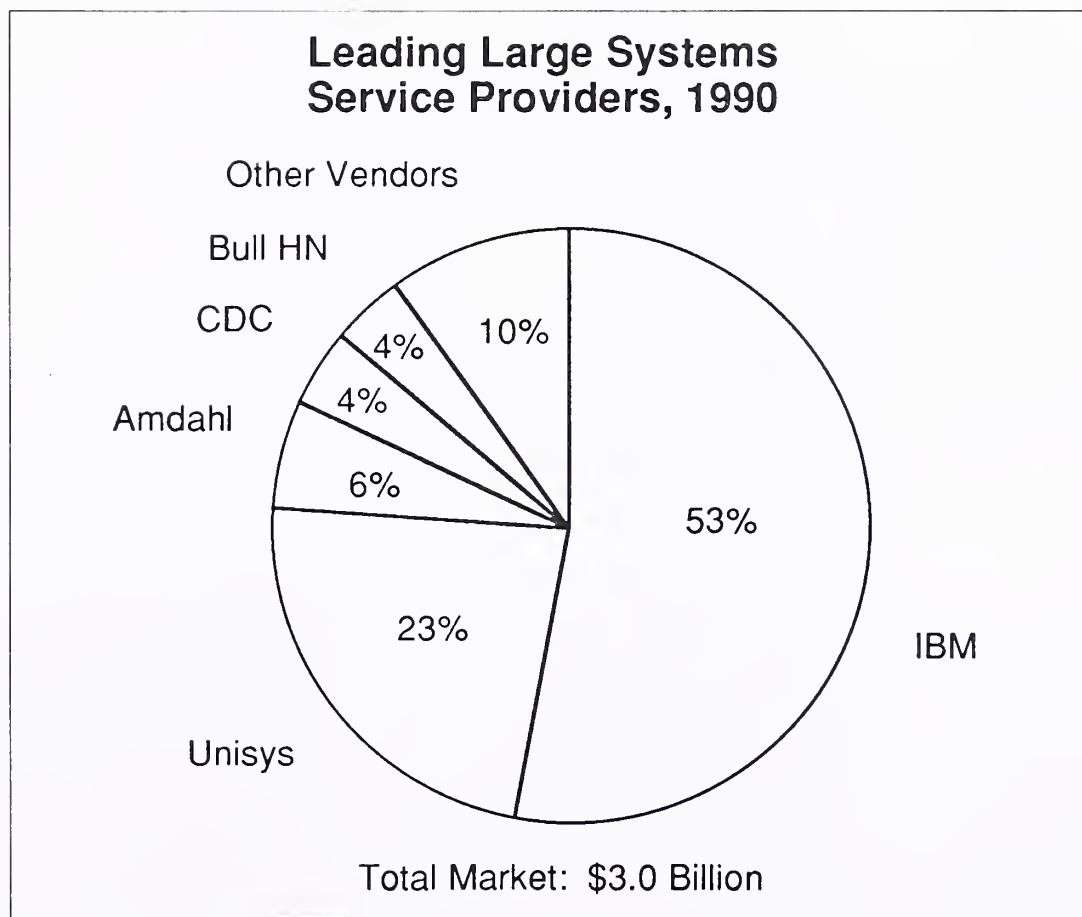


EXHIBIT II-7

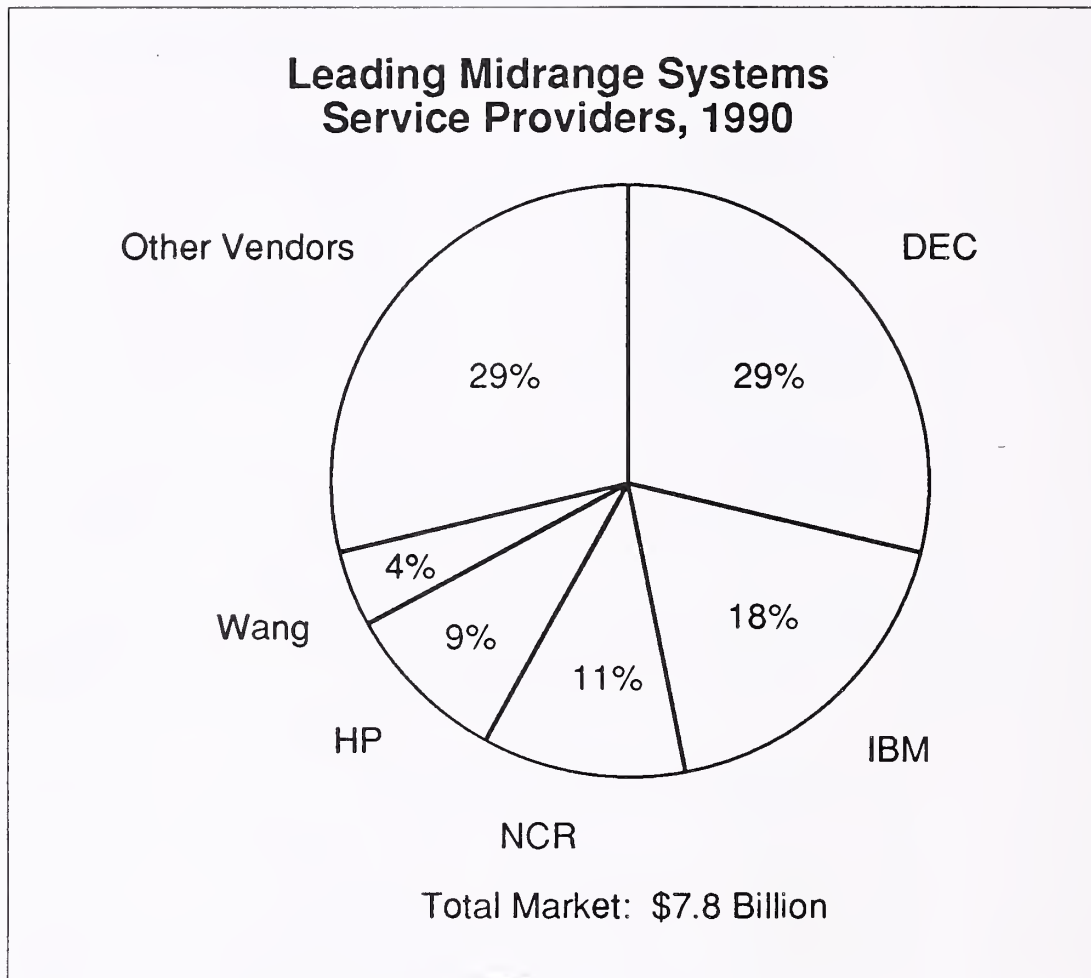
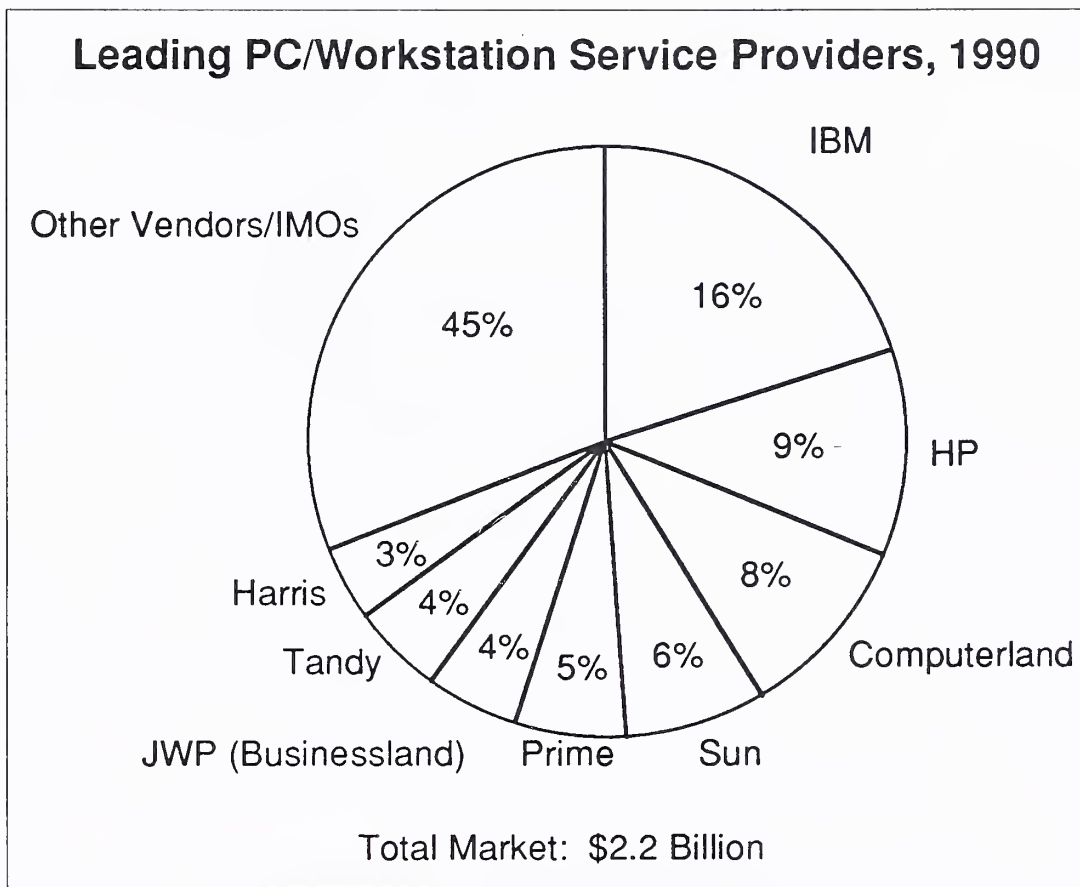


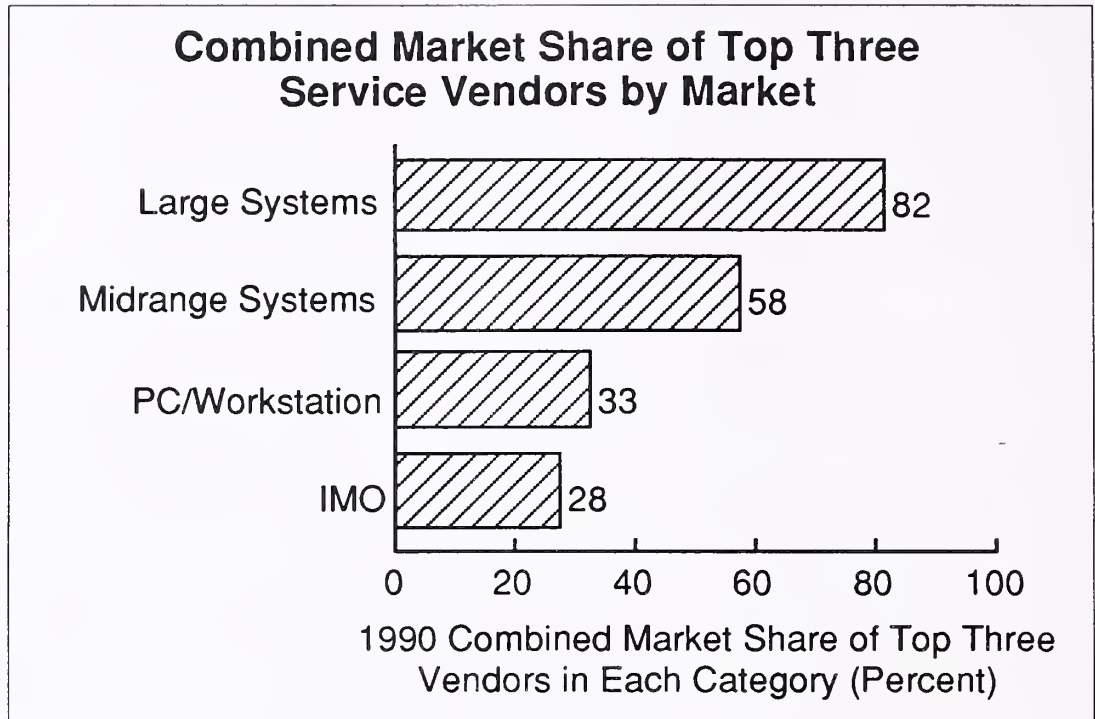
EXHIBIT II-8



Parts of the market are much more concentrated than others: the top three vendors in the large systems category account for over 80% of the revenues, while the top three IMOs account for 28%, as shown in Exhibit II-9. This service concentration is a product of:

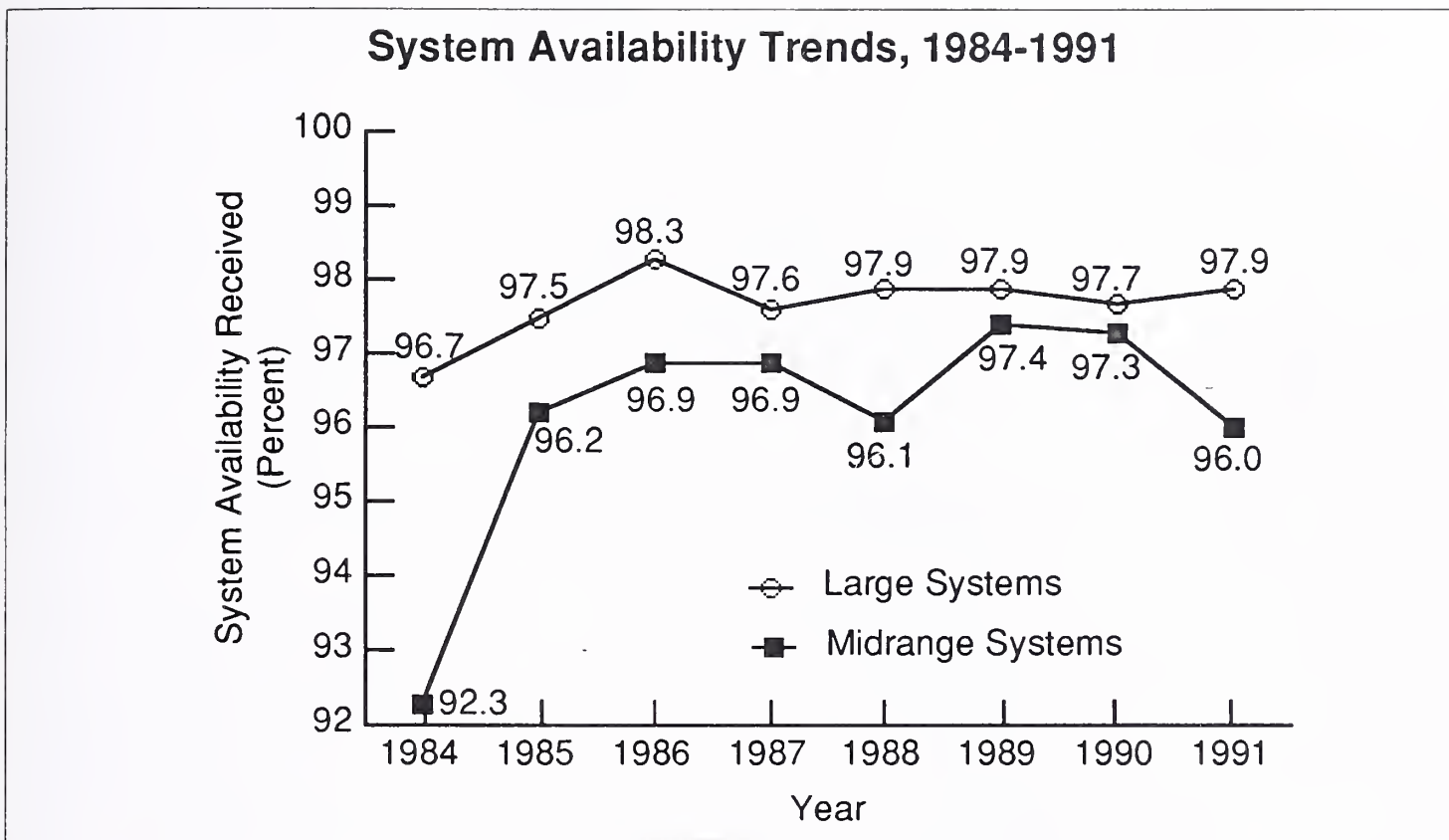
- The amount of underlying concentration at the manufacturers' level
- The newness of a particular market (e.g., PCs/workstations)
- The structure of the market (as in the PC/workstation and IMO categories)

EXHIBIT II-9

**D****System Availability Trends, 1984-1991**

System availability is of primary importance to users of information processing systems. INPUT has tracked vendor performance in this area since 1983. In 1991, INPUT surveyed 319 users of large and midrange systems regarding the service and support they receive from their vendors, including their satisfaction with system availability. Exhibit II-10 presents system availability for large and midrange system performance for the past seven years. In 1989, for the first time, the gap between large-scale and midrange systems availability was practically closed. Note that the severe dip in 1984 resulted from the inclusion of older products from Datapoint and Burroughs in the midrange sample.

EXHIBIT II-10

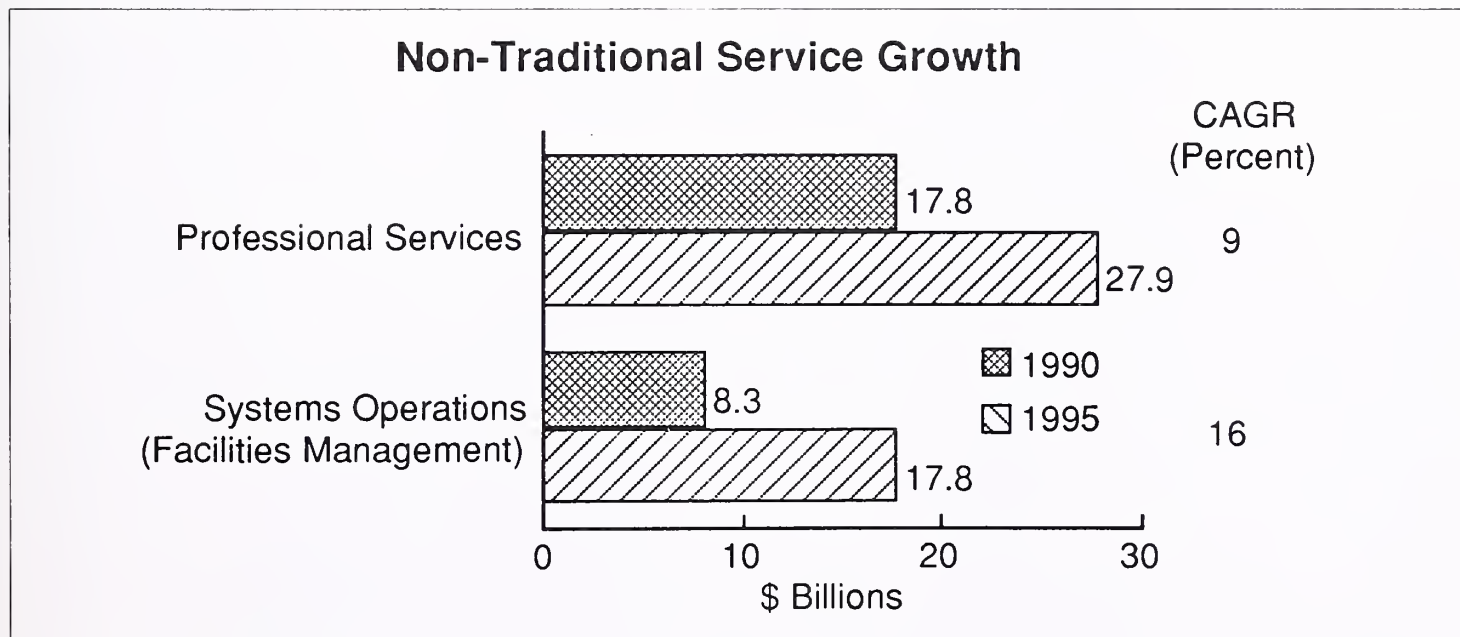


E

New Opportunities

The broader areas of service are growing much faster than are traditional customer services (Exhibit II-11).

EXHIBIT II-11

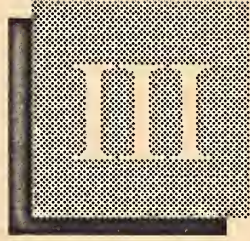


Not all of these markets and submarkets are equally attractive to customer service organizations. Some areas, such as supplying specialized consulting services or systems operations services, draw upon the strengths of a larger number of customer service organizations.

The challenge for the traditional customer service organization is to refocus the sales and marketing of services. The shift from the delivery of traditional maintenance-oriented services to more professional services-like consulting can be difficult. Pure maintenance requires more of a mechanical orientation—keeping the equipment operational, having short response and repair time, and knowing how the equipment works so as to be able to repair it.

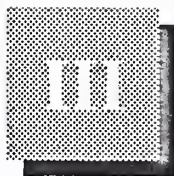
There is now an assumption that equipment performance will be good and generally predictable. Once that objective can be met, vendors find that they must be prepared to deliver additional services.

The customer service market today is moving toward the delivery of services that require more abstract abilities, such as evaluating a site and preparing proposals to fulfill all of the diverse requirements for consulting, configuration planning, capacity planning, and other professional services that are ancillary to the maintenance function. The success of an organization depends on its ability to move staff from the mechanically oriented delivery of pure maintenance to the more abstract delivery of ancillary professional services.



Service Market Size and Forecast, 1991-1996



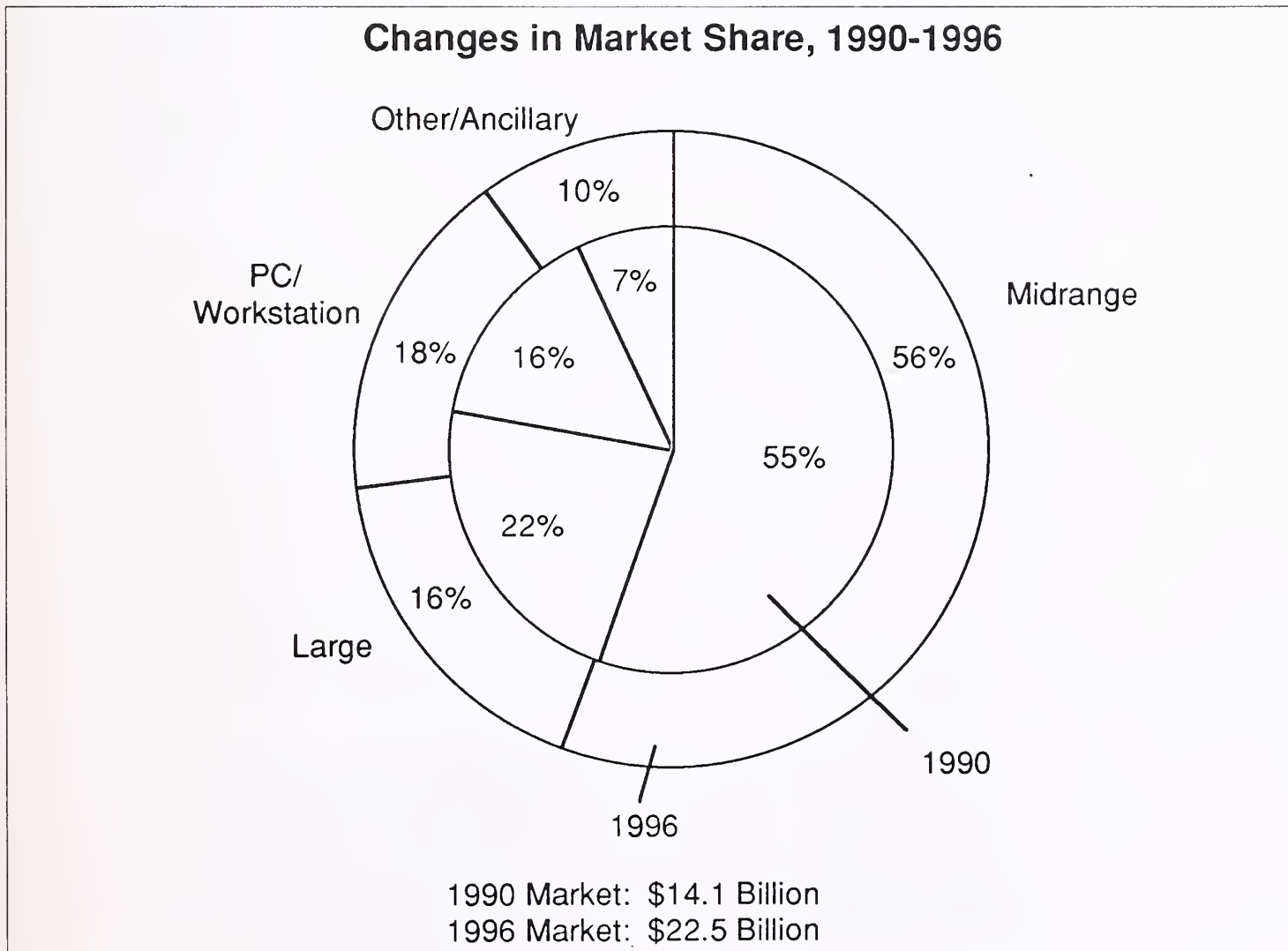


Service Market Size and Forecast, 1991-1996

A U.S. Customer Service Market Size and Forecast

The total U.S. customer service market for large, midrange and PC/workstation systems and ancillary/other services was \$14.1 billion in 1990. It will grow to \$22.5 billion in 1996, as shown in Exhibit III-1.

EXHIBIT III-1



User expenditures in the large systems segment amounted to just over \$3.0 billion for traditional mainframes, minisupercomputers, and supercomputers that have typical word lengths of 32 bits and configuration prices in excess of \$350,000. Examples of such systems include IBM 303X, 308X, 309X, and ES 9000, and computer systems that compete with these products, including systems from Hitachi, Amdahl, NCR, Unisys, CDC, and Bull. A smaller segment of this market is held by supercomputer manufacturers (typical configuration prices exceeding \$1 million) led by Cray Research, which includes manufacturers of parallel systems.

The increase in speed, capacity, and connectivity brought about by new technology has enhanced the role of midrange systems service as an increasingly important service market, both for manufacturers and for IMOs (independent maintenance organizations) that are focusing on midrange systems as a growth market. The midrange market was \$7.8 billion in 1990. Midrange systems can be categorized as superminicomputers and the more traditional business minicomputers that—due to steadily improving design and technology—have outgrown traditional definitions (which defined *small* systems as providing 16-bit to 32-bit word lengths at prices ranging from \$15,000 to \$350,000). A growing number of microcomputers and workstations meet the 32-bit definition, and many cross over the \$15,000 lower price limit. Typical midrange systems include IBM's System /3X, 43XX, AS/400, and 937X product lines; DEC's PDP and VAX families; and competitive products from a wide range of vendors, including HP, Data General, Wang, AT&T, Prime, Concurrent, Gould, Unisys, NCR, Bull, Harris, Tandem, Stratus, and many others.

Technological advances and increased use of PC LAN and client/server application systems have greatly contributed to the PC/workstation market segment, which now comprises 16% of the total service market and was \$2.2 billion in 1990. This segment contains business-use microcomputers, supermicrocomputers, and technical workstations that traditionally are defined as 16- to 32-bit word lengths (again, advances have stretched these boundaries) and systems prices that typically fall below \$15,000. Leading products in the traditional microcomputer segment include the IBM PS/2, Apple Macintosh, and systems from Compaq, Tandy, and at least 200 "name" and "no-name" IBM PC clone manufacturers. The most interesting end of this market—supermicrocomputers and technical workstations—is represented by products from Apollo, Sun, Altos, DEC (the MicroVAX) and, to some extent, IBM (some see the extension of the PS/2 line into this market).

Ancillary services consist of maintenance training, preinstallation planning, consulting, installation/deinstallation, and network design and planning. INPUT estimates that this heterogeneous market was \$1.0 billion in 1990. There are additional services now being offered that fall outside this definition, including network review, equipment workflow

analysis, operational review, and upgrade and materials review and supply. These services are being included in the new "ancillary /other" category.

Midrange systems account for over half of the market, followed by large-scale systems with almost a quarter of the market. These proportions are not expected to change significantly over the next few years.

INPUT expects ancillary services to grow fastest (see Exhibit III-2), although from a relatively low base. This growth reflects the increasing opportunity for traditional customer service firms to expand their offerings with associated professional services.

EXHIBIT III-2

Computer Services Market Forecast, 1991-1996

System Size	\$ Millions							CAGR (Percent)
	1990	1991	1992	1993	1994	1995	1996	
Large	3,050	3,137	3,226	3,317	3,411	3,508	3,607	3%
Midrange	7,836	8,485	9,189	9,950	10,774	11,667	12,635	8%
PC/Workstation	2,206	2,431	2,680	2,955	3,257	3,590	3,957	10%
Other	1,030	1,180	1,352	1,550	1,777	2,037	2,334	15%
Total	14,122	15,233	16,447	17,772	19,219	20,802	22,533	8%

1. Forecast Factors

Other factors can also increase customer service revenues under certain circumstances. Much of the motivation behind IBM's lowering of customer service charges from 1986 to 1988 was to reduce its customers' overall cost of ownership. This might have helped IBM overall, but the action certainly reduced IBM's service revenues and had an impact elsewhere in the market.

IBM began to reverse its position with selective service price increases in 1989, driven by its need to increase overall revenues and profitability. For the remainder of the market, this has had the effect of adjustments in the IBM price umbrella. Exhibit III-3 reviews this impact and other market forces that can increase revenue.

EXHIBIT III-3

Factors Increasing Customer Service Revenue

Factors Increasing Customer Service Revenue	Impact
IBM price umbrella adjustments	Increased vendor opportunities and competition for IMOs
Need for vendors to increase revenue and profitability	Consideration of new services that require little additional personnel
Increasing customer demand for predictable performance	Increased need for add-on and new services
Growing installed base of new computers and networks (including more complex networks)	Need for more knowledge and experience

The primary reasons for INPUT's not increasing its growth estimates for large systems were the slowed growth of the installed base and the greater reliability of equipment. Despite selective price increases, growth should not increase at a faster rate than in the past.

2. Independent Maintenance Organizations

INPUT forecasts an overall growth rate of 8% for the IMO market, with somewhat more opportunity in the PC/workstation segment, as shown in Exhibit III-4.

IMOs have been confronted with relatively minor resistance in competing for service of the following:

- Peripherals, particularly those supplied by a manufacturer different from the one supplying the CPU
- Microcomputers/workstations, whose manufacturers might not have a service presence or a well-known service image
- Older or obsolete equipment, whose manufacturers do not want to perform service or no longer exist

EXHIBIT III-4

Independent Maintenance Organization Forecast, 1991-1996

System Size	\$ Millions							CAGR (Percent)
	1990	1991	1992	1993	1994	1995	1996	
Large	91	96	102	108	114	121	128	6%
Midrange	1,067	1,153	1,248	1,348	1,458	1,576	1,703	8%
PC/Workstation	904	986	1,076	1,174	1,281	1,397	1,524	9%
Other	178	191	207	223	241	260	281	8%
Total	2,240	2,426	2,633	2,853	3,094	3,354	3,636	8%

As the IMO industry developed, IMOs attempted to attract users of new equipment, particularly users of systems who in the past stayed predominantly with the manufacturer's service organization. In order to be successful at this, IMOs often relied on extremely low service prices (usually 25% to 33% less than manufacturer service prices) as a lure. At the same time, IMOs continued to use small-ticket product service (e.g., for microcomputers and peripherals) as a way of getting a foot in the door and later drawing away larger-product service.

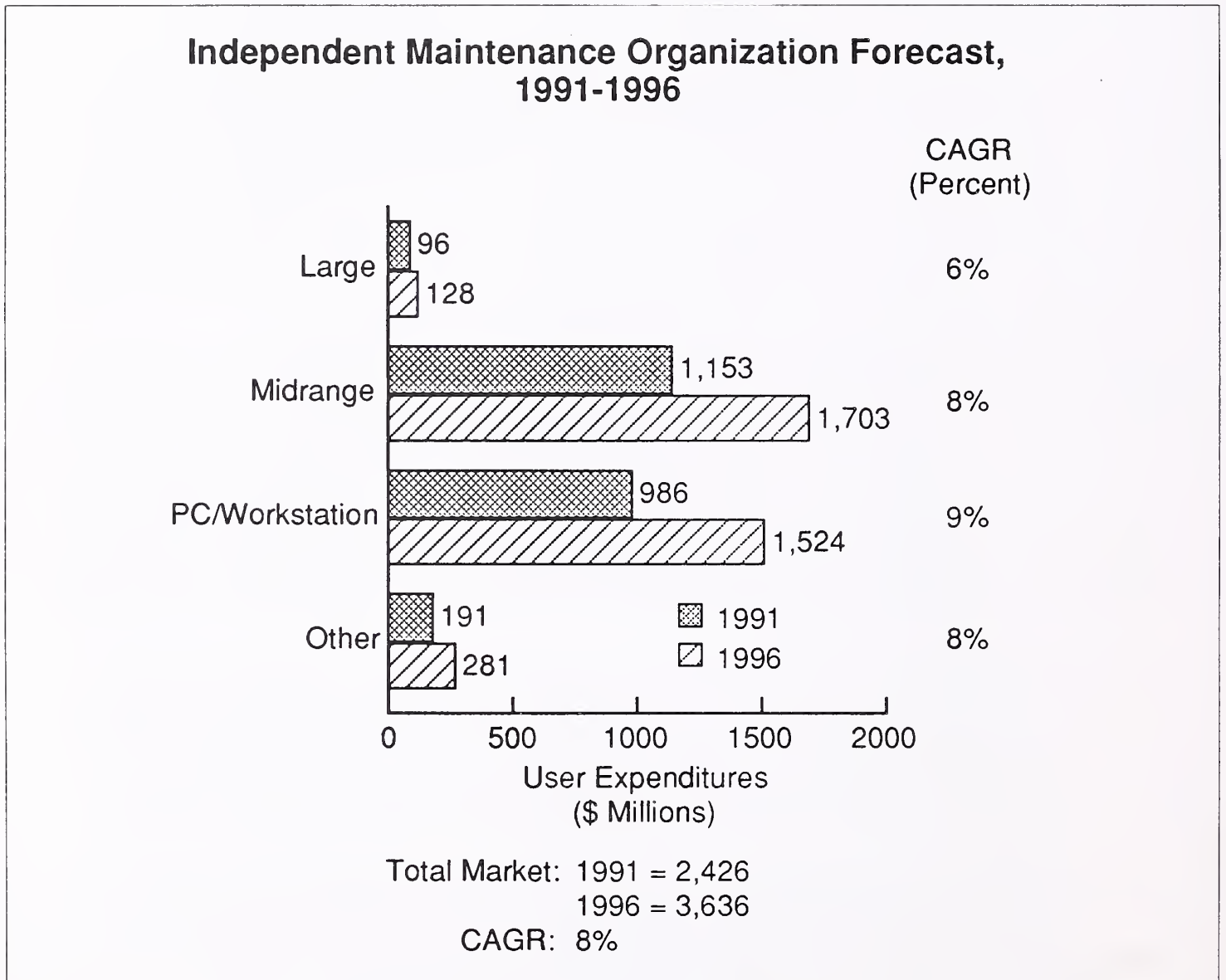
In late 1986 and 1987, IBM made a number of service pricing and policy announcements that would severely hamper IMO penetration into IBM's user base. The most significant of these announcements were the elimination of non-prime (outside of Monday-Friday, 8 a.m.-5 p.m.) time-and-material service; expansion of contract service coverage for all systems to 24-hour-a-day, 7-day-a-week service; tightening of the spares pipeline; and, most importantly, expansive service discounting programs (CSA and MRSA) that brought IBM service pricing in line with, or even lower than, the prices of most IMOs.

IMO service organizations that competed directly with IBM for systems service were forced to offer similar service plans. Bell Atlantic Business Systems Service, TRW, and Intellogic Trace all offered multiyear service discount plans that often removed many of the customer involvement requirements, such as the help desk or the initialization review and fees.

IBM kept pressure on IMOs by offering prepayment discounts (EMO) and its own multivendor service program, called Technical Services Management (TSM). Other vendors offered new multivendor support offerings (HP and DG), or expanded earlier offerings (DEC).

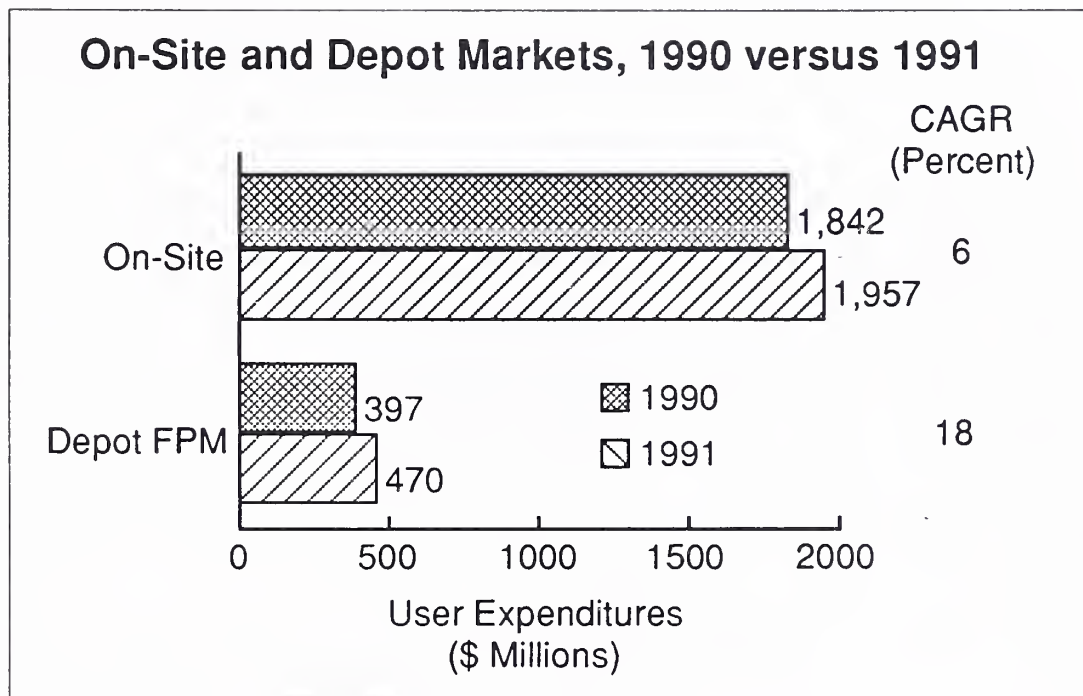
Breaking down the IMO market by product type demonstrates the effect that IBM's CSA and MRSA service policies have had on IMO growth prospects, as shown in Exhibit III-5. In the large system service market, IMOs have found it difficult to supplant the manufacturer's service offering, since large system users are somewhat less price-sensitive and are more apt to require non-hardware maintenance services that IMOs typically do not provide. In addition, user concern over spare parts availability and access to remote diagnostics and support tools is greater in the large systems market, given the high system availability requirements expressed by large system users. Accordingly, IMO efforts to expand into this market have been limited to either the largest IMOs or small IMOs with focused (product or geographic location) service offerings. The larger IMOs are also coming under serious price pressure from much smaller "mom-and-pops" that have much lower overhead.

EXHIBIT III-5



The bright spots on the IMO scene are the raising of IBM's price umbrella (at least to an extent) and depot maintenance (fourth-party maintenance or FPM), which had a good growth rate from 1990 to 1991 although it started from a low base, as shown in Exhibit III-6.

EXHIBIT III-6



Typical services offered by FPM organizations include product refurbishment (which includes cleaning and cosmetic changes), product refeeding (product upgrades/downgrades and memory expansion), and reconditioning (typically subassembly repair and remanufacturing). Because sealed disk drives are commonly serviced by FPMs, most major FPM operations require a Class 100 cleanroom environment, since dust contamination can destroy disk drives.

FPM offers many benefits to service organizations. Using FPMs to remanufacture components frees manufacturers from having to send components back through their own manufacturing facilities, resulting in faster returns and minimal interruption of normal manufacturing cycles. TPMs without remanufacturing capabilities can utilize FPM to expand their service offerings to include product refurbishment, refeeding, and reconditioning services without the labor or material (parts, equipment, and cleanroom) requirements.

B

Competitive Environment

In this section, the service providers and market share will be examined, as will major acquisitions and activity that has occurred over the last year in the independent maintenance market.

1. Service Providers

The top ten U.S. service providers account for 75% of the market, as shown in Exhibit III-7. In the 1989 report, Computerland was the first non-traditional service provider that appeared on the top ten. This year, Computerland did not appear in the top ten. The first eight vendors, IBM through Wang, remained in the same places. Prime moved up one position and Tandem joined the top ten.

EXHIBIT III-7

Top Computer Service Vendors			
Company	Rank	1990 Revenue (\$ Millions)	Market Share (Percent)
IBM	1	3,816	27
DEC	2	2,384	17
NCR/AT&T	3	1,141	8
HP	4	975	7
Unisys	5	938	7
Bull HN	6	405	3
Bell Atlantic Business Systems Services	7	305	2
Wang	8	275	2
Prime	9	200	1
Tandem	10	198	1
Total Top Vendors		10,637	75
Other Vendors		3,485	25
Total Market		14,122	100

The top large systems service vendors are presented in Exhibit III-8. CDC and Amdahl reversed their rankings for the number-three and -four spots. Amdahl gained market share, growing from 4% of the market to 6%. CDC lost 1% of the market share, going from 5% to 4% of the overall large systems market.

EXHIBIT III-8

Top Large Systems Computer Service Vendors

Company	Rank	1990 Revenue (\$ Millions)	Market Share (Percent)
IBM	1	1,610	53
Unisys	2	700	23
Amdahl	3	185	6
CDC	4	135	4
Bull HN	5	120	4
Hitachi	6	105	3
Cray	7	87	3
NCR/AT&T	8	75	2
Total Top Vendors		3,017	99
Other Vendors		33	1
Total Market		3,050	100

Midrange systems also had some slight adjustment in the relative rankings of companies, as shown in Exhibit III-9. Data General moved from the number-six position to the number-eight position. Tandem and AT&T lost market share but gained relative rankings, moving from positions 7 and 8 to 6 and 7. The midrange market grew by just over 8% from 1989, with the top five vendors retaining almost the same share of the market.

EXHIBIT III-9

Top Midrange Systems Computer Service Vendors

Company	Rank	1990 Revenue (\$ Millions)	Market Share (Percent)
DEC	1	2,272	29
IBM	2	1,410	18
NCR	3	862	11
HP	4	704	9
Wang	5	275	4
Tandem	6	193	2
AT&T	7	164	2
Data General	8	150	2
Gould	9	138	2
Bull HN	10	133	2
Total Top Vendors		6,301	80
Other Vendors		1,535	20
Total Market		7,836	100

The PC/workstation market had the most change over the last year, as shown in Exhibit III-10. Only IBM retained the same market share from the previous year. With the acquisition of Businessland, JWP entered the list of the top eight PC/workstation computer service vendors, moving to the number-six spot. Businessland had been in position nine. Market share has increased as a result of the acquisition, from 3% to 4% of the market.

EXHIBIT III-10

Top PC/Workstation Systems Computer Service Vendors

Company	Rank	1990 Revenue (\$ Millions)	Market Share (Percent)
IBM	1	348	16
HP	2	200	9
Computerland	3	170	8
Sun	4	126	6
Prime	5	105	5
JWP (Businessland)	6	85	4
Tandy	7	83	4
Harris	8	62	3
Total Top Vendors		1,179	53
Other Vendors		1,027	47
Total Market		2,206	100

The upheaval and activity in the independent maintenance market resulted in the top vendor revenues and market share shown in Exhibit III-11. Most of the vendors on the list are the same as on the list from 1988, but there have been changes in their positions and market share. The acquisition of the third-party maintenance division of CDC resulted in an increase in market share by Sorbus. Shortly after the acquisition, Sorbus changed its name to Bell Atlantic Business Systems Service to more clearly reflect its increased coverage and the combination of the acquired business units into one new, cohesive unit. McDonnell Douglas Field Service Company also went through a management buyout resulting in a name change to Novadyne. Novadyne's market share increased from 4% in 1988 to 5% in 1989, but decreased to 4% in 1990.

EXHIBIT III-11

Top Independent Maintenance Organizations

Company	Rank	1990 Revenue (\$ Millions)	Market Share (Percent)
Bell Atlantic Business Systems Services	1	305	14
TRW	2	162	7
GECS	3	157	7
Intellogic Trace	4	153	7
NCR	5	112	5
Novadyne	6	94	4
Dataserv	7	90	4
IDEA Servcom	8	75	3
Total Top Vendors		1,148	51
Other Vendors		1,092	49
Total Market		2,240	100

2. Major Acquisition Activity

As previously mentioned, the biggest acquisition of 1990 was Sorbus' acquisition of Control Data's third-party maintenance division. This move joined the top-ranking vendor of the independent maintenance market in 1988 with the sixth-ranked vendor. The new company is the largest in the IMO market. The acquisition took full effect in 1991. Once the acquisition was completed, Sorbus was renamed Bell Atlantic Business Systems Service to better describe the new organization.

The other major change in the 1990 independent maintenance market was the leveraged buyout of the McDonnell Douglas Field Service Company (MDFSCO) by MDFSCO management. Novadyne Computer Systems, Inc. was formed from the buyout, and has over 1,000 professionals located

in over 100 offices across the U.S. Novadyne represents the combined forces of the former Microdata, MCAUTO, and Tymshare field service organizations. Although there was a drop in 1989 revenues, the company has increased its services and gained new customers during its first full year of operation.

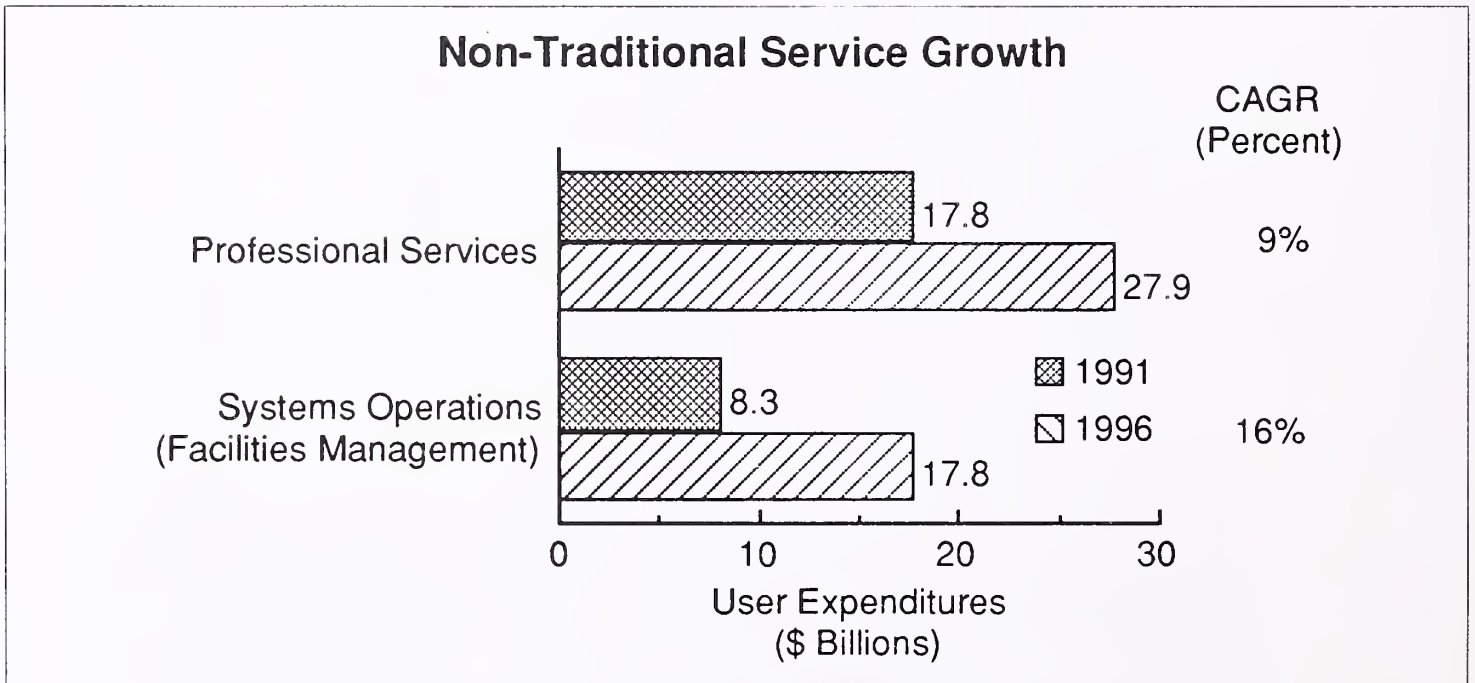
A planned acquisition of TRW Customer Service Division was announced by Phoenix Technologies, Inc. during the fourth quarter of 1990, with the sale expected to close January 31, 1991. During the second quarter of 1991, the option of Phoenix expired and TRW CSD announced that it was no longer available for acquisition. TRW CSD's 1990 revenue grew to \$162.0 million from \$150.0 million in 1989, with the same 7% share of the market.

C

New Service Opportunities

Many customer service organizations are entering or considering entry into new activities, such as consulting, general professional services, disaster recovery, and systems operations. These activities are growing much faster than traditional customer service, in general (Exhibit III-12).

EXHIBIT III-12

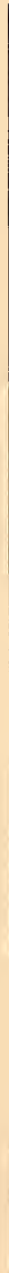


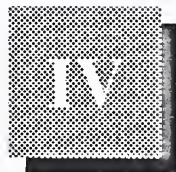
INPUT has not included the value of these services in its customer service forecast (Exhibit III-1) since they are generally classified as information services offered by customer service organizations. In addition, classifying these services as customer service could lead to possible reclassification when vendors move the services to other areas, as IBM has done in

the National Services Division (services were moved in and out of this division). These services are further discussed in INPUT's professional services and systems operations market reports.



Customer Service Market Issues and Trends





Customer Service Market Issues and Trends

This chapter will examine major issues and trends and their effects on the customer service market. Some of the issues discussed are changes in current service offerings that will, in the long term, redefine the services that are offered and the delivery of those services.

Issues to be covered include:

- Multivendor/single-source hardware and software service
- User requirements
- Non-traditional services
- New technology in systems
- Alliances and mergers

A

Single-Source Hardware and Software Support

Over 28% of the users interviewed reported receiving some type of multivendor support on their computer systems, as shown in Exhibit IV-1. When the response is broken out by product, the PC/workstation area is where the greatest number of users receive support on other vendors' CPUs, peripherals, or network products.

EXHIBIT IV-1

Users Receiving Multivendor Support

System	Percent Receiving Support on		
	Other Vendor CPUs	Other Vendor Peripherals	Other Vendor Network Products
Large	9	21	18
Midrange	9	23	14
PC/Workstation	21	31	22
Total Sample	12	24	18

Users were also asked to rate the importance of multivendor service in three years. The mean importance rating of this service is shown in Exhibit IV-2. The PC/workstation user group expressed the highest mean importance in the areas of service on other vendors' CPUs and peripherals. It was the midrange system group that had the highest mean importance for service on other vendors' network products. All of the mean importance ratings were less than 3 on a scale of 1 - 5, showing that there is interest in the multivendor support area, but not strong interest.

EXHIBIT IV-2

Importance of Multivendor Services

System	Mean Importance in Three Years		
	Other Vendor CPUs	Other Vendor Peripherals	Other Vendor Network Products
Large	2.1	2.4	2.5
Midrange	2.3	2.7	2.8
PC/Workstation	2.5	2.8	2.6
Total Sample	2.3	2.6	2.6

Scale: 1-5—1 = low importance, 5 = high importance

Exhibit IV-3 presents the user interest in single-point-of-contact service by size of system. The highest mean interest in single-point-of-contact service was shown by the midrange systems group—3.6 on a scale of 1 - 5. On this exhibit it is also important to examine the statistical median and mode of the responses. For all three sizes of systems, the median response was 4 and the mode, or greatest number of single responses, was 5. One-half of the responses were 4 or greater and one-half were 4 or less. This indicates interest in single-point-of-contact service, even though the mean interest is not extremely high.

EXHIBIT IV-3

User Interest in Single-Point-of-Contact Service

System	Mean Interest
Large	3.4
Midrange	3.6
PC/Workstation	3.4
Total Sample	3.5

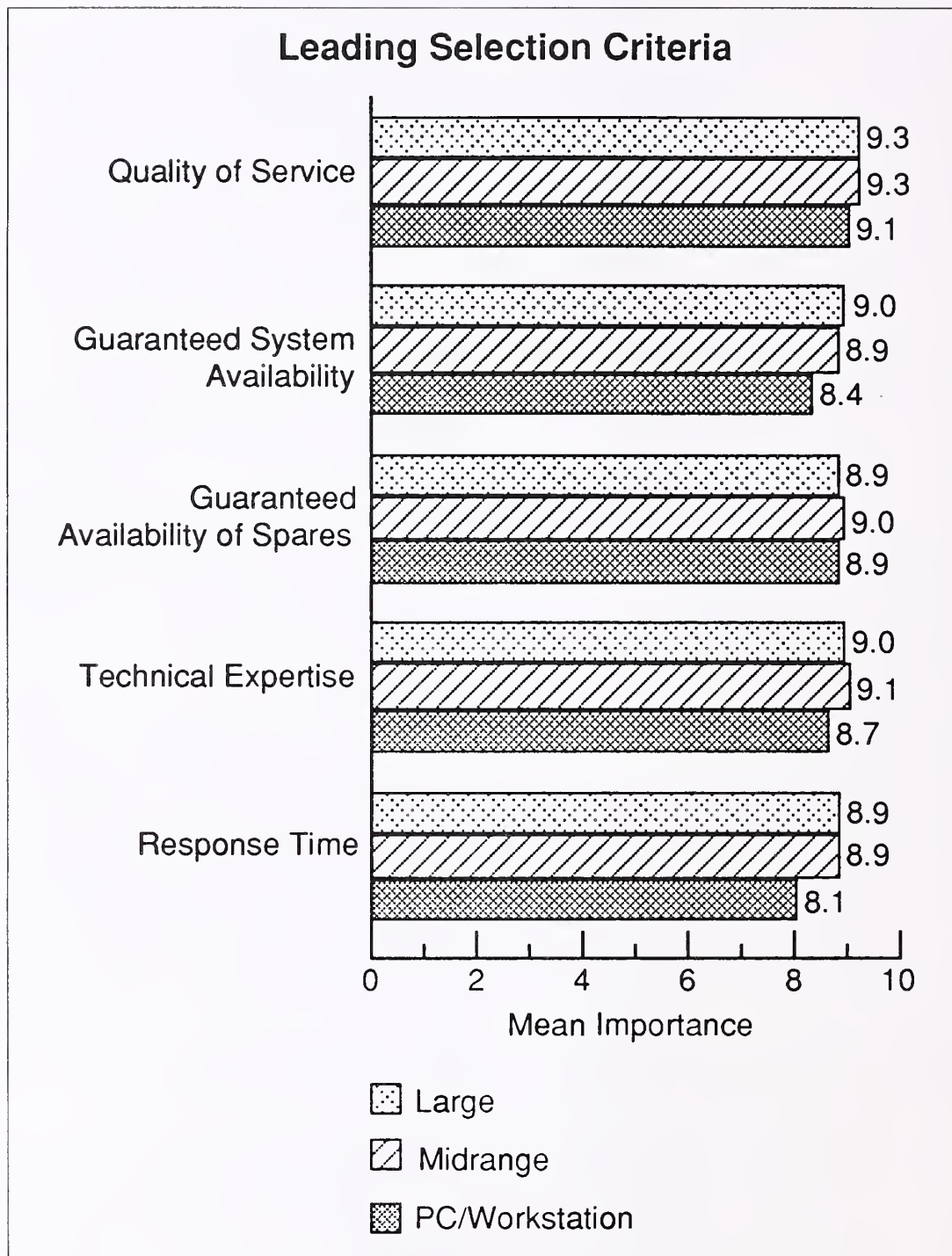
Scale: 1-5—1 = low, 5 = high

B

User Requirements

One of the most important items related to the expansion of market share is understanding what is important to users and how users select a service vendor. Exhibit IV-4 presents the top five items in mean importance to users in selecting a service vendor. The leading issue in mean importance for all users is quality of service. Other quality-related issues such as guaranteed system availability, guaranteed availability of spare parts, and technical expertise followed close behind in importance.

EXHIBIT IV-4



The majority of the total user group did not report having an independent maintenance organization as part of their service plan. Some amount of service may have been subcontracted to an IMO by the OEM vendor that was transparent to the user at the time of the interview. Exhibit IV-5 presents the reasons reported by the users why they did not use an IMO as part of their service scheme. Seventy-four percent of the total group reported satisfaction with the manufacturer as a reason not to use an IMO. Other major reasons given include the technological advantage of the manufacturer and the belief that the IMO does not support software.

EXHIBIT IV-5

Reasons IMO Not Used

	Percent of Sample Mentioning			
	Large	Midrange	PC/ Workstation	Total Sample
Satisfied with Manufacturer	79	69	71	74
Technological Advantage	64	56	61	60
IMO Does Not Support Software	31	34	36	33
Manufacturer Contract	26	25	13	24
Fear of System Supplier Response	21	20	9	19
Considered/Rejected IMO	34	30	21	30
IMO Financial Weakness	10	12	0	9
Unaware of IMO Service	14	9	4	10
Other	24	22	28	24

Multiple responses allowed.

Fifteen percent of the sample reported using an IMO as part of their service scheme. Exhibit IV-6 presents the reasons an IMO was used by this portion of the user group. There was a higher percent of PC/workstation users than large systems or midrange systems users that had IMO service. The main reasons given for the use of an IMO included lower cost, local service, a more flexible contract, and single-source service by the IMO.

EXHIBIT IV-6

Reasons for IMO Use

	Percent of Sample Mentioning			
	Large	Midrange	PC/ Workstation	Total Sample
Lower Cost	91	91	80	84
Local Service	73	83	70	73
Single-Source Service	89	55	47	55
Ability to Maintain Open Systems	50	46	11	25
IMO Service Quality	18	30	38	33
More Flexible Contract	82	82	55	65
Other	18	8	17	13
Sample	11	11	40	62

Multiple responses allowed.

One of the main indicators of service vendor satisfaction has been satisfaction with systems availability and a few key aspects of hardware and software support. Exhibits IV-7 and IV-8 present an analysis of system availability required and system availability received for the large systems and midrange systems sample. The service required versus received once again flip-flopped for the large systems group, with the mean service received (97.9) exceeding the mean level of service required (97.1). The midrange group showed a negative move with the mean service required being higher than the mean level of service received, as shown in Exhibit IV-8.

EXHIBIT IV-7

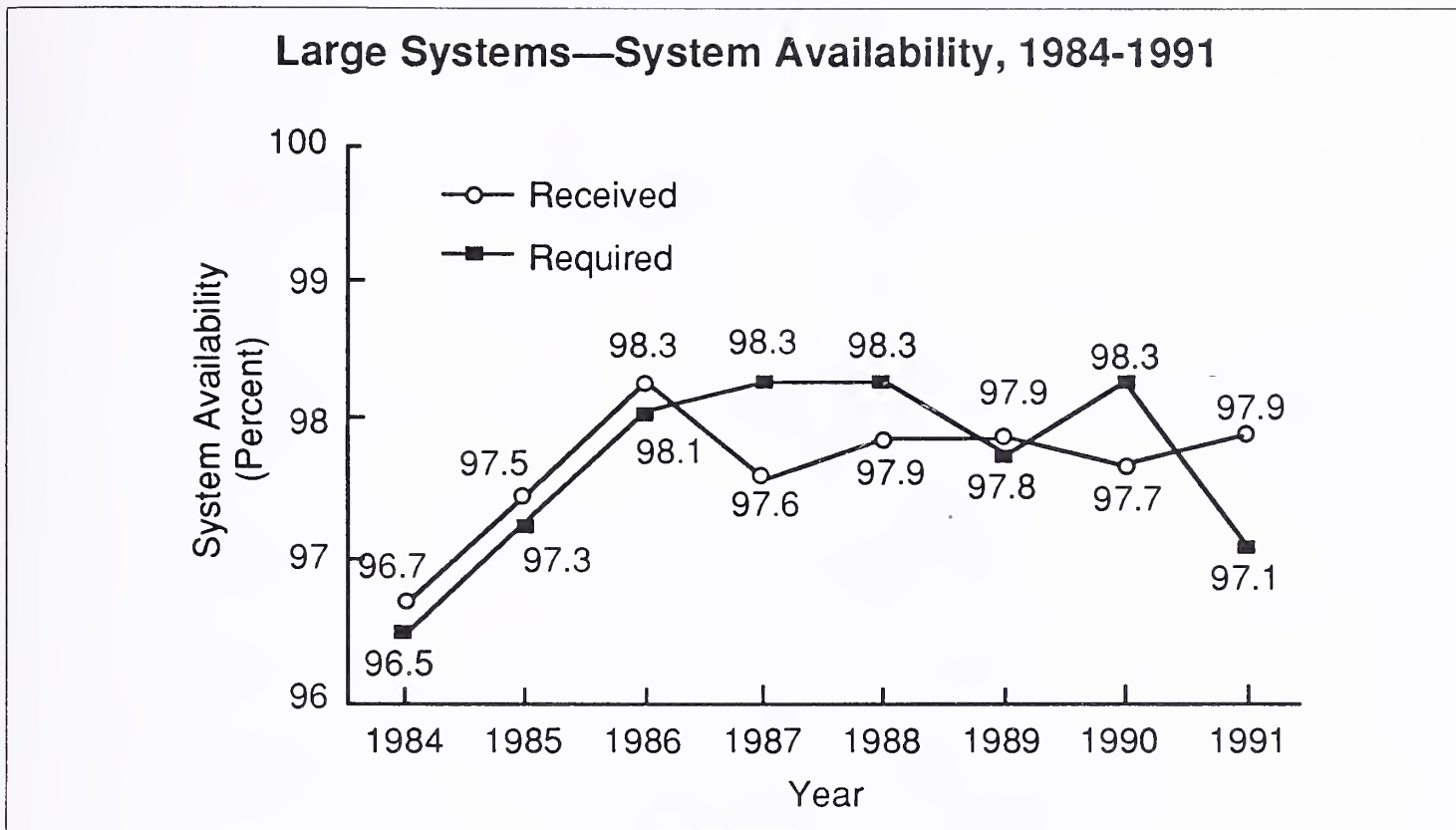


EXHIBIT IV-8

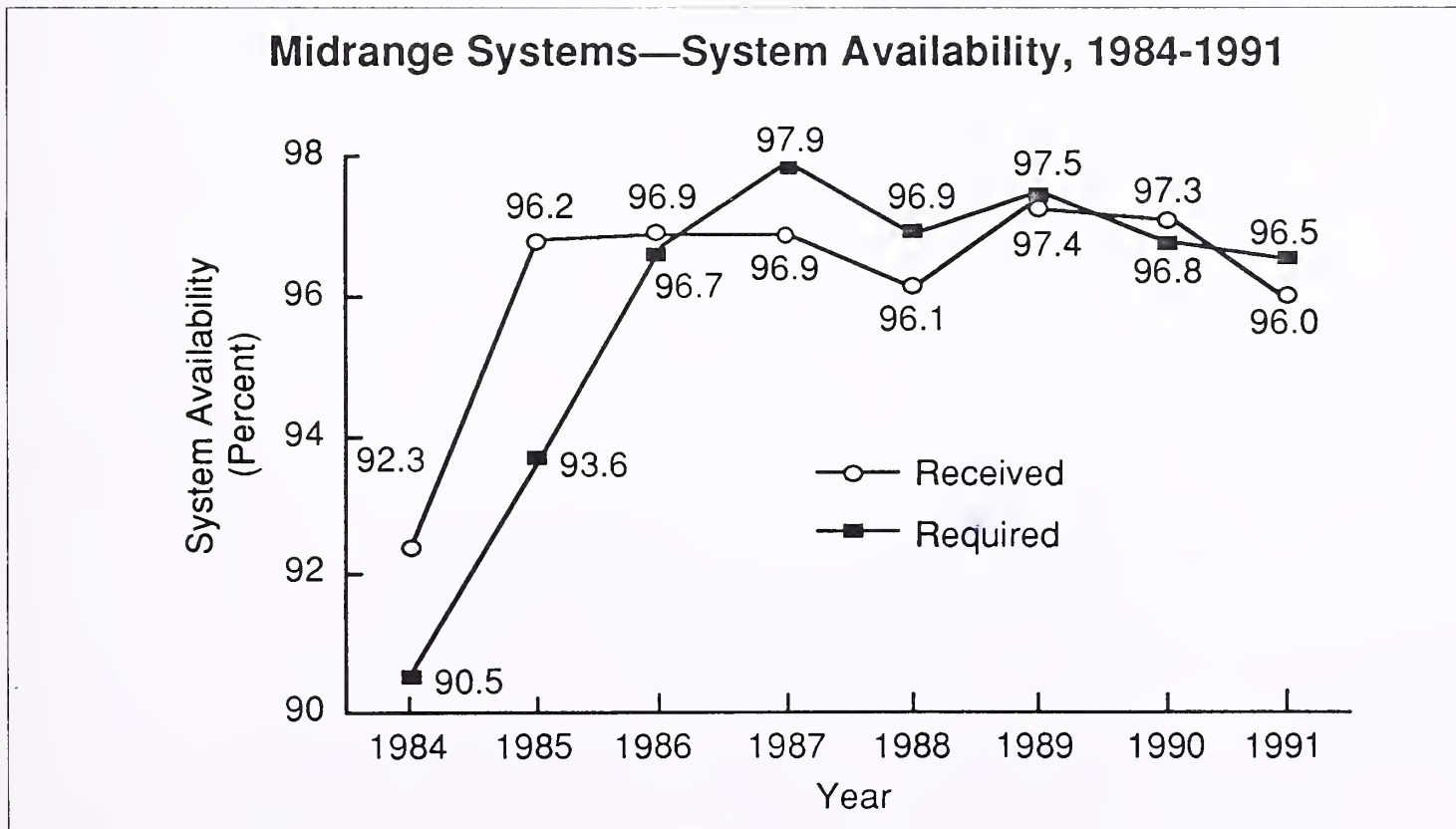
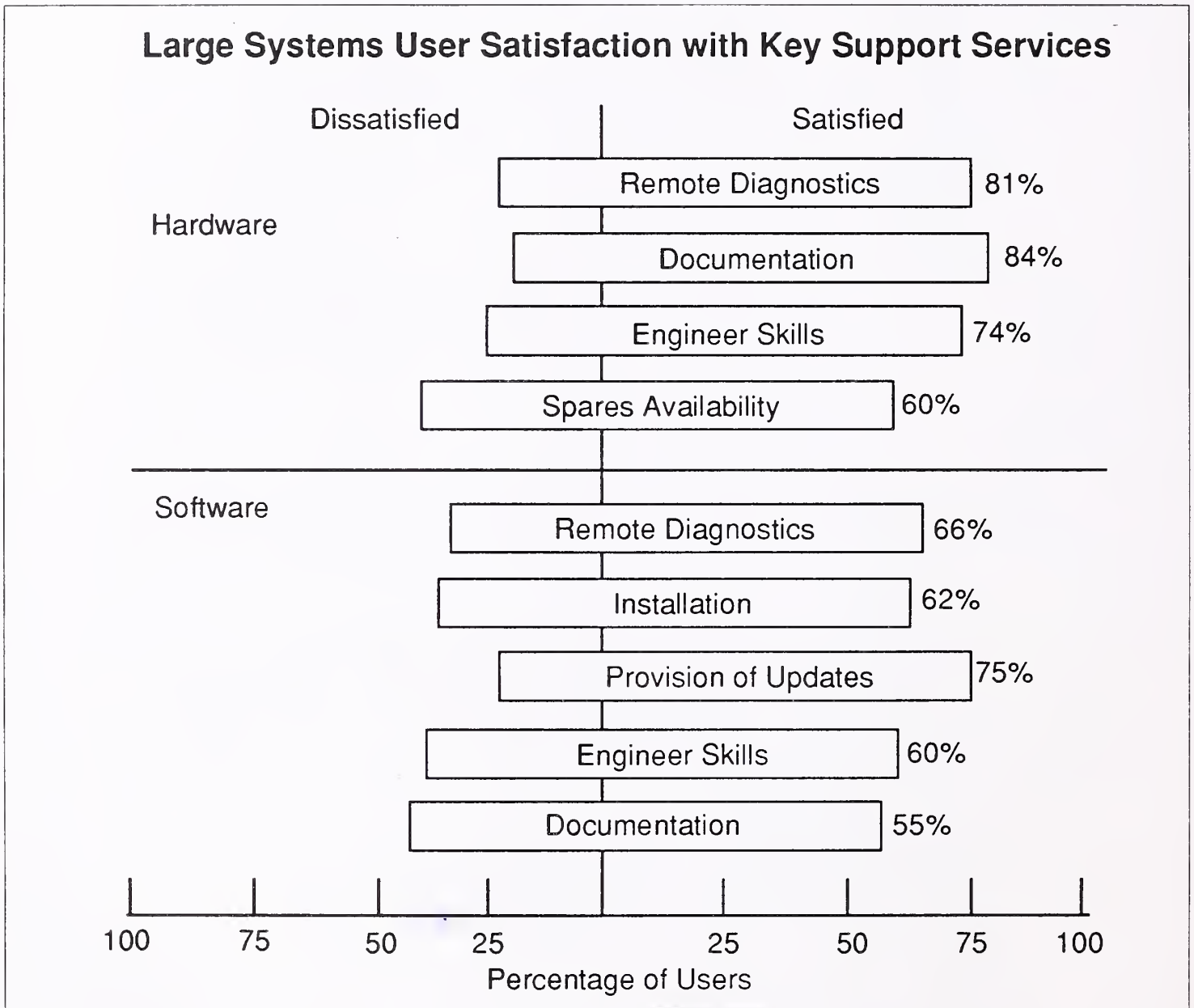


Exhibit IV-9 shows user satisfaction with key support services for the large system sample. Satisfaction was measured by recording the service required versus the service received and then comparing the two ratings. The user was considered to receive satisfactory service if the vendor met or exceeded the service required rating. Overall, the service vendors exceeded the service requirements for all of the key services, with the percentage of users satisfied ranging from 55% for software documentation to 84% for hardware documentation.

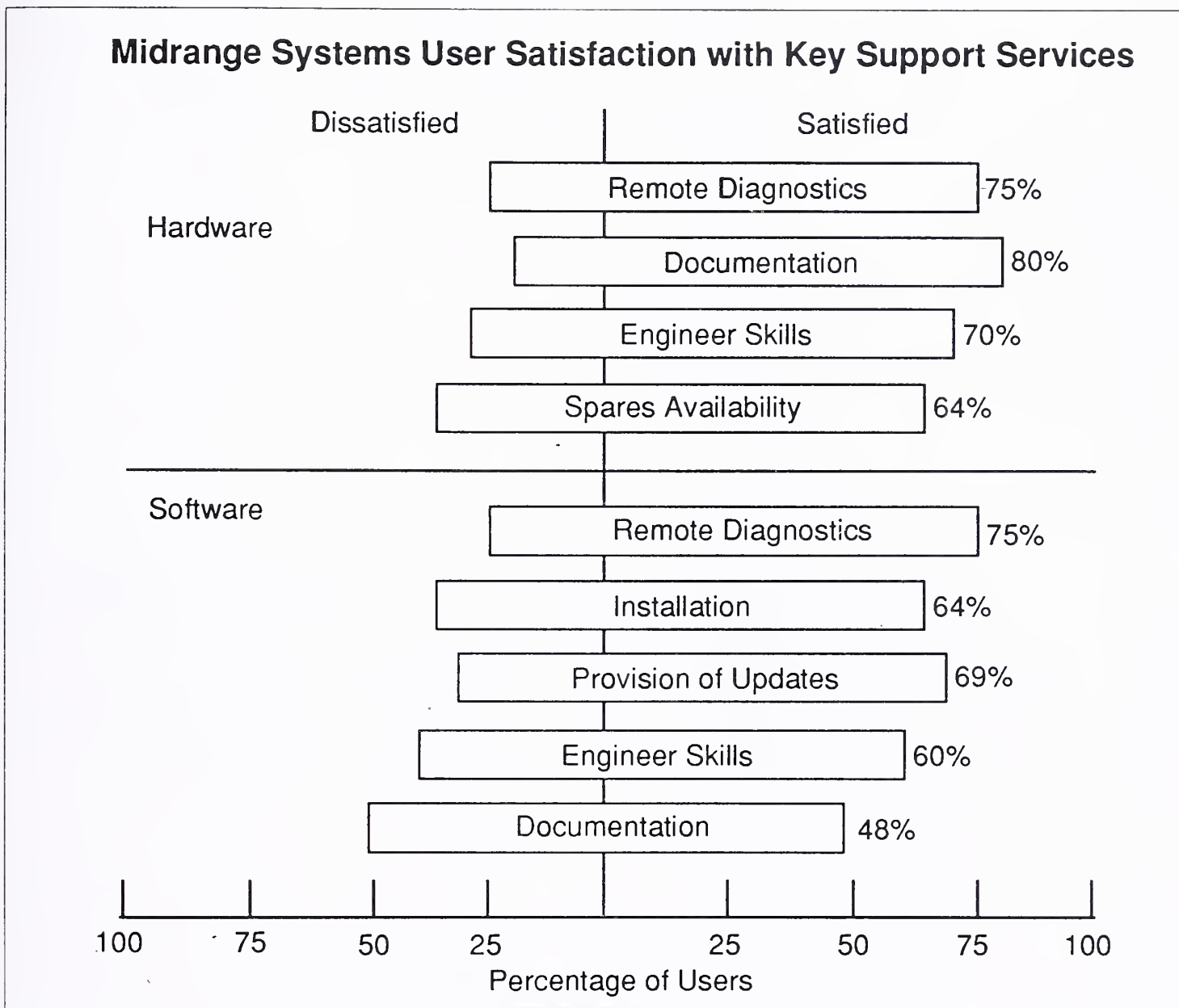
EXHIBIT IV-9



Software documentation is still a problem area for the midrange system sample, as illustrated in Exhibit IV-10, with less than 50% of the users receiving the documentation support they require. The hardware service satisfaction levels were not quite as high as the large systems sample in

three of the four areas analyzed. Satisfaction with spares availability was slightly higher for the midrange group as compared to the large systems group.

EXHIBIT IV-10



Users appear to have a higher requirement for communications with their service vendors than the vendors realize, as shown in Exhibit IV-11. These communications include regularly discussing the status of the system, possible problems, repair plans, availability of spare parts, scheduled routine visits, and hardware and software changes. Large system users had the highest mean importance, 8.5, as well as the lowest percent of users satisfied with the level of communication they receive from their service vendors. The PC/workstation user group had the smallest differ-

ence between the level of communication required and the level received, and the highest percent of users satisfied with their vendor communications.

EXHIBIT IV-11

User-Service Vendor Communications			
System	Mean Required	Mean Received	Percent Satisfied
Large	8.5	7.8	63
Midrange	7.9	7.3	64
PC/Workstation	7.0	6.6	66
Total Sample	7.9	7.3	64

Scale: 1-10—1=Low, 10=High

Users' expectations for hardware service price changes and future prices are shown in Exhibit IV-12. In 1990, 46% of the users reported paying an average increase of 7.8% for hardware maintenance service. Sixty percent of the users expect to pay an average increase of 7.0% in the future for their hardware maintenance. Software pricing history and future expectations are presented in Exhibit IV-13. Forty-two percent of the users paid an average increase of 8.7% for hardware maintenance in 1990. Fifty-three percent expect to pay an average increase of 8.2% in the future for their software support.

EXHIBIT IV-12

Hardware Maintenance Pricing1990

- 46% paid an average increase of 7.8%
- 7% paid an average decrease of 22%
- 47% had no change in price

Future Expectation

- 60% expect to pay an average increase of 7.0%
- 8% expect to pay an average decrease of 16.8%
- 32% expect no change in price

EXHIBIT IV-13

Software Maintenance Pricing1990

- 42% paid an average increase of 8.7%
- 4% paid an average decrease of 26.8%
- 54% had no change in price

Future Expectation

- 53% expect to pay an average increase of 8.2%
- 4% expect to pay an average decrease of 18.0%
- 43% expect no change in price

C

Non-Traditional Services

Exhibit IV-14 presents an examination of the requirements of the user group for other related services, ancillary to the hardware maintenance function. Almost every user interviewed expressed a requirement for other services necessary to running the operation.

EXHIBIT IV-14

Ancillary Services

Service	Number of Mentions		
	Require	Receive	Percent Satisfied
Configuration Planning	323	233	76
Capacity Planning	318	220	61
Environmental Planning	283	194	77
Cabling	299	216	78
Software Evaluation	284	191	64
Maintenance-Related Training	281	194	73
Install/Deinstall/ Moves	340	287	81
Consulting	291	238	74
Network Planning	286	209	59
Network Management	262	178	57
Disaster Recovery	281	176	61
Facilities Management	206	119	68
Problem Management	259	184	162
Applications Software Support	294	225	52

- Eighty-one percent of the respondents required some level of assistance with installation/deinstallation and moves of their computer equipment. Sixty-eight percent of the users received some level of help with this service, and 81% were satisfied with the service they received.
- Configuration planning was reported as a requirement by 77% of the sample and there was high satisfaction with service received—76% of those receiving the service were satisfied.
- Other ancillary services that had high requirements for service were cabling and consulting, with 71% and 69% of the respondents requiring these services respectively. Seventy-eight percent of the users that received cabling services were satisfied with the level of service that they received. Seventy-four percent of the respondents receiving consulting service from their service vendors received a satisfactory level of service.
- Facilities management exhibited the greatest growth from the 1990 study. Seventeen percent of the 1990 respondent group had contracted for facilities management or required it and had not yet contracted for the service. In 1991, that number rose to 49% of the group expressing some requirement for the service and 28% of the total sample receiving some level of service.

The challenge for the traditional customer service organization is to refocus the sales and marketing of services. The shift from the delivery of traditional maintenance-oriented services to more professional services-like consulting can be difficult for everyone—from the sales staff to the field engineers and support staff. Pure maintenance has had more of a mechanical orientation—keeping the equipment operational, good response and repair time, and knowing how the equipment works so as to be able to repair it.

The customer service market today is moving toward the delivery of services that require more abstract abilities, such as evaluating a site and preparing a proposal that will fulfill all of the diverse requirements for consulting, configuration planning, capacity planning, and other professional services ancillary to the maintenance function. The success of the organization is going to depend on the ability to transition staff from the mechanically oriented delivery of pure maintenance to the more abstract delivery of ancillary professional services.

D

New Technologies

Expert systems and other new technologies such as field service information systems are being used by the service provider to complement in-house skills and to improve the efficiency of the service organization. Benefits of these systems include:

- Improved efficiency of FEs
- Improved resolution of problems
- Lower mean time to repair (MTTR)
- Improved problem alert

When summarized as a group, all of these hard benefits have led to some degree of cost reduction for the service vendor that has allowed the vendor to remain competitive in the market. Improved efficiency of the field engineer, improved resolution of problems, and lower mean time to repair all result in the FE spending less time investigating the problem with the system and being able to accomplish more in a day.

Improved problem alert allows the FE to predict or foresee potential problems and resolve problems before the system actually becomes inoperable. Predictive problem visits can be scheduled at convenient times, before the situation becomes critical.

The systems have resulted not only in the hard, measurable benefits just listed but also in improvement of customers' perceptions of the service provider. Customers have a higher level of confidence in a service provider that uses expert systems and system diagnostics as well as information systems to resolve problems with the system rather than purely intuitive knowledge. Some user service requirements contracts are requiring the use of expert systems or certain functions of a field service information system in the delivery of service.

E

Mergers and Acquisitions

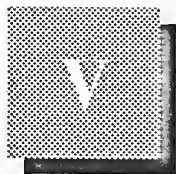
The TRW CSD acquisition by Phoenix Technologies did not reach completion as planned earlier in 1991. After many months of negotiations and delays, it was announced that some differences could not be worked out and that Phoenix's option to acquire TRW had expired.

TRW appears to be forging ahead with other alliances that increase the breadth of the service. A major service alliance with Compaq has made TRW an authorized provider of maintenance services on Compaq equipment. TRW CSD joins GE Computer Services and Computerland as an authorized Compaq service provider.



Conclusions and Recommendations





Conclusions and Recommendations

A

The Competitive Environment

Competition in the customer services market is based more on the provision of expanded services and quality than on price, although the intensity and duration of the recession has driven manufacturing firms to seek means of reducing costs, including the cost of customer service. Vendors should develop a sales and marketing approach that gives weight to quality, one source for service, new service features, and pricing. The emphasis of this approach should be that the customer receives more service for less, not just that the price is low.

An increasing requirement for systems performance has put additional pressure on the service vendor to provide expanded, add-on services to keep service contracts. This puts increasing pressure on the customer services technical staff to service the many complex combinations of new equipment and networks.

B

The Service Market

Many vendors in the service market, including IBM, have reorganized to combat the strong pressure on profits necessitated to provide the wide range of service required by users.

For many companies, decentralization has helped contain the cost of doing business. The move to place the responsibility of customer service in the field with area managers can help to fight the high overhead of a separate service organization. This move, in combination with service price increases, may provide relief.

For IBM, the decentralization of service may assist in implementing the strategy, giving customers what they want on a more timely basis by putting the responsibility and control of service offerings in the hands of the local area managers.

IBM's objective has been to provide the best possible service. It is the challenge of the area managers to provide the internal resources to give high-caliber service to users.

C

Customer Service as a Business

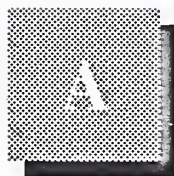
During the 1980s, customer service organizations learned to think in business terms, within the context of the traditional customer service business.

- Customer service tended to be a distinct profit center, intent on maximizing its own profitability. (This was often done without reflection on whether it was a long-term or short-term strategy.)
- Customer service was a contributor to a hardware manufacturer's optimum profitability. In many cases, this required a sacrifice of customer service's profits in order to maximize a firm's competitive position.
- There was an effort to maximize the value of service while keeping costs under control.

Many customer services organizations have mastered their business, as it is narrowly defined. The challenge for the 1990s will be to enlarge the concept of service so as to hold on to business or enlarge it while ensuring that business remains profitable.

Appendix





Appendix: Vendor Questionnaire

Hello, my name is _____, I'm with INPUT in the _____ office. We are updating some of our files on the major firms in the computer maintenance arena; would you have about ten minutes right now to update the information on your company? (if not, schedule for another time)

First, I'd like to get some background information on your company.

I. General Profile

1. What is your total number of service centers?
 - a. Locations:
2. What is the total number of employees in your company?

	<u>Current</u>	<u>% Chg. from 1990</u>
a. Total number of maintenance employees?	_____	_____
b. Number of field engineers?	_____	_____
c. Number of bench engineers?	_____	_____
d. Number in field support	_____	_____
e. Number of maintenance sales staff	_____	_____

3. What equipment do you maintain, by OEM vendor?

- a. Mainframes
- b. Midrange
- c. PCs
- d. Workstations
- e. Peripherals
- f. Other
- g. Has this changed in 1991, have you added or deleted any vendors?

4. What were the total revenues of your company in 1990, and what do you expect them to be in 1991?

	<u>1990</u>	<u>1991</u>
Total	_____	_____
U.S.	_____	_____
International	_____	_____
U.S. Maintenance	_____	_____
IMO	_____	_____
OEM	_____	_____
Other	_____	_____

5. What percent of your maintenance revenue would you say is from software support as opposed to the delivery of hardware maintenance?

_____ %

6. Approximately what percent of your hardware maintenance revenue is derived from the following types of equipment? What percent would you say is from software support?

	<u>% HW</u>	<u>% SW</u>
a. Mainframe	_____ %	_____ %
b. Midrange	_____ %	_____ %
c. PC/Workstation	_____ %	_____ %
d. Peripheral	_____ %	_____ %
e. Other _____	_____ %	_____ %
f. Other _____	_____ %	_____ %

7. Approximately what percentage of your maintenance revenue is derived from maintaining the following manufacturers' equipment?

	<u>Current</u>	<u>% Chg. from 1990</u>
a. IBM	_____ %	_____ %
b. DEC	_____ %	_____ %
c. Bull	_____ %	_____ %
d. Unisys	_____ %	_____ %
e. HP/Apollo	_____ %	_____ %
f. Wang	_____ %	_____ %
g. Data General	_____ %	_____ %
h. Convergent Technology	_____ %	_____ %
i. Altos	_____ %	_____ %
j. MAI	_____ %	_____ %
k. Apple	_____ %	_____ %
l. Prime	_____ %	_____ %
m. Sun	_____ %	_____ %
n. Compaq	_____ %	_____ %

	<u>Current</u>	<u>% Chg. from 1990</u>
o. Other _____	_____ %	_____ %
p. Other _____	_____ %	_____ %
q. Other _____	_____ %	_____ %
r. Other _____	_____ %	_____ %
s. Other _____	_____ %	_____ %

8. Could you identify the percent of your maintenance revenue derived from the following industry sectors?

a. Manufacturing	_____ %
b. Banking/Finance	_____ %
c. Distribution	_____ %
d. Medical	_____ %
e. Education	_____ %
f. Insurance	_____ %
g. Transportation	_____ %
h. Telecommunications	_____ %
i. Business Services	_____ %
j. Utilities	_____ %
k. State/Local Government	_____ %
l. Federal Government	_____ %
m. Other _____	_____ %

9. Has your company been involved in any mergers and/or acquisitions over the last year?

II. Current Services

10. What other services does your company currently offer, or plan to offer in the near future?

	(if current) <u>Current</u>	<u>Future</u>	<u>% of Rev</u>
Planning	_____	_____	_____
Installation	_____	_____	_____
Disaster Recovery	_____	_____	_____
Consulting	_____	_____	_____
Preventive Maintenance	_____	_____	_____
System SW Support	_____	_____	_____
Application Support	_____	_____	_____
Installation/Deinstall	_____	_____	_____
Configuration Planning	_____	_____	_____
Help Desk Mgmt.	_____	_____	_____
Network Support	_____	_____	_____
Other _____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

11. How fast are these areas growing? _____%

12. Does your company provide any multivendor or single-point-of-contact services?

13. From your company's perspective, are price levels increasing or decreasing?

_____ Increasing _____ Decreasing

14. Do you believe that the revenues in the maintenance services market will grow at the current rate, or slow down, or grow at an increasing rate?

Current rate / Slow down / Increasing rate

15. What is the primary strategy of your company for the next five years?

- a. Concentrate on maintenance

Yes / No

- b. Diversify into other services ancillary to the maintenance function

Yes / No

- c. Diversify into other sectors

Yes / No

- d. Growth by acquisition

Yes / No

- e. Growth through increased services or expanded customer base

Yes / No

- f. Concentrate on specific:

Industry sectors—which ones?

Yes / No

Niche markets—which ones?

Yes / No

- g. Other strategies

16. What impact have new technologies in the maintenance services market had on your company?

17. Has your firm implemented any level of a field service information system (FSIS)?

Yes / No

18. What functions does your FSIS support?

___ Call handling and dispatch

___ Inventory control

___ Customer information file/data base

___ Service billing

___ Remote hardware diagnostics

___ Remote software diagnostics/repair

___ Other functions _____

19. What hard benefits has your company realized from this system?

20. What soft or perceptual benefits has your company received from the implementation of the FSIS?

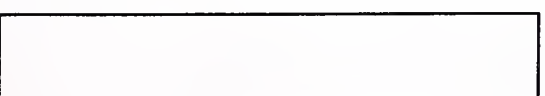
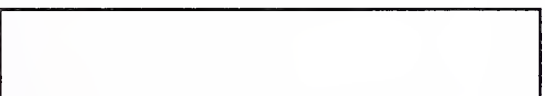
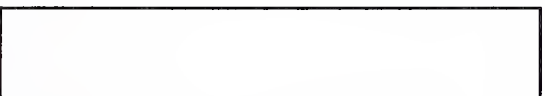
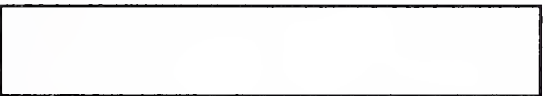
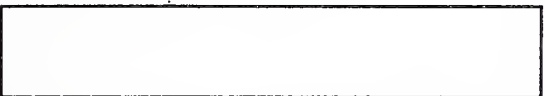
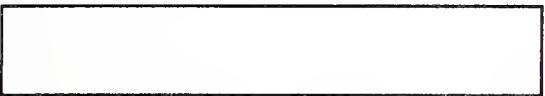
21. What do you feel are the most critical issues facing the maintenance industry today?

22. What would you say are the most critical issues facing your company at this time?

Thank you for your time; we really appreciate your cooperation.



Executive Overview



U.S. Customer Services Market

1991-1996

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To Our Clients:

This summary is an excerpt from a full research report, *U.S. Customer Services Market, 1991-1996*, issued as part of INPUT's Customer Service Program (CSP). A complete description of the program is provided at the end of this Executive Overview.

If you have questions or comments about this report, please call INPUT at (415) 961-3300 and ask for the Client Hotline.

Abstract

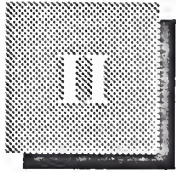
The purpose of the report *U.S. Customer Services Market, 1991-1996* is to show the size of the current market for customer service in the U.S. and provide growth expectations for a five-year forecast period. The report divides the U.S. customer service market into two major categories: manufacturer-supplied service and independent maintenance organization (IMO) service. These categories are further broken down by product groupings: large systems (supercomputers, mainframes, and minisupercomputers), midrange computers (superminicomputers and traditional minicomputers), and PCs/workstations (business-use microcomputers, supermicrocomputers, and workstations).

The report also discusses key issues, trends, and user requirements that will affect computer service market growth over the next five years.

The report contains 52 pages, including 38 exhibits.

Overview Contents

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Executive Overview

This chapter contains the summary information and key findings of this report. Each finding is presented in an exhibit with accompanying text.

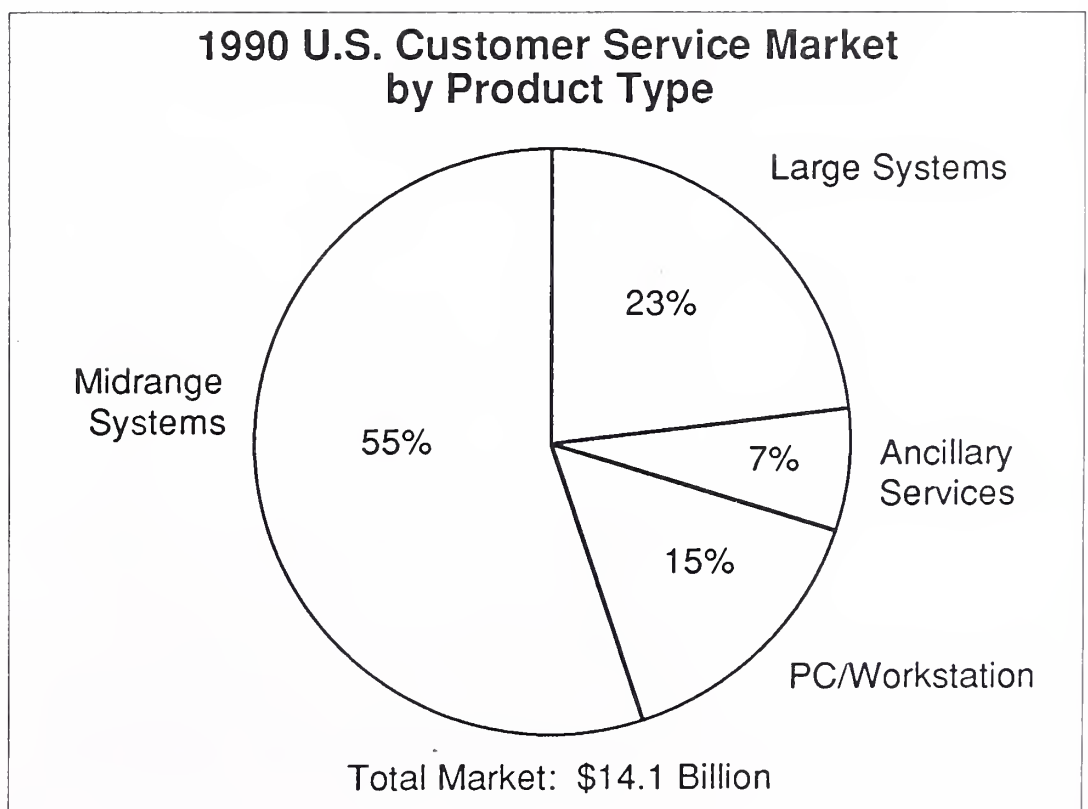
The U.S. customer service market is undergoing a period of variable growth, for reasons analyzed in this report. The purpose of this study is to analyze market directions and growth opportunities available to manufacturer and independent maintenance (IMO) service organizations.

A

1990 Market Overview

The U.S. customer service market totalled \$14.1 billion in 1990. Midrange systems accounted for over half the market, as shown in Exhibit II-1.

EXHIBIT II-1



B
1990-1996 Growth

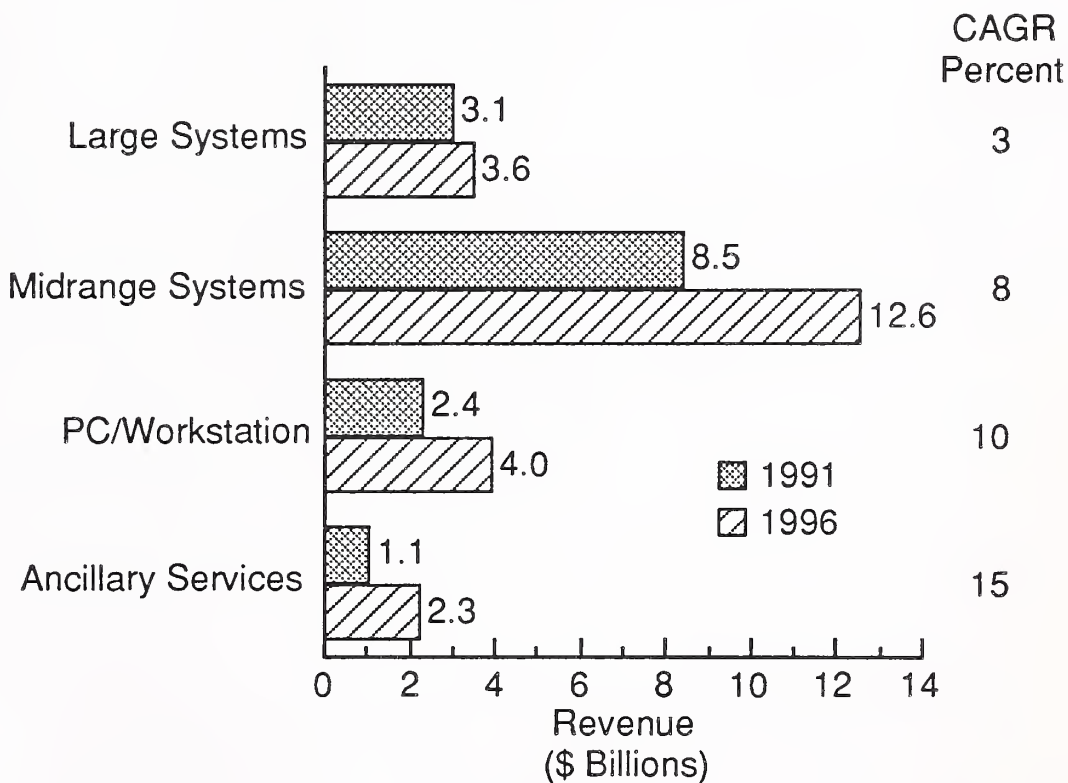
1. Market Growth

The market will grow to \$22.5 billion in 1996, at a compound annual growth rate of 8%. This growth rate is roughly the same as previously forecasted, and is due largely to the increased pressures that systems manufacturers are finding themselves under to produce higher margins across all lines of business.

Growth rates are expected to vary among types of products (see Exhibit II-2), from a low of 3% for large systems to a high of 15% (from a low base) for ancillary services.

EXHIBIT II-2

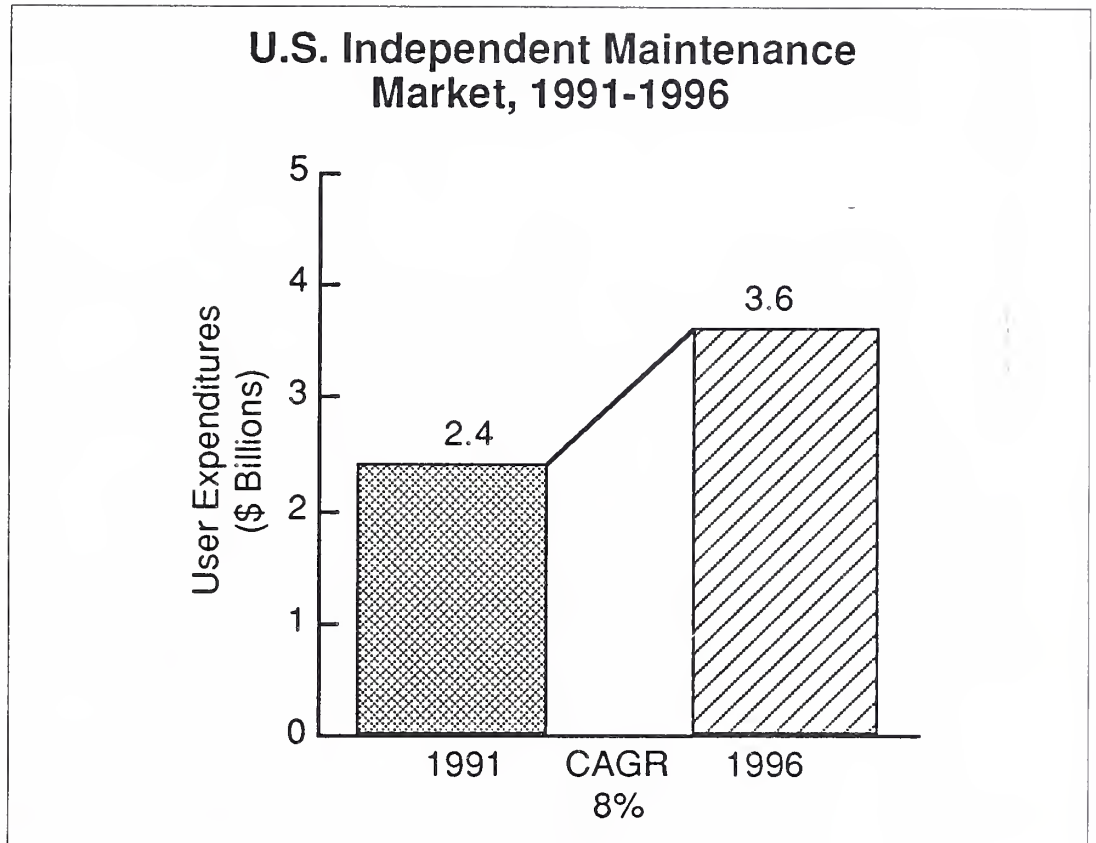
U.S. Customer Service Market Growth by Product Type, 1991-1996



PC/workstation service will continue to grow somewhat faster than the rest of the service market, and will increase its share in the overall service market. This market will benefit from continued product sales growth and use of networks and client/server applications, as technological advances improve both product performance and serviceability—currently reflected in IBM’s midrange system, the AS/400, which offers excellent price/performance and advanced remote support facilities.

The independent maintenance segment (figures for which are included in the total market figures in Exhibits II-1 and II-2) is projected to grow at a rate of 8% over the next five years, as shown in Exhibit II-3. This is in line with recent growth, although it is down significantly from the mid-1980s.

EXHIBIT II-3



2. Factors Affecting Growth

The factors affecting growth in customer service continue to be finely balanced, as illustrated in Exhibit II-4. For the last several years, market growth was held back by IBM's actions, which were aimed at reducing the cost of ownership of IBM systems. Now that IBM has begun to increase prices, driven by its need to increase overall revenues (and profitability), this has had the effect of adjusting the IBM price umbrella. IBM's price umbrella has begun to shelter other vendors again.

EXHIBIT II-4

Factors Increasing Customer Service Revenue

Factors Increasing Customer Service Revenue	Impact
IBM price umbrella adjustments	Increased vendor opportunities and competition for IMOs
Need for vendors to increase revenue and profitability	Consideration of new services that require little additional personnel
Increasing customer demand for predictable performance	Increased need for add-on and new services
Growing installed base of new computers and networks (including more complex networks)	Need for more knowledge and experience

On the other hand, revenue growth will be under constant pressure over the next five years as vendors—especially IMOs—try to retain their positions. Customers are increasingly placing pressure on vendors by issuing RFPs and asking for special quotes.

C Leading U.S. Service Providers

IBM and DEC accounted for over 40% of the customer service market in 1989, as shown in Exhibit II-5. Not surprisingly, IBM dominates the large-scale market even more (see Exhibit II-6), and DEC is the largest player in the midrange market, with over one-quarter of the market (see Exhibit II-7). The PC/workstation market is much more fragmented, with no single vendor having more than one-sixth of the total market, as shown in Exhibit II-8.

EXHIBIT II-5

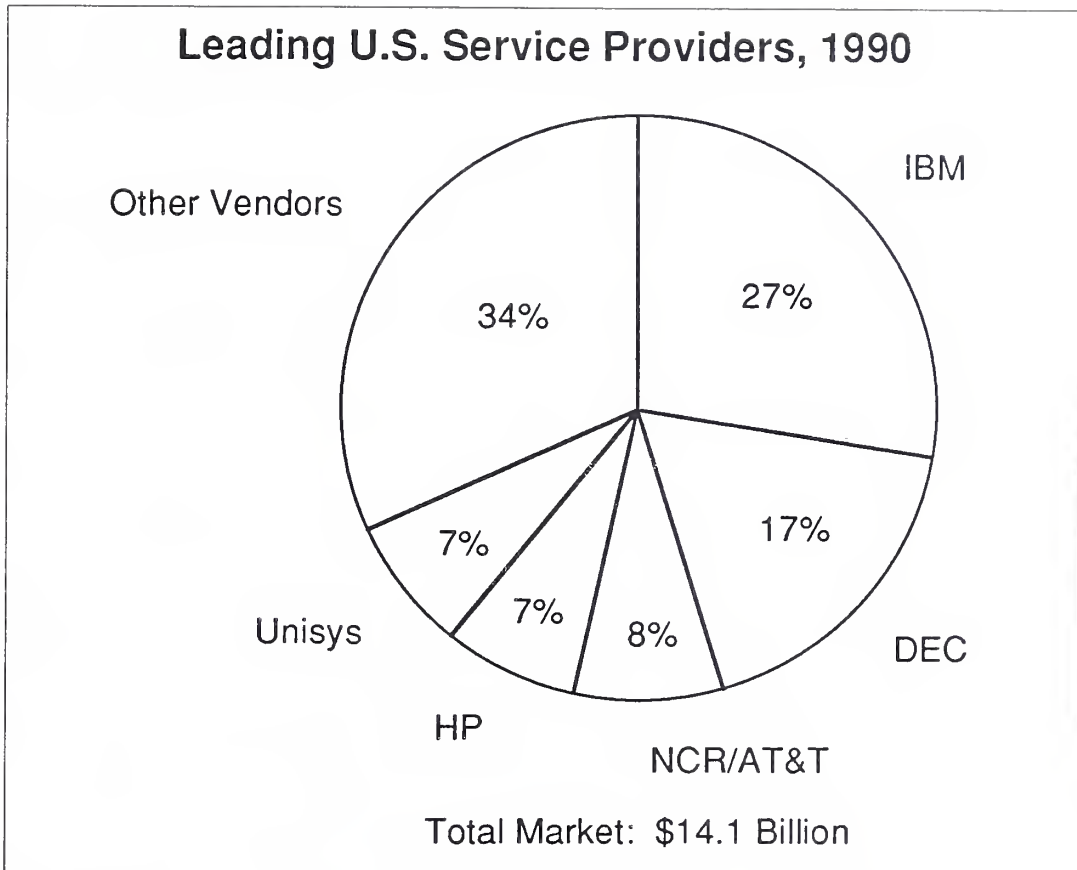


EXHIBIT II-6

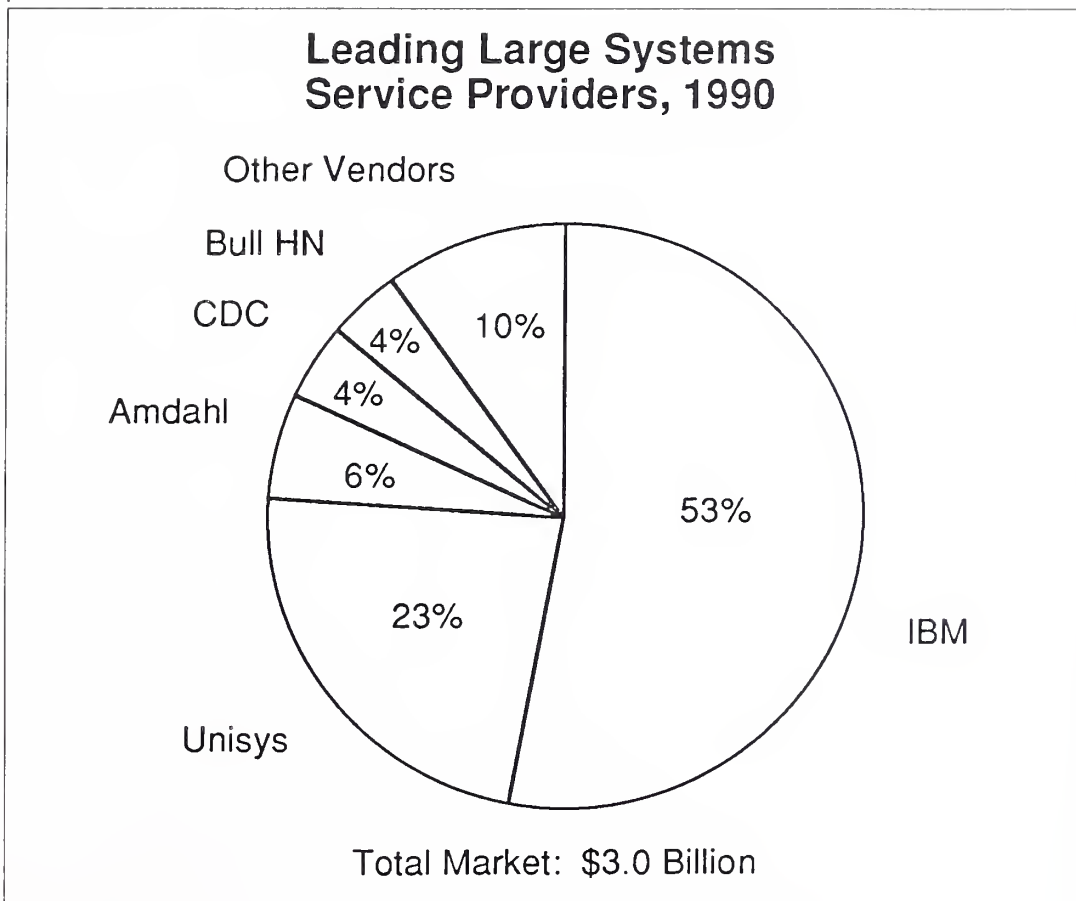


EXHIBIT II-7

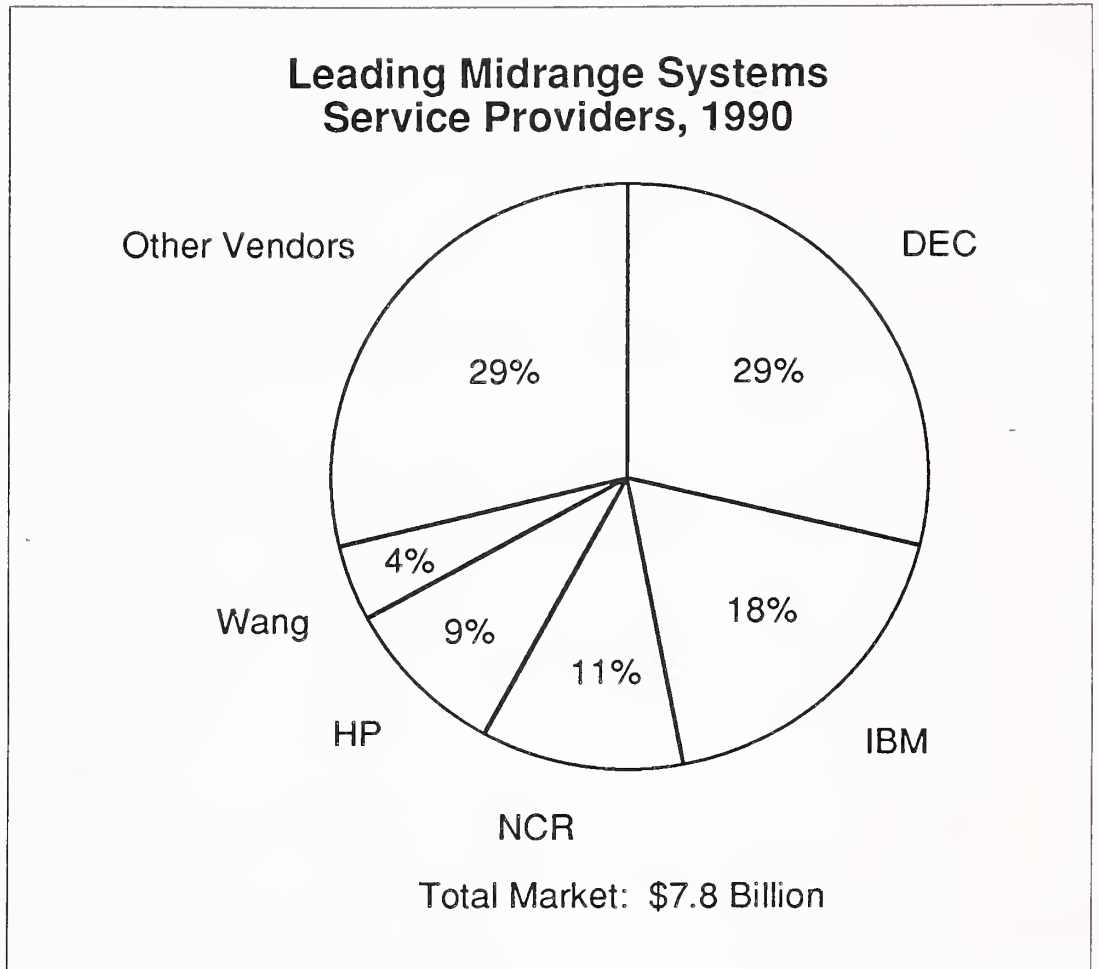
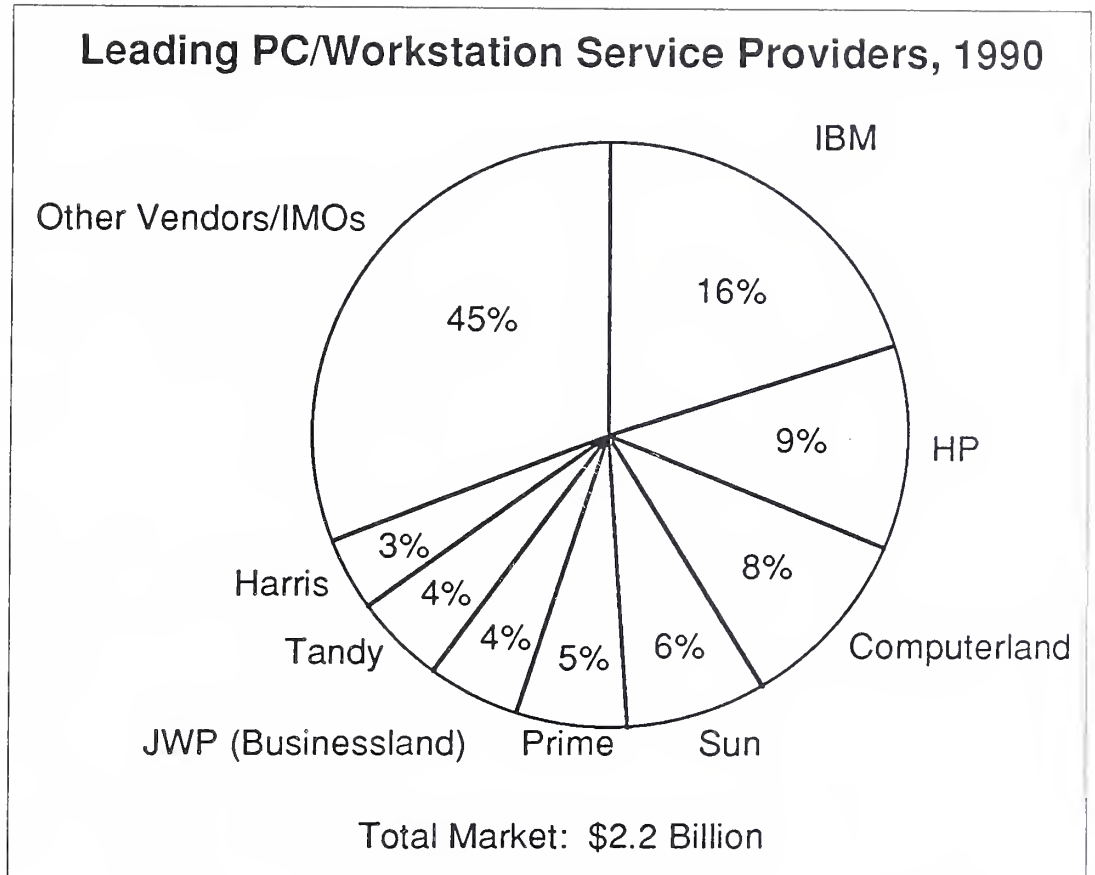


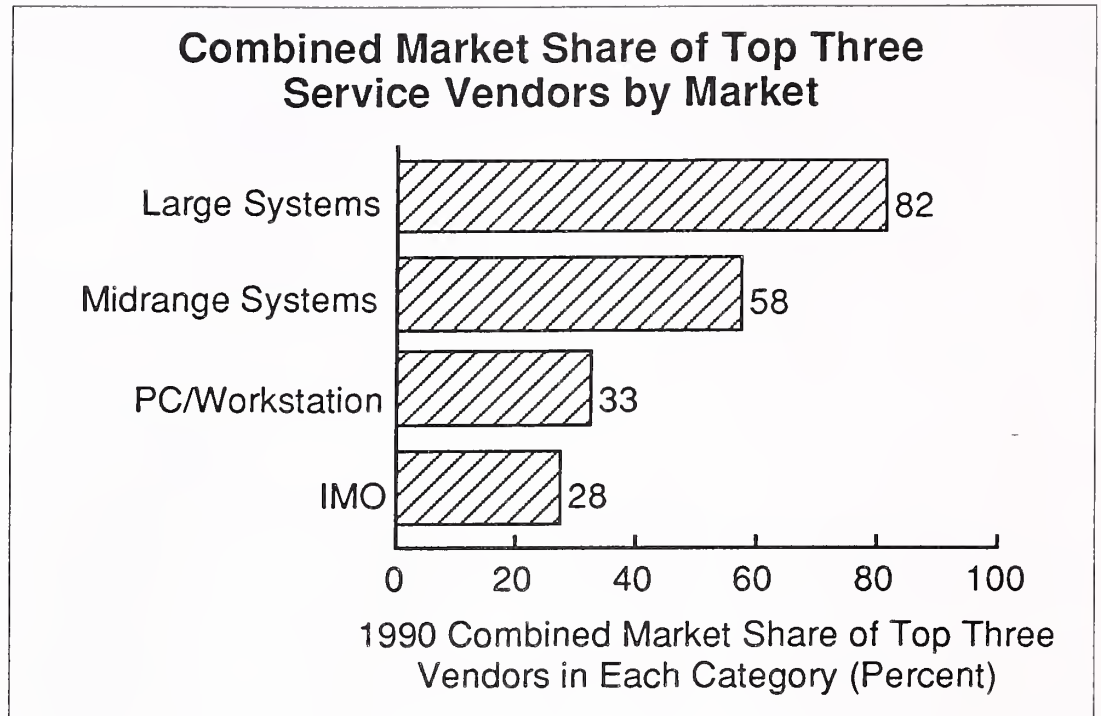
EXHIBIT II-8



Parts of the market are much more concentrated than others: the top three vendors in the large systems category account for over 80% of the revenues, while the top three IMOs account for 28%, as shown in Exhibit II-9. This service concentration is a product of:

- The amount of underlying concentration at the manufacturers' level
- The newness of a particular market (e.g., PCs/workstations)
- The structure of the market (as in the PC/workstation and IMO categories)

EXHIBIT II-9

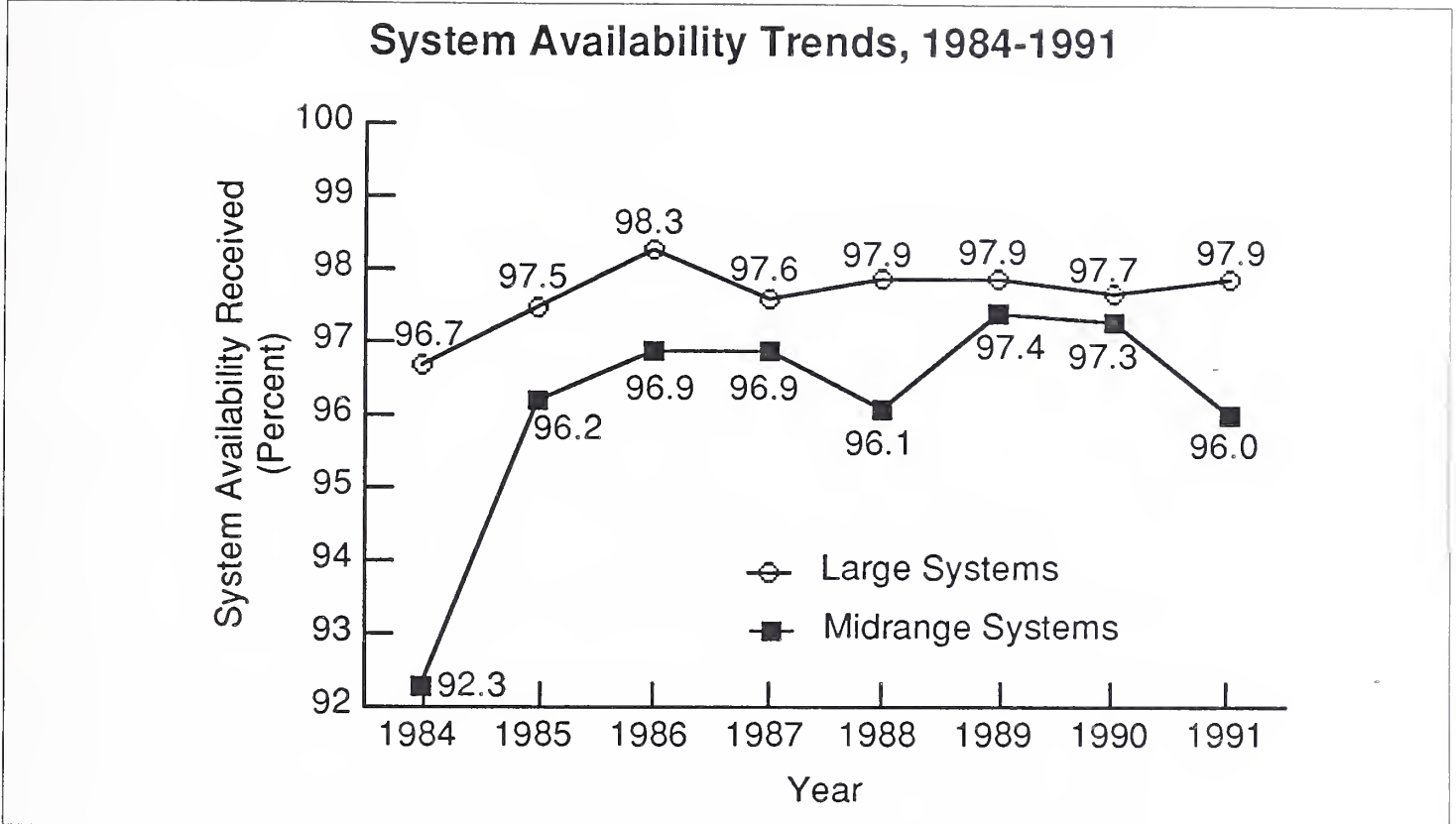


D

System Availability Trends, 1984-1991

System availability is of primary importance to users of information processing systems. INPUT has tracked vendor performance in this area since 1983. In 1991, INPUT surveyed 319 users of large and midrange systems regarding the service and support they receive from their vendors, including their satisfaction with system availability. Exhibit II-10 presents system availability for large and midrange system performance for the past seven years. In 1989, for the first time, the gap between large-scale and midrange systems availability was practically closed. Note that the severe dip in 1984 resulted from the inclusion of older products from Datapoint and Burroughs in the midrange sample.

EXHIBIT II-10

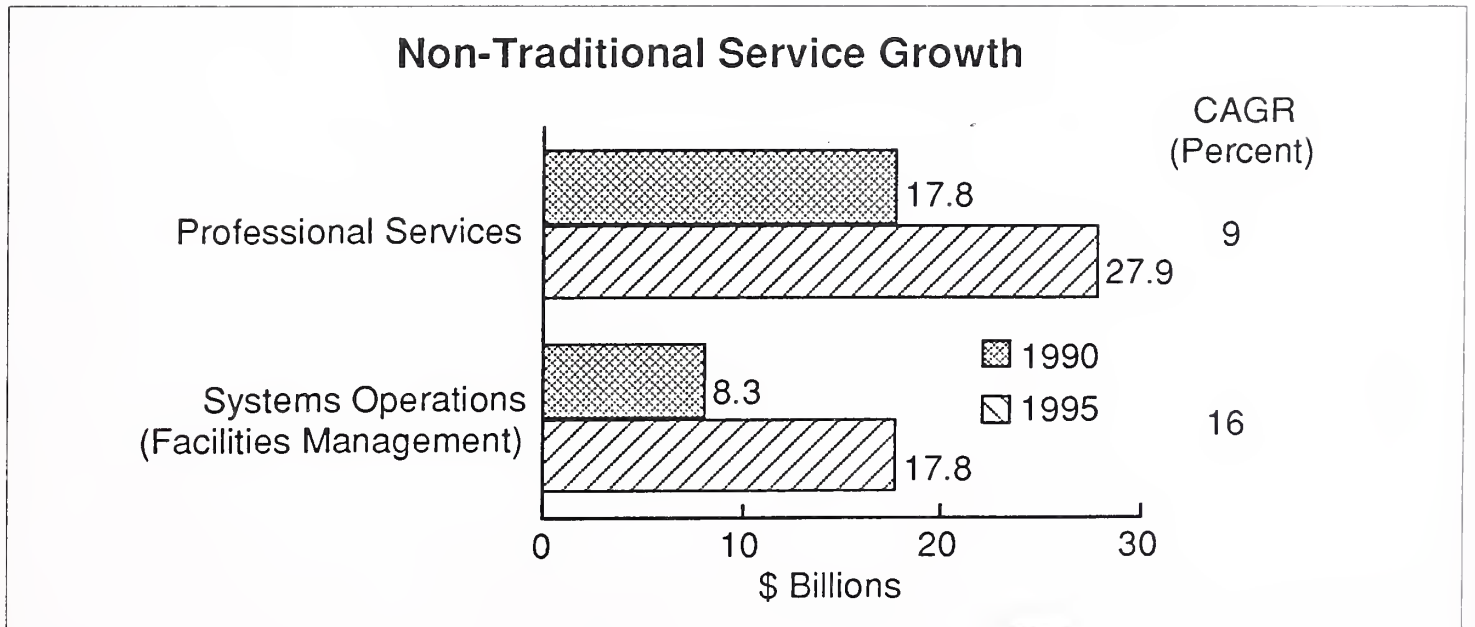


E

New Opportunities

The broader areas of service are growing much faster than are traditional customer services (Exhibit II-11).

EXHIBIT II-11



Not all of these markets and submarkets are equally attractive to customer service organizations. Some areas, such as supplying specialized consulting services or systems operations services, draw upon the strengths of a larger number of customer service organizations.

The challenge for the traditional customer service organization is to refocus the sales and marketing of services. The shift from the delivery of traditional maintenance-oriented services to more professional services-like consulting can be difficult. Pure maintenance requires more of a mechanical orientation—keeping the equipment operational, having short response and repair time, and knowing how the equipment works so as to be able to repair it.

There is now an assumption that equipment performance will be good and generally predictable. Once that objective can be met, vendors find that they must be prepared to deliver additional services.

The customer service market today is moving toward the delivery of services that require more abstract abilities, such as evaluating a site and preparing proposals to fulfill all of the diverse requirements for consulting, configuration planning, capacity planning, and other professional services that are ancillary to the maintenance function. The success of an organization depends on its ability to move staff from the mechanically oriented delivery of pure maintenance to the more abstract delivery of ancillary professional services.

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Customer Service *Plus* Program

This program covers current customer service requirements and also provides an understanding of the potential opportunities open to customer service organizations. Hence, Customer Service *Plus*.

Customer Service *Plus* provides data, analyses, and recommendations needed for marketing, technical, financial, and organizational planning. It pinpoints user perceptions of service received and presents vendor-by-vendor service comparisons. Critical issues are discussed and service markets analyzed.

PROGRAM DESCRIPTION

ISSUE STUDIES

- Single-Point-of-Contact Customer Services
- New Vendor Support Technologies
- Innovative Service Offerings
- Customer Service Partnerships

U.S. CUSTOMER SERVICE MARKET ANALYSIS REPORT

The report provides analyses and forecasts of user service expenditures by mainframe, midrange, and PC/workstation platform size, including TPM. Included in the report are ancillary services and nontraditional services offered by customer service organizations and by vendor type. Key customer service issues, trends, and opportunities are discussed.

RESEARCH BULLETINS

Concise summaries of research in progress, significant events, and other relevant issues.

ISSUE REPORTS

Single-Point-of-Contact Customer Services—Vendors are beginning to offer a single point of contact for a wide variety of customer needs. Areas covered include hardware problem diagnosis and restoral, application usage queries, software modification and training. The single point of contact may deliver the actual services or serve as a transparent referral/contacting mechanism. The report distinguishes between the marketing aspects and the impact of one-stop support on customer-vendor business relationships.

New Vendor Support Technologies—This report examines technical innovations (implemented, planned, discussed) in customer service. The report will examine the technology involved and, equally importantly, will analyze the long-term business impact of these technical advances. Topics include: hardware-resident diagnostic software, help desk automation, problem/resolution data bases, and real-time software diagnostics.

Innovative Service Offerings—Most customer service organizations have stopped offering “plain vanilla” service. Some changes are changes in service packaging. Others represent significant moves into new offerings well outside of what has been considered customer services (e.g., network management, professional services). This report provides a snapshot of offerings by type of offering and by selected vendors, as well as an evaluation of successes, failures and overall trends.

Customer Service Partnerships—Fewer and fewer customer service organizations directly provide all of the services they sell to clients (and/or all of the services they provide). Such partnerships are common in other parts of the information technology business (e.g., VAR relationship or systems integration subcontracting). However, many customer service organizations are still uncertain on how to proceed. Included in this study is a description of selected current partnerships and issues and objectives in forming partnerships.

CUSTOMER SERVICE USER REQUIREMENTS REPORTS

Discusses customer satisfaction with vendor performance, including TPMs, user service, and support requirements:

- Large Systems User Requirements Report
- Midrange Systems User Requirements Report
- PC/Workstations User Requirements Report

SERVICE UPDATE

Monthly newsletter provides topical news about customer service in the United States and Europe (e.g., new vendor service policies, service offerings, vendor performance, and hotline summation).

SERVICES

Telephone Inquiry	“Hotline” inquiry for short-term research needs (requiring less than two hours) as well as clarification/amplification of report and presentation data. Forty hours of hotline service are provided each year.
Consultant Access	Continuous support from consultants and executives including reactions to events, opinions, and ideas.
On-Site Visit	An INPUT consultant presents research results and industry forecasts at your site and relates this to your specific service markets. Your issues and concerns are discussed together with industry trends. (Travel expenses are additional.)
Industry or Client Conference	Attend INPUT’s assessment of the information services industry at two-thirds the list registration fee.
Information Center Access	Client may visit and use INPUT’s research library.

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INPUT provides planning information, analysis, and recommendations for the information technology industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

Subscription services, proprietary research/consulting, merger/acquisition assistance, and multiclient studies are provided to users and vendors of information systems and services. INPUT specializes in the software and services industry which includes software products, systems operations, processing services, network services, systems integration, professional services, turnkey systems, and customer services. Particular areas of expertise include CASE analysis, information systems planning, and outsourcing.

Many of INPUT's professional staff members have more than 20 years' experience in their areas of specialization. Most have held senior management positions in operations, marketing, or planning. This expertise enables INPUT to supply practical solutions to complex business problems.

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