U.S. User Ratings of Computer Systems

Datapro is pleased to present the results of the 1983 computer users survey, which is based on the returns received from 15,015 questionnaires mailed to a cross-section of *Computerworld* readers. The purpose of the 1983 survey is to provide a high representation of users of computer systems in the mainframe and minicomputer class and report what these users think about their systems. The users were asked to supply selected hardware and software configuration information, identify the method of acquisition, and report on significant advantages and problems of their systems. The users were also asked to rate their systems in 14 subjective categories. In addition, we asked what they planned to implement in 1983, as well as whether their systems did what they expected them to do and if they would recommend their systems to other users.

This report includes extensive charts and tables for easy comparison of the manufacturers' systems. We also have compared many of the 1983 results with the 1982 results to help you spot trends and improvements.

Datapro suggests that the reader use the information advisedly and reminds readers that individual profiles or ratings should not be the major consideration in making an acquisition decision. The reader can use the material in this report to help formulate questions about a computer system as the evaluation process proceeds. The information within this report will be very informative if used with discretion and with the understanding that there are many factors involved in selecting the right computer system(s) to meet your particular needs.

SURVEY METHODOLOGY

The survey has been based on results received from 15,015 questionnaires mailed to a very carefully controlled nth sampling from specific subsets of *Computerworld's* subscriber list. The specific subsets were identified and qualified by senior analysts from Datapro and *Computerworld*. In an effort to improve the response rate and thereby increase the statistical validity, the users were contacted twice; a first request was followed weeks later by a second request.

Each questionnaire allowed the user to rate one digital computer system. The recipient was encouraged to reproduce the form if he/she wished to rate more than one model. *Computerworld* labels were used as initial validation vehicles and for identification and elimination of duplicate returns.

Each recipient was asked to summarize experiences with computer systems of any size (minicomputer through supercomputer) currently being used. Users were asked 26 multiple-part questions about their systems.

When Datapro received the returns, senior-level analysts audited the returns. Duplicate responses were invalidated. Also eliminated were any or all forms which: did not

This report covers the results of Datapro's 1983 survey of general-purpose computer users. This year's survey summarizes the experience of 3,592 users with a total of 4,957 installed systems in the mainframe and minicomputer class. The users' ratings pinpoint strengths and weaknesses of each manufacturer's equipment, software, and support and provide information that should be of great value in planning for the acquisition of a computer system.

identify manufacturer or model; did not withstand a "reasonableness" test; evaluated different makes and models on one form; were forgeries; lacked system ratings; rated systems which were not minicomputers or mainframe computer systems; or revealed a vested interest on the part of the respondents.

Of the 15,015 questionnaires mailed, 4,329 responses were received from 4,103 respondents, a return of 27 percent from the *Computerworld* mailings. We judged 511 responses invalid, giving us 3,818 valid responses from 3,592 users with a total of 4,957 installed systems.

Most of the 511 invalid responses were eliminated because they evaluated systems that were too small to be classified as minicomputers or small business computers. These responses, which demonstrate the use of microcomputers in large organizations, will be used in future Datapro reports on microcomputers.

Datapro batched the valid returns by manufacturer and model and sent the returns to Mathematica Policy Research, Inc. which tabulated the 1983 results. The summary information was prepared in the form of either averages, percentages, or weighted averages. Weighted averages were computed in a manner similar to most college grading systems: "Excellent" is weighted as 4, "Good" as 3, "Fair" as 2, and "Poor" as 1. The tallied numbers for each value are then multiplied by the corresponding weight, and the average is taken by dividing the sum of the products by the total number of responses for that category.

THE 1983 QUESTIONNAIRE

Our questionnaire was comprehensive and asked the users a total of 26 multiple-part questions. Each user was asked to identify the manufacturer, model, month/year of acquisition, and method of acquisition. Users were requested to identify the type of industry, principal applications, and the sources of the applications programs. We also asked the users for information about their hardware and software configurations, about acquisitions or implementations planned for 1983, and whether they expected to replace their computer systems in 1983. ▷

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▷ The next group of questions on the survey requested the users to check any significant advantages of the system and any significant problems they had encountered.

All users were asked to rate their systems in the following categories: ease of operation, reliability of mainframe, reliability of peripherals, maintenance service (responsiveness and effectiveness), technical support (trouble-shooting, education, and documentation), manufacturer's software (operating system, compilers and assemblers, and application programs), ease of programming, ease of conversion, and overall satisfaction.

We also asked users whether the computer system did what it was expected to do, and whether they would recommend their computer system to another user.

SURVEY RESULTS

Datapro decided to concentrate this survey on two classes of computer systems: mainframes and plug-compatible mainframes (PCMs), and minicomputers and small business computers (SBCs). Table 1, "Mainframes and Plug-Compatible Mainframes," contains the results on 32 model groupings from 11 mainframe and plug-compatible mainframe vendors, representing 1,578 user responses. Table 2, "Minicomputers and Small Business Computers," contains the results on 50 minicomputer and small business computer model groupings from 23 vendors, representing 2,240 responses.

Datapro wanted to examine and compare the results by manufacturer in each of the two classes of computer systems. Table 3, "Mainframe and Plug-Compatible Mainframe Vendor Summaries" contains summaries, by vendor, of the information in Table 1. Table 4, "Minicomputer and Small Business Computer Vendor Summaries," contains vendor summaries of the information in Table 2.

Financial Alternatives

Users have three options by which they can acquire their computer system: purchase, rent/lease from the manufacturer, or lease from a third party. Each method of acquisition offers its own benefits and each method should be examined carefully to see which of these methods would be most beneficial to your company. By using the purchase option, the user can enjoy benefits such as the investment tax credit and depreciation schedule allowances. With the rapid advances in technology, however, many users feel that rental/lease from the manufacturer is the best option for them—because it allows them to upgrade faster to new systems. Also, many vendors include maintenance in the rent/lease price. The advantages a user can receive from third-party leasing are faster delivery and more attractive lease prices.

One of the questions we asked, therefore, was how users acquired their systems: outright purchase, rental/lease from the manufacturer, or third-party lease.

Reference to Figure 1 shows that traditionally more mini-computer and small business computer users purchase

Method Acquisition	Mainframes & PCMs		Minis & SBCs	
	1983	1982	1983	1982
Purchase (%)	44	38	70	63
Rent/Lease From Mfr. (%)	34	41	16	25
Lease From 3rd Party (%)	22	21	14	12

Figure 1. Financial alternatives.

their systems than do mainframe or plug-compatible main-frame users (70 percent compared to 44 percent). However, the percentage of purchased systems increased this year for both classes of computer systems. This is undoubtedly because many vendors, including IBM, have been making outright purchase more attractive by lowering purchase prices and raising rental and lease prices.

Industry and Applications

One of the questions we asked the users was "What type of industry describes your company?" Table A shows the market penetration in each industry by manufacturer for each class of computer systems.

We also asked the survey respondents to specify their principal applications. In 1983, as in 1982, the top six applications for both classes of computer systems were: accounting/billing, payroll/personnel, order processing/inventory control, sales/distribution, purchasing, and manufacturing. (See Figure 2, "User Rankings of Principal Applications.") This year, insurance moved up to tenth place for mainframes and PCMs, replacing education. Health care/medical moved up from ninth to tenth place for minicomputers and SBCs.

Mainframes and Plug-Compatible Mainframes	Minicomputers and Small Business Computers
1. Accounting/Billing 2. Payroll/Personnel 3. Order Processing/Inv. Control 4. Sales/Distribution 5. Purchasing 6. Manufacturing 7. Banking 8. Math./Statistics 9. Engr./Scientific 10. Insurance	1. Accounting/Billing 2. Payroll/Personnel 3. Order Processing/Inv. Control 4. Sales/Distribution 5. Purchasing 6. Manufacturing 7. Engr./Scientific 8. Math./Statistics 9. Health Care/Medical 10. Education

Figure 2. User rankings of principal applications.

Sources of Applications Programs

The computer application development life cycle is a highly labor-intensive cycle. As labor costs climb, so does the cost of software development. As computers increase in capability and speed and as users become accustomed to results, the clamor for additional applications for "the computer" increases. Since many systems already face a ▷

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▷ two-year backlog in bringing up desirable applications, it is becoming more and more common for users to seek multiple sources for applications programs. And as the proprietary software industry increases in maturity and sophistication, "packaged software" becomes a desirable adjunct to in-house development.

We asked the users how they acquired their software, specifically, their applications software. The user rankings of sources of applications programs appear in Figure 3. First on both lists is in-house personnel. The preparation of software by in-house personnel is often a highly desirable route because of the in-house management control plus the total tailorability of the software to the user's operational requirements (ideally).

Mainframes and PCMs	Minicomputers and SBCs
1. In-house Personnel	1. In-house Personnel
2. Proprietary Software Packages	2. Packaged Programs from Mfg.
3. Packaged Programs from Mfg.	3. Proprietary Software
4. Contract Programming	4. Contract Programming
5. Manufacturer's Personnel	5. Manufacturer's Personnel

Figure 3. User rankings of sources of applications programs.

The 1983 survey shows an increase in the use of proprietary software packages. In the mainframe and PCM category, proprietary software packages moved to second place this year from third place in 1982, while packaged programs from the manufacturer went from second to third place. In the minicomputer and SBC category, proprietary software packages moved up from fourth place to third place, while packaged programs from the manufacturer remained in second place.

Primary Programming Languages

"Which programming language should I use?" is a question that often results in a long debate among programmers and computer scientists. Since most studies show that it takes about the same amount of time to code an instruction, whatever the language, the answer would appear to be: "Whichever language will result in the fastest possible documented implementation of the application."

Figure 4 illustrates which programming languages are used most by class of computer systems. For large system users, the most frequent language used is Cobol, followed distantly by Assembler and RPG. For minis and SBCs, RPG was the language used most frequently, followed by Cobol and Basic.

After examining the figures for minis and SBCs, we decided to see what would happen if we removed IBM totals from the base, since RPG is the primary language used with the IBM minis. When we subtracted the IBM totals, the picture changed—for all minis and SBCs (except for IBM's systems), Cobol turned out to be the most frequently used language (39 percent) followed by Basic (26 percent).
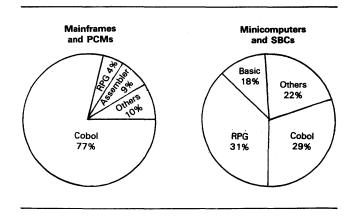

Figure 4. Primary programming languages by class of computer system.

Hardware Configurations

Several of the survey questions asked users to describe their hardware configurations. Nineteen percent of the survey respondents had installed more than one CPU of the same make and model. The percentage of installations with three or more CPUs was five for mainframes and PCMs and three for minicomputers and SBCs. In the mainframe and PCM category, 76 percent of the users had converted to their present system from an older model, while in the minicomputer and SBC category, 57 percent had converted from another system.

Twenty-four percent of the mainframes and PCMs represented in the survey had over 8 megabytes of main memory, and 57 percent had over 1.2 gigabytes of disk storage. Most of the minicomputers and SBCs had from 128K to 1024K bytes of main memory and from 80 to 600 megabytes of disk storage.

In the emerging trend to bring computers to the people who need them, workstations/terminals are the primary means of implementation. We asked the users how many local workstations/terminals and how many remote workstations/terminals they were using. Table B shows the usage of local and remote terminals by manufacturer and model for each class of computer systems. About one third of the mainframe users had over 60 local terminals and over 60 remote terminals. Approximately 40 percent of the minicomputer users were using between 6 and 15 local terminals, with 30 percent also using between 1 and 5 remote terminals.

Acquisitions and Replacements

We asked how users were planning on spending their enhancement/acquisition dollars in 1983. Figure 5 shows the user rankings of planned acquisitions. This year the top priority with users in the mainframe class is to acquire additional proprietary software, while users in the minicomputer class plan to expand their present hardware configurations.

The increasing dependence on computers has made many organizations aware of the vulnerability of their computer ▷

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Mainframes and PCMs	Minicomputers and SBCs
1. Additional Proprietary Software (54%) 2. Expansions to Data Communications (52%) 3. Expansions to Present Hardware (51%) 4. Additional Software from Mfg. (44%) 5. Implement Disaster Recovery Plan (22%)	1. Expansions to Present Hardware (44%) 2. Additional Proprietary Software (34%) 3. Expansions to Data Communications (29%) 4. Additional Software from Mfg. (24%) 5. Implement Disaster Recovery Plan (15%)

Figure 5. User rankings of planned acquisitions in 1983.

▷ installations in the event of a fire, flood, or other disaster. We wanted to know how many survey respondents had implemented a disaster recovery plan and how many others were planning on doing so. Our survey shows that disaster recovery plans have been implemented by 53 percent of the mainframe users and by 51 percent of the minicomputer users. Plans for disaster recovery were reported by 22 percent of the remaining mainframe users and 15 percent of the remaining minicomputer users.

One indicator of the economy is whether or not users are expecting to replace their systems in 1983. Our study shows that 20 percent of the mainframe and PCM users plan to replace their systems in 1983, compared to 21 percent last year, with 14 percent of this group staying with the current manufacturer. Two percent of the mainframe and PCM users plan to go to a different vendor and four percent plan a change with the vendor unknown at this time.

Eighty-four percent of the minicomputer and SBC users plan to make no change in 1983. Of the 20 percent planning on replacing their systems in 1983 (compared to 17 percent in 1982), 10 percent are planning on remaining with their current vendors. Three percent of the mini and SBC users plan to go to a different vendor, while another three percent plan to replace their systems in 1983 but the vendor is unknown at this time.

Significant Advantages/Problems

Determining the experiences users are having with their systems is a critical part in any computer system acquisition decision. The significant advantages/problems by manufacturer and model can be found in Table 1 for the mainframes and PCMs or Table 2 for minicomputers and SBCs. The major issues are generally the same for all size systems. These advantages and problems should be examined very carefully. For example, if you see (in Table 1 or Table 2) that the "vendor did not provide all the promised software or support," don't hesitate to make the vendor spell out in writing exactly what and how much software and/or support they will provide and make sure to include this in the contract you sign.

Figure 6 shows the user rankings of the most significant advantages and the most significant problems by computer class.

Mainframes and Plug-Compatible Mainframes

Most Significant Advantages

1. Programs/data carried over from other systems are compatible, as vendor promised
2. Users are happy with response time
3. System is easy to expand/reconfigure
4. Terminals/peripherals carried over from other systems are compatible, as vendor promised
5. System is power/energy efficient
6. Productivity aids help us keep programming cost down

Most Significant Problems

1. Vendor enhancements/changes to hardware/software are hard to keep up with
2. System costs (for hardware, vendor-supplied software, support) exceeded expected total
3. Vendor did not provide all the promised software or support
4. Power and/or cooling requirements are excessive
5. Computer proposed by vendor was too small
6. Delivery of required software was late

Minicomputers and Small Business Computers

Most Significant Advantages

1. System is easy to expand/reconfigure
2. Users are happy with response time
3. Productivity aids help us keep programming cost down
4. Programs/data carried over from other systems are compatible, as vendor promised
5. Database language is efficient and effective
6. System is power/energy efficient

Most Significant Problems

1. Vendor did not provide all the promised software or support
2. Vendor enhancements/changes to hardware/software are hard to keep up with
3. System costs (for hardware, vendor-supplied software, support) exceeded expected costs
4. Computer proposed by vendor was too small
5. Installation of equipment was late
6. Delivery of required software was late

Figure 6. User ranking of most significant advantages and most significant problems.

The most significant advantage cited by the users of mainframes and plug-compatible mainframes was "Programs/data carried over from other systems are compatible, as vendor promised," while the users of minicomputers and small business systems cited "System is easy to expand/reconfigure." The first of these reflects the importance of protecting your software investment, while the second stresses the need for flexibility as your organization grows. Second on the list for both mainframes and minicomputers is "Users are happy with response time."

In 1983, as in 1982, the mainframe users considered their most significant problem to be "Vendor enhancements/changes to hardware/software are hard to keep up with." The most frequently mentioned problem for minicomputer users in both 1982 and 1983 was "Vendor did not provide all the promised software and support." Some problems were cited more frequently this year than last year. For example, mainframe users ranked "System costs exceeded expected total" as the second most significant problem this year. In 1982, this problem was ranked third. Mini-▷

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▷ computer users ranked "Vendor enhancements/changes are hard to keep up with" in second place this year, up from fifth place in 1982.

User Satisfaction Ratings

Consistent with our belief that what users think is extremely important, we asked users to rate their computer systems and the associated software and vendor support by assigning a rating of Excellent, Good, Fair, or Poor to each of 14 factors: ease of operation, reliability of mainframe, reliability of peripherals, maintenance service (responsiveness and effectiveness), technical support (trouble-shooting, education, and documentation), manufacturer's software (operating system, compilers & assemblers, and applications programs), ease of programming, ease of conversion, and overall satisfaction. All ratings are expressed in terms of Weighted Averages, which were calculated by assigning a weight of 4 to each user rating of Excellent, 3 to Good, 2 to Fair, and 1 to Poor, and then dividing the sum by the number of users who rated each factor.

The individual responses by vendor model appear in Tables 1 and 2. However, we thought it would be interesting to determine the overall weighted averages of both classes of systems and compare them to the weighted averages from

the past two years. The results appear in Figure 7. The overall user satisfaction ratings in mainframes and PCMs shows no change in three years, while there has been a slight improvement in minis and SBCs. Figure 7 also illustrates the users' dissatisfaction with technical support and application programs.

Expectations and Recommendations

We asked the computer system users "Did the system do what you expected it to do?" Ninety-one percent answered "Yes," 4 percent said "No," and 5 percent said "Haven't decided" in the mainframe and plug-compatible mainframe class. In the minicomputer and small business computer class, 90 percent said "Yes," 4 percent said "No," and 6 percent answered "Haven't decided."

The final question we asked users was whether they would recommend the computer system to another user in their situation. Most said they would: 83 percent of mainframe and PCM users said "Yes," as did 86 percent of the mini and SBC users. Last year's answers were 80 percent for mainframes and 86 percent for minis. Eight percent of mainframe users answered "No," and 9 percent said they "Haven't decided" on recommending their system to another user, while 7 percent of the mini users said "No," and 7 percent answered "Haven't decided."

The vendors that received the highest overall percentages of user recommendations were:

	Mainframes & PCMs			Minicomputers & SBCs		
	1983	**1982**	**1981**	**1983**	**1982**	**1981**
Ease of operation	3.3	3.2	3.3	3.5	3.5	3.5
Reliability of mainframe	3.6	3.5	3.5	3.6	3.6	3.6
Reliability of peripherals	3.2	3.1	3.1	3.4	3.3	3.3
Maintenance service:						
Responsiveness	3.3	3.2	3.2	3.4	3.3	3.2
Effectiveness	3.2	3.1	3.1	3.3	3.2	3.1
Technical support:						
Trouble-shooting	2.8	2.7	2.7	2.9	2.9	2.8
Education	2.7	2.7	2.7	2.8	2.8	2.7
Documentation	2.6	2.6	2.6	2.8	2.7	2.7
Manufacturer's software:						
Operating system	3.2	3.1	3.1	3.4	3.4	3.3
Compilers & assemblers	3.2	3.2	3.2	3.3	3.3	3.2
Applications programs	2.7	2.7	2.7	2.9	2.8	2.8
Ease of programming	3.0	3.0	3.1	3.3	3.3	3.3
Ease of conversion	3.0	3.0	3.0	3.0	2.9	3.0
Overall satisfaction	3.1	3.1	3.1	3.3	3.3	3.2

Figure 7. User satisfaction ratings by class.

Mainframes and PCMs		Minicomputers and SBCs	
IPL	100%	Alpha Micro	100%
Amdahl	96%	Altos	100%
Magnuson	89%	Datapoint	93%

THANK YOU

Datapro extends a sincere thanks to all for responding so enthusiastically to our 1983 survey of user experiences with computer systems. Without your participation it could not have been the success it is, and we hope that this compendium of the opinions of user colleagues will be of significant value to you. We look forward to hearing from you again next year. ▷

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Table A. Computer Usage by Manufacturer and Industry Type

Manufacturer	Banking/Finance/Securities	Chemical/Petroleum	Construction	Education	Engineering/Scientific	Government	Health Care/Medical	Insurance	Legal	Manufacturing	Media	Public Accounting/Consulting	Retail/Wholesale	Service Bureau	Transportation	Utilities (Public)	Other
MAINFRAMES & PLUG-COMPATIBLE MAINFRAMES																	
Amdahl (46)	13.04	13.04	0.00	13.04	4.35	8.70	6.52	8.70	0.00	2.17	0.00	0.00	6.52	6.52	4.35	8.70	4.35
Burroughs (90)	30.00	2.22	0.00	12.22	0.00	7.78	3.33	1.11	0.00	15.56	0.00	1.11	4.44	10.00	3.33	3.33	5.56
Control Data (6)	0.00	0.00	0.00	33.33	16.67	16.67	0.00	0.00	0.00	16.67	0.00	0.00	0.00	16.67	0.00	0.00	0.00
Digital Equipment (37)	5.41	2.70	0.00	35.14	2.70	2.70	10.81	0.00	0.00	10.81	2.70	0.00	2.70	8.11	0.00	2.70	13.51
Honeywell (81)	0.00	3.70	6.17	11.11	2.47	7.41	1.23	7.41	0.00	33.33	0.00	0.00	14.81	2.47	1.23	1.23	7.41
IBM (995)	15.58	2.21	1.01	6.23	0.80	7.14	3.92	9.25	0.10	24.12	1.21	0.60	10.95	5.13	2.21	3.42	6.13
IPL (12)	0.00	0.00	0.00	8.33	8.33	8.33	0.00	8.33	0.00	8.33	8.33	0.00	8.33	25.00	0.00	0.00	16.67
Magnuson (19)	10.53	0.00	0.00	5.26	0.00	5.26	0.00	26.32	0.00	10.53	10.53	0.00	5.26	5.26	0.00	0.00	21.05
NAS (32)	0.00	0.00	0.00	6.25	3.13	15.63	3.13	6.25	0.00	28.13	0.00	0.00	0.00	15.63	0.00	3.13	18.75
NCR (97)	31.96	2.06	1.03	6.19	0.00	7.22	5.15	2.06	1.03	18.56	0.00	1.03	16.49	1.03	2.06	1.03	3.09
Sperry Univac (125)	2.40	1.60	3.20	5.60	1.60	23.20	2.40	3.20	0.00	23.20	1.60	0.00	12.80	3.20	2.40	4.80	8.80
Other (34)	0.00	0.00	2.94	11.76	0.00	20.59	0.00	2.94	0.00	14.71	2.94	5.88	2.94	17.65	0.00	2.94	14.71
All Mainframes (1,574)	14.36	2.41	1.33	7.88	1.14	8.89	3.75	7.50	0.13	22.30	1.21	0.64	10.42	5.65	2.10	3.30	6.99
Alpha Micro (16)	6.25	0.00	0.00	12.50	0.00	0.00	0.00	0.00	0.00	6.25	0.00	12.50	25.00	18.75	0.00	0.00	18.75
Altos (15)	0.00	0.00	6.67	0.00	0.00	0.00	13.33	0.00	0.00	0.00	0.00	0.00	33.33	20.00	6.67	0.00	20.00
Burroughs (128)	10.94	1.56	3.13	7.81	0.00	9.38	3.13	1.56	0.00	24.22	0.78	0.00	19.53	2.34	2.34	4.69	8.59
Data General (93)	5.38	1.08	5.38	7.53	1.08	7.53	7.53	4.30	0.00	16.13	0.00	3.23	16.13	6.45	0.00	0.00	18.28
Datapoint (61)	0.00	1.64	6.56	1.64	0.00	3.28	3.28	6.56	0.00	16.39	0.00	6.56	14.75	8.20	4.92	1.64	24.59
Digital Equipment (329)	5.17	3.34	0.61	11.55	12.46	7.60	5.78	1.52	0.30	13.37	2.74	3.95	9.12	5.17	0.61	1.82	14.89
Four-Phase (33)	6.06	3.03	3.03	0.00	0.00	6.06	30.30	9.09	3.03	27.27	0.00	0.00	0.00	6.06	0.00	6.06	0.00
General Automation (6)	0.00	0.00	0.00	16.67	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	16.67	0.00	0.00	0.00	16.67
Harris (15)	0.00	13.33	0.00	6.67	0.00	33.33	0.00	0.00	0.00	26.67	0.00	13.33	0.00	6.67	0.00	0.00	0.00
Hewlett-Packard (220)	2.73	3.64	2.73	8.18	7.27	5.45	4.09	2.73	0.00	29.55	1.36	4.09	6.82	7.27	0.90	1.36	11.82
Honeywell (35)	8.57	2.86	2.86	5.71	0.00	8.57	11.43	8.57	0.00	22.86	0.00	2.86	11.43	2.86	0.00	2.86	8.57
IBM (781)	4.10	2.18	1.92	3.20	0.26	3.71	4.99	2.30	0.38	34.06	1.28	5.76	14.34	2.82	2.18	2.05	14.47
MAI/Basic Four (34)	17.65	0.00	5.88	0.00	0.00	0.00	2.94	5.88	0.00	20.59	0.00	5.88	11.76	5.88	5.88	0.00	17.65
Microdata (20)	0.00	5.00	0.00	5.00	0.00	0.00	5.00	5.00	0.00	10.00	0.00	5.00	30.00	15.00	0.00	0.00	20.00
Modcomp (5)	0.00	20.00	0.00	0.00	20.00	0.00	40.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00
NCR (46)	8.70	0.00	4.35	2.17	0.00	10.87	8.70	0.00	0.00	19.57	4.35	6.52	13.04	8.70	0.00	2.17	10.87
Perkin-Elmer (11)	0.00	0.00	0.00	0.00	18.18	9.09	0.00	0.00	0.00	9.09	0.00	0.00	9.09	9.09	0.00	9.09	36.36
Point 4 (11)	0.00	0.00	0.00	0.00	0.00	9.09	9.09	0.00	0.00	9.09	0.00	9.09	18.18	9.09	0.00	0.00	36.36
Prime (92)	3.26	3.26	4.35	14.13	10.87	3.26	2.17	1.09	0.00	8.70	4.35	3.26	13.04	9.78	1.09	2.17	15.22
Qantel (10)	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.00	0.00	0.00	10.00	10.00	0.00	0.00	20.00
Tandem (19)	26.32	0.00	0.00	0.00	5.26	5.26	10.53	0.00	0.00	10.53	10.53	0.00	0.00	5.26	0.00	15.79	10.53
Texas Instruments (39)	5.13	5.13	2.56	7.69	5.13	2.56	10.26	0.00	0.00	12.82	5.13	12.82	2.56	15.38	0.00	0.00	12.82
Wang (105)	8.57	0.95	1.90	3.81	0.00	13.33	3.81	8.57	1.90	16.19	0.95	6.67	10.49	2.86	1.90	0.95	17.14
Other (105)	7.62	1.90	0.95	10.48	6.67	2.86	5.71	2.86	0.00	10.48	0.95	3.81	16.19	9.52	0.95	0.95	18.10
All Minicomputers (2,229)	5.25	2.51	2.29	6.19	3.72	5.65	5.52	2.74	0.31	23.46	1.57	4.94	12.52	5.29	1.48	1.97	14.58

U.S. User Ratings of Computer Systems

Table B. Usage of Local and Remote Workstations/Terminals

No. of Workstations/ Terminals per System / Manufacturer & Model	Local						Remote					
	None	1-5	6-15	16-30	31-60	Over 60	None	1-5	6-15	16-30	31-60	Over 60
MAINFRAMES & PLUG-COMPATIBLE MAINFRAMES												
Amdahl 470 Series	0	1	2	3	5	34	0	2	4	1	0	38
Burroughs:												
B 2800, B 3800 & B 4800	0	4	9	7	4	2	4	1	4	1	4	12
B 2900 & B 3900	0	5	9	6	4	2	7	3	6	4	2	5
B 5900 & B 6900	0	0	3	2	3	1	1	3	3	1	0	1
B 6700 & B 7700	0	0	0	2	3	2	1	1	0	0	1	5
B 6800 & B 7800	0	1	3	3	7	6	0	4	1	1	4	10
Control Data, All Models	0	1	0	0	3	2	0	0	1	1	0	4
Digital Equipment:												
DECsystem-10	0	1	3	3	5	2	0	1	0	6	1	6
DECSYSTEM-20	0	2	9	1	4	8	2	3	5	5	2	6
Honeywell:												
Level 62 & 64	6	7	12	13	1	0	21	12	5	0	0	0
Level 66 & 68	0	3	4	7	4	7	1	5	4	5	2	8
DPS 7 & DPS 8	0	0	5	4	5	3	2	4	3	2	1	5
IBM:												
System/360	6	1	1	0	1	0	7	1	0	0	1	0
System/370	9	8	24	23	30	32	28	21	17	10	9	40
8100	0	2	10	1	1	1	8	1	5	0	0	1
4331	1	29	65	47	23	6	64	54	29	8	8	6
4341	1	7	46	101	116	114	58	54	64	59	43	106
3031 & 3032	1	0	4	10	12	34	2	4	6	8	7	34
3033	0	1	6	7	25	81	2	4	8	11	9	86
308X Series	1	0	5	6	10	84	0	2	2	9	6	87
IPL 4400 Series	0	0	5	3	3	1	2	4	3	2	1	0
Magnuson M80 Series	0	1	4	6	2	6	5	5	2	2	3	2
NAS:												
AS/3, AS/5 & AS/6	0	1	2	1	6	9	2	1	2	2	2	10
AS/7000 & AS/9000	1	0	2	1	1	7	0	1	1	3	2	5
NCR 8400 & 8500	3	24	43	19	5	3	36	14	14	10	9	13
Sperry Univac:												
90/30 & 90/40	1	11	20	8	5	0	19	11	7	6	0	2
90/60 & 90/80	0	0	2	2	2	2	1	0	0	0	2	5
System 80	0	4	13	6	1	0	9	9	6	0	0	0
1100/60	0	1	4	10	5	7	2	7	2	6	5	6
1100/80	0	1	0	0	5	8	1	1	1	0	0	11
Other 1100 Series	0	1	0	0	3	2	1	2	0	0	0	3
Other Mainframes	4	8	9	5	3	2	13	7	2	1	6	2
All Mainframes	34	125	324	307	307	468	299	242	207	164	130	519

U.S. User Ratings of Computer Systems

Table B. Usage of Local and Remote Workstations/Terminals (Continued)

Manufacturer & Model (No. of Workstations/Terminals per System)	Local						Remote					
	None	1-5	6-15	16-30	31-60	Over 60	None	1-5	6-15	16-30	31-60	Over 60
MINICOMPUTERS & SMALL BUSINESS COMPUTERS												
Alpha Micro, All Models	0	9	5	2	0	0	5	8	2	0	0	0
Altos, All Models	0	14	1	0	0	0	7	6	0	0	0	0
Burroughs:												
B 800 & B 1800	3	15	22	13	2	0	22	17	8	4	0	2
B 90	0	4	3	0	0	0	5	1	1	0	0	0
B 900	0	1	8	0	0	0	4	3	2	0	0	0
B 1900	0	6	20	20	8	0	19	17	6	7	5	0
Data General:												
CS Series	0	8	5	0	0	0	8	5	0	0	0	0
Eclipse	0	9	17	11	4	1	13	16	5	4	2	1
MV Series	1	0	7	4	1	2	5	2	3	0	2	2
NOVA	1	13	7	1	1	0	17	4	2	0	0	0
Datapoint ARC	3	17	27	7	5	2	35	15	7	1	0	1
Digital Equipment:												
PDP 1103 & 1123	1	35	6	1	0	1	24	16	0	0	1	2
PDP 1134 & 1144	1	21	42	21	6	0	38	31	17	0	2	1
PDP 1170	1	8	27	21	23	5	18	19	16	14	9	9
Other PDP 11	1	3	2	2	3	0	3	6	0	1	1	0
VAX	0	12	23	25	27	12	30	26	18	10	8	4
Four-Phase, All Models	0	7	8	7	9	1	27	5	1	0	0	0
General Automation, All Models	1	1	3	0	0	0	5	0	0	0	0	0
Harris, All Models	0	4	6	1	3	1	4	9	2	0	0	0
Hewlett-Packard:												
85, 86 & 87	2	4	1	0	0	0	3	4	0	0	0	0
250 & 300	0	8	2	0	0	0	7	2	0	0	0	0
1000	0	4	7	2	1	0	5	8	2	0	0	0
3000	1	17	73	57	26	8	40	70	33	17	9	12
9800	3	3	1	0	0	0	7	0	0	0	0	0
Honeywell:												
DPS 6	0	6	5	1	2	2	5	4	4	0	3	0
Level 6	0	4	6	6	1	3	5	9	1	1	1	2
IBM:												
Series 1	1	24	8	5	0	1	26	8	2	0	2	1
System/23	2	13	0	0	0	0	13	1	0	0	0	0
5120	5	0	1	0	0	0	5	2	0	0	0	0
5280	1	7	0	0	0	0	6	2	0	0	0	0
System/3	9	26	35	16	3	0	53	12	15	6	1	0
System/32	4	5	1	2	0	0	11	1	0	1	0	0
System/34	1	151	228	40	2	0	250	120	38	7	2	1
System/38	1	10	80	61	28	3	74	39	39	22	4	1
MAI/Basic Four, All Models	1	11	18	4	0	0	13	15	4	1	0	1
Microdata Reality	0	3	12	4	1	0	5	12	3	0	0	0
Modcomp, All Models	0	1	2	1	0	1	4	0	1	0	0	0
NCR:												
I 8000	0	8	8	0	0	0	9	7	0	0	0	0
I 9000	0	8	9	3	1	0	12	6	2	0	1	0
8200 & 8300	0	7	2	0	0	0	9	0	0	0	0	0
Perkin-Elmer 3200	0	3	3	3	2	0	5	4	2	0	0	0
Point 4, All Models	0	2	6	2	1	0	2	5	1	0	1	1
Prime:												
300, 400 & 500	0	4	4	2	0	0	3	6	1	0	0	0
50 Series	0	8	24	23	17	10	13	26	23	11	5	3
Qantel, All Models	0	5	6	0	0	0	8	2	1	0	0	0
Tandem, All Models	0	1	4	6	4	4	1	5	4	4	1	4
Texas Instruments 990	0	12	21	6	1	0	18	18	3	1	0	0
Wang:												
VS	0	9	35	14	9	4	39	23	4	2	2	0
2200	1	22	13	0	0	0	22	13	0	0	0	0
Other Minicomputers	13	39	31	13	5	3	53	30	11	3	5	1
All Minicomputers	58	612	885	407	196	64	1015	660	284	117	67	49

FEBRUARY 1984

U.S. User Ratings of Computer Systems

U.S. User Ratings of Computer Systems
Table 1. Mainframes & Plug-Compatible Mainframes

Survey Item	Amdahl 470 Series	Burroughs B 3800, & B 4800	Burroughs B 2900 & B3900	Burroughs B 5900 & B 6900	Burroughs B 6700 & B7700	Burroughs B 6800 & B7800	Control Data All Models	Digital Equipment DECsystem—10
No. of User Responses	46	26	27	9	8	20	6	14
No. of Systems Represented	83	34	37	9	15	35	9	20
Avg. Life of System (Mos.)	36.5	50.6	25.4	24.0	85.3	45.0	49.7	64.5
Acquisition Method (%)								
Purchase	54.55	42.31	48.15	44.44	87.50	42.10	50.00	76.92
Rental or Lease from Mfr.	27.27	38.46	44.44	44.44	12.50	47.37	50.00	0.00
Lease from 3rd Party	18.18	19.23	7.41	11.11	0.00	10.53	0.00	23.08
Principal Applications (%)								
Accounting/Billing	73.91	42.31	66.67	77.78	50.00	80.00	33.33	50.00
Banking—Check Processing/Loans/Savings	10.87	57.69	37.04	11.11	37.50	10.00	0.00	7.14
Construction/Architecture	4.35	0.00	0.00	11.11	0.00	0.00	0.00	14.28
Education—Scheduling/Administration	17.39	7.69	11.11	11.11	37.50	25.00	50.00	71.43
Engineering/Scientific	34.78	3.85	0.00	0.00	0.00	10.00	83.33	35.71
Health Care/Medical	17.39	3.85	3.70	0.00	25.00	10.00	0.00	14.28
Insurance	17.39	0.00	0.00	0.00	12.50	5.00	0.00	0.00
Manufacturing	8.70	15.38	7.40	11.11	0.00	20.00	0.00	0.00
Mathematics/Statistics	34.78	3.85	7.40	22.22	25.00	25.00	66.67	57.14
Order Processing/Inventory Control	41.30	34.62	37.04	44.44	25.00	50.00	33.33	14.28
Payroll/Personnel	71.74	42.31	48.15	33.33	50.00	50.00	66.67	42.86
Petroleum/Fuel Analysis	17.39	0.00	0.00	22.22	0.00	0.00	0.00	0.00
Process Control	6.52	3.85	0.00	0.00	0.00	0.00	0.00	0.00
Purchasing	30.43	19.23	22.22	11.11	37.50	35.00	0.00	21.43
Sales Distribution	21.74	15.38	18.52	22.22	12.50	15.00	0.00	7.14
Other	39.13	19.23	18.52	22.22	25.00	25.00	0.00	7.14
Source of Applications Programs (%)								
In-house Personnel	100.00	96.15	88.89	66.67	100.00	100.00	100.00	100.00
"Packaged" Programs from Manufacturer	52.17	46.15	48.15	33.33	25.00	30.00	50.00	42.86
Contract Programming	60.87	26.92	14.81	22.22	37.50	50.00	33.33	14.29
Manufacturer's Personnel	8.70	0.00	7.41	0.00	0.00	15.00	33.33	7.14
Proprietary Software Packages	60.87	38.46	37.04	44.44	37.50	40.00	66.67	64.29
Location of Computer (%)								
Distributed Processing Site	2.22	0.00	3.70	0.00	0.00	5.00	0.00	0.00
Central Processing Installation	97.78	100.00	96.30	100.00	100.00	95.00	100.00	100.00
Using Local Workstations/Terminals (%)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Using Remote Workstations/Terminals (%)	100.00	84.62	74.07	88.89	87.50	100.00	100.00	100.00
Using Data Base Management System (%)	82.61	34.62	40.74	66.67	87.50	94.74	50.00	76.92
Planning a Data Base Management System in 1983	6.52	3.85	18.52	33.33	0.00	0.00	16.67	0.00
Manufacturer's Package	28.95	77.78	90.91	100.00	100.00	88.88	33.33	0.00
Outside Vendor's Package	63.16	0.00	0.00	0.00	0.00	5.56	66.67	70.00
Home-Grown System	7.89	22.22	9.09	0.00	0.00	5.56	0.00	30.00
Using Communications Monitor (%)	11.90	65.38	62.96	44.44	87.50	94.74	20.00	46.15
Planning a Communications Monitor in 1983	4.76	0.00	7.41	0.00	0.00	0.00	0.00	0.00
Manufacturer's Package	42.86	64.71	64.71	75.00	57.14	77.77	100.00	50.00
Outside Vendor's Package	51.43	35.29	23.53	25.00	14.29	5.56	0.00	33.33
Home-Grown System	5.71	0.00	11.76	0.00	28.57	16.67	0.00	16.67
Using Integrated Word Processing Functions (%)	37.78	8.00	3.70	22.22	12.50	26.32	0.00	42.86
Planning Word Processing Functions in 1983	17.78	16.00	14.81	44.44	0.00	5.26	0.00	14.29
Planned Acquisitions/Implementations for 1983 (%)								
Additional Software from the Manufacturer	43.48	15.38	29.63	44.44	25.00	35.00	33.33	28.57
Proprietary Software from Other Suppliers	76.09	42.31	37.04	55.56	50.00	50.00	16.67	50.00
Expansions to Data Communications Facilities	73.91	53.85	66.67	44.44	50.00	60.00	50.00	42.86
Distributed Processing Capabilities	34.78	19.23	11.11	11.11	25.00	15.00	0.00	7.14
Expansions to Present Hardware	67.39	50.00	37.04	44.44	62.50	50.00	33.33	71.43
Another Computer System, Same Model	13.04	7.69	7.41	0.00	25.00	20.00	0.00	14.29
Business Graphics	32.61	3.85	0.00	11.11	0.00	15.00	16.67	14.29
Disaster Recovery Plan	15.56	15.38	22.22	11.11	50.00	10.53	0.00	28.57
Plans for system replacement in 1983 (%)								
Yes, Same Manufacturer	15.22	15.38	7.41	0.00	12.50	15.79	0.00	14.29
Yes, Vendor Unknown	17.39	7.69	0.00	0.00	25.00	0.00	0.00	0.00
Yes, Different vendor	2.17	0.00	0.00	0.00	0.00	10.53	0.00	0.00
No	65.22	76.93	92.59	100.00	62.50	73.68	100.00	85.71

U.S. User Ratings of Computer Systems
Table 1. Mainframes & Plug-Compatible Mainframes

Amdahl 470 Series	Burroughs B 2800, B 3800, & B 4800	Burroughs B 2900 & B 3900	Burroughs B 5900 & B 6900	Burroughs B 6700 & B 7700	Burroughs B 6800 & B 7800	Control Data All Models	Digital Equipment DECsystem—10	Survey Item
								Significant Advantages (%)
71.74	42.31	44.44	33.33	75.00	35.00	33.33	85.71	Users are happy with response time
43.48	73.08	74.07	100.00	62.50	65.00	50.00	85.71	System is easy to expand/reconfigure
23.91	7.69	7.40	0.00	0.00	15.00	0.00	7.14	System costs were less than expected
73.91	50.00	55.56	44.44	50.00	45.00	50.00	50.00	Programs/data carried over from other systems are compatible, as vendor promised
69.57	50.00	51.85	44.44	12.50	40.00	16.67	35.71	Terminals/peripherals carried over from other systems are compatible, as vendor promised
41.30	7.69	48.15	33.33	0.00	15.00	16.67	7.14	System is power/energy efficient
26.09	34.62	29.63	44.44	25.00	30.00	0.00	28.57	Productivity aids help us keep programming costs down
23.91	7.69	22.22	44.44	75.00	85.00	0.00	35.71	Data base language is efficient and effective
36.96	11.54	22.22	11.11	0.00	5.00	0.00	14.29	Delivery and/or installation of equipment was ahead of schedule
17.39	7.69	18.52	11.11	0.00	5.00	0.00	0.00	Delivery of required software was ahead of schedule
								Significant Problems (%)
4.35	7.69	0.00	11.11	12.50	20.00	0.00	7.14	Computer proposed by vendor was too small
2.17	38.46	37.04	11.11	0.00	35.00	0.00	7.14	Installation of equipment was late
2.17	15.38	14.81	0.00	12.50	10.00	0.00	21.43	Delivery of required software was late
6.52	11.54	14.81	22.22	25.00	5.00	0.00	7.14	System costs (for hardware, vendor-supplied software, support) exceeded the expected total
4.35	23.08	11.11	33.33	12.50	15.00	0.00	14.29	Vendor did not provide all the promised software or support
0.00	3.85	0.00	11.11	12.50	5.00	0.00	0.00	Program/data compatibility not what vendor promised
2.17	0.00	0.00	0.00	12.50	0.00	0.00	0.00	Terminals/peripherals compatibility not what vendor promised
4.35	26.92	11.11	33.33	25.00	15.00	16.67	7.14	Vendor enhancements/changes to hardware/ software hard to keep up with
4.35	3.85	7.40	0.00	25.00	5.00	16.67	14.29	Equipment is excessively noisy
8.70	7.69	0.00	0.00	62.50	25.00	50.00	21.43	Power and/or cooling requirements are excessive
								System Ratings (4.0-1.0)
3.37	3.80	3.56	3.33	3.63	3.50	2.83	3.77	Ease of Operation
3.57	3.54	3.35	3.33	3.25	2.90	3.33	3.43	Reliability of Mainframe
3.17	2.96	3.00	2.75	2.63	2.63	3.00	2.93	Reliability of Peripherals
								Maintenance Service:
3.41	2.96	3.19	2.89	2.88	2.68	3.33	3.17	Responsiveness
3.41	2.56	3.08	2.78	2.75	2.32	3.00	3.17	Effectiveness
								Technical Support:
3.40	2.12	2.41	2.78	2.63	2.26	2.83	2.50	Trouble-shooting
2.95	2.17	2.27	2.33	2.63	2.10	2.67	2.73	Education
2.92	1.88	2.15	2.00	2.25	1.85	3.00	2.58	Documentation
								Manufacturer's Software:
3.11	3.65	3.56	3.44	3.63	3.42	2.83	3.71	Operating System
3.13	3.15	3.15	3.25	3.38	3.11	3.17	3.14	Compilers & Assemblers
2.87	2.55	2.80	2.71	2.20	2.59	2.25	2.78	Applications Programs
3.00	3.27	3.19	3.11	3.25	3.25	2.83	3.69	Ease of Programming
3.09	3.08	3.15	2.78	3.00	3.11	2.83	3.00	Ease of Conversion
3.31	3.00	3.22	3.11	3.00	2.80	2.83	3.29	Overall Satisfaction
								Did the system do what you expected it to do? (%)
97.78	96.15	88.89	33.33	87.50	80.00	83.33	92.86	Yes
0.00	3.85	3.70	22.22	12.50	15.00	0.00	7.14	No
2.22	0.00	7.41	44.44	0.00	5.00	16.67	0.00	Haven't decided
								Would you recommend system to another user? (%)
95.56	88.46	77.78	55.56	75.00	65.00	66.67	83.33	Yes
2.22	3.85	3.70	0.00	25.00	15.00	33.33	8.33	No
2.22	7.69	18.52	44.44	0.00	20.00	0.00	8.33	Haven't decided

U.S. User Ratings of Computer Systems
Table 1. Mainframes & Plug-Compatible Mainframes

Survey Item	Digital Equipment DECSYSTEM—20	Honeywell Level 62 & 64	Honeywell Level 66 & 68	Honeywell DPS 7 & DPS 8	IBM System/360	IBM System/370	IBM 8100	IBM 4331
No. of User Responses	24	39	25	17	10	126	15	171
No. of Systems Represented	36	41	34	25	14	165	22	181
Avg. Life of System (Mos.)	54.4	66.5	60.2	29.9	103.2	62.7	31.3	33.7
Acquisition Method (%)								
Purchase	54.55	51.28	60.00	47.06	90.00	51.59	40.00	36.84
Rental or Lease from Mfr.	0.00	46.15	28.00	41.18	0.00	9.52	60.00	50.29
Lease from 3rd Party	45.45	2.56	12.00	11.76	10.00	38.89	0.00	12.87
Principal Applications (%)								
Accounting/Billing	70.83	92.30	92.00	82.35	80.00	69.05	40.00	71.93
Banking—Check Processing/Loans/Savings	12.50	5.13	0.00	0.00	30.00	16.67	0.00	12.28
Construction/Architecture	8.33	5.13	4.00	0.00	10.00	2.38	0.00	1.75
Education—Scheduling/Administration	25.00	2.56	28.00	17.65	20.00	6.35	33.33	8.77
Engineering/Scientific	29.17	0.00	28.00	11.76	10.00	10.32	13.33	4.68
Health Care/Medical	16.67	7.69	0.00	5.88	0.00	7.94	0.00	1.17
Insurance	4.17	15.38	8.00	17.65	10.00	15.87	0.00	8.77
Manufacturing	29.17	38.46	44.00	17.65	10.00	23.81	13.33	28.65
Mathematics/Statistics	41.67	5.13	24.00	5.88	10.00	7.94	13.33	4.09
Order Processing/Inventory Control	41.67	64.10	52.00	58.82	20.00	49.21	40.00	51.46
Payroll/Personnel	50.00	71.79	92.00	58.82	50.00	57.14	33.33	55.56
Petroleum/Fuel Analysis	4.17	0.00	4.00	11.76	0.00	2.38	0.00	0.58
Process Control	4.17	5.13	8.00	0.00	0.00	7.14	6.67	2.92
Purchasing	45.83	38.46	40.00	35.29	10.00	31.75	13.33	29.24
Sales Distribution	29.17	61.54	36.00	41.18	20.00	37.30	20.00	39.18
Other	37.50	12.82	24.00	29.41	60.00	25.40	40.00	19.30
Source of Applications Programs (%)								
In-house Personnel	100.00	97.43	100.00	94.12	100.00	97.62	86.67	88.89
"Packaged" Programs from Manufacturer	58.33	55.90	52.00	41.18	20.00	50.79	33.33	39.18
Contract Programming	37.50	23.08	28.00	47.06	10.00	31.75	13.33	20.47
Manufacturer's Personnel	0.00	10.26	24.00	11.76	10.00	3.17	0.00	1.75
Proprietary Software Packages	62.50	15.38	44.00	52.94	20.00	59.52	13.33	37.43
Location of Computer (%)								
Distributed Processing Site	4.17	0.00	0.00	0.00	30.00	6.35	60.00	5.26
Central Processing Installation	95.83	100.00	100.00	100.00	70.00	93.65	40.00	94.74
Using Local Workstations/Terminals (%)	100.00	84.62	100.00	100.00	33.33	92.86	100.00	99.42
Using Remote Workstations/Terminals (%)	91.30	44.74	96.00	88.24	22.22	77.60	46.67	62.13
Using Data Base Management System (%)	83.33	11.11	84.00	94.12	10.00	50.00	50.00	30.95
Planning a Data Base Management System in 1983	0.00	22.22	12.00	0.00	10.00	11.90	7.14	20.83
Manufacturer's Package	25.00	50.00	85.71	93.75	0.00	50.79	85.71	60.00
Outside Vendor's Package	60.00	0.00	4.76	0.00	100.00	41.27	14.29	30.00
Home-Grown System	15.00	50.00	9.52	6.25	0.00	7.94	0.00	10.00
Using Communications Monitor (%)	60.87	73.68	80.00	88.24	22.22	76.98	60.00	67.47
Planning a Communications Monitor in 1983	0.00	10.53	0.00	5.88	11.11	3.97	13.33	9.64
Manufacturer's Package	57.14	85.71	95.00	80.00	0.00	68.75	88.89	90.83
Outside Vendor's Package	28.57	7.14	0.00	13.33	0.00	22.92	11.11	8.26
Home-Grown System	14.29	7.14	5.00	6.67	100.00	8.33	0.00	0.92
Using Integrated Word Processing Functions (%)	34.78	5.71	28.00	25.00	11.11	12.30	14.29	6.51
Planning Word Processing Functions in 1983	17.39	17.14	20.00	0.00	0.00	14.75	7.14	17.75
Planned Acquisitions/Implementations for 1983 (%)								
Additional Software from the Manufacturer	16.67	25.64	44.00	23.53	10.00	39.68	46.67	35.67
Proprietary Software from Other Suppliers	41.67	17.95	36.00	47.06	10.00	49.21	6.67	46.20
Expansions to Data Communications Facilities	37.50	17.95	44.00	70.59	20.00	46.03	20.00	44.44
Distributed Processing Capabilities	37.50	12.82	32.00	29.41	20.00	15.08	13.33	12.28
Expansions to Present Hardware	54.17	30.77	56.00	47.06	10.00	35.71	33.33	44.44
Another Computer System, Same Model	16.67	5.13	4.00	11.72	10.00	9.52	6.67	6.43
Business Graphics	33.33	2.56	4.00	5.88	0.00	8.73	0.00	6.43
Disaster Recovery Plan	12.50	17.95	20.00	35.29	10.00	16.80	0.00	22.49
Plans for system replacement in 1983 (%)								
Yes, Same Manufacturer	0.00	10.53	8.00	0.00	20.00	43.65	7.14	14.12
Yes, Vendor Unknown	0.00	10.53	4.00	0.00	40.00	6.35	7.14	1.76
Yes, Different vendor	4.17	18.42	8.00	5.88	0.00	2.38	0.00	0.59
No	95.83	60.53	80.00	94.12	40.00	47.62	85.71	83.53

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U.S. User Ratings of Computer Systems
Table 1. Mainframes & Plug-Compatible Mainframes

Digital Equipment DECSYSTEM-20	Honeywell Level 62 & 64	Honeywell Level 66 & 68	Honeywell DPS 7 & DPS 8	IBM System/360	IBM System/370	IBM 8100	IBM 4331	Manufacturer and Model / Survey Item
								Significant Advantages (%)
45.83	48.72	60.00	58.82	20.00	33.33	26.67	55.56	Users are happy with response time
62.50	43.59	60.00	82.35	30.00	22.22	46.67	55.56	System is easy to expand/reconfigure
12.50	5.13	12.00	0.00	10.00	15.08	0.00	19.30	System costs were less than expected
20.83	35.90	20.00	41.18	40.00	47.62	13.33	49.71	Programs/data carried over from other systems are compatible, as vendor promised
33.33	5.13	12.00	35.29	10.00	39.68	26.67	32.75	Terminals/peripherals carried over from other systems are compatible, as vendor promised
20.83	10.26	12.00	35.29	10.00	2.38	6.67	55.56	System is power/energy efficient
54.17	23.08	24.00	29.41	0.00	17.46	20.00	27.49	Productivity aids help us keep programming costs down
29.17	0.00	48.00	64.71	0.00	11.90	13.33	7.02	Data base language is efficient and effective
16.67	5.13	4.00	23.53	0.00	14.29	20.00	21.64	Delivery and/or installation of equipment was ahead of schedule
8.33	0.00	8.00	11.76	0.00	7.94	6.67	14.62	Delivery of required software was ahead of schedule
								Significant Problems (%)
16.67	15.38	20.00	5.88	0.00	3.17	6.67	11.70	Computer proposed by vendor was too small
8.33	20.51	4.00	17.65	0.00	0.79	33.33	4.68	Installation of equipment was late
12.50	12.82	16.00	17.65	10.00	3.97	20.00	5.85	Delivery of required software was late
8.33	25.64	12.00	29.41	10.00	10.32	13.33	11.11	System costs (for hardware, vendor-supplied software, support) exceeded the expected total
8.33	23.08	32.00	23.53	30.00	1.59	26.67	8.77	Vendor did not provide all the promised software or support
4.17	2.56	8.00	5.88	10.00	0.00	6.67	4.09	Program/data compatibility not what vendor promised
0.00	2.56	4.00	5.88	0.00	0.79	6.67	2.34	Terminals/peripherals compatibility not what vendor promised
8.33	7.69	24.00	11.76	10.00	7.14	40.00	21.05	Vendor enhancements/changes to hardware/software hard to keep up with
20.83	15.38	8.00	5.88	0.00	4.76	0.00	0.58	Equipment is excessively noisy
12.50	15.38	4.00	11.76	40.00	37.30	0.00	2.34	Power and/or cooling requirements are excessive
								System Ratings (4.0-1.0)
3.71	3.18	3.16	3.00	3.00	3.09	2.73	3.13	Ease of Operation
3.42	3.28	3.24	3.35	3.10	3.33	3.36	3.78	Reliability of Mainframe
2.95	3.00	2.92	2.88	2.70	3.05	3.00	3.40	Reliability of Peripherals
								Maintenance Service:
3.09	3.13	3.16	3.29	3.20	3.19	3.00	3.45	Responsiveness
2.96	3.05	3.04	3.00	3.11	3.13	2.67	3.40	Effectiveness
								Technical Support:
2.65	2.51	2.72	2.82	2.86	2.74	2.47	2.88	Trouble-shooting
2.39	2.18	2.68	2.65	2.71	2.64	2.13	2.66	Education
2.74	2.11	2.60	2.47	2.50	2.67	2.47	2.67	Documentation
								Manufacturer's Software:
3.58	3.05	3.40	3.41	3.00	2.99	2.67	3.08	Operating System
3.13	3.11	3.28	3.18	3.10	3.18	2.67	3.26	Compilers & Assemblers
2.75	2.06	2.78	2.36	3.00	2.81	2.77	2.91	Applications Programs
3.43	2.90	3.08	3.06	3.20	2.96	2.62	2.96	Ease of Programming
3.05	2.46	2.61	2.94	3.00	2.95	2.42	2.91	Ease of Conversion
3.33	2.74	3.04	3.12	3.10	3.06	2.67	3.15	Overall Satisfaction
								Did the system do what you expected it to do? (%)
87.50	89.74	80.00	70.59	100.00	92.80	57.14	92.40	Yes
0.00	10.26	8.00	11.76	0.00	4.80	21.43	2.34	No
12.50	0.00	12.00	17.65	0.00	2.40	21.43	5.26	Haven't decided
								Would you recommend system to another user? (%)
75.00	52.63	64.00	82.35	33.33	72.58	42.86	90.64	Yes
4.17	31.58	8.00	5.88	44.44	23.39	21.43	2.92	No
20.83	15.79	28.00	11.76	22.22	4.03	35.71	6.43	Haven't decided

U.S. User Ratings of Computer Systems
Table 1. Mainframes & Plug-Compatible Mainframes

Survey Item	IBM 4341	IBM 3031 & 3032	IBM 3033	IBM 308X Series	IPL 4400 Series	Magnuson M80 Series	NAS AS/3, AS/5, AS/6	NAS AS/7000 & AS/9000
No. of User Responses	386	61	122	107	12	19	19	13
No. of Systems Represented	478	83	175	168	12	23	20	13
Avg. Life of System (Mos.)	27.7	48.6	33.9	19.0	22.6	33.1	65.0	31.9
Acquisition Method (%)								
Purchase	31.95	40.98	48.74	50.96	33.33	47.37	47.37	46.15
Rental or Lease from Mfr.	46.49	9.84	10.08	18.27	66.67	36.84	21.05	30.77
Lease from 3rd Party	21.56	49.18	41.18	30.77	0.00	15.79	31.58	23.08
Principal Applications (%)								
Accounting/Billing	75.39	78.69	73.77	76.64	41.67	68.42	78.95	69.23
Banking—Check Processing/Loans/Savings	14.51	22.95	22.13	26.17	0.00	21.05	0.00	0.00
Construction/Architecture	2.07	3.28	2.46	3.74	0.00	5.26	5.26	15.38
Education—Scheduling/Administration	9.33	16.39	8.20	9.35	8.33	0.00	26.32	0.00
Engineering/Scientific	7.51	18.03	17.21	28.97	16.67	5.26	26.32	7.69
Health Care/Medical	8.81	1.64	11.48	14.95	8.33	15.79	10.53	7.69
Insurance	11.66	13.11	24.59	19.63	25.00	36.84	15.79	0.00
Manufacturing	25.39	16.39	18.85	25.23	8.33	26.32	31.58	38.46
Mathematics/Statistics	9.59	8.20	18.03	21.50	16.67	21.05	36.84	15.38
Order Processing/Inventory Control	52.33	52.46	45.90	50.47	41.67	31.58	42.11	53.85
Payroll/Personnel	65.28	68.85	67.21	73.83	25.00	47.37	63.16	53.85
Petroleum/Fuel Analysis	3.11	0.00	4.10	3.74	0.00	0.00	5.26	0.00
Process Control	3.37	3.28	9.84	12.15	0.00	0.00	5.26	7.69
Purchasing	35.23	22.95	34.43	36.45	16.67	5.26	47.37	23.08
Sales Distribution	35.49	31.15	34.43	36.45	41.67	21.05	31.58	38.46
Other	20.21	16.39	18.03	19.63	33.33	42.11	31.58	23.08
Source of Applications Programs (%)								
In-house Personnel	92.23	96.72	95.90	94.39	83.33	100.00	100.00	76.92
"Packaged" Programs from Manufacturer	54.15	63.93	65.57	59.81	8.33	42.11	21.05	38.46
Contract Programming	37.82	39.34	48.36	48.60	16.67	47.37	26.32	30.77
Manufacturer's Personnel	4.40	9.84	9.02	7.48	0.00	0.00	5.26	0.00
Proprietary Software Packages	62.69	59.02	65.57	60.75	66.67	63.16	68.42	84.62
Location of Computer (%)								
Distributed Processing Site	3.89	3.28	1.67	3.74	0.00	0.00	0.00	8.33
Central Processing Installation	96.11	96.72	98.33	96.26	100.00	100.00	100.00	91.67
Using Local Workstations/Terminals (%)	99.74	98.36	100.00	99.06	100.00	100.00	100.00	91.67
Using Remote Workstations/Terminals (%)	84.90	96.72	98.33	100.00	83.33	73.68	89.47	100.00
Using Data Base Management System (%)	56.08	62.30	81.82	86.92	27.27	38.89	78.95	84.62
Planning a Data Base Management System in 1983	12.43	16.39	6.61	4.67	27.27	22.22	10.53	0.00
Manufacturer's Package	56.19	55.26	62.24	72.83	0.00	0.00	13.33	9.09
Outside Vendor's Package	41.43	42.11	36.73	26.09	66.67	83.33	66.67	90.91
Home-Grown System	2.38	2.63	1.02	1.09	33.33	16.67	20.00	0.00
Using Communications Monitor (%)	85.49	85.25	92.56	99.05	83.33	78.95	84.21	84.62
Planning a Communications Monitor in 1983	5.80	4.92	3.31	0.95	8.33	10.53	10.53	7.69
Manufacturer's Package	86.29	90.20	83.64	81.37	30.00	14.29	31.25	20.00
Outside Vendor's Package	13.08	9.80	15.45	17.65	60.00	85.71	62.50	70.00
Home-Grown System	0.62	0.00	0.91	0.98	10.00	0.00	6.25	10.00
Using Integrated Word Processing Functions (%)	16.76	16.67	17.24	32.38	25.00	22.22	26.32	7.69
Planning Word Processing Functions in 1983	22.87	23.33	20.69	14.29	25.00	11.11	26.32	23.08
Planned Acquisitions/Implementations for 1983 (%)								
Additional Software from the Manufacturer	51.81	59.02	65.57	69.16	33.33	26.32	31.58	38.46
Proprietary Software from Other Suppliers	69.43	72.13	69.67	71.03	75.00	68.42	68.42	76.92
Expansions to Data Communications Facilities	58.81	72.13	67.21	62.62	83.33	42.11	63.16	46.15
Distributed Processing Capabilities	20.21	24.59	30.33	28.97	0.00	10.53	26.32	30.77
Expansions to Present Hardware	55.18	57.38	63.11	69.16	66.67	36.84	52.63	53.85
Another Computer System, Same Model	7.25	11.48	9.84	12.15	0.00	5.26	5.26	0.00
Business Graphics	17.62	21.31	28.69	33.64	25.00	5.26	15.79	23.08
Disaster Recovery Plan	26.63	25.00	27.50	25.47	41.67	26.32	15.79	30.77
Plans for system replacement in 1983 (%)								
Yes, Same Manufacturer	13.32	27.87	14.29	3.77	0.00	0.00	15.79	7.69
Yes, Vendor Unknown	1.04	3.28	0.84	0.00	0.00	0.00	21.05	0.00
Yes, Different vendor	1.04	0.00	0.00	0.00	0.00	5.26	5.26	0.00
No	84.60	68.85	84.87	96.23	100.00	94.74	57.89	92.31

U.S. User Ratings of Computer Systems
Table 1. Mainframes & Plug-Compatible Mainframes

IBM 4341	IBM 3031 & 3032	IBM 3033	IBM 308X Series	IPL 4400 Series	Magnuson M80 Series	NAS AS/3, AS/5, AS/6	NAS AS/7000 & AS/9000	Survey Item
								Significant Advantages (%)
63.21	55.74	60.66	67.29	66.67	63.16	52.63	53.85	Users are happy with response time
57.51	36.07	45.90	57.94	83.33	89.47	26.32	69.23	System is easy to expand/reconfigure
13.99	9.84	11.48	5.61	33.33	36.84	42.11	7.69	System costs were less than expected
60.36	60.66	64.75	75.70	75.00	94.75	73.68	76.92	Programs/data carried over from other systems are compatible, as vendor promised
56.74	57.38	63.93	77.57	58.33	68.42	63.16	76.92	Terminals/peripherals carried over from other systems are compatible, as vendor promised
59.59	9.84	20.49	50.47	83.33	73.68	52.63	23.08	System is power/energy efficient
27.20	24.59	27.87	32.71	25.00	21.05	0.00	7.69	Productivity aids help us keep programming costs down
13.21	8.20	25.41	13.08	0.00	21.05	15.79	7.69	Data base language is efficient and effective
17.88	13.11	19.67	18.69	58.33	68.42	21.05	61.54	Delivery and/or installation of equipment was ahead of schedule
7.77	13.11	7.38	8.41	16.67	31.58	10.53	30.77	Delivery of required software was ahead of schedule
								Significant Problems (%)
4.40	3.28	0.82	0.93	0.00	0.00	0.00	7.69	Computer proposed by vendor was too small
3.11	3.28	5.74	0.93	0.00	5.26	5.26	0.00	Installation of equipment was late
5.96	3.28	4.10	0.00	0.00	0.00	10.53	0.00	Delivery of required software was late
10.88	8.20	10.66	3.74	8.33	0.00	10.53	0.00	System costs (for hardware, vendor-supplied software, support) exceeded the expected total
10.88	6.56	4.92	2.80	8.33	15.79	5.26	15.38	Vendor did not provide all the promised software or support
1.81	0.00	1.64	1.87	0.00	0.00	0.00	0.00	Program/data compatibility not what vendor promised
1.81	0.00	3.28	0.93	0.00	0.00	0.00	0.00	Terminals/peripherals compatibility not what vendor promised
13.99	11.48	16.39	14.95	0.00	5.26	10.53	0.00	Vendor enhancements/changes to hardware/software hard to keep up with
0.52	0.00	0.00	0.00	0.00	0.00	0.00	7.69	Equipment is excessively noisy
1.04	13.11	11.48	2.80	0.00	0.00	5.26	23.08	Power and/or cooling requirements are excessive
								System Ratings (4.0-1.0)
3.26	3.05	3.21	3.25	3.75	3.58	3.05	3.31	Ease of Operation
3.82	3.59	3.59	3.61	3.73	3.68	3.37	3.62	Reliability of Mainframe
3.32	3.27	3.32	3.25	3.38	3.31	2.95	2.91	Reliability of Peripherals
								Maintenance Service:
3.34	3.25	3.43	3.38	3.55	3.42	3.47	3.62	Responsiveness
3.31	3.22	3.41	3.35	3.55	3.26	3.32	3.50	Effectiveness
								Technical Support:
2.86	2.89	3.04	3.16	3.40	3.00	3.11	2.92	Trouble-shooting
2.77	2.74	2.99	2.96	3.00	2.59	2.67	2.55	Education
2.67	2.59	2.81	2.88	3.00	2.67	2.67	2.58	Documentation
								Manufacturer's Software:
3.06	3.13	3.24	3.33	3.00	3.45	2.93	2.86	Operating System
3.19	3.18	3.31	3.37	3.00	3.40	3.33	2.71	Compilers & Assemblers
2.75	2.71	2.83	3.01	3.00	3.33	2.64	3.00	Applications Programs
2.94	2.80	2.84	2.93	3.20	3.23	2.92	3.00	Ease of Programming
2.99	2.84	2.93	3.21	3.50	3.57	3.08	3.33	Ease of Conversion
3.18	3.10	3.21	3.28	3.11	3.39	3.11	3.31	Overall Satisfaction
								Did the system do what you expected it to do? (%)
94.03	95.08	94.21	93.46	100.00	94.74	100.00	100.00	Yes
2.08	3.28	1.65	0.93	0.00	5.26	0.00	0.00	No
3.90	1.64	4.13	5.61	0.00	0.00	0.00	0.00	Haven't decided
								Would you recommend system to another user? (%)
93.51	85.25	92.56	93.46	100.00	89.47	83.33	76.92	Yes
1.30	11.48	0.83	0.00	0.00	10.53	5.56	7.69	No
5.19	3.28	6.61	6.54	0.00	0.00	11.11	15.38	Haven't decided

U.S. User Ratings of Computer Systems
Table 1. Mainframes & Plug-Compatible Mainframes

Survey Item	NCR 8400 & 8500	Sperry Univac 90/30 & 90/40	Sperry Univac 90/60 & 90/80	Sperry Univac System 80	Sperry Univac 1100/60	Sperry Univac 1100/80	Sperry Univac 1100 Series (Other Models)	Mainframes (Other Models)
No. of User Responses	97	45	8	24	28	14	6	34
No. of Systems Represented	107	49	12	25	34	20	12	45
Avg. Life of System (Mos.)	42.2	62.5	55.8	25.2	30.3	52.7	47.5	72.1
Acquisition Method (%)								
Purchase	55.67	35.56	12.50	45.83	14.29	28.57	50.00	76.47
Rental or Lease from Mfr.	22.68	60.00	75.00	41.67	64.29	71.43	50.00	14.71
Lease from 3rd Party	21.65	4.44	12.50	12.50	21.43	0.00	0.00	8.82
Principal Applications (%)								
Accounting/Billing	63.92	77.78	62.50	95.83	82.14	78.57	66.67	67.65
Banking—Check Processing/Loans/Savings	31.96	6.67	12.50	4.17	0.00	0.00	0.00	8.82
Construction/Architecture	2.06	2.22	0.00	8.33	0.00	14.29	0.00	2.94
Education—Scheduling/Administration	9.28	4.44	50.00	0.00	7.14	14.29	33.33	14.71
Engineering/Scientific	2.06	4.44	37.50	0.00	10.71	42.86	50.00	14.71
Health Care/Medical	7.22	6.67	0.00	16.67	10.71	0.00	0.00	0.00
Insurance	3.09	8.89	0.00	4.17	10.71	0.00	0.00	2.94
Manufacturing	16.49	31.11	12.50	16.67	32.14	35.71	16.67	20.59
Mathematics/Statistics	1.03	6.67	37.50	4.17	10.71	28.57	33.33	11.76
Order Processing/Inventory Control	43.30	53.33	25.00	54.17	67.86	78.57	33.33	47.06
Payroll/Personnel	53.61	73.33	62.50	58.33	60.71	100.00	66.67	55.88
Petroleum/Fuel Analysis	4.12	2.22	0.00	4.17	0.00	0.00	16.67	5.88
Process Control	3.09	8.89	0.00	0.00	7.14	14.29	0.00	2.94
Purchasing	23.71	33.33	25.00	33.33	35.71	50.00	33.33	26.47
Sales Distribution	31.96	48.89	12.50	41.67	39.29	57.14	16.67	35.29
Other	11.34	28.89	25.00	25.00	39.29	14.29	33.33	41.18
Source of Applications Programs (%)								
In-house Personnel	76.29	100.00	100.00	87.50	92.86	100.00	100.00	91.18
"Packaged" Programs from Manufacturer	71.13	31.11	50.00	45.83	46.43	35.71	66.67	23.53
Contract Programming	24.74	33.33	37.50	25.00	21.43	64.29	33.33	29.41
Manufacturer's Personnel	4.12	28.89	37.50	8.33	35.71	42.86	33.33	2.94
Proprietary Software Packages	27.84	26.67	62.50	20.83	39.29	35.71	66.67	26.47
Location of Computer (%)								
Distributed Processing Site	0.00	0.00	0.00	0.00	0.00	0.00	16.67	6.06
Central Processing Installation	100.00	100.00	100.00	100.00	100.00	100.00	83.83	93.94
Using Local Workstations/Terminals (%)	96.91	97.78	100.00	100.00	100.00	100.00	100.00	87.10
Using Remote Workstations/Terminals (%)	62.50	57.78	87.50	62.50	92.86	92.86	83.33	58.06
Using Data Base Management System (%)	26.60	15.56	50.00	41.67	85.71	100.00	83.33	35.29
Planning a Data Base Management System in 1983	15.96	4.44	25.00	12.50	10.71	0.00	0.00	14.71
Manufacturer's Package	44.00	85.71	75.00	90.00	91.67	92.86	40.00	60.00
Outside Vendor's Package	40.00	14.29	0.00	0.00	0.00	7.14	20.00	30.00
Home-Grown System	16.00	0.00	25.00	10.00	8.33	0.00	40.00	10.00
Using Communications Monitor (%)	44.57	55.81	62.50	62.50	77.78	85.71	66.67	38.24
Planning a Communications Monitor in 1983	9.78	0.00	12.50	16.67	3.70	0.00	0.00	11.76
Manufacturer's Package	46.34	79.17	60.00	93.33	76.19	83.33	75.00	61.54
Outside Vendor's Package	46.34	20.83	0.00	0.00	19.05	8.33	0.00	15.38
Home-Grown System	7.32	0.00	40.00	6.67	4.76	8.33	25.00	23.08
Using Integrated Word Processing Functions (%)	5.43	11.63	25.00	8.70	12.50	14.29	16.67	15.63
Planning Word Processing Functions in 1983	19.57	4.65	12.50	47.83	20.83	35.71	33.33	9.38
Planned Acquisitions/Implementations for 1983 (%)								
Additional Software from the Manufacturer	35.05	13.33	37.50	41.67	50.00	71.43	66.67	20.59
Proprietary Software from Other Suppliers	39.18	20.00	50.00	12.50	35.71	50.00	50.00	11.76
Expansions to Data Communications Facilities	36.08	33.33	75.00	50.00	46.43	50.00	33.33	23.53
Distributed Processing Capabilities	15.46	22.22	25.00	8.33	17.86	14.29	33.33	8.82
Expansions to Present Hardware	48.45	20.00	50.00	50.00	64.29	64.29	50.00	26.47
Another Computer System, Same Model	1.03	2.22	12.50	0.00	14.29	0.00	33.33	5.88
Business Graphics	2.06	0.00	0.00	0.00	14.29	21.43	0.00	0.00
Disaster Recovery Plan	21.65	11.36	25.00	8.33	25.00	42.86	0.00	5.88
Plans for system replacement in 1983 (%)								
Yes, Same Manufacturer	6.19	18.18	12.50	8.33	3.57	7.14	50.00	11.76
Yes, Vendor Unknown	2.06	4.55	0.00	0.00	0.00	7.14	0.00	17.65
Yes, Different vendor	3.09	9.09	0.00	4.17	0.00	0.00	0.00	14.71
No	88.66	68.18	87.50	87.50	96.43	85.71	50.00	55.88

U.S. User Ratings of Computer Systems
Table 1. Mainframes & Plug-Compatible Mainframes

NCR 8400 & 8500	Sperry Univac 90/30 & 90/40	Sperry Univac 90/60 & 90/80	Sperry Univac System 80	Sperry Univac 1100/60	Sperry Univac 1100/80	Sperry Univac 1100 Series (Other Models)	Mainframes (Other Models)	Manufacturer and Model / Survey Item
								Significant Advantages (%)
57.73	44.44	62.50	62.50	60.71	64.29	16.67	32.35	Users are happy with response time
73.20	48.89	62.50	62.50	64.29	57.14	50.00	38.24	System is easy to expand/reconfigure
16.49	8.89	12.50	8.33	17.86	7.14	16.67	26.47	System costs were less than expected
61.86	37.78	62.50	54.17	25.00	50.00	16.67	50.00	Programs/data carried over from other systems are compatible, as vendor promised
40.21	15.56	37.50	4.17	25.00	42.86	33.33	29.41	Terminals/peripherals carried over from other systems are compatible, as vendor promised
14.43	6.67	12.50	41.67	42.86	28.57	33.33	17.65	System is power/energy efficient
26.80	31.11	50.00	50.00	46.43	14.29	33.33	17.65	Productivity aids help us keep programming costs down
6.19	6.67	12.50	12.50	32.14	50.00	50.00	11.76	Data base language is efficient and effective
9.28	17.78	12.50	20.83	46.43	50.00	16.67	5.88	Delivery and/or installation of equipment was ahead of schedule
5.15	11.11	0.00	4.17	25.00	14.29	16.67	5.88	Delivery of required software was ahead of schedule
								Significant Problems (%)
8.25	31.11	12.50	41.67	21.43	14.29	16.67	17.65	Computer proposed by vendor was too small
10.31	11.11	0.00	33.33	7.14	7.14	0.00	14.71	Installation of equipment was late
15.46	17.78	25.00	20.83	10.71	0.00	0.00	8.82	Delivery of required software was late
13.40	24.44	12.50	33.33	21.43	0.00	0.00	8.82	System costs (for hardware, vendor-supplied software, support) exceeded the expected total
24.74	20.00	37.50	20.83	17.86	7.14	0.00	8.82	Vendor did not provide all the promised software or support
5.15	6.67	0.00	12.50	3.57	0.00	0.00	0.00	Program/data compatibility not what vendor promised
3.09	2.22	0.00	8.33	0.00	0.00	16.67	0.00	Terminals/peripherals compatibility not what vendor promised
10.31	35.56	37.50	20.83	17.86	14.29	33.33	8.82	Vendor enhancements/changes to hardware/software hard to keep up with
7.22	8.89	0.00	4.17	3.57	7.14	0.00	17.65	Equipment is excessively noisy
6.19	11.11	25.00	0.00	14.29	0.00	33.33	26.47	Power and/or cooling requirements are excessive
								System Ratings (4.0-1.0)
3.40	3.13	3.13	3.22	3.21	3.36	3.50	3.15	Ease of Operation
3.47	3.38	3.63	3.57	3.57	3.57	3.17	3.15	Reliability of Mainframe
3.19	2.95	3.00	3.26	2.86	3.00	2.50	2.79	Reliability of Peripherals
								Maintenance Service:
3.12	3.11	3.63	3.25	3.32	3.62	3.33	3.21	Responsiveness
3.05	2.80	3.50	2.91	3.00	3.08	2.33	3.00	Effectiveness
								Technical Support:
2.46	2.26	2.75	2.75	2.68	2.85	2.40	2.58	Trouble-shooting
2.69	2.23	2.25	2.39	2.32	2.71	2.60	2.24	Education
2.38	2.35	2.00	2.30	2.18	2.29	2.50	2.17	Documentation
								Manufacturer's Software:
3.10	3.09	3.00	3.17	3.29	3.54	3.33	2.91	Operating System
3.03	3.18	3.00	3.29	3.11	3.23	2.83	2.91	Compilers & Assemblers
2.54	2.19	2.17	2.73	2.77	2.91	3.00	2.71	Applications Programs
2.98	2.93	3.25	3.08	3.07	3.08	2.80	2.91	Ease of Programming
3.18	2.85	2.75	2.78	2.63	3.00	2.17	2.55	Ease of Conversion
3.06	2.93	3.25	3.00	3.07	3.00	2.83	2.85	Overall Satisfaction
								Did the system do what you expected it to do? (%)
87.63	80.00	75.00	70.83	78.57	84.62	100.00	91.18	Yes
5.15	17.78	25.00	12.50	7.14	0.00	0.00	2.94	No
7.22	2.22	0.00	16.67	14.29	15.38	0.00	5.88	Haven't decided
								Would you recommend system to another user? (%)
79.38	55.56	37.50	75.00	85.71	71.43	80.00	46.88	Yes
10.31	22.22	37.50	12.50	7.14	7.14	20.00	43.75	No
10.31	22.22	25.00	12.50	7.14	21.43	0.00	9.38	Haven't decided

U.S. User Ratings of Computer Systems
Table 2. Minicomputers & Small Business Computers

Survey Item	Alpha Micro All Models	Altos All Models	Burroughs B 800 & B 1800	Burroughs B 90	Burroughs B 900	Burroughs B 1900	Data General CS Series	Data General Eclipse	Data General MV Series
No. of User Responses	16	15	56	7	9	56	13	42	15
No. of Systems Represented	31	18	61	12	9	60	14	56	22
Avg. Life of System (Mos.)	34.6	18.9	49.1	33.5	31.2	30.1	34.0	49.7	18.8
Acquisition Method (%)									
Purchase	87.50	73.33	57.14	85.71	88.89	58.93	76.92	78.57	86.67
Rental or Lease from Mfr.	6.25	6.67	30.36	14.29	11.11	33.93	0.00	0.00	6.67
Lease from 3rd Party	6.25	20.00	12.50	0.00	0.00	7.14	23.08	21.43	6.67
Principal Applications (%)									
Accounting/Billing	87.50	86.67	82.14	57.14	88.89	73.21	76.92	64.29	73.33
Banking—Check Processing/Loans/Savings	18.75	0.00	10.71	0.00	0.00	19.64	0.00	4.76	0.00
Construction/Architecture	0.00	6.67	3.57	0.00	0.00	5.36	7.69	4.76	0.00
Education—Scheduling/Administration	6.25	0.00	8.93	0.00	0.00	14.29	7.69	14.29	13.33
Engineering/Scientific	0.00	0.00	1.79	0.00	0.00	0.00	0.00	9.52	13.33
Health Care/Medical	0.00	6.67	10.71	0.00	0.00	0.00	0.00	9.52	6.67
Insurance	6.25	6.67	1.79	0.00	0.00	5.36	7.69	2.38	6.67
Manufacturing	0.00	6.67	14.29	14.29	55.56	21.43	7.69	19.05	20.00
Mathematics/Statistics	6.25	0.00	3.57	14.29	0.00	3.57	0.00	7.14	20.00
Order Processing/Inventory Control	50.00	40.00	44.64	28.57	88.89	51.79	46.15	42.86	46.67
Payroll/Personnel	56.25	53.33	69.64	42.86	88.89	60.71	38.46	42.86	40.00
Petroleum/Fuel Analysis	0.00	0.00	1.79	0.00	0.00	3.57	0.00	2.38	0.00
Process Control	0.00	0.00	1.79	14.29	11.11	5.36	0.00	7.14	0.00
Purchasing	43.75	13.33	16.07	0.00	44.44	37.50	30.77	21.43	26.67
Sales Distribution	50.00	33.33	37.50	14.29	66.67	28.57	38.46	21.43	20.00
Other	12.50	26.67	16.07	71.43	33.33	12.50	30.77	21.43	40.00
Source of Applications Programs (%)									
In-house Personnel	87.50	53.33	76.79	100.00	88.89	87.50	23.08	71.43	100.00
"Packaged" Programs from Manufacturer	56.25	60.00	37.50	42.86	55.56	46.43	23.08	19.05	26.67
Contract Programming	31.25	0.00	26.79	42.86	22.22	35.71	53.85	26.19	40.00
Manufacturer's Personnel	12.50	0.00	1.79	0.00	0.00	1.79	0.00	0.00	6.67
Proprietary Software Packages	43.75	66.67	25.00	14.29	11.11	42.86	23.08	38.10	46.67
Location of Computer (%)									
Distributed Processing Site	7.14	6.67	9.09	14.29	0.00	5.36	0.00	9.52	13.33
Central Processing Installation	92.86	93.33	90.91	85.71	100.00	94.64	100.00	90.48	86.67
Using Local Workstations/Terminals (%)	100.00	100.00	94.55	100.00	100.00	100.00	100.00	100.00	93.33
Using Remote Workstations/Terminals (%)	66.67	46.15	58.49	28.57	55.56	64.81	38.46	68.29	64.29
Using Data Base Management System (%)	31.25	40.00	50.91	14.29	11.11	63.64	15.38	30.95	26.67
Planning a Data Base Management System in 1983	12.50	26.67	12.73	0.00	0.00	7.27	7.69	9.52	13.33
Manufacturer's Package	0.00	0.00	85.72	0.00	100.00	97.06	0.00	46.15	75.00
Outside Vendor's Package	80.00	100.00	3.57	0.00	0.00	0.00	100.00	15.38	0.00
Home-Grown System	20.00	0.00	10.71	100.00	0.00	2.94	0.00	38.46	25.00
Using Communications Monitor (%)	33.33	21.43	54.72	14.29	22.22	49.06	9.09	29.27	53.33
Planning a Communications Monitor in 1983	13.33	21.43	5.66	0.00	0.00	9.43	0.00	4.88	0.00
Manufacturer's Package	40.00	0.00	92.86	100.00	100.00	88.46	0.00	58.33	75.00
Outside Vendor's Package	40.00	100.00	7.14	0.00	0.00	3.85	100.00	16.67	0.00
Home-Grown System	20.00	0.00	0.00	0.00	0.00	7.69	0.00	25.00	25.00
Using Integrated Word Processing Functions (%)	87.50	93.33	5.77	14.29	11.11	18.52	23.08	43.90	46.67
Planning Word Processing Functions in 1983	12.50	6.67	7.69	14.29	44.44	24.07	23.08	9.76	26.67
Planned Acquisitions/Implementations for 1983 (%)									
Additional Software from the Manufacturer	18.75	20.00	23.21	28.57	44.44	32.14	23.08	19.05	40.00
Proprietary Software from Other Suppliers	50.00	66.67	21.43	0.00	22.22	35.71	38.46	19.05	46.67
Expansions to Data Communications Facilities	43.75	13.33	46.43	42.86	55.56	37.50	23.08	28.57	46.67
Distributed Processing Capabilities	6.25	13.33	21.43	0.00	11.11	12.50	7.69	9.52	6.67
Expansions to Present Hardware	62.50	33.33	25.00	28.57	77.78	41.07	30.77	47.62	40.00
Another Computer System, Same Model	18.75	6.67	3.57	14.29	0.00	0.00	0.00	7.14	6.67
Business Graphics	6.25	13.33	3.57	0.00	11.11	5.36	7.69	2.38	20.00
Disaster Recovery Plan	12.50	7.14	7.14	0.00	11.11	7.14	16.67	14.63	26.67
Plans for system replacement in 1983 (%)									
Yes, Same Manufacturer	18.75	14.29	20.00	0.00	0.00	1.79	0.00	17.07	0.00
Yes, Vendor Unknown	0.00	7.14	0.00	14.29	0.00	5.36	0.00	2.44	0.00
Yes, Different vendor	0.00	0.00	5.45	0.00	0.00	3.57	0.00	9.76	6.67
No	81.25	78.57	74.55	85.71	100.00	89.29	100.00	70.73	93.33

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U.S. User Ratings of Computer Systems
Table 2. Minicomputers & Small Business Computers

Alpha Micro All Models	Altos All Models	Burroughs B 800 & B 1800	Burroughs B 90	Burroughs B 900	Burroughs B 1900	Data General CS Series	Data General Eclipse	Data General MV Series	Manufacturer and Model / Survey Item
									Significant Advantages (%)
66.67	66.67	39.29	57.14	77.78	53.57	46.15	54.76	60.00	Users are happy with response time
86.67	86.67	60.71	42.86	66.67	76.79	53.85	57.14	73.33	System is easy to expand/reconfigure
46.67	46.67	16.07	0.00	22.22	14.29	0.00	7.14	20.00	System costs were less than expected
46.67	46.67	44.67	57.14	44.44	57.14	30.77	26.19	60.00	Programs/data carried over from other systems are compatible, as vendor promised
40.00	40.00	33.93	42.86	44.44	35.71	23.08	14.29	40.00	Terminals/peripherals carried over from other systems are compatible, as vendor promised
60.00	60.00	19.64	28.57	11.11	37.50	15.38	9.52	33.33	System is power/energy efficient
33.33	33.33	41.07	14.29	44.44	41.07	30.77	26.19	33.33	Productivity aids help us keep programming costs down
40.00	40.00	41.07	0.00	0.00	46.43	0.00	11.90	20.00	Data base language is efficient and effective
40.00	40.00	5.36	0.00	44.44	21.43	7.69	11.90	26.67	Delivery and/or installation of equipment was ahead of schedule
33.33	33.33	3.57	0.00	11.11	12.50	15.38	9.52	20.00	Delivery of required software was ahead of schedule
									Significant Problems (%)
0.00	0.00	8.93	14.29	0.00	5.36	15.38	14.29	13.33	Computer proposed by vendor was too small
0.00	0.00	26.79	42.86	33.33	25.00	15.38	11.90	13.33	Installation of equipment was late
0.00	0.00	8.93	28.57	33.33	8.93	7.69	19.05	26.67	Delivery of required software was late
0.00	0.00	10.71	57.14	0.00	3.57	15.38	16.67	20.00	System costs (for hardware, vendor-supplied software, support) exceeded the expected total
6.25	0.00	8.93	14.29	11.11	19.64	23.08	21.43	13.33	Vendor did not provide all the promised software or support
0.00	0.00	3.57	14.29	0.00	1.79	0.00	9.52	6.67	Program/data compatibility not what vendor promised
0.00	0.00	1.79	0.00	0.00	3.57	0.00	4.76	0.00	Terminals/peripherals compatibility not what vendor promised
12.50	6.67	14.29	28.57	11.11	12.50	15.38	16.67	13.33	Vendor enhancements/changes to hardware/software hard to keep up with
6.25	6.67	7.14	0.00	11.11	7.14	7.69	· 2.38	13.33	Equipment is excessively noisy
6.25	0.00	1.79	0.00	0.00	1.79	7.69	2.38	6.67	Power and/or cooling requirements are excessive
									System Ratings (4.0-1.0)
3.75	3.53	3.50	3.71	3.67	3.68	3.42	3.31	3.20	Ease of Operation
3.88	3.87	3.29	3.43	3.56	3.48	3.38	3.55	3.40	Reliability of Mainframe
3.56	3.53	2.75	3.00	3.25	2.88	3.17	3.24	3.00	Reliability of Peripherals
									Maintenance Service:
3.27	2.92	3.11	3.00	3.44	3.09	3.38	3.34	3.60	Responsiveness
3.36	2.92	2.77	3.14	3.33	2.98	3.00	3.27	3.20	Effectiveness
									Technical Support:
3.06	3.00	2.53	2.57	2.67	2.46	2.82	2.79	2.60	Trouble-shooting
2.71	2.93	2.51	2.33	2.22	2.59	2.30	2.59	2.60	Education
3.13	2.86	2.11	2.29	2.00	2.22	2.40	2.28	2.67	Documentation
									Manufacturer's Software:
3.81	3.40	3.50	3.71	3.22	3.68	2.82	3.11	2.87	Operating System
3.63	3.33	3.18	3.43	3.22	3.32	2.78	2.86	2.87	Compilers & Assemblers
2.93	3.27	2.50	2.50	2.00	2.67	3.00	2.67	2.78	Applications Programs
3.69	3.36	3.11	3.00	3.14	3.36	2.78	3.03	3.20	Ease of Programming
3.43	3.31	3.08	3.33	3.29	2.25	3.17	2.66	3.07	Ease of Conversion
3.63	3.53	3.11	3.00	3.00	3.23	3.09	3.12	3.00	Overall Satisfaction
									Did the system do what you expected it to do? (%)
100.00	100.00	90.91	85.71	88.89	92.73	80.00	90.24	73.33	Yes
0.00	0.00	7.27	14.29	11.11	1.82	10.00	7.32	26.67	No
0.00	0.00	1.82	0.00	0.00	5.45	10.00	2.44	0.00	Haven't decided
									Would you recommend system to another user? (%)
100.00	100.00	69.64	85.71	77.78	81.82	75.00	85.37	80.00	Yes
0.00	0.00	14.29	14.29	22.22	5.45	16.67	14.63	20.00	No
0.00	0.00	16.07	0.00	0.00	12.73	8.33	0.00	0.00	Haven't decided

U.S. User Ratings of Computer Systems
Table 2. Minicomputers & Small Business Computers

Manufacturer and Model / Survey Item	Data General NOVA	Datapoint ARC	Digital Equipment PDP 1103 & 1123	Digital Equipment PDP 1134 & 1144	Digital Equipment PDP 1170	Digital Equipment PDP-11 (Other Models)	Digital Equipment VAX	Four-Phase All Models	General Automation All Models
No. of User Responses	23	61	44	91	85	11	99	33	6
No. of Systems Represented	27	143	65	114	142	25	143	48	8
Avg. Life of System (Mos.)	53.0	41.9	31.9	46.7	55.7	61.4	27.7	45.4	55.7
Acquisition Method (%)									
Purchase	86.96	76.67	90.91	90.11	87.06	81.82	75.51	6.06	83.33
Rental or Lease from Mfr.	0.00	16.67	0.00	3.30	0.00	0.00	5.10	69.70	0.00
Lease from 3rd Party	13.04	6.67	9.09	6.59	12.94	18.18	19.39	24.24	16.67
Principal Applications (%)									
Accounting/Billing	73.91	73.77	40.91	61.54	65.88	45.45	44.44	60.61	50.00
Banking—Check Processing/Loans/Savings	4.35	9.84	4.55	5.49	5.88	18.18	4.04	12.12	0.00
Construction/Architecture	4.35	8.20	4.55	3.30	0.00	0.00	4.04	3.03	0.00
Education—Scheduling/Administration	0.00	1.64	6.82	16.48	15.29	9.09	7.07	0.00	16.67
Engineering/Scientific	0.00	6.56	31.82	16.48	12.94	27.27	43.43	3.03	0.00
Health Care/Medical	4.35	6.56	9.09	7.69	7.06	18.18	7.07	27.27	0.00
Insurance	8.70	6.56	4.55	4.40	1.18	0.00	2.02	15.15	0.00
Manufacturing	13.04	19.67	6.82	10.99	12.94	9.09	14.14	18.18	33.33
Mathematics/Statistics	4.35	6.56	18.18	20.88	9.41	9.09	31.31	6.06	0.00
Order Processing/Inventory Control	60.87	47.54	22.73	31.87	44.71	0.00	31.31	42.42	16.67
Payroll/Personnel	52.17	44.26	27.27	47.25	42.35	27.27	30.30	45.45	33.33
Petroleum/Fuel Analysis	0.00	1.64	2.27	1.10	4.71	9.09	4.04	0.00	0.00
Process Control	0.00	13.11	4.55	13.19	0.00	27.27	3.03	0.00	0.00
Purchasing	30.43	34.43	11.36	17.58	21.18	9.09	19.19	21.21	33.33
Sales Distribution	30.43	27.87	15.91	23.08	24.71	18.18	24.24	18.18	33.33
Other	30.43	31.15	36.36	31.87	23.53	18.18	30.30	24.24	16.67
Source of Applications Programs (%)									
In-house Personnel	56.52	81.97	63.64	74.73	75.29	72.73	82.83	72.73	83.33
"Packaged" Programs from Manufacturer	21.74	31.15	13.64	35.16	27.06	18.18	37.37	45.45	16.67
Contract Programming	26.09	40.98	27.27	28.57	35.29	63.64	27.27	18.18	50.00
Manufacturer's Personnel	8.70	1.64	0.00	1.10	2.35	0.00	4.04	9.09	0.00
Proprietary Software Packages	52.17	31.15	34.09	42.86	44.71	18.18	55.56	30.30	16.67
Location of Computer (%)									
Distributed Processing Site	4.35	16.39	15.91	12.22	10.59	9.09	8.08	33.33	40.00
Central Processing Installation	95.65	83.61	84.09	87.78	89.41	90.91	91.92	66.67	60.00
Using Local Workstations/Terminals (%)	95.65	95.08	97.73	98.90	98.82	90.91	100.00	100.00	80.00
Using Remote Workstations/Terminals (%)	26.09	40.68	44.19	57.30	78.82	72.73	68.75	18.18	0.00
Using Data Base Management System (%)	21.74	29.31	25.00	34.09	36.14	36.36	40.21	23.33	33.33
Planning a Data Base Management System in 1983	13.04	10.34	9.09	15.91	12.05	0.00	22.68	20.00	0.00
Manufacturer's Package	20.00	35.29	9.09	27.59	10.00	25.00	34.21	42.86	0.00
Outside Vendor's Package	60.00	17.65	45.45	55.17	76.67	50.00	52.63	28.57	25.00
Home-Grown System	20.00	47.06	45.45	17.24	13.33	25.00	13.16	28.57	75.00
Using Communications Monitor (%)	13.04	37.50	13.95	21.18	24.05	27.27	30.21	40.74	0.00
Planning a Communications Monitor in 1983	17.39	7.14	11.63	4.71	7.59	9.09	8.33	7.41	16.67
Manufacturer's Package	33.33	66.67	16.67	44.44	66.67	33.33	71.43	80.00	0.00
Outside Vendor's Package	33.33	23.81	66.67	38.89	27.78	33.33	17.86	20.00	0.00
Home-Grown System	33.33	9.52	16.67	16.67	5.56	33.33	10.71	0.00	0.00
Using Integrated Word Processing Functions (%)	18.18	41.67	38.10	37.93	37.04	45.45	36.73	62.07	0.00
Planning Word Processing Functions in 1983	27.27	25.00	21.43	20.69	14.81	0.00	27.55	10.34	16.67
Planned Acquisitions/Implementations for 1983 (%)									
Additional Software from the Manufacturer	8.70	36.07	22.73	16.48	21.18	27.27	40.40	15.15	0.00
Proprietary Software from Other Suppliers	34.78	29.51	27.27	31.87	42.35	27.27	58.59	30.30	16.67
Expansions to Data Communications Facilities	13.04	29.51	11.36	24.18	34.12	27.27	41.41	15.15	16.67
Distributed Processing Capabilities	17.39	26.23	13.64	10.99	7.06	9.09	15.15	15.15	16.67
Expansions to Present Hardware	47.83	52.46	45.45	46.15	50.59	54.55	61.62	36.36	0.00
Another Computer System, Same Model	4.35	9.84	11.36	8.79	5.88	9.09	18.18	6.06	0.00
Business Graphics	4.35	6.56	13.64	12.09	15.29	9.09	28.28	24.24	0.00
Disaster Recovery Plan	17.39	13.11	6.82	14.61	11.90	0.00	23.71	9.68	16.67
Plans for system replacement in 1983 (%)									
Yes, Same Manufacturer	13.04	3.33	16.28	15.56	9.41	9.09	4.04	18.18	0.00
Yes, Vendor Unknown	4.35	1.67	2.33	6.67	1.18	0.00	1.01	0.00	16.67
Yes, Different vendor	4.35	3.33	2.33	3.33	3.53	0.00	1.01	21.21	33.33
No	78.26	91.67	79.07	74.44	85.88	90.91	93.94	60.61	50.00

U.S. User Ratings of Computer Systems
Table 2. Minicomputers & Small Business Computers

Data General NOVA	Datapoint ARC	Digital Equipment PDP 1103 & 1123	Digital Equipment PDP 1134 & 1144	Digital Equipment PDP 1170	Digital Equipment PDP-11 (Other Models)	Digital Equipment VAX	Four-Phase All Models	General Automation All Models	Manufacturer and Model / Survey Item
									Significant Advantages (%)
43.48	55.74	40.91	47.25	65.88	63.64	62.63	45.45	33.33	Users are happy with response time
43.48	91.80	65.91	54.95	65.88	63.64	78.79	39.39	0.00	System is easy to expand/reconfigure
8.70	24.59	18.18	12.09	11.76	27.27	15.15	9.09	16.67	System costs were less than expected
30.43	39.34	36.36	25.27	21.18	27.27	27.27	12.12	16.67	Programs/data carried over from other systems are compatible, as vendor promised
13.04	32.79	29.55	27.47	21.18	45.45	33.33	9.09	0.00	Terminals/peripherals carried over from other systems are compatible, as vendor promised
8.70	21.31	22.73	10.99	14.12	18.18	26.26	15.15	0.00	System is power/energy efficient
13.04	22.95	20.45	15.38	25.88	36.36	47.47	18.18	0.00	Productivity aids help us keep programming costs down
8.70	22.95	2.27	13.19	10.59	18.18	15.15	12.12	16.67	Data base language is efficient and effective
13.04	24.59	4.55	7.69	7.06	9.09	20.20	15.15	0.00	Delivery and/or installation of equipment was ahead of schedule
8.70	9.84	4.55	4.40	5.88	9.09	10.10	9.09	0.00	Delivery of required software was ahead of schedule
									Significant Problems (%)
17.39	6.56	6.82	17.58	5.88	18.18	10.10	6.06	16.67	Computer proposed by vendor was too small
4.35	13.11	13.64	15.38	5.88	0.00	20.20	27.27	0.00	Installation of equipment was late
21.74	14.75	11.36	16.48	9.41	9.09	13.13	18.18	0.00	Delivery of required software was late
8.70	8.20	6.82	18.68	14.12	18.18	14.14	12.12	0.00	System costs (for hardware, vendor-supplied software, support) exceeded the expected total
34.78	16.39	6.82	15.38	8.24	9.09	8.08	21.21	33.33	Vendor did not provide all the promised software or support
4.35	4.92	2.27	4.40	1.18	9.09	1.01	12.12	0.00	Program/data compatibility not what vendor promised
0.00	0.00	2.27	1.10	0.00	9.09	0.00	3.03	0.00	Terminals/peripherals compatibility not what vendor promised
8.70	27.87	4.55	15.38	11.76	0.00	13.13	12.12	33.33	Vendor enhancements/changes to hardware/software hard to keep up with
8.70	8.20	11.36	10.99	4.71	18.18	12.12	0.00	16.67	Equipment is excessively noisy
8.70	0.00	4.55	5.49	7.06	9.09	4.04	0.00	0.00	Power and/or cooling requirements are excessive
									System Ratings (4.0-1.0)
3.27	3.49	3.51	3.28	3.51	3.45	3.54	3.06	2.33	Ease of Operation
3.59	3.58	3.76	3.47	3.57	3.73	3.65	3.15	2.33	Reliability of Mainframe
3.17	3.25	3.55	3.25	3.16	3.55	3.25	3.00	2.50	Reliability of Peripherals
									Maintenance Service:
3.09	3.64	3.41	3.40	3.35	3.00	3.28	3.06	2.83	Responsiveness
3.14	3.30	3.37	3.19	3.18	2.73	3.21	2.88	2.83	Effectiveness
									Technical Support:
2.70	2.58	2.97	2.83	2.84	2.50	2.93	2.42	1.50	Trouble-shooting
2.45	2.66	2.89	2.67	2.77	2.80	2.95	2.34	1.33	Education
2.13	2.56	3.05	2.68	2.70	2.73	3.09	2.21	1.17	Documentation
									Manufacturer's Software:
2.86	3.43	3.34	3.22	3.37	3.10	3.54	2.83	2.00	Operating System
3.00	3.36	3.32	3.06	3.21	3.30	3.44	2.58	2.00	Compilers & Assemblers
2.44	3.13	3.04	2.94	2.90	2.88	2.97	2.61	2.00	Applications Programs
2.86	3.45	3.20	3.14	3.23	3.20	3.45	2.78	2.17	Ease of Programming
2.31	3.04	3.17	2.78	2.88	3.11	3.07	2.57	1.80	Ease of Conversion
3.00	3.43	3.45	3.14	3.35	3.18	3.44	2.76	2.17	Overall Satisfaction
									Did the system do what you expected it to do? (%)
82.61	93.44	90.91	82.42	92.94	72.73	85.86	84.38	33.33	Yes
13.04	3.28	4.55	8.79	2.35	18.18	4.04	12.50	33.33	No
4.35	3.28	4.55	8.79	4.71	9.09	10.10	3.13	33.33	Haven't decided
									Would you recommend system to another user? (%)
65.22	93.44	86.36	75.56	85.88	81.82	88.89	72.73	16.67	Yes
13.04	4.92	4.55	8.89	4.71	18.18	1.01	18.18	66.67	No
21.74	1.64	9.09	15.56	9.41	0.00	10.10	9.09	16.67	Haven't decided

U.S. User Ratings of Computer Systems
Table 2. Minicomputers & Small Business Computers

Survey Item	Harris All Models	Hewlett-Packard 85, 86, & 87	Hewlett-Packard 250 & 300	Hewlett-Packard 1000	Hewlett-Packard 3000	Hewlett-Packard 9800	Honeywell DPS 6	Honeywell Level 6	IBM Series 1
No. of User Responses	15	9	10	15	183	7	16	20	40
No. of Systems Represented	20	16	12	28	235	15	25	31	68
Avg. Life of System (Mos.)	42.8	27.3	30.9	54.2	36.8	45.0	21.9	43.9	43.1
Acquisition Method (%)									
Purchase	73.33	100.00	70.00	93.33	75.00	57.14	56.25	55.00	75.00
Rental or Lease from Mfr.	26.67	0.00	0.00	6.67	10.56	14.29	25.00	25.00	2.50
Lease from 3rd Party	0.00	0.00	30.00	0.00	14.44	28.57	18.75	20.00	22.50
Principal Applications (%)									
Accounting/Billing	53.33	55.56	60.00	6.67	73.77	14.29	50.00	70.00	52.50
Banking—Check Processing/Loans/Savings	6.67	0.00	0.00	0.00	2.73	0.00	12.50	15.00	5.00
Construction/Architecture	6.67	11.11	0.00	6.67	2.73	14.29	0.00	5.00	0.00
Education—Scheduling/Administration	20.00	33.33	0.00	6.67	12.57	0.00	6.25	0.00	5.00
Engineering/Scientific	33.33	77.78	10.00	80.00	15.85	71.43	6.25	0.00	7.50
Health Care/Medical	0.00	0.00	20.00	6.67	6.01	0.00	12.50	20.00	5.00
Insurance	6.67	0.00	0.00	0.00	5.46	0.00	25.00	10.00	2.50
Manufacturing	20.00	11.11	20.00	6.67	33.33	14.29	18.75	15.00	12.50
Mathematics/Statistics	20.00	55.56	0.00	53.33	8.74	71.43	0.00	5.00	0.00
Order Processing/Inventory Control	40.00	44.44	50.00	13.33	46.99	14.29	37.50	45.00	45.00
Payroll/Personnel	33.33	44.44	40.00	6.67	46.99	0.00	50.00	40.00	22.50
Petroleum/Fuel Analysis	0.00	0.00	0.00	6.67	2.73	0.00	6.25	0.00	2.50
Process Control	6.67	11.11	0.00	6.67	1.64	0.00	0.00	10.00	10.00
Purchasing	13.33	0.00	10.00	0.00	30.05	14.29	25.00	25.00	17.50
Sales Distribution	0.00	0.00	30.00	0.00	31.69	0.00	25.00	25.00	22.50
Other	26.67	33.33	30.00	13.33	21.31	57.14	25.00	45.00	40.00
Source of Applications Programs (%)									
In-house Personnel	93.33	100.00	70.00	93.33	84.70	100.00	75.00	75.00	77.50
"Packaged" Programs from Manufacturer	20.00	77.78	30.00	53.33	38.25	57.14	62.50	30.00	12.50
Contract Programming	26.67	33.33	20.00	26.67	37.16	0.00	12.50	30.00	30.00
Manufacturer's Personnel	0.00	0.00	0.00	6.67	3.28	0.00	0.00	5.00	0.00
Proprietary Software Packages	33.33	22.22	20.00	46.67	44.26	42.86	37.50	45.00	30.00
Location of Computer (%)									
Distributed Processing Site	26.67	16.67	10.00	33.33	12.57	57.14	31.25	15.79	25.00
Central Processing Installation	73.33	83.33	90.00	66.67	87.43	42.86	68.75	84.21	75.00
Using Local Workstations/Terminals (%)	100.00	71.43	100.00	100.00	99.45	57.14	100.00	100.00	97.44
Using Remote Workstations/Terminals (%)	73.33	57.14	22.22	66.67	77.90	0.00	68.75	73.68	33.33
Using Data Base Management System (%)	46.67	11.11	90.00	86.67	93.41	66.67	25.00	40.00	32.50
Planning a Data Base Management System in 1983	13.33	33.33	0.00	0.00	4.40	16.67	18.75	30.00	2.50
Manufacturer's Package	0.00	100.00	100.00	100.00	95.24	75.00	66.67	57.14	7.69
Outside Vendor's Package	100.00	0.00	0.00	0.00	4.17	25.00	33.33	42.86	46.15
Home-Grown System	0.00	0.00	0.00	0.00	0.60	0.00	0.00	0.00	46.15
Using Communications Monitor (%)	33.33	11.11	22.22	20.00	40.48	42.86	25.00	45.00	30.00
Planning a Communications Monitor in 1983	0.00	0.00	0.00	6.67	5.95	0.00	6.25	15.00	10.00
Manufacturer's Package	80.00	100.00	0.00	66.67	84.85	100.00	100.00	55.56	50.00
Outside Vendor's Package	0.00	0.00	0.00	33.33	12.12	0.00	0.00	33.33	25.00
Home-Grown System	20.00	0.00	100.00	0.00	3.03	0.00	0.00	11.11	25.00
Using Integrated Word Processing Functions (%)	30.77	66.67	60.00	20.00	38.29	57.14	62.50	35.00	12.50
Planning Word Processing Functions in 1983	23.08	0.00	10.00	13.33	24.00	14.29	0.00	15.00	22.50
Planned Acquisitions/Implementations for 1983 (%)									
Additional Software from the Manufacturer	26.67	77.78	30.00	53.33	34.97	14.29	37.50	25.00	5.00
Proprietary Software from Other Suppliers	13.33	66.67	30.00	40.00	47.54	14.29	31.25	40.00	22.50
Expansions to Data Communications Facilities	40.00	44.44	10.00	26.67	32.24	42.86	37.50	40.00	27.50
Distributed Processing Capabilities	0.00	44.44	0.00	6.67	8.74	0.00	18.75	15.00	7.50
Expansions to Present Hardware	33.33	44.44	30.00	40.00	53.01	28.57	56.25	75.00	45.00
Another Computer System, Same Model	13.33	33.33	0.00	6.67	10.93	14.29	12.50	15.00	17.50
Business Graphics	6.67	33.33	0.00	0.00	17.49	0.00	18.75	15.00	5.00
Disaster Recovery Plan	13.33	0.00	0.00	26.67	19.23	14.29	20.00	30.00	12.50
Plans for system replacement in 1983 (%)									
Yes, Same Manufacturer	6.67	44.44	10.00	7.14	10.44	28.57	6.25	5.00	5.00
Yes, Vendor Unknown	0.00	0.00	0.00	0.00	1.10	0.00	0.00	0.00	5.00
Yes, Different vendor	20.00	0.00	10.00	7.14	0.55	0.00	0.00	5.00	15.00
No	73.73	55.56	80.00	85.71	87.91	71.43	93.75	90.00	75.00

U.S. User Ratings of Computer Systems
Table 2. Minicomputers & Small Business Computers

Harris All Models	Hewlett-Packard 85, 86, & 87	Hewlett-Packard 250 & 300	Hewlett-Packard 1000	Hewlett-Packard 3000	Hewlett-Packard 9800	Honeywell DPS 6	Honeywell Level 6	IBM Series 1	Manufacturer and Model / Survey Item
									Significant Advantages (%)
60.00	33.33	70.00	46.67	62.30	28.57	43.75	55.00	42.50	Users are happy with response time
46.67	44.44	70.00	60.00	85.79	57.14	87.50	85.00	65.00	System is easy to expand/reconfigure
33.33	33.33	0.00	13.33	12.57	0.00	0.00	15.00	20.00	System costs were less than expected
0.00	11.11	10.00	26.67	33.88	14.29	18.75	25.00	10.00	Programs/data carried over from other systems are compatible, as vendor promised
6.67	11.11	10.00	26.67	14.75	14.29	0.00	25.00	15.00	Terminals/peripherals carried over from other systems are compatible, as vendor promised
6.67	11.11	20.00	0.00	29.51	14.29	31.25	10.00	32.50	System is power/energy efficient
6.67	22.22	40.00	40.00	46.45	14.29	6.25	25.00	22.50	Productivity aids help us keep programming costs down
6.67	11.11	80.00	26.67	78.69	28.57	6.25	30.00	15.00	Data base language is efficient and effective
6.67	11.11	0.00	6.67	24.04	0.00	6.25	15.00	12.50	Delivery and/or installation of equipment was ahead of schedule
6.67	0.00	0.00	6.67	14.21	0.00	18.75	5.00	7.50	Delivery of required software was ahead of schedule
									Significant Problems (%)
6.67	0.00	10.00	6.67	6.56	0.00	0.00	20.00	12.50	Computer proposed by vendor was too small
13.33	11.11	20.00	6.67	7.10	14.29	6.25	25.00	20.00	Installation of equipment was late
13.33	0.00	10.00	13.33	4.92	28.57	18.75	15.00	17.50	Delivery of required software was late
6.67	11.11	0.00	20.00	9.29	28.57	0.00	20.00	17.50	System costs (for hardware, vendor-supplied software, support) exceeded the expected total
40.00	11.11	20.00	6.67	5.46	0.00	31.25	20.00	20.00	Vendor did not provide all the promised software or support
6.67	0.00	0.00	0.00	4.37	14.29	0.00	15.00	12.50	Program/data compatibility not what vendor promised
13.33	0.00	0.00	6.67	2.73	0.00	6.25	10.00	10.00	Terminals/peripherals compatibility not what vendor promised
20.00	0.00	0.00	26.67	7.65	14.29	12.50	20.00	15.00	Vendor enhancements/changes to hardware/software hard to keep up with
6.67	0.00	0.00	6.67	3.28	14.29	0.00	20.00	0.00	Equipment is excessively noisy
6.67	0.00	0.00	0.00	2.19	0.00	6.25	15.00	0.00	Power and/or cooling requirements are excessive
									System Ratings (4.0-1.0)
3.40	3.78	3.70	2.93	3.62	3.71	3.31	3.35	3.22	Ease of Operation
3.00	3.78	3.70	3.87	3.79	3.86	3.38	3.45	3.74	Reliability of Mainframe
2.67	3.44	3.50	3.47	3.60	3.71	3.38	3.22	3.35	Reliability of Peripherals
									Maintenance Service:
2.93	2.71	3.20	3.60	3.39	3.57	3.25	3.20	3.38	Responsiveness
2.73	4.00	3.56	3.33	3.44	3.86	3.25	2.95	3.22	Effectiveness
									Technical Support:
2.53	2.88	3.33	2.93	3.06	3.20	2.60	2.88	2.92	Trouble-shooting
2.40	3.00	3.22	3.07	3.07	2.75	3.00	2.65	2.53	Education
2.07	3.38	3.33	2.60	2.91	3.17	2.88	2.25	2.67	Documentation
									Manufacturer's Software:
2.73	3.63	3.50	2.80	3.49	3.43	3.19	3.11	2.80	Operating System
2.64	2.67	3.63	3.07	3.36	3.50	3.20	2.94	2.72	Compilers & Assemblers
2.36	2.44	3.63	2.77	2.99	2.50	2.50	2.59	2.67	Applications Programs
2.93	3.67	3.88	3.07	3.30	3.83	3.13	3.06	2.58	Ease of Programming
2.77	3.20	3.57	2.69	3.21	2.83	2.64	3.13	2.31	Ease of Conversion
2.67	3.67	3.70	3.13	3.46	3.43	3.00	3.06	3.00	Overall Satisfaction
									Did the system do what you expected it to do? (%)
93.33	88.89	90.00	86.67	93.99	100.00	75.00	95.00	80.00	Yes
0.00	11.11	10.00	6.67	2.73	0.00	6.25	5.00	15.00	No
6.67	0.00	0.00	6.67	3.28	0.00	18.75	0.00	5.00	Haven't decided
									Would you recommend system to another user? (%)
66.67	88.89	70.00	93.33	95.08	71.43	87.50	70.00	74.36	Yes
13.33	11.11	20.00	6.67	1.64	28.57	0.00	10.00	17.95	No
20.00	0.00	10.00	0.00	3.28	0.00	12.50	20.00	7.69	Haven't decided

U.S. User Ratings of Computer Systems
Table 2. Minicomputers & Small Business Computers

Survey Item (Manufacturer and Model)	IBM System/23	IBM 5120	IBM 5280	IBM System/3	IBM System/32	IBM System/34	IBM System/38	MAI/Basic Four All Models	Microdata Reality
No. of User Responses	15	8	8	89	13	426	183	34	20
No. of Systems Represented	26	12	12	92	14	462	191	40	24
Avg. Life of System (Mos.)	22.5	40.9	30.4	77.4	47.1	43.9	27.0	47.0	42.0
Acquisition Method (%)									
Purchase	86.67	100.00	25.00	71.91	92.31	62.59	56.28	79.41	85.00
Rental or Lease from Mfr.	6.67	0.00	62.50	10.11	0.00	28.00	25.14	0.00	0.00
Lease from 3rd Party	6.67	0.00	12.50	17.98	7.69	9.41	18.58	20.59	15.00
Principal Applications (%)									
Accounting/Billing	73.33	50.00	87.50	85.39	84.62	88.03	89.07	82.35	100.00
Banking—Check Processing/Loans/Savings	0.00	25.00	0.00	14.61	7.69	5.40	4.92	8.82	10.00
Construction/Architecture	26.67	0.00	0.00	2.25	0.00	2.58	1.64	8.82	5.00
Education—Scheduling/Administration	0.00	12.50	0.00	4.49	7.69	4.46	2.19	2.94	10.00
Engineering/Scientific	0.00	0.00	0.00	2.25	15.38	4.46	1.64	0.00	5.00
Health Care/Medical	13.33	0.00	12.50	3.37	0.00	6.81	8.20	2.94	15.00
Insurance	6.67	0.00	0.00	3.37	0.00	3.99	3.83	8.82	15.00
Manufacturing	6.67	12.50	12.50	34.83	7.69	32.63	37.16	23.53	15.00
Mathematics/Statistics	6.67	25.00	0.00	5.62	7.69	3.99	3.83	5.88	0.00
Order Processing/Inventory Control	33.33	25.00	37.50	58.43	46.15	62.44	62.30	64.71	60.00
Payroll/Personnel	53.33	25.00	50.00	71.91	53.85	66.43	61.20	55.88	35.00
Petroleum/Fuel Analysis	13.33	12.50	0.00	1.12	7.69	4.46	0.55	2.94	5.00
Process Control	0.00	12.50	0.00	3.37	15.38	3.99	6.01	5.88	5.00
Purchasing	13.33	12.50	25.00	38.20	23.08	35.45	32.24	38.24	35.00
Sales Distribution	40.00	12.50	12.50	48.31	7.69	43.90	46.99	58.82	55.00
Other	60.00	75.00	50.00	25.84	30.77	19.48	24.59	38.24	35.00
Source of Applications Programs (%)									
In-house Personnel	73.33	37.50	87.50	96.63	76.92	82.39	93.44	73.53	85.00
"Packaged" Programs from Manufacturer	20.00	25.00	37.50	34.83	46.15	44.84	43.72	32.35	30.00
Contract Programming	33.33	25.00	25.00	25.84	30.77	33.57	38.80	38.24	50.00
Manufacturer's Personnel	0.00	0.00	0.00	2.25	0.00	1.64	1.09	2.94	0.00
Proprietary Software Packages	46.67	37.50	0.00	19.10	0.00	26.29	21.31	32.35	35.00
Location of Computer (%)									
Distributed Processing Site	6.67	33.33	25.00	4.49	7.69	10.90	4.92	9.09	5.00
Central Processing Installation	93.33	66.67	75.00	95.51	92.31	89.10	95.08	90.91	95.00
Using Local Workstations/Terminals (%)	86.67	16.67	87.50	89.89	66.67	99.76	99.45	97.06	100.00
Using Remote Workstations/Terminals (%)	7.14	28.57	25.00	39.08	15.38	40.19	58.66	61.76	75.00
Using Data Base Management System (%)	20.00	37.50	12.50	12.94	7.69	9.44	91.11	29.41	95.00
Planning a Data Base Management System in 1983	20.00	25.00	0.00	15.29	7.69	11.86	4.44	14.71	0.00
Manufacturer's Package	66.67	66.67	0.00	54.55	100.00	52.78	94.90	10.00	89.47
Outside Vendor's Package	0.00	0.00	100.00	9.09	0.00	16.67	1.27	70.00	10.53
Home-Grown System	33.33	33.33	0.00	36.36	0.00	30.56	3.82	20.00	0.00
Using Communications Monitor (%)	0.00	12.50	50.00	31.76	0.00	17.24	32.74	18.75	26.32
Planning a Communications Monitor in 1983	6.67	12.50	0.00	2.35	0.00	10.10	10.71	6.25	5.26
Manufacturer's Package	0.00	100.00	50.00	88.89	0.00	78.46	96.23	50.00	80.00
Outside Vendor's Package	0.00	0.00	50.00	7.41	0.00	13.85	0.00	16.67	20.00
Home-Grown System	0.00	0.00	0.00	3.70	0.00	7.69	3.77	33.33	0.00
Using Integrated Word Processing Functions (%)	86.67	50.00	37.50	3.57	7.69	25.97	25.14	23.53	50.00
Planning Word Processing Functions in 1983	6.67	0.00	37.50	4.76	23.08	22.82	39.43	20.59	30.00
Planned Acquisitions/Implementations for 1983 (%)									
Additional Software from the Manufacturer	20.00	25.00	0.00	7.87	7.69	15.73	31.15	14.71	25.00
Proprietary Software from Other Suppliers	20.00	37.50	37.50	11.24	15.38	28.17	40.44	23.53	30.00
Expansions to Data Communications Facilities	13.33	25.00	12.50	12.36	7.69	26.06	35.52	26.47	10.00
Distributed Processing Capabilities	0.00	12.50	25.00	11.24	15.38	9.62	14.21	14.71	0.00
Expansions to Present Hardware	13.33	25.00	37.50	17.98	23.08	32.16	57.38	35.29	70.00
Another Computer System, Same Model	6.67	37.50	12.50	10.11	0.00	4.23	4.92	8.82	15.00
Business Graphics	0.00	12.50	0.00	0.00	0.00	5.63	8.74	5.88	15.00
Disaster Recovery Plan	6.67	0.00	12.50	7.95	0.00	12.77	25.27	0.00	15.00
Plans for system replacement in 1983 (%)									
Yes, Same Manufacturer	6.67	0.00	0.00	28.09	23.08	9.62	1.64	14.71	15.00
Yes, Vendor Unknown	0.00	25.00	12.50	6.74	15.38	3.05	0.55	0.00	0.00
Yes, Different vendor	6.67	0.00	0.00	6.74	0.00	1.64	0.00	14.71	5.00
No	86.67	75.00	87.50	58.43	61.54	85.68	97.81	70.59	80.00

U.S. User Ratings of Computer Systems
Table 2. Minicomputers & Small Business Computers

IBM System/23	IBM 5120	IBM 5280	IBM System/3	IBM System/32	IBM System/34	IBM System/38	MAI/Basic Four All Models	Microdata Reality	Manufacturer and Model / Survey Item
									Significant Advantages (%)
53.33	12.50	37.50	51.69	23.08	57.04	63.39	55.88	55.00	Users are happy with response time
66.67	12.50	50.00	24.72	15.38	75.12	84.15	50.00	75.00	System is easy to expand/reconfigure
33.33	37.50	0.00	16.85	23.08	10.33	14.21	14.71	20.00	System costs were less than expected
20.00	12.50	25.00	26.97	30.77	30.75	34.43	26.47	40.00	Programs/data carried over from other systems are compatible, as vendor promised
0.00	0.00	25.00	15.73	0.00	7.75	26.78	26.47	35.00	Terminals/peripherals carried over from other systems are compatible, as vendor promised
13.33	25.00	12.50	10.11	7.69	21.83	30.60	26.47	10.00	System is power/energy efficient
46.67	12.50	25.00	15.73	15.38	45.54	81.97	11.76	60.00	Productivity aids help us keep programming costs down
13.33	0.00	0.00	4.49	7.69	2.82	80.33	17.65	100.00	Data base language is efficient and effective
33.33	12.50	0.00	8.99	7.69	19.01	21.31	23.53	15.00	Delivery and/or installation of equipment was ahead of schedule
20.00	25.00	0.00	5.62	7.69	10.33	16.39	17.65	10.00	Delivery of required software was ahead of schedule
									Significant Problems (%)
0.00	25.00	12.50	5.62	23.08	7.75	18.03	5.88	15.00	Computer proposed by vendor was too small
6.67	0.00	0.00	0.00	7.69	1.64	6.56	5.88	0.00	Installation of equipment was late
26.67	0.00	12.50	0.00	7.69	3.05	5.46	2.94	5.00	Delivery of required software was late
6.67	0.00	0.00	8.99	0.00	5.40	9.29	17.65	25.00	System costs (for hardware, vendor-supplied software, support) exceeded the expected total
6.67	0.00	12.50	2.25	0.00	6.57	7.65	11.76	20.00	Vendor did not provide all the promised software or support
13.33	0.00	0.00	0.00	7.69	2.58	8.20	2.94	0.00	Program/data compatibility not what vendor promised
0.00	0.00	0.00	0.00	0.00	0.94	1.09	2.94	10.00	Terminals/peripherals compatibility not what vendor promised
0.00	12.50	0.00	2.25	7.69	7.28	8.20	17.65	5.00	Vendor enhancements/changes to hardware/software hard to keep up with
13.33	12.50	0.00	20.22	0.00	0.70	2.73	5.88	5.00	Equipment is excessively noisy
0.00	0.00	0.00	12.36	0.00	0.94	1.09	8.82	0.00	Power and/or cooling requirements are excessive
									System Ratings (4.0-1.0)
3.67	3.38	3.00	3.22	3.31	3.65	3.48	3.56	3.85	Ease of Operation
3.69	3.63	3.75	3.61	3.92	3.81	3.76	3.53	3.55	Reliability of Mainframe
3.46	3.80	3.38	3.32	3.70	3.68	3.61	3.33	3.37	Reliability of Peripherals
									Maintenance Service:
3.64	3.67	3.50	3.33	3.62	3.48	3.54	3.21	3.20	Responsiveness
3.36	3.67	3.50	3.29	3.54	3.49	3.53	3.19	3.20	Effectiveness
									Technical Support:
3.15	3.00	2.75	2.86	2.77	3.00	2.97	2.69	2.95	Trouble-shooting
2.93	2.83	2.75	2.81	2.92	2.99	2.90	2.42	2.89	Education
3.47	3.57	2.75	2.84	2.92	3.02	3.06	2.26	2.79	Documentation
									Manufacturer's Software:
3.27	3.43	2.57	3.24	3.42	3.45	3.42	3.26	4.00	Operating System
3.08	3.60	2.29	3.33	3.46	3.46	3.45	3.19	3.65	Compilers & Assemblers
3.18	3.00	2.80	2.93	3.15	3.87	2.96	2.83	3.18	Applications Programs
3.67	3.13	3.00	3.02	3.46	3.31	3.64	3.56	3.85	Ease of Programming
2.77	3.00	3.20	2.65	3.10	3.01	2.58	2.93	3.58	Ease of Conversion
3.40	3.57	3.13	3.18	3.46	3.43	3.43	3.18	3.65	Overall Satisfaction
									Did the system do what you expected it to do? (%)
93.33	100.00	87.50	96.59	84.62	94.59	88.40	91.18	90.00	Yes
0.00	0.00	0.00	2.27	0.00	1.41	1.66	8.82	5.00	No
6.67	0.00	12.50	1.14	15.38	4.00	9.94	0.00	5.00	Haven't decided
									Would you recommend system to another user? (%)
93.33	62.50	87.50	65.91	76.92	95.54	92.82	79.41	85.00	Yes
0.00	25.00	0.00	32.95	15.38	1.17	0.55	20.59	15.00	No
6.67	12.50	12.50	1.14	7.69	3.29	6.63	0.00	0.00	Haven't decided

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U.S. User Ratings of Computer Systems
Table 2. Minicomputers & Small Business Computers

Survey Item	Modcomp All Models	NCR 18000	NCR 19000	NCR 8200 & 8300	Perkin-Elmer 3200	Point 4 All Models	Prime 300, 400 & 500	Prime 50 Series	Qantel All Models
No. of User Responses	5	16	21	9	11	11	10	82	11
No. of Systems Represented	10	20	21	9	11	21	10	99	18
Avg. Life of System (Mos.)	46.5	55.7	24.3	48.2	32.5	41.1	51.6	31.0	29.7
Acquisition Method (%)									
Purchase	80.00	62.50	50.00	44.44	72.73	90.91	70.00	64.20	72.73
Rental or Lease from Mfr.	20.00	18.75	35.00	33.33	18.18	0.00	0.00	20.99	9.09
Lease from 3rd Party	0.00	18.75	15.00	22.22	9.09	9.09	30.00	14.81	18.18
Principal Applications (%)									
Accounting/Billing	0.00	68.75	85.71	77.78	45.45	81.82	60.00	59.76	100.00
Banking—Check Processing/Loans/Savings	0.00	12.50	9.52	11.11	0.00	0.00	0.00	4.88	9.09
Construction/Architecture	0.00	6.25	4.76	0.00	0.00	9.09	30.00	4.88	0.00
Education—Scheduling/Administration	0.00	0.00	0.00	22.22	9.09	9.09	0.00	17.07	0.00
Engineering/Scientific	20.00	0.00	4.76	0.00	27.27	0.00	40.00	28.05	0.00
Health Care/Medical	40.00	6.25	14.29	0.00	0.00	18.18	10.00	3.66	0.00
Insurance	0.00	6.25	4.76	0.00	0.00	0.00	0.00	4.88	0.00
Manufacturing	0.00	12.50	28.57	22.22	27.27	9.09	0.00	12.20	54.55
Mathematics/Statistics	0.00	0.00	4.76	0.00	18.18	9.09	10.00	17.07	9.09
Order Processing/Inventory Control	20.00	25.00	52.38	66.67	36.36	36.36	10.00	32.93	90.91
Payroll/Personnel	0.00	50.00	66.67	66.67	18.18	45.45	0.00	48.78	72.73
Petroleum/Fuel Analysis	0.00	0.00	0.00	0.00	0.00	0.00	20.00	1.22	9.09
Process Control	20.00	6.25	4.76	0.00	0.00	0.00	0.00	3.66	9.09
Purchasing	0.00	12.50	47.62	33.33	27.27	36.36	0.00	30.49	54.55
Sales Distribution	0.00	12.50	33.33	44.44	45.45	36.36	20.00	21.95	90.91
Other	20.00	43.75	19.05	0.00	27.27	18.18	40.00	36.59	18.18
Source of Applications Programs (%)									
In-house Personnel	60.00	81.25	57.14	88.89	72.73	81.82	90.00	85.37	63.64
"Packaged" Programs from Manufacturer	20.00	75.00	71.43	22.22	0.00	36.36	50.00	32.93	100.00
Contract Programming	40.00	18.75	28.57	33.33	27.27	27.27	30.00	26.83	45.45
Manufacturer's Personnel	0.00	0.00	4.76	0.00	0.00	9.09	10.00	2.44	0.00
Proprietary Software Packages	40.00	31.25	23.81	22.22	27.27	45.45	40.00	50.00	27.27
Location of Computer (%)									
Distributed Processing Site	60.00	6.25	4.76	0.00	9.09	9.09	0.00	3.66	9.09
Central Processing Installation	40.00	93.75	95.24	100.00	90.91	90.91	100.00	96.34	90.91
Using Local Workstations/Terminals (%)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Using Remote Workstations/Terminals (%)	20.00	43.75	42.86	0.00	54.55	80.00	70.00	83.95	27.27
Using Data Base Management System (%)	0.00	31.25	19.05	11.11	81.82	54.55	50.00	63.41	45.45
Planning a Data Base Management System in 1983	0.00	0.00	9.52	11.11	0.00	0.00	30.00	2.44	9.09
Manufacturer's Package	0.00	80.00	50.00	0.00	55.56	16.67	40.00	48.00	100.00
Outside Vendor's Package	0.00	0.00	0.00	0.00	22.22	66.67	60.00	42.00	0.00
Home-Grown System	0.00	20.00	50.00	100.00	22.22	16.67	0.00	10.00	0.00
Using Communications Monitor (%)	20.00	12.50	5.26	0.00	63.64	36.36	20.00	24.05	27.27
Planning a Communications Monitor in 1983	0.00	18.75	5.26	0.00	0.00	9.09	10.00	7.59	9.09
Manufacturer's Package	0.00	100.00	100.00	0.00	57.14	25.00	100.00	78.95	100.00
Outside Vendor's Package	0.00	0.00	0.00	0.00	42.86	75.00	0.00	10.53	0.00
Home-Grown System	100.00	0.00	0.00	0.00	0.00	0.00	0.00	10.53	0.00
Using Integrated Word Processing Functions (%)	0.00	6.67	4.76	11.11	27.27	54.55	60.00	44.87	45.45
Planning Word Processing Functions in 1983	0.00	20.00	33.33	11.11	9.09	0.00	20.00	16.67	45.45
Planned Acquisitions/Implementations for 1983 (%)									
Additional Software from the Manufacturer	20.00	18.75	19.05	11.11	18.18	18.18	20.00	28.05	45.45
Proprietary Software from Other Suppliers	0.00	56.25	23.81	11.11	36.36	36.36	60.00	41.46	9.09
Expansions to Data Communications Facilities	20.00	25.00	14.29	11.11	27.27	27.27	40.00	37.80	36.36
Distributed Processing Capabilities	0.00	6.25	4.76	0.00	9.09	0.00	10.00	12.20	9.09
Expansions to Present Hardware	20.00	25.00	52.38	44.44	36.36	45.45	60.00	54.88	45.45
Another Computer System, Same Model	0.00	6.25	0.00	11.11	18.18	18.18	20.00	8.54	9.09
Business Graphics	0.00	0.00	4.76	0.00	0.00	9.09	20.00	20.73	0.00
Disaster Recovery Plan	0.00	25.00	28.57	0.00	0.00	0.00	0.00	22.22	27.27
Plans for system replacement in 1983 (%)									
Yes, Same Manufacturer	0.00	20.00	4.76	22.22	9.09	0.00	30.00	1.22	18.18
Yes, Vendor Unknown	0.00	0.00	0.00	0.00	0.00	9.09	0.00	1.22	0.00
Yes, Different vendor	0.00	6.67	0.00	11.11	0.00	0.00	0.00	1.22	0.00
No	100.00	73.33	95.24	66.67	90.91	90.91	70.00	96.34	81.82

U.S. User Ratings of Computer Systems
Table 2. Minicomputers & Small Business Computers

Modcomp All Models	NCR I8000	NCR I9000	NCR 8200 & 8300	Perkin-Elmer 3200	Point 4 All Models	Prime 300, 400 & 500	Prime 50 Series	Qantel All Models	Manufacturer and Model / Survey Item
									Significant Advantages (%)
40.00	43.75	90.48	66.67	63.64	54.55	80.00	57.32	63.64	Users are happy with response time
20.00	62.50	85.71	88.89	72.73	81.82	90.00	82.93	81.82	System is easy to expand/reconfigure
0.00	12.50	28.57	11.11	27.27	45.45	20.00	15.85	45.45	System costs were less than expected
0.00	18.75	61.90	33.33	54.55	18.18	30.00	36.59	72.73	Programs/data carried over from other systems are compatible, as vendor promised
0.00	31.25	47.62	11.11	36.36	54.55	40.00	.31.71	45.45	Terminals/peripherals carried over from other systems are compatible, as vendor promised
20.00	18.75	42.86	33.33	27.27	27.27	10.00	24.39	45.45	System is power/energy efficient
20.00	6.25	42.86	33.33	9.09	27.27	20.00	41.46	36.36	Productivity aids help us keep programming costs down
0.00	12.50	19.05	11.11	18.18	36.36	40.00	31.71	45.45	Data base language is efficient and effective
0.00	6.25	28.57	11.11	18.18	45.45	10.00	31.71	27.27	Delivery and/or installation of equipment was ahead of schedule
0.00	6.25	23.81	0.00	9.09	27.27	10.00	19.51	27.27	Delivery of required software was ahead of schedule
									Significant Problems (%)
0.00	0.00	0.00	22.22	0.00	9.09	10.00	10.98	18.18	Computer proposed by vendor was too small
0.00	0.00	0.00	22.22	18.18	0.00	0.00	8.54	0.00	Installation of equipment was late
0.00	6.25	0.00	22.22	18.18	18.18	10.00	6.10	9.09	Delivery of required software was late
0.00	6.25	14.29	22.22	18.18	9.09	10.00	9.76	36.36	System costs (for hardware, vendor-supplied software, support) exceeded the expected total
20.00	0.00	9.52	22.22	18.18	27.27	10.00	15.85	9.09	Vendor did not provide all the promised software or support
0.00	0.00	0.00	0.00	0.00	9.09	0.00	7.32	9.09	Program/data compatibility not what vendor promised
0.00	0.00	4.76	0.00	0.00	0.00	0.00	1.22	0.00	Terminals/peripherals compatibility not what vendor promised
0.00	18.75	0.00	11.11	27.27	0.00	10.00	6.10	18.18	Vendor enhancements/changes to hardware/ software hard to keep up with
0.00	6.25	4.76	11.11	27.27	9.09	0.00	3.66	0.00	Equipment is excessively noisy
40.00	6.25	0.00	11.11	0.00	0.00	0.00	3.66	0.00	Power and/or cooling requirements are excessive
									System Ratings (4.0-1.0)
3.00	3.50	3.70	3.56	2.91	3.45	3.60	3.56	3.73	Ease of Operation
3.00	3.19	3.62	3.44	3.73	3.64	3.60	3.67	3.82	Reliability of Mainframe
2.60	3.13	3.48	3.11	3.18	3.18	2.90	3.27	3.45	Reliability of Peripherals
									Maintenance Service:
3.25	2.81	3.52	3.00	2.64	3.20	3.00	3.31	3.55	Responsiveness
3.00	2.75	3.14	3.00	2.60	2.89	2.89	3.03	3.18	Effectiveness
									Technical Support:
2.67	2.69	2.90	2.33	2.09	2.73	2.60	2.70	2.91	Trouble-shooting
3.00	2.63	2.84	2.78	2.00	2.36	2.89	2.72	2.73	Education
2.67	2.44	2.80	3.00	2.27	2.36	2.60	2.67	2.80	Documentation
									Manufacturer's Software:
3.00	2.88	3.43	3.33	2.90	3.55	3.60	3.42	3.27	Operating System
2.80	3.19	3.20	3.33	2.50	3.38	3.20	3.08	3.30	Compilers & Assemblers
3.00	2.64	2.84	2.67	2.40	2.89	3.00	2.98	2.90	Applications Programs
2.67	3.00	3.40	3.33	3.09	3.09	3.40	3.36	3.45	Ease of Programming
2.00	2.73	3.42	3.25	3.30	2.70	3.10	3.16	3.20	Ease of Conversion
2.20	3.19	3.43	3.44	3.09	3.27	3.50	3.32	3.45	Overall Satisfaction
									Did the system do what you expected it to do? (%)
100.00	81.25	100.00	88.89	63.64	72.73	100.00	84.15	81.82	Yes
0.00	0.00	0.00	11.11	18.18	9.09	0.00	7.32	0.00	No
0.00	18.75	0.00	0.00	18.18	18.18	0.00	8.54	18.18	Haven't decided
									Would you recommend system to another user? (%)
40.00	66.67	100.00	88.89	72.73	72.73	90.00	86.59	81.82	Yes
60.00	13.33	0.00	11.11	18.18	9.09	10.00	7.32	9.09	No
0.00	20.00	0.00	0.00	9.09	18.18	0.00	6.10	9.09	Haven't decided

U.S. User Ratings of Computer Systems
Table 2. Minicomputers & Small Business Computers

Survey Item	Tandem All Models	Texas Instruments 990	Wang VS	Wang 2200	Minicomputers (Other Models)				
No. of User Responses	19	40	71	36	105				
No. of Systems Represented	37	56	85	43	161				
Avg. Life of System (Mos.)	31.5	35.4	33.8	43.3	50.8				
Acquisition Method (%)									
Purchase	89.47	84.62	72.86	69.44	75.96				
Rental or Lease from Mfr.	0.00	2.56	8.57	13.89	8.65				
Lease from 3rd Party	10.53	12.82	18.57	16.67	15.38				
Principal Applications (%)									
Accounting/Billing	42.11	67.50	64.79	75.00	62.86				
Banking—Check Processing/Loans/Savings	15.79	7.50	9.86	2.78	8.57				
Construction/Architecture	5.26	5.00	4.23	8.33	3.81				
Education—Scheduling/Administration	10.53	12.50	8.45	2.78	10.48				
Engineering/Scientific	10.53	15.00	2.82	11.11	8.57				
Health Care/Medical	15.79	12.50	8.45	11.11	9.52				
Insurance	0.00	0.00	8.45	13.89	4.76				
Manufacturing	21.05	12.50	16.90	11.11	14.29				
Mathematics/Statistics	5.26	7.50	14.08	22.22	15.24				
Order Processing/Inventory Control	42.11	30.00	47.89	36.11	40.00				
Payroll/Personnel	26.32	35.00	40.85	47.22	40.95				
Petroleum/Fuel Analysis	5.26	0.00	1.41	0.00	4.76				
Process Control	0.00	10.00	2.82	5.56	6.67				
Purchasing	21.05	17.50	21.13	19.44	17.14				
Sales Distribution	21.05	30.00	30.99	30.56	32.38				
Other	47.37	22.50	40.85	22.22	37.14				
Source of Applications Programs (%)									
In-house Personnel	84.21	52.50	78.87	66.67	79.05				
"Packaged" Programs from Manufacturer	15.79	12.50	33.80	22.22	51.43				
Contract Programming	42.11	22.50	42.25	38.89	30.48				
Manufacturer's Personnel	5.26	0.00	0.00	2.78	3.81				
Proprietary Software Packages	42.11	37.50	46.48	47.22	20.95				
Location of Computer (%)									
Distributed Processing Site	10.53	12.50	17.14	11.76	18.10				
Central Processing Installation	89.47	87.50	82.86	88.24	81.90				
Using Local Workstations/Terminals (%)	100.00	100.00	100.00	97.22	87.50				
Using Remote Workstations/Terminals (%)	94.74	55.00	44.29	37.14	48.54				
Using Data Base Management System (%)	83.33	10.26	18.57	33.33	44.76				
Planning a Data Base Management System in 1983	0.00	12.82	14.29	5.56	11.43				
Manufacturer's Package	85.71	25.00	66.67	16.67	68.89				
Outside Vendor's Package	0.00	75.00	33.33	58.33	8.89				
Home-Grown System	14.29	0.00	0.00	25.00	22.22				
Using Communications Monitor (%)	63.16	39.47	26.09	30.56	21.90				
Planning a Communications Monitor in 1983	15.79	0.00	14.49	2.78	9.52				
Manufacturer's Package	83.33	57.14	100.00	45.45	73.91				
Outside Vendor's Package	8.33	35.71	0.00	36.36	21.74				
Home-Grown System	8.33	7.14	0.00	18.18	4.35				
Using Integrated Word Processing Functions (%)	29.41	57.50	82.61	60.00	38.46				
Planning Word Processing Functions in 1983	5.88	15.00	13.04	20.00	9.62				
Planned Acquisitions/Implementations for 1983 (%)									
Additional Software from the Manufacturer	42.11	25.00	25.35	5.56	31.43				
Proprietary Software from Other Suppliers	52.63	37.50	30.99	38.89	21.90				
Expansions to Data Communications Facilities	89.47	22.50	38.03	19.44	21.90				
Distributed Processing Capabilities	15.79	15.00	19.72	2.78	12.38				
Expansions to Present Hardware	78.95	55.00	59.15	58.33	35.24				
Another Computer System, Same Model	31.58	2.50	7.04	8.33	16.19				
Business Graphics	15.79	12.50	19.72	13.89	13.33				
Disaster Recovery Plan	36.84	13.51	22.54	8.33	8.74				
Plans for system replacement in 1983 (%)									
Yes, Same Manufacturer	26.32	0.00	4.23	5.56	8.74				
Yes, Vendor Unknown	0.00	2.56	0.00	0.00	9.71				
Yes, Different vendor	0.00	5.13	1.41	2.78	9.71				
No	73.68	92.31	94.37	91.67	71.84				

U.S. User Ratings of Computer Systems
Table 2. Minicomputers & Small Business Computers

					Tandem All Models	Texas Instruments 990	Wang VS	Wang 2200	Minicomputers (Other Models)	Manufacturer and Model / Survey Item
										Significant Advantages (%)
					47.37	65.00	74.65	75.00	56.19	Users are happy with response time
					89.47	65.00	83.10	75.00	59.05	System is easy to expand/reconfigure
					0.00	25.00	14.08	16.67	24.76	System costs were less than expected
					5.26	25.00	25.35	16.67	33.33	Programs/data carried over from other systems are compatible, as vendor promised
					5.26	17.50	2.82	0.00	26.67	Terminals/peripherals carried over from other systems are compatible, as vendor promised
					15.79	17.50	23.94	13.89	23.81	System is power/energy efficient
					63.16	22.50	77.46	36.11	25.71	Productivity aids help us keep programming costs down
					36.84	5.00	12.68	25.00	31.43	Data base language is efficient and effective
					36.84	20.00	9.86	19.44	22.86	Delivery and/or installation of equipment was ahead of schedule
					21.05	5.00	7.04	13.89	10.48	Delivery of required software was ahead of schedule
										Significant Problems (%)
					21.05	17.50	8.45	13.89	8.57	Computer proposed by vendor was too small
					0.00	10.00	9.86	13.89	11.43	Installation of equipment was late
					0.00	12.50	12.68	16.67	18.10	Delivery of required software was late
					26.32	10.00	11.27	13.89	8.57	System costs (for hardware, vendor-supplied software, support) exceeded the expected total
					5.26	20.00	8.45	25.00	18.10	Vendor did not provide all the promised software or support
					10.53	5.00	4.23	2.78	6.67	Program/data compatibility not what vendor promised
					0.00	5.00	2.82	0.00	2.86	Terminals/peripherals compatibility not what vendor promised
					10.53	5.00	12.68	16.67	14.29	Vendor enhancements/changes to hardware/ software hard to keep up with
					0.00	5.00	5.63	13.89	10.48	Equipment is excessively noisy
					0.00	2.50	4.23	2.78	8.57	Power and/or cooling requirements are excessive
										System Ratings (4.0-1.0)
					3.47	3.44	3.79	3.72	3.48	Ease of Operation
					3.79	3.50	3.61	3.78	3.49	Reliability of Mainframe
					3.21	3.27	3.10	3.44	3.12	Reliability of Peripherals
										Maintenance Service:
					3.47	3.05	3.14	3.28	3.24	Responsiveness
					3.00	3.13	3.00	3.19	3.12	Effectiveness
										Technical Support:
					3.21	2.80	2.78	2.85	2.87	Trouble-shooting
					3.05	2.76	2.50	2.58	2.56	Education
					3.00	2.82	2.43	2.67	2.52	Documentation
										Manufacturer's Software:
					3.37	3.21	3.47	3.32	3.19	Operating System
					3.11	3.23	3.54	3.37	3.09	Compilers & Assemblers
					3.06	3.04	3.09	2.75	2.85	Applications Programs
					3.37	3.24	3.71	3.47	3.21	Ease of Programming
					2.81	3.24	3.22	2.74	2.86	Ease of Conversion
					3.53	3.25	3.39	3.26	3.13	Overall Satisfaction
										Did the system do what you expected it to do? (%)
					89.47	87.18	88.73	86.11	85.71	Yes
					0.00	0.00	4.23	2.78	7.62	No
					10.53	12.82	7.04	11.11	6.67	Haven't decided
										Would you recommend system to another user? (%)
					89.47	92.50	88.57	86.11	72.38	Yes
					0.00	0.00	4.29	5.56	17.14	No
					10.53	7.50	7.14	8.33	10.48	Haven't decided

U.S. User Ratings of Computer Systems
Table 3. Mainframe & Plug-Compatible Mainframe Vendor Summaries

Survey Item	Amdahl	Burroughs	Control Data	Digital Equipment	Honeywell	IBM
No. of User Responses	46	90	6	38	81	998
No. of Systems Represented	83	130	9	56	100	1286
Avg. Life of System (Mos.)	36.5	43.02	49.7	58.2	57.2	34.8
Acquisition Method (%)						
Purchase	54.55	48.31	50.00	62.86	53.09	40.57
Rental or Lease from Mfr.	27.27	40.45	50.00	0.00	39.51	32.59
Lease from 3rd Party	18.18	11.24	0.00	37.14	7.41	26.84
Principal Applications (%)						
Accounting/Billing	73.91	62.22	33.33	63.16	90.12	73.65
Banking—Check Processing/Loans/Savings	10.87	34.44	0.00	10.53	2.47	17.03
Construction/Architecture	4.35	1.11	0.00	10.53	3.70	2.40
Education—Scheduling/Administration	17.39	15.56	50.00	42.11	13.58	9.62
Engineering/Scientific	34.78	3.33	83.33	31.58	11.11	11.62
Health Care/Medical	17.39	6.67	0.00	15.79	4.94	7.72
Insurance	17.39	2.22	0.00	2.63	13.58	14.03
Manufacturing	8.70	12.22	0.00	18.42	35.80	24.05
Mathematics/Statistics	34.78	13.33	66.67	47.37	11.11	10.72
Order Processing/Inventory Control	41.30	38.89	33.33	31.58	59.26	50.30
Payroll/Personnel	71.74	45.56	66.67	47.37	75.31	63.33
Petroleum/Fuel Analysis	17.39	2.22	0.00	2.63	3.70	2.51
Process Control	6.52	1.11	0.00	2.63	4.94	5.51
Purchasing	30.43	24.44	0.00	36.84	38.27	32.46
Sales Distribution	21.74	16.67	0.00	21.05	49.38	35.67
Other	39.13	21.11	0.00	26.32	19.75	20.84
Source of Applications Programs (%)						
In-house Personnel	100.00	92.22	100.00	100.00	97.53	93.29
"Packaged" Programs from Manufacturer	52.17	40.00	50.00	52.63	41.98	53.11
Contract Programming	60.87	28.89	33.33	28.95	29.63	35.97
Manufacturer's Personnel	8.70	5.56	33.33	2.63	14.81	5.01
Proprietary Software Packages	60.87	38.89	66.67	63.16	32.10	56.71
Location of Computer (%)						
Distributed Processing Site	2.22	2.22	0.00	2.63	0.00	5.22
Central Processing Installation	97.78	97.78	100.00	97.37	100.00	94.78
Using Local Workstations/Terminals (%)	100.00	100.00	100.00	100.00	92.59	98.09
Using Remote Workstations/Terminals (%)	100.00	85.56	100.00	94.59	70.00	82.91
Using Data Base Management System (%)	82.61	57.30	50.00	81.08	52.56	57.36
Planning a Data Base Management System in 1983	6.52	10.11	16.67	0.00	14.10	12.39
Manufacturer's Package	28.95	90.20	33.33	16.67	85.37	59.93
Outside Vendor's Package	63.16	1.96	66.67	63.33	2.44	36.85
Home-Grown System	7.89	7.84	0.00	20.00	12.20	3.22
Using Communications Monitor (%)	11.90	70.79	20.00	55.56	78.75	82.69
Planning a Communications Monitor in 1983	4.76	2.25	0.00	0.00	6.25	5.50
Manufacturer's Package	42.86	68.25	100.00	55.00	87.30	83.98
Outside Vendor's Package	51.43	20.63	0.00	30.00	6.35	14.27
Home-Grown System	5.71	11.11	0.00	15.00	6.35	1.75
Using Integrated Word Processing Functions (%)	37.78	12.50	0.00	37.84	17.11	16.07
Planning Word Processing Functions in 1983	17.78	14.77	0.00	16.22	14.47	19.36
Planned Acquisitions/Implementations for 1983 (%)						
Additional Software from the Manufacturer	43.48	27.78	33.33	21.05	30.86	51.00
Proprietary Software from Other Suppliers	76.09	44.44	16.67	44.74	29.63	61.72
Expansions to Data Communications Facilities	73.91	57.78	50.00	39.47	37.04	56.01
Distributed Processing Capabilities	34.78	15.56	0.00	26.32	22.22	20.54
Expansions to Present Hardware	67.39	46.67	33.33	60.53	41.98	52.71
Another Computer System, Same Model	13.04	11.11	0.00	15.79	6.17	8.52
Business Graphics	32.61	5.56	16.67	26.32	3.70	17.43
Disaster Recovery Plan	15.56	19.10	0.00	18.42	22.22	23.99
Plans for system replacement in 1983 (%)						
Yes, Same Manufacturer	15.22	11.24	0.00	5.26	7.50	17.29
Yes, Vendor Unknown	17.39	4.49	0.00	0.00	6.25	2.33
Yes, Different vendor	2.17	2.25	0.00	2.63	12.50	0.81
No	65.22	82.02	100.00	92.11	73.75	79.58

U.S. User Ratings of Computer Systems
Table 3. Mainframe & Plug-Compatible Mainframe Vendor Summaries

Amdahl	Burroughs	Control Data	Digital Equipment	Honeywell	IBM	Manufacturer and Model / Survey Item
						Significant Advantages (%)
71.74	43.33	33.33	60.53	54.32	56.81	Users are happy with response time
43.48	73.33	50.00	71.05	56.79	49.60	System is easy to expand/reconfigure
23.91	7.78	0.00	10.53	6.17	13.33	System costs were less than expected
73.91	50.00	50.00	31.58	32.10	58.22	Programs/data carried over from other systems are compatible, as vendor promised
69.57	44.44	16.67	34.21	13.58	52.71	Terminals/peripherals carried over from other systems are compatible, as vendor promised
41.30	23.33	16.67	15.79	16.05	41.58	System is power/energy efficient
26.09	32.22	0.00	44.74	24.69	26.15	Productivity aids help us keep programming costs down
23.91	38.89	0.00	31.58	28.40	13.03	Data base language is efficient and effective
36.96	12.22	0.00	15.79	8.64	17.94	Delivery and/or installation of equipment was ahead of schedule
17.39	10.00	0.00	5.26	4.94	9.22	Delivery of required software was ahead of schedule
						Significant Problems (%)
4.35	8.89	0.00	13.16	14.81	4.61	Computer proposed by vendor was too small
2.17	31.11	0.00	7.89	14.81	3.61	Installation of equipment was late
2.17	12.22	0.00	15.79	14.81	4.91	Delivery of required software was late
6.52	13.33	0.00	7.89	22.22	9.92	System costs (for hardware, vendor-supplied software, support) exceeded the expected total
4.35	17.78	0.00	10.53	25.93	7.92	Vendor did not provide all the promised software or support
0.00	4.44	0.00	2.63	4.94	2.00	Program/data compatibility not what vendor promised
2.17	1.11	0.00	0.00	3.70	1.80	Terminals/peripherals compatibility not what vendor promised
4.35	20.00	16.67	7.89	13.58	14.93	Vendor enhancements/changes to hardware/software hard to keep up with
4.35	6.67	16.67	18.42	11.11	0.90	Equipment is excessively noisy
8.70	13.33	50.00	15.79	11.11	8.42	Power and/or cooling requirements are excessive
						System Ratings (4.0-1.0)
3.37	3.60	2.83	3.73	3.14	3.19	Ease of Operation
3.57	3.29	3.33	3.42	3.28	3.67	Reliability of Mainframe
3.17	2.85	3.00	2.94	2.95	3.28	Reliability of Peripherals
						Maintenance Service:
3.41	2.95	3.33	3.11	3.17	3.34	Responsiveness
3.41	2.70	3.00	3.03	3.04	3.30	Effectiveness
						Technical Support:
3.40	2.35	2.83	2.60	2.64	2.90	Trouble-shooting
2.95	2.24	2.67	2.50	2.44	2.77	Education
2.92	2.00	3.00	2.69	2.34	2.70	Documentation
						Manufacturer's Software:
3.11	3.55	2.83	3.63	3.24	3.11	Operating System
3.13	3.17	3.17	3.13	3.17	3.23	Compilers & Assemblers
2.87	2.62	2.25	2.76	2.33	2.82	Applications Programs
3.00	3.22	2.83	3.53	2.99	2.92	Ease of Programming
3.09	3.07	2.83	3.03	2.61	2.97	Ease of Conversion
3.31	3.03	2.83	3.32	2.91	3.16	Overall Satisfaction
						Did the system do what you expected it to do? (%)
97.98	83.33	83.33	89.47	82.72	93.16	Yes
0.00	8.89	0.00	2.63	9.88	2.62	No
2.22	7.78	16.67	7.89	7.41	4.23	Haven't decided
						Would you recommend system to another user? (%)
95.56	75.56	66.67	77.78	62.50	88.51	Yes
2.22	7.78	33.33	5.56	18.75	5.44	No
2.22	16.67	0.00	16.67	18.75	6.05	Haven't decided

U.S. User Ratings of Computer Systems
Table 3. Mainframe & Plug-Compatible Mainframe Vendor Summaries

Survey Item	IPL	Magnuson	NAS	NCR	Sperry Univac	Other Mainframes
No. of User Responses	12	19	32	97	125	34
No. of Systems Represented	12	23	33	107	152	45
Avg. Life of System (Mos.)	22.6	33.1	50.2	42.2	45.4	72.1
Acquisition Method (%)						
Purchase	33.33	47.37	46.88	55.67	31.20	76.47
Rental or Lease from Mfr.	66.67	36.84	25.00	22.68	59.20	14.71
Lease from 3rd Party	0.00	15.79	28.13	21.65	9.60	8.82
Principal Applications (%)						
Accounting/Billing	41.67	68.42	75.00	63.92	80.80	67.65
Banking—Check Processing/Loans/Savings	0.00	21.05	0.00	31.96	4.00	8.82
Construction/Architecture	0.00	5.26	9.38	2.06	4.00	2.94
Education—Scheduling/Administration	8.33	0.00	15.63	9.28	9.60	14.71
Engineering/Scientific	16.67	5.26	18.75	2.06	13.60	14.71
Health Care/Medical	8.33	15.79	9.38	7.22	8.00	0.00
Insurance	25.00	36.84	9.38	3.09	6.40	2.94
Manufacturing	8.33	26.32	34.38	16.49	27.20	20.59
Mathematics/Statistics	16.67	21.05	28.13	1.03	12.80	11.76
Order Processing/Inventory Control	41.67	31.58	46.88	43.30	56.80	47.06
Payroll/Personnel	25.00	47.37	59.38	53.61	69.60	55.88
Petroleum/Fuel Analysis	0.00	0.00	3.13	4.12	2.40	5.88
Process Control	0.00	0.00	6.25	3.09	6.40	2.94
Purchasing	16.67	5.26	37.50	23.71	35.20	26.47
Sales Distribution	41.67	21.05	34.38	31.96	42.40	35.29
Other	33.33	42.11	28.13	11.34	28.80	41.18
Source of Applications Programs (%)						
In-house Personnel	83.33	100.00	90.63	76.29	96.00	91.18
"Packaged" Programs from Manufacturer	8.33	42.11	28.13	71.13	40.80	23.53
Contract Programming	16.67	47.37	28.13	24.74	32.80	29.41
Manufacturer's Personnel	0.00	0.00	3.13	4.12	28.80	2.94
Proprietary Software Packages	66.67	63.16	75.00	27.84	33.60	26.47
Location of Computer (%)						
Distributed Processing Site	0.00	0.00	3.23	0.00	0.80	6.06
Central Processing Installation	100.00	100.00	96.77	100.00	99.20	93.94
Using Local Workstations/Terminals (%)	100.00	100.00	96.77	96.91	99.19	87.10
Using Remote Workstations/Terminals (%)	83.33	73.68	93.55	62.50	73.60	58.06
Using Data Base Management System (%)	27.27	38.89	81.25	26.60	51.20	35.29
Planning a Data Base Management System in 1983	27.27	22.22	6.25	15.96	8.00	14.71
Manufacturer's Package	0.00	0.00	11.54	44.00	85.94	60.00
Outside Vendor's Package	66.67	83.33	76.92	40.00	4.69	30.00
Home-Grown System	33.33	16.67	11.54	16.00	9.38	10.00
Using Communications Monitor (%)	83.33	78.95	84.38	44.57	66.39	38.24
Planning a Communications Monitor in 1983	8.33	10.53	9.38	9.78	4.92	11.76
Manufacturer's Package	30.00	14.29	26.92	46.34	80.25	61.54
Outside Vendor's Package	60.00	85.71	65.38	46.34	12.35	15.38
Home-Grown System	10.00	0.00	7.69	7.32	7.41	23.08
Using Integrated Word Processing Functions (%)	25.00	22.22	18.75	5.43	12.71	15.63
Planning Word Processing Functions in 1983	25.00	11.11	25.00	19.57	22.03	9.38
Planned Acquisitions/Implementations for 1983 (%)						
Additional Software from the Manufacturer	33.33	26.32	34.38	35.05	37.60	20.59
Proprietary Software from Other Suppliers	75.00	68.42	71.88	39.18	28.80	11.76
Expansions to Data Communications Facilities	83.33	42.11	56.25	36.08	44.00	23.53
Distributed Processing Capabilities	0.00	10.53	28.13	15.46	18.40	8.82
Expansions to Present Hardware	66.67	36.84	53.13	48.45	44.00	26.47
Another Computer System, Same Model	0.00	5.26	3.13	1.03	6.40	5.88
Business Graphics	25.00	5.26	18.75	2.06	5.60	0.00
Disaster Recovery Plan	41.67	26.32	21.88	21.65	17.74	5.88
Plans for system replacement in 1983 (%)						
Yes, Same Manufacturer	0.00	0.00	12.50	6.19	12.90	11.76
Yes, Vendor Unknown	0.00	0.00	12.50	2.06	2.42	17.65
Yes, Different vendor	0.00	5.26	3.13	3.09	4.03	14.71
No	100.00	94.74	71.88	88.66	80.65	55.88

U.S. User Ratings of Computer Systems
Table 3. Mainframe & Plug-Compatible Mainframe Vendor Summaries

IPL	Magnuson	NAS	NCR	Sperry Univac	Other Mainframes	Manufacturer and Model / Survey Item
						Significant Advantages (%)
66.67	63.16	53.13	57.73	53.60	32.35	Users are happy with response time
83.33	89.47	43.75	73.20	56.80	38.24	System is easy to expand/reconfigure
33.33	36.84	28.13	16.49	11.20	26.47	System costs were less than expected
75.00	94.75	75.00	61.86	40.00	50.00	Programs/data carried over from other systems are compatible, as vendor promised
58.33	68.42	68.75	40.21	20.80	29.41	Terminals/peripherals carried over from other systems are compatible, as vendor promised
83.33	73.68	40.63	14.43	25.60	17.65	System is power/energy efficient
25.00	21.05	3.13	26.80	37.60	17.65	Productivity aids help us keep programming costs down
0.00	21.05	12.50	6.19	20.80	11.76	Data base language is efficient and effective
58.33	68.42	37.50	9.28	28.00	5.88	Delivery and/or installation of equipment was ahead of schedule
16.67	31.58	18.75	5.15	12.80	5.88	Delivery of required software was ahead of schedule
						Significant Problems (%)
0.00	0.00	3.13	8.25	27.20	17.65	Computer proposed by vendor was too small
0.00	5.26	3.13	10.31	12.80	14.71	Installation of equipment was late
0.00	0.00	6.25	15.46	14.40	8.82	Delivery of required software was late
8.33	0.00	6.25	13.40	20.80	8.82	System costs (for hardware, vendor-supplied software, support) exceeded the expected total
8.33	15.79	9.38	24.74	18.40	8.82	Vendor did not provide all the promised software or support
0.00	0.00	0.00	5.15	5.60	0.00	Program/data compatibility not what vendor promised
0.00	0.00	0.00	3.09	3.20	0.00	Terminals/peripherals compatibility not what vendor promised
0.00	5.26	6.25	10.31	26.40	8.82	Vendor enhancements/changes to hardware/ software hard to keep up with
0.00	0.00	3.13	7.22	5.60	17.65	Equipment is excessively noisy
0.00	0.00	12.50	6.19	10.40	26.47	Power and/or cooling requirements are excessive
						System Ratings (4.0-1.0)
3.75	3.58	3.16	3.40	3.21	3.15	Ease of Operation
3.73	3.68	3.47	3.47	3.48	3.15	Reliability of Mainframe
3.38	3.31	2.93	3.19	2.98	2.79	Reliability of Peripherals
						Maintenance Service:
3.55	3.42	3.53	3.12	3.28	3.21	Responsiveness
3.55	3.26	3.39	3.05	2.92	3.00	Effectiveness
						Technical Support:
3.40	3.00	3.03	2.46	2.55	2.58	Trouble-shooting
3.00	2.59	2.62	2.69	2.36	2.24	Education
3.00	2.67	2.63	2.38	2.28	2.17	Documentation
						Manufacturer's Software:
3.00	3.45	2.91	3.10	3.20	2.91	Operating System
3.00	3.40	3.14	3.03	3.16	2.91	Compilers & Assemblers
3.00	3.33	2.75	2.54	2.53	2.71	Applications Programs
3.20	3.23	2.95	2.98	3.02	2.91	Ease of Programming
3.50	3.57	3.19	3.18	2.76	2.55	Ease of Conversion
3.11	3.39	3.19	3.06	3.00	2.85	Overall Satisfaction
						Did the system do what you expected it to do? (%)
100.00	94.74	100.00	87.63	79.03	91.18	Yes
0.00	5.26	0.00	5.15	12.10	2.94	No
0.00	0.00	0.00	7.22	8.87	5.88	Haven't decided
						Would you recommend system to another user? (%)
100.00	89.47	80.65	79.38	67.74	46.88	Yes
0.00	10.53	6.45	10.31	16.13	43.75	No
0.00	0.00	12.90	10.31	16.13	9.38	Haven't decided

U.S. User Ratings of Computer Systems
Table 4. Minicomputer & Small Business Computer Vendor Summaries

Survey Item	Alpha Micro	Altos	Burroughs	Data General	Datapoint	Digital Equipment	Four-Phase	General Automation
No. of User Responses	16	15	128	93	61	330	33	6
No. of Systems Represented	31	18	142	119	143	489	48	8
Avg. Life of System (Mos.)	34.6	18.9	38.6	43.7	41.9	41.9	45.4	55.7
Acquisition Method (%)								
Purchase	87.50	73.33	61.72	81.72	76.67	84.80	6.06	83.33
Rental or Lease from Mfr.	6.25	6.67	29.69	1.08	16.67	2.43	69.70	0.00
Lease from 3rd Party	6.25	20.00	8.59	17.20	6.67	12.77	24.24	16.67
Principal Applications (%)								
Accounting/Billing	87.50	86.67	77.34	69.89	73.77	54.24	60.61	50.00
Banking—Check Processing/Loans/Savings	18.75	0.00	13.28	3.23	9.84	5.45	12.12	0.00
Construction/Architecture	0.00	6.67	3.91	4.30	8.20	2.73	3.03	0.00
Education—Scheduling/Administration	6.25	0.00	10.16	9.68	1.64	11.82	0.00	16.67
Engineering/Scientific	0.00	0.00	0.78	6.45	6.56	26.06	3.03	0.00
Health Care/Medical	0.00	6.67	4.69	6.45	6.56	7.88	27.27	0.00
Insurance	6.25	6.67	3.13	5.38	6.56	2.73	15.15	0.00
Manufacturing	0.00	6.67	20.31	16.13	19.67	11.82	18.18	33.33
Mathematics/Statistics	6.25	0.00	3.91	7.53	6.56	20.30	6.06	0.00
Order Processing/Inventory Control	50.00	40.00	50.00	48.39	47.54	32.73	42.42	16.67
Payroll/Personnel	56.25	53.33	65.63	44.09	44.26	37.58	45.45	33.33
Petroleum/Fuel Analysis	0.00	0.00	2.34	1.08	1.64	3.33	0.00	0.00
Process Control	0.00	0.00	4.69	3.23	13.11	6.06	0.00	0.00
Purchasing	43.75	13.33	26.56	25.81	34.43	17.88	21.21	33.33
Sales Distribution	50.00	33.33	34.38	25.81	27.87	22.73	18.18	33.33
Other	12.50	26.67	18.75	27.96	31.15	29.39	24.24	16.67
Source of Applications Programs (%)								
In-house Personnel	87.50	53.33	83.59	65.59	81.97	75.76	72.73	83.33
"Packaged" Programs from Manufacturer	56.25	60.00	42.97	21.51	31.15	30.30	45.45	16.67
Contract Programming	31.25	0.00	31.25	32.26	40.98	30.91	18.18	50.00
Manufacturer's Personnel	12.50	0.00	1.56	3.23	1.64	2.12	9.09	0.00
Proprietary Software Packages	43.75	66.67	31.25	40.86	31.15	45.15	30.30	16.67
Location of Computer (%)								
Distributed Processing Site	7.14	6.67	7.09	7.53	16.39	10.94	33.33	40.00
Central Processing Installation	92.86	93.33	92.91	92.47	83.61	89.06	66.67	60.00
Using Local Workstations/Terminals (%)	100.00	100.00	97.60	97.85	95.08	98.79	100.00	80.00
Using Remote Workstations/Terminals (%)	66.67	46.15	59.35	52.75	40.68	65.12	18.18	0.00
Using Data Base Management System (%)	31.25	40.00	51.59	25.81	29.31	35.29	23.33	33.33
Planning a Data Base Management System in 1983	12.50	26.67	8.73	10.75	10.34	15.48	20.00	0.00
Manufacturer's Package	0.00	0.00	90.63	41.67	35.29	23.21	42.86	0.00
Outside Vendor's Package	80.00	100.00	1.56	29.17	17.65	58.93	28.57	25.00
Home-Grown System	20.00	0.00	7.81	29.17	47.06	17.86	28.57	75.00
Using Communications Monitor (%)	33.33	21.43	47.54	26.67	37.50	23.89	40.74	0.00
Planning a Communications Monitor in 1983	13.33	21.43	6.56	6.67	7.14	7.64	7.41	16.67
Manufacturer's Package	40.00	0.00	91.23	58.33	66.67	57.53	80.00	0.00
Outside Vendor's Package	40.00	100.00	5.26	16.67	23.81	30.14	20.00	0.00
Home-Grown System	20.00	0.00	3.51	25.00	9.52	12.33	0.00	0.00
Using Integrated Word Processing Functions (%)	87.50	93.33	12.30	35.16	41.67	37.62	62.07	0.00
Planning Word Processing Functions in 1983	12.50	6.67	18.03	18.68	25.00	20.69	10.34	16.67
Planned Acquisitions/Implementations for 1983 (%)								
Additional Software from the Manufacturer	18.75	20.00	28.91	20.43	36.07	26.06	15.15	0.00
Proprietary Software from Other Suppliers	50.00	66.67	26.56	30.11	29.51	41.82	30.30	16.67
Expansions to Data Communications Facilities	43.75	13.33	42.97	26.88	29.51	30.30	15.15	16.67
Distributed Processing Capabilities	6.25	13.33	15.63	10.75	26.23	11.52	15.15	16.67
Expansions to Present Hardware	62.50	33.33	35.94	44.09	52.46	52.12	36.36	0.00
Another Computer System, Same Model	18.75	6.67	2.34	5.38	9.84	11.21	6.06	0.00
Business Graphics	6.25	13.33	4.69	6.45	6.56	17.88	24.24	0.00
Disaster Recovery Plan	12.50	7.14	7.03	17.58	13.11	15.08	9.68	16.67
Plans for system replacement in 1983 (%)								
Yes, Same Manufacturer	18.75	14.29	9.45	10.87	3.33	10.37	18.18	0.00
Yes, Vendor Unknown	0.00	7.14	3.15	2.17	1.67	2.74	0.00	16.67
Yes, Different vendor	0.00	0.00	3.94	6.52	3.33	2.44	21.21	33.33
No	81.25	78.57	83.46	80.43	91.67	84.45	60.61	50.00

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U.S. User Ratings of Computer Systems
Table 4. Minicomputer & Small Business Computer Vendor Summaries

Alpha Micro	Altos	Burroughs	Data General	Datapoint	Digital Equipment	Four-Phase	General Automation	Manufacturer and Model / Survey Item
								Significant Advantages (%)
66.67	66.67	49.22	51.61	55.74	56.36	45.45	33.33	Users are happy with response time
86.67	86.67	67.19	55.91	91.80	66.67	39.39	0.00	System is easy to expand/reconfigure
46.67	46.67	14.84	8.60	24.59	14.24	9.09	16.67	System costs were less than expected
46.67	46.67	50.78	33.33	39.34	26.36	12.12	16.67	Programs/data carried over from other systems are compatible, as vendor promised
40.00	40.00	35.94	19.35	32.79	28.48	9.09	0.00	Terminals/peripherals carried over from other systems are compatible, as vendor promised
60.00	60.00	27.34	13.98	21.31	18.18	15.15	0.00	System is power/energy efficient
33.33	33.33	39.84	24.73	22.95	29.09	18.18	0.00	Productivity aids help us keep programming costs down
40.00	40.00	38.28	10.75	22.95	11.82	12.12	16.67	Data base language is efficient and effective
40.00	40.00	14.84	13.98	24.59	10.91	15.15	0.00	Delivery and/or installation of equipment was ahead of schedule
33.33	33.33	7.81	11.83	9.84	6.67	9.09	0.00	Delivery of required software was ahead of schedule
								Significant Problems (%)
0.00	0.00	7.03	15.05	6.56	10.91	6.06	16.67	Computer proposed by vendor was too small
0.00	0.00	27.34	10.75	13.11	13.64	27.27	0.00	Installation of equipment was late
0.00	0.00	11.72	19.35	14.75	12.73	18.18	0.00	Delivery of required software was late
0.00	0.00	9.38	15.05	8.20	14.55	12.12	0.00	System costs (for hardware, vendor-supplied software, support) exceeded the expected total
6.25	0.00	14.06	23.66	16.39	10.00	21.21	33.33	Vendor did not provide all the promised software or support
0.00	0.00	3.13	6.45	4.92	2.42	12.12	0.00	Program/data compatibility not what vendor promised
0.00	0.00	2.34	2.15	0.00	0.91	3.03	0.00	Terminals/peripherals compatibility not what vendor promised
12.50	6.67	14.06	13.98	27.87	11.82	12.12	33.33	Vendor enhancements/changes to hardware/software hard to keep up with
6.25	6.67	7.03	6.45	8.20	10.00	0.00	16.67	Equipment is excessively noisy
6.25	0.00	1.56	5.38	0.00	5.45	0.00	0.00	Power and/or cooling requirements are excessive
								System Ratings (4.0-1.0)
3.75	3.53	3.60	3.30	3.49	3.45	3.06	2.33	Ease of Operation
3.88	3.87	3.40	3.51	3.58	3.60	3.15	2.33	Reliability of Mainframe
3.56	3.53	2.85	3.17	3.25	3.27	3.00	2.50	Reliability of Peripherals
								Maintenance Service:
3.27	2.92	3.12	3.33	3.64	3.33	3.06	2.83	Responsiveness
3.36	2.92	2.92	3.19	3.30	3.20	2.88	2.83	Effectiveness
								Technical Support:
3.06	3.00	2.51	2.74	2.58	2.87	2.42	1.50	Trouble-shooting
2.71	2.93	2.52	2.52	2.66	2.81	2.34	1.33	Education
3.13	2.86	2.16	2.32	2.56	2.86	2.21	1.17	Documentation
								Manufacturer's Software:
3.81	3.40	3.57	2.97	3.43	3.37	2.83	2.00	Operating System
3.63	3.33	3.26	2.88	3.36	3.25	2.58	2.00	Compilers & Assemblers
2.93	3.27	2.55	2.68	3.13	2.95	2.61	2.00	Applications Programs
3.69	3.36	3.21	2.99	3.45	3.27	2.78	2.17	Ease of Programming
3.43	3.31	3.18	2.71	3.04	2.96	2.57	1.80	Ease of Conversion
3.63	3.53	3.15	3.07	3.43	3.33	2.76	2.17	Overall Satisfaction
								Did the system do what you expected it to do? (%)
100.00	100.00	91.27	84.27	93.44	86.97	84.38	33.33	Yes
0.00	0.00	5.56	12.36	3.28	5.45	12.50	33.33	No
0.00	0.00	3.17	3.37	3.28	7.58	3.13	33.33	Haven't decided
								Would you recommend system to another user? (%)
100.00	100.00	76.36	78.02	93.44	83.89	72.73	16.67	Yes
0.00	0.00	11.02	15.38	4.92	5.17	18.18	66.67	No
0.00	0.00	12.60	6.59	1.64	10.91	9.09	16.67	Haven't decided

U.S. User Ratings of Computer Systems
Table 4. Minicomputer & Small Business Computer Vendor Summaries

Survey Item	Harris	Hewlett-Packard	Honeywell	IBM	MAI/Basic Four	Microdata	Modcomp	NCR
No. of User Responses	15	224	36	782	34	20	5	46
No. of Systems Represented	20	306	56	877	40	24	10	50
Avg. Life of System (Mos.)	42.8	37.6	35.0	43.2	47.0	42.0	46.5	39.5
Acquisition Method (%)								
Purchase	73.33	76.47	55.56	63.76	79.41	85.00	80.00	53.33
Rental or Lease from Mfr.	26.67	9.50	25.00	23.18	0.00	0.00	20.00	28.89
Lease from 3rd Party	0.00	14.03	19.44	13.06	20.59	15.00	0.00	17.78
Principal Applications (%)								
Accounting/Billing	53.33	66.07	61.11	85.42	82.35	100.00	0.00	78.26
Banking—Check Processing/Loans/Savings	6.67	2.23	13.89	6.39	8.82	10.00	0.00	10.87
Construction/Architecture	6.67	3.57	2.78	2.56	8.82	5.00	0.00	4.35
Education—Scheduling/Administration	20.00	12.05	2.78	3.96	2.94	10.00	0.00	4.35
Engineering/Scientific	33.33	24.11	2.78	3.71	0.00	5.00	20.00	2.17
Health Care/Medical	0.00	6.25	16.67	6.65	2.94	15.00	40.00	8.70
Insurance	6.67	4.46	16.67	3.71	8.82	15.00	0.00	4.35
Manufacturing	20.00	29.46	16.67	31.59	23.53	15.00	0.00	21.74
Mathematics/Statistics	20.00	15.18	2.78	4.22	5.88	0.00	0.00	2.17
Order Processing/Inventory Control	40.00	43.75	41.67	59.59	64.71	60.00	20.00	45.65
Payroll/Personnel	33.33	42.41	44.44	62.53	55.88	35.00	0.00	60.87
Petroleum/Fuel Analysis	0.00	2.68	2.78	3.32	2.94	5.00	0.00	0.00
Process Control	6.67	2.23	5.56	4.86	5.88	5.00	20.00	4.35
Purchasing	13.33	25.45	25.00	33.12	38.24	35.00	0.00	32.61
Sales Distribution	0.00	27.23	25.00	42.71	58.82	55.00	0.00	28.26
Other	26.67	22.77	36.11	24.30	38.24	35.00	20.00	23.91
Source of Applications Programs (%)								
In-house Personnel	93.33	85.71	75.00	85.68	73.53	85.00	60.00	71.74
"Packaged" Programs from Manufacturer	20.00	41.07	44.44	41.05	32.35	30.00	20.00	63.04
Contract Programming	26.67	34.38	22.22	33.50	38.24	50.00	40.00	26.09
Manufacturer's Personnel	0.00	3.13	2.78	1.41	2.94	0.00	0.00	2.17
Proprietary Software Packages	33.33	42.41	41.67	24.30	32.35	35.00	40.00	26.09
Location of Computer (%)								
Distributed Processing Site	26.67	15.38	22.86	9.66	9.09	5.00	60.00	4.35
Central Processing Installation	73.33	84.62	77.14	90.34	90.91	95.00	40.00	95.65
Using Local Workstations/Terminals (%)	100.00	97.27	100.00	96.90	97.06	100.00	100.00	100.00
Using Remote Workstations/Terminals (%)	73.33	71.69	71.43	42.75	61.76	75.00	20.00	34.78
Using Data Base Management System (%)	46.67	88.74	33.33	30.84	29.41	95.00	0.00	21.74
Planning a Data Base Management System in 1983	13.33	5.41	25.00	10.10	14.71	0.00	0.00	6.52
Manufacturer's Package	0.00	95.38	60.00	80.00	10.00	89.47	0.00	60.00
Outside Vendor's Package	100.00	4.10	40.00	7.11	70.00	10.53	0.00	0.00
Home-Grown System	0.00	0.51	0.00	12.89	20.00	0.00	0.00	40.00
Using Communications Monitor (%)	33.33	37.02	36.11	22.78	18.75	26.32	20.00	6.82
Planning a Communications Monitor in 1983	0.00	5.29	11.11	9.03	6.25	5.26	0.00	9.09
Manufacturer's Package	80.00	82.43	69.23	83.33	50.00	80.00	0.00	100.00
Outside Vendor's Package	0.00	12.16	23.08	9.88	16.67	20.00	0.00	0.00
Home-Grown System	20.00	5.41	7.69	6.79	33.33	0.00	100.00	0.00
Using Integrated Word Processing Functions (%)	30.77	39.81	47.22	23.84	23.53	50.00	0.00	6.67
Planning Word Processing Functions in 1983	23.08	21.30	8.33	24.24	20.59	30.00	0.00	24.44
Planned Acquisitions/Implementations for 1983 (%)								
Additional Software from the Manufacturer	26.67	37.05	30.56	17.77	14.71	25.00	20.00	17.39
Proprietary Software from Other Suppliers	13.33	45.98	36.11	28.64	23.53	30.00	0.00	32.61
Expansions to Data Communications Facilities	40.00	31.70	38.89	26.09	26.47	10.00	20.00	17.39
Distributed Processing Capabilities	0.00	9.38	16.67	10.87	14.71	0.00	0.00	4.35
Expansions to Present Hardware	33.33	50.00	66.67	36.57	35.29	70.00	20.00	41.30
Another Computer System, Same Model	13.33	11.16	13.89	6.14	8.82	15.00	0.00	4.35
Business Graphics	6.67	15.63	16.67	5.50	5.88	15.00	0.00	2.17
Disaster Recovery Plan	13.33	17.94	25.71	14.69	0.00	15.00	0.00	21.74
Plans for system replacement in 1983 (%)								
Yes, Same Manufacturer	6.67	12.16	5.56	9.59	14.71	15.00	0.00	13.33
Yes, Vendor Unknown	0.00	0.90	0.00	3.45	0.00	0.00	0.00	0.00
Yes, Different vendor	20.00	1.35	2.78	2.56	14.71	5.00	0.00	4.44
No	73.73	85.59	91.67	84.40	70.59	80.00	100.00	82.22

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U.S. User Ratings of Computer Systems

Table 4. Minicomputer & Small Business Computer Vendor Summaries

Harris	Hewlett-Packard	Honeywell	IBM	MAI/Basic Four	Microdata	Modcomp	NCR	Survey Item
								Significant Advantages (%)
60.00	59.38	50.00	55.88	55.88	55.00	40.00	69.57	Users are happy with response time
46.67	80.80	86.11	68.93	50.00	75.00	20.00	78.26	System is easy to expand/reconfigure
33.33	12.50	8.33	13.30	14.71	20.00	0.00	19.57	System costs were less than expected
0.00	30.80	22.22	29.67	26.47	40.00	0.00	41.30	Programs/data carried over from other systems are compatible, as vendor promised
6.67	15.18	13.89	13.30	26.47	35.00	0.00	34.78	Terminals/peripherals carried over from other systems are compatible, as vendor promised
6.67	25.89	19.44	22.63	26.47	10.00	20.00	32.61	System is power/energy efficient
6.67	43.75	16.67	48.47	11.76	60.00	20.00	28.26	Productivity aids help us keep programming costs down
6.67	70.98	19.44	21.99	17.65	100.00	0.00	15.22	Data base language is efficient and effective
6.67	20.54	11.11	17.90	23.53	15.00	0.00	17.39	Delivery and/or installation of equipment was ahead of schedule
6.67	12.05	11.11	11.25	17.65	10.00	0.00	13.04	Delivery of required software was ahead of schedule
								Significant Problems (%)
6.67	6.25	11.11	10.49	5.88	15.00	0.00	4.35	Computer proposed by vendor was too small
13.33	8.04	16.67	3.71	5.88	0.00	0.00	4.35	Installation of equipment was late
13.33	6.25	16.67	4.60	2.94	5.00	0.00	6.52	Delivery of required software was late
6.67	10.27	11.11	7.16	17.65	25.00	0.00	13.04	System costs (for hardware, vendor-supplied software, support) exceeded the expected total
40.00	6.25	25.00	6.91	11.76	20.00	20.00	8.70	Vendor did not provide all the promised software or support
6.67	4.02	8.33	4.35	2.94	0.00	0.00	0.00	Program/data compatibility not what vendor promised
13.33	2.68	8.33	1.28	2.94	10.00	0.00	2.17	Terminals/peripherals compatibility not what vendor promised
20.00	8.48	16.67	7.16	17.65	5.00	0.00	8.70	Vendor enhancements/changes to hardware/software hard to keep up with
6.67	3.57	11.11	3.71	5.88	5.00	0.00	6.52	Equipment is excessively noisy
6.67	1.79	11.11	2.17	8.82	0.00	40.00	4.35	Power and/or cooling requirements are excessive
								System Ratings (4.0-1.0)
3.40	3.59	3.33	3.52	3.56	3.85	3.00	3.60	Ease of Operation
3.00	3.79	3.42	3.77	3.53	3.55	3.00	3.43	Reliability of Mainframe
2.67	3.59	3.29	3.60	3.33	3.37	2.60	3.29	Reliability of Peripherals
								Maintenance Service:
2.93	3.38	3.22	3.48	3.21	3.20	3.25	3.17	Responsiveness
2.73	3.47	3.08	3.46	3.19	3.20	3.00	2.98	Effectiveness
								Technical Support:
2.53	3.06	2.75	2.97	2.69	2.95	2.67	2.71	Trouble-shooting
2.40	3.07	2.81	2.92	2.42	2.89	3.00	2.75	Education
2.07	2.93	2.53	3.00	2.26	2.79	2.67	2.71	Documentation
								Manufacturer's Software:
2.73	3.44	3.14	3.38	3.26	4.00	3.00	3.22	Operating System
2.64	3.34	3.06	3.39	3.19	3.65	2.80	3.22	Compilers & Assemblers
2.36	2.96	2.56	2.90	2.83	3.18	3.00	2.74	Applications Programs
2.93	3.34	3.10	3.33	3.56	3.85	2.67	3.24	Ease of Programming
2.77	3.17	2.93	2.83	2.93	3.58	2.00	3.14	Ease of Conversion
2.67	3.45	3.03	3.38	3.18	3.65	2.20	3.35	Overall Satisfaction
								Did the system do what you expected it to do? (%)
93.33	93.30	86.11	92.42	91.18	90.00	100.00	91.30	Yes
0.00	3.57	5.56	2.19	8.82	5.00	0.00	2.17	No
6.67	3.13	8.33	5.40	0.00	5.00	0.00	6.52	Haven't decided
								Would you recommend system to another user? (%)
66.67	92.86	77.78	89.72	79.41	85.00	40.00	86.67	Yes
13.33	4.02	5.56	5.91	20.59	15.00	60.00	6.67	No
20.00	3.13	16.67	4.37	0.00	0.00	0.00	6.67	Haven't decided

U.S. User Ratings of Computer Systems

Table 4. Minicomputer & Small Business Computer Vendor Summaries

Survey Item	Perkin-Elmer	Point 4	Prime	Qantel	Tandem	Texas Instruments	Wang	Other Minicomputers
No. of User Responses	11	11	92	11	19	40	107	105
No. of Systems Represented	11	21	109	18	37	56	128	161
Avg. Life of System (Mos.)	32.5	41.1	33.3	29.7	31.5	35.4	37.0	50.8
Acquisition Method (%)								
Purchase	72.73	90.91	64.84	72.73	89.47	84.62	71.70	75.96
Rental or Lease from Mfr.	18.18	0.00	18.68	9.09	0.00	2.56	10.38	8.65
Lease from 3rd Party	9.09	9.09	16.48	18.18	10.53	12.82	17.92	15.38
Principal Applications (%)								
Accounting/Billing	45.45	81.82	59.78	100.00	42.11	67.50	68.22	62.86
Banking—Check Processing/Loans/Savings	0.00	0.00	4.35	9.09	15.79	7.50	7.48	8.57
Construction/Architecture	0.00	9.09	7.61	0.00	5.26	5.00	5.61	3.81
Education—Scheduling/Administration	9.09	9.09	15.22	0.00	10.53	12.50	6.54	10.48
Engineering/Scientific	27.27	0.00	29.35	0.00	10.53	15.00	5.61	8.57
Health Care/Medical	0.00	18.18	4.35	0.00	15.79	12.50	9.35	9.52
Insurance	0.00	0.00	4.35	0.00	0.00	0.00	10.28	4.76
Manufacturing	27.27	9.09	10.87	54.55	21.05	12.50	14.95	14.29
Mathematics/Statistics	18.18	9.09	16.30	9.09	5.26	7.50	16.82	15.24
Order Processing/Inventory Control	36.36	36.36	30.43	90.91	42.11	30.00	43.93	40.00
Payroll/Personnel	18.18	45.45	43.48	72.73	26.32	35.00	42.99	40.95
Petroleum/Fuel Analysis	0.00	0.00	3.26	9.09	5.26	0.00	0.93	4.76
Process Control	0.00	0.00	3.26	9.09	0.00	10.00	3.74	6.67
Purchasing	27.27	36.36	27.17	54.55	21.05	17.50	20.56	17.14
Sales Distribution	45.45	36.36	21.74	90.91	21.05	30.00	30.84	32.38
Other	27.27	18.18	36.96	18.18	47.37	22.50	34.58	37.14
Source of Applications Programs (%)								
In-house Personnel	72.73	81.82	85.87	63.64	84.21	52.50	74.77	79.05
"Packaged" Programs from Manufacturer	0.00	36.36	34.78	100.00	15.79	12.50	29.91	51.43
Contract Programming	27.27	27.27	27.17	45.45	42.11	22.50	41.12	30.48
Manufacturer's Personnel	0.00	9.09	3.26	0.00	5.26	0.00	0.93	3.81
Proprietary Software Packages	27.27	45.45	48.91	27.27	42.11	37.50	46.73	20.95
Location of Computer (%)								
Distributed Processing Site	9.09	9.09	3.26	9.09	10.53	12.50	15.38	18.10
Central Processing Installation	90.91	90.91	96.74	90.91	89.47	87.50	84.62	81.90
Using Local Workstations/Terminals (%)	100.00	100.00	100.00	100.00	100.00	100.00	99.07	87.50
Using Remote Workstations/Terminals (%)	54.55	80.00	82.42	27.27	94.74	55.00	41.90	48.54
Using Data Base Management System (%)	81.82	54.55	61.96	45.45	83.33	10.26	23.58	44.76
Planning a Data Base Management System in 1983	0.00	0.00	5.43	9.09	0.00	12.82	11.32	11.43
Manufacturer's Package	55.56	16.67	47.27	100.00	85.71	25.00	41.67	68.89
Outside Vendor's Package	22.22	66.67	43.64	0.00	0.00	75.00	45.83	8.89
Home-Grown System	22.22	16.67	9.09	0.00	14.29	0.00	12.50	22.22
Using Communications Monitor (%)	63.64	36.36	23.60	27.27	63.16	39.47	27.62	21.90
Planning a Communications Monitor in 1983	0.00	9.09	7.87	9.09	15.79	0.00	10.48	9.52
Manufacturer's Package	57.14	25.00	80.95	100.00	83.33	57.14	79.31	73.91
Outside Vendor's Package	42.86	75.00	9.52	0.00	8.33	35.71	13.79	21.74
Home-Grown System	0.00	0.00	9.52	0.00	8.33	7.14	6.90	4.35
Using Integrated Word Processing Functions (%)	27.27	54.55	46.59	45.45	29.41	57.50	75.00	38.46
Planning Word Processing Functions in 1983	9.09	0.00	17.05	45.45	5.88	15.00	15.38	9.62
Planned Acquisitions/Implementations for 1983 (%)								
Additional Software from the Manufacturer	18.18	18.18	27.17	45.45	42.11	25.00	18.69	31.43
Proprietary Software from Other Suppliers	36.36	36.36	43.48	9.09	52.63	37.50	33.64	21.90
Expansions to Data Communications Facilities	27.27	27.27	38.04	36.36	89.47	22.50	31.78	21.90
Distributed Processing Capabilities	9.09	0.00	11.96	9.09	15.79	15.00	14.02	12.38
Expansions to Present Hardware	36.36	45.45	55.43	45.45	78.95	55.00	58.88	35.24
Another Computer System, Same Model	18.18	18.18	9.78	9.09	31.58	2.50	7.48	16.19
Business Graphics	0.00	9.09	20.65	0.00	15.79	12.50	17.76	13.33
Disaster Recovery Plan	0.00	0.00	19.78	27.27	36.84	13.51	17.76	8.74
Plans for system replacement in 1983 (%)								
Yes, Same Manufacturer	9.09	0.00	4.35	18.18	26.32	0.00	4.67	8.74
Yes, Vendor Unknown	0.00	9.09	1.09	0.00	0.00	2.56	0.00	9.71
Yes, Different vendor	0.00	0.00	1.09	0.00	0.00	5.13	1.87	9.71
No	90.91	90.91	93.48	81.82	73.68	92.31	93.46	71.84

U.S. User Ratings of Computer Systems
Table 4. Minicomputer & Small Business Computer Vendor Summaries

Perkin-Elmer	Point 4	Prime	Qantel	Tandem	Texas Instruments	Wang	Other Minicomputers	Manufacturer and Model / Survey Item
								Significant Advantages (%)
63.64	54.55	59.78	63.64	47.37	65.00	74.77	56.19	Users are happy with response time
72.73	81.82	83.70	81.82	89.47	65.00	80.37	59.05	System is easy to expand/reconfigure
27.27	45.45	16.30	45.45	0.00	25.00	14.95	24.76	System costs were less than expected
54.55	18.18	35.87	72.73	5.26	25.00	22.43	33.33	Programs/data carried over from other systems are compatible, as vendor promised
36.36	54.55	32.61	45.45	5.26	17.50	1.87	26.67	Terminals/peripherals carried over from other systems are compatible, as vendor promised
27.27	27.27	22.83	45.45	15.79	17.50	20.56	23.81	System is power/energy efficient
9.09	27.27	39.13	36.36	63.16	22.50	63.55	25.71	Productivity aids help us keep programming costs down
18.18	36.36	32.61	45.45	36.84	5.00	16.82	31.43	Data base language is efficient and effective
18.18	45.45	29.35	27.27	36.84	20.00	13.08	22.86	Delivery and/or installation of equipment was ahead of schedule
9.09	27.27	18.48	27.27	21.05	5.00	9.35	10.48	Delivery of required software was ahead of schedule
								Significant Problems (%)
0.00	9.09	10.87	18.18	21.05	17.50	10.28	8.57	Computer proposed by vendor was too small
18.18	0.00	7.61	0.00	0.00	10.00	11.21	11.43	Installation of equipment was late
18.18	18.18	6.52	9.09	0.00	12.50	14.02	18.10	Delivery of required software was late
18.18	9.09	9.78	36.36	26.32	10.00	12.15	8.57	System costs (for hardware, vendor-supplied software, support) exceeded the expected total
18.18	27.27	15.22	9.09	5.26	20.00	14.02	18.10	Vendor did not provide all the promised software or support
0.00	9.09	6.52	9.09	10.53	5.00	3.74	6.67	Program/data compatibility not what vendor promised
0.00	0.00	1.09	0.00	0.00	5.00	1.87	2.86	Terminals/peripherals compatibility not what vendor promised
27.27	0.00	6.52	18.18	10.53	5.00	14.02	14.29	Vendor enhancements/changes to hardware/software hard to keep up with
27.27	9.09	3.26	0.00	0.00	5.00	8.41	10.48	Equipment is excessively noisy
0.00	0.00	3.26	0.00	0.00	2.50	3.74	8.57	Power and/or cooling requirements are excessive
								System Ratings (4.0-1.0)
2.91	3.45	3.56	3.73	3.47	3.44	3.77	3.48	Ease of Operation
3.73	3.64	3.66	3.82	3.79	3.50	3.67	3.49	Reliability of Mainframe
3.18	3.18	3.22	3.45	3.21	3.27	3.21	3.12	Reliability of Peripherals
								Maintenance Service:
2.64	3.20	3.28	3.55	3.47	3.05	3.19	3.24	Responsiveness
2.60	2.89	3.01	3.18	3.00	3.13	3.07	3.12	Effectiveness
								Technical Support:
2.09	2.73	2.69	2.91	3.21	2.80	2.81	2.87	Trouble-shooting
2.00	2.36	2.74	2.73	3.05	2.76	2.52	2.56	Education
2.27	2.36	2.67	2.80	3.00	2.82	2.50	2.52	Documentation
								Manufacturer's Software:
2.90	3.55	3.44	3.27	3.37	3.21	3.43	3.19	Operating System
2.50	3.38	3.09	3.30	3.11	3.23	2.51	3.09	Compilers & Assemblers
2.40	2.89	2.98	2.90	3.06	3.04	3.00	2.85	Applications Programs
3.09	3.09	3.36	3.45	3.37	3.24	3.64	3.21	Ease of Programming
3.30	2.70	3.15	3.20	2.81	3.24	3.09	2.86	Ease of Conversion
3.09	3.27	3.34	3.45	3.53	3.25	3.34	3.13	Overall Satisfaction
								Did the system do what you expected it to do? (%)
63.64	72.73	85.87	81.82	89.47	87.18	87.85	85.71	Yes
18.18	9.09	6.52	0.00	0.00	0.00	3.74	7.62	No
18.18	18.18	7.61	18.18	10.53	12.82	8.41	6.67	Haven't decided
								Would you recommend system to another user? (%)
72.73	72.73	86.96	81.82	89.47	92.50	87.74	72.38	Yes
18.18	9.09	7.61	9.09	0.00	0.00	4.72	17.14	No
9.09	18.18	5.43	9.09	10.53	7.50	7.55	10.48	Haven't decided