ASSOCIATION OF DATA PROCESSING SERVICE ORGANIZATIONS

COMPUTER SERVICES INDUSTRY

1981

INPUT

ABOUT ADAPSO

The Association of Data Processing Service Organizations (ADAPSO), founded in 1961, is a nonprofit business organization committed to meeting the needs of the multibillion dollar computer services industry. More than 450 members represent all phases of the industry — data centers, software services and products, timesharing and facilities management companies. Corporate members range from large publicly-owned companies, chains, and conglomerates with both national and international operations to small companies that service local, regional, or specialty market segments of the industry.

ADAPSO's programs are designed to protect the interests of the computer services industry from unlawful competition and unwise governmental regulations and legislation while helping to improve industry standards and management performance. As the industry voice, it is dedicated to identifying the industry to the customer as being professional and capable; to the financial community for its growth and stability; and to government to support a vigorous, independent computer services industry.

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ABOUT INPUT

INPUT provides planning information, analysis, and recommendations to managers and executives in the information processing industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions. Continuing services are provided to users and vendors of computers, communications, and office products and services.

The company carries out continuous and in-depth research. Working closely with clients on important issues, INPUT's staff members analyze and interpret the research data, then develop recommendations and innovative ideas to meet clients' needs. Clients receive reports, presentations, access to data on which analyses are based, and continuous consulting.

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

Formed in 1974, INPUT has becor clude over 100 of the world's largest and most technically advanced com

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ASSOCIATION OF DATA PROCESSING SERVICE ORGANIZATIONS, INC. (ADAPSO)

FIFTEENTH ANNUAL SURVEY OF THE COMPUTER SERVICES INDUSTRY

Based On Data For The Year 1980

Published JULY 1981

INPUT

July 1981

Dear Reader:

It is with particular pleasure that ADAPSO and INPUT present this report, the fifteenth survey of the computer services industry which ADAPSO has commissioned. We consider it the best report which has been produced in this series, and the best general report on the computer services industry available today.

Although the U.S. economy as a whole was suffering from both recession and inflation during 1980, the computer services industry had another year of impressive growth. U.S. revenue grew 21% to almost $15 billion; productivity increased 12%; and pretax profits as reported by public companies showed a 28% increase. Furthermore, industry members forecast even higher growth for the future.

We have made several changes in this year's report: it presents much information which is either new or expanded. Revenue is analyzed in more detail, including by service type and by mode of service delivery within type of company. Revenues from integrated systems sales, price increases, and acquisitions are provided from survey data. Extensive data on cost of sales, marketing, and research and development are included. The number of public companies covered in the research has been increased by 25%. And employee growth and geographic sales coverage are examined for the first time.

The survey also reflects a change in the scope of the market surveyed, and several changes in the methodology of data collection. We believe that these changes improve both the quality and the usefulness of the information contained in the survey.

INPUT and I would like to thank all computer services companies who gave of their time to provide us with the information used in this report. We also thank the entire Research & Statistics Committee, who provided direction for this survey, and particularly Lawrence Schoenberg, Chairman of ADAPSO's Research & Statistics Committee, who worked with us throughout the entire survey.

Julia L. Johnston
Director of Research & Statistics
ADAPSO

ANNUAL COMPUTER SERVICES INDUSTRY REPORT

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ANNUAL COMPUTER SERVICES INDUSTRY REPORT

EXHIBITS

1 INTRODUCTION

I INTRODUCTION

- This annual report of the computer services industry has been prepared by INPUT under a commission granted by the Asssociation of Data Processing Service Organizations (ADAPSO). It is designed for use by industry management and financial analysts.

  - ADAPSO consists of over 450 member companies and represents the interests of the computer services industry in areas such as industry statistics, legal representation, and communications to the financial community.

  - INPUT is a leading business consulting and market research company which specializes in the information industry. INPUT has studied the computer services industry in depth since 1974, and maintains several consulting programs for the industry.

- This fifteenth report differs from earlier reports in several respects:

  - Computer services offered by computer manufacturers are included for the first time.

  - Intra-industry computer services revenues, primarily from banks, insurance companies, and transportation companies, are also included for the first time.

- Inclusion of these services added $1.2 billion to 1979 revenue.

- The methodology, scope, and accuracy of the research were also improved substantially.

  - A census of all companies with more than $10 million in noncaptive U.S. computer services revenues was conducted. More than 250 companies were interviewed by telephone. One hundred and seventy-seven companies qualified for the final list.

  - A stratified random sample of more than 200 companies with less than $10 million in revenue was conducted by telephone. Ninety of these companies met the criteria for inclusion in the study.

  - Both the census and the random sample were structured to correlate with the U.S. Government Bureau of Census county business patterns statistics.

  - The above methodology resulted in revenue, employee, and productivity data which have a 90% confidence level for the industry totals within ±5%.

  - This methodology resulted in an upward revision of 1979 revenue of $1.8 billion.

  - A census of all companies who derive more than 75% of their revenues from noncaptive U.S. computer services and who publish for the public audited financial statements was conducted. More than 75 companies were reviewed.

    . Fifty-five companies were selected for inclusion in this study. Fifty-three met the above criteria.

  - Two were included which did not meet the above criteria. Both derive more than 50% of their revenues from noncaptive U.S. computer services. One derives much of its remaining revenue from foreign computer services. The other is widely recognized as a computer services firm.

  - These companies were selected for the analysis of financial ratios, particularly the profit and profit margin data.

- A mail questionnaire was sent to over 2,500 computer services companies. One hundred and eighty-six usable responses are included in this study; 165 were computer services companies and 21 were systems integrators (turnkey systems companies).

- The reader should be aware that whenever data is referred to in the text or in exhibits as "respondent," the information contained therein refers specifically to the respondents to the mail survey and may not represent the industry as a whole.

  - If a reference is to "public companies," the information pertains only to them.

  - In all other cases the information refers to all or part of the industry and is accurate within the confidence limits given above.

- Respondent and public company data have been segmented by type of company - processing services, software products, professional services, or systems integrators - based on the dominant source of revenue for each company. In some cases the data are further segmented by size of company as measured by total noncaptive U.S. computer services revenue. This facilitates comparison between type and/or size of companies on parameters such as modes of delivery, market segment, expenditures, and financial ratios.

- All revenue is presented as noncaptive U.S. revenue unless specifically labeled otherwise.

- Where fewer than five respondents provided data for the cell of an exhibit, the cell has been left empty and a notation made that insufficient data are present.

- The data for this study were gathered from March to May 1981.

- Definitions of terms used in the report are incorporated, where appropriate, in the text. A list of definitions is included in Appendix A.

- Appendix B contains a reconciliation of last year's report and this year's report of the 1979 market size.

- A data base of industry statistics is included as Appendix C.

- A copy of the mail questionnaire is in Appendix D.

- A reply form for your comments on this report is in Appendix E. Please let us have your evaluation and suggestions by completing and returning the form.

II EXECUTIVE SUMMARY

II EXECUTIVE SUMMARY

A. MARKET SIZE AND GROWTH

- The computer services industry continued its high rate of revenue growth (21%) in 1980, as shown in Exhibit II-1.

  - The industry thus far has proved to be virtually recession proof.

  - The respondents to this year's study continue to be optimistic and have targeted even higher growth for 1981 than they did for 1980.

- Total noncaptive U.S. computer services revenue was approximately $15 billion in 1980. This milestone figure was reached with only a modest increase (8%) in both the number of companies and the number of employees in the industry.

- Software products and professional services led the industry with 31% and 27% growth rates, respectively.

  - Both services are responding to and benefiting from the demands of American businesses to increase their information processing productivity in an environment where the lack of availability of skilled technical people is a major factor.

EXHIBIT II-1

U.S. COMPUTER SERVICES INDUSTRY BY COMPANY TYPE

TYPE OF COMPANY	NUMBER OF COMPANIES	NONCAPTIVE U.S. REVENUE ($ millions)		REVENUE GROWTH 1979-1980 (percent)	NUMBER OF EMPLOYEES	EMPLOYEE GROWTH 1979-1980 (percent)
		1979*	1980			
PROCESSING SERVICES	2,150	$7,550	$8,810	17%	190,000	6%
SOFTWARE PRODUCTS	1,225	2,007	2,631	31	40,100	31
PROFESSIONAL SERVICES	975	2,726	3,472	27	88,000	6
TOTAL	4,350	$12,283	$14,913	21%	318,100	8%

* SEE RECONCILIATION

- The competition in acquiring skilled people presents a challenge to these services also, but they are generally more successful in recruiting than EDP departments.

- The processing services sector of the industry is being impacted more than the other sectors by the recession.

  - INPUT estimates that processing services revenue grew 18% in 1979.

  - The slight decline to a 17% growth rate in 1980 reflects a rather remarkable performance on the part of the companies in this industry sector, many of whose customers have cut back production substantially in the wake of the recession.

  - Processing services revenue growth compares more favorably with the other computer services when it is taken into account that its growth is measured from a base that is three times as large as that of software products and more than double the base of professional services.

B. MODES OF SERVICE

- In addition to the three types of computer services, the industry may be further segmented into seven modes, which are shown in Exhibit II-2.

- Systems software products is the fastest growing mode and is expected to be the leader in growth over the next several years.

  - Growth in this sector is still largely fueled by the large mainframe users, but this is expected to be accelerated by a new force in the marketplace.

EXHIBIT II-2

U.S. COMPUTER SERVICES INDUSTRY BY SERVICE MODE

SERVICE MODE	NON CAPTIVE U.S. REVENUE ($ millions) 1979	1980	GROWTH 1979-1980 (percent)
REMOTE COMPUTING SERVICES	$3,375	$4,175	24%
BATCH SERVICES	2,907	3,141	8
FACILITIES MANAGEMENT	831	1,009	21
PROCESSING SERVICES SUBTOTAL	$7,113	$8,325	17%
APPLICATIONS SOFTWARE PRODUCTS	1,103	1,380	25
SYSTEMS SOFTWARE PRODUCTS	1,070	1,455	36
SOFTWARE PRODUCTS SUBTOTAL	$2,173	$2,835	30%
GOVERNMENT PROFESSIONAL SERVICES	1,492	1,909	28
COMMERCIAL PROFESSIONAL SERVICES	1,502	1,844	23
PROFESSIONAL SERVICES SUBTOTAL	$2,994	$3,753	25%
TOTAL	$12,280	$14,913	21%

- Systems software revenue for personal computers, already substantial after only four years of existence, is likely to explode with the introduction of larger and faster microprocessors in the next few years.

- Growth of applications software revenue will continue at an increasingly high rate in response to the needs of the users of small business and personal computers.

- Professional services sold to governments are increasing faster than those sold to the commercial segment of the market.

  - The new administration in Washington has vowed to cut back on the use of consultants which might impact the growth of professional services in this market, if action indeed takes place.

  - It is doubtful that this will occur, since these services make significant contributions to increases in productivity and the new administration is expected to recognize this.

- Remote computing services are growing three times faster than batch services.

  - This is a result of revenue continuing to migrate from a batch to a remote batch environment faster than new revenue is generated in the batch environment.

  - Small batch operations are also losing market share to interactive services, personal computers, small business computers, and integrated systems.

- Facilities management services revenue growth is aided by the professional services firms who increased their FM revenue, albeit from a small base, by 49% in 1980.

C. PRODUCTIVITY

- Productivity, as measured by revenue generated per employee, increased an extraordinary 12% in the computer services industry in 1981, as shown in Exhibit II-3. There are several reasons for this increase:

  - Processing and professional services companies are increasingly participating in the packaged software marketplace. This is done either directly, through the sale of packaged software, or indirectly, through the sale of processing services in which the software is a high value-added component, or through the sale of integrated systems, again with high value-added software.

  - These companies are increasingly entering the leveraged software business. The leverage comes from the fact that software sales are similar to book or movie sales. After the initial production costs are covered, a best-seller will produce a great deal of revenue in proportion to the number of people required to support it. Hence, packaged software not only increases the productivity of the buyer, it also increases it for the seller.

  - Another more direct and significant reason for the productivity increase is the tactics employed by many of these companies in response to the increasing threats of a major recession.

- Concerned that they might encounter lower sales as a result of the deepening recession, many companies froze hiring and systematically reduced cost wherever possible.

  - The anticipated drop in revenue never materialized for many of these companies. In fact, for the industry as a whole, revenue increased faster than it did the year before.

EXHIBIT II-3

COMPUTER SERVICES INDUSTRY PRODUCTIVITY, 1979-1980

TYPE OF COMPANY	AVERAGE REVENUE PER EMPLOYEE ($ thousands)		PERCENT CHANGE
	1979	1980	
PROCESSING SERVICES	$42	$46	11%
SOFTWARE PRODUCTS	65	66	0
PROFESSIONAL SERVICES	33	39	19
WEIGHTED AVERAGE	$42	$47	12%

- The 21% increase in revenue, accompanied by only an 8% increase in employees, translates immediately into an increase in revenue productivity.

- The only sector of the industry which did not have a significant increase in productivity, the software products companies, increased its number of employees at exactly the same rate as it increased its revenue.

  - In 1979, software products companies' productivity was over 55% greater than the processing and professional services companies', due in large part to the leverage described above. These companies can increase their productivity further, but it will not be as dramatic a rise considering the high level of productivity they already enjoy.

  - The productivity level of the software products companies does provide a target for the other participants in the industry to strive for.

D. PROFITABILITY

- Profit margins of the 55 public computer service companies remained unchanged at 12% from 1979 to 1980, as shown in Exhibit II-4. Productivity also remained constant for these companies at $42,000 per employee for each year.

- The professional services firms were the only public companies to show an increase in profit margins over the prior year.

  - Profit margins were improved by a 1% reduction in cost of operations and by a 57% reduction in interest expense.

  - The increase in profit margins accompanied by a 26% growth in revenue resulted in a 48% increase in profits for the professional services firms.

EXHIBIT II-4

PRETAX PROFIT MARGINS OF PUBLIC COMPANIES

(percent)

TYPE OF COMPANY	PRETAX PROFIT MARGINS		PROFIT GROWTH 1979-1980
	1979	1980	
PROCESSING SERVICES	13%	13%	23%
SOFTWARE PRODUCTS	10	10	29
PROFESSIONAL SERVICES	7	9	48
WEIGHTED AVERAGE	12%	12%	28%

- The public computer services companies were able to maintain profit margins in a highly inflationary year more through price increases and cost controls than through increases in revenue productivity.

- The mail survey respondents reported the same profit margin as the public companies for all company types (12%), also with no change from 1979 to 1980.

  - There were substantial differences in the margins reported for software products and professional services firms by the respondents compared to the public companies.

  - These differences are attributable to the fact that a very high percent of the respondents were private firms and were smaller than the public companies.

- In general, no correlations could be found between revenue productivity and profit margins among any of the groups of surveyed companies.

III TOTAL COMPUTER SERVICES INDUSTRY

III TOTAL COMPUTER SERVICES INDUSTRY

A. INDUSTRY ANALYSIS

- Industry growth continued to be strong in 1980, but was characterized by certain segments growing three to four times as fast as other segments for the same type of service.

  - Generally, regardless of the type of service sold, the small companies ($0.25-1 million) grew at substantially below industry rates, while the medium-sized companies ($1-10 million) were the growth leaders. The large companies grew at close to the mean rate for their categories of service, as shown in Exhibit III-1.

  - Growth rates ranged from a low of 5% for small processing service companies to a high of 51% for medium-sized software products companies.

  - Normally, one would expect small companies to grow at a faster rate than large companies because of the smaller base of revenue from which they grow.

- There are several possible reasons for this anomaly in growth rates.

EXHIBIT III-1

U.S. COMPUTER SERVICES INDUSTRY BY COMPANY TYPE AND SIZE

TYPE OF COMPANY • SIZE ($ millions)	NUMBER OF COMPANIES	REVENUE ($ millions) 1979	REVENUE ($ millions) 1980	REVENUE GROWTH 1979-1980 (percent)	NUMBER OF EMPLOYEES	EMPLOYEE GROWTH 1979-1980 (percent)
PROCESSING SERVICES						
• $0.25-1	1,250	$ 653	$ 686	5%	-	-
• 1-10	800	2,560	3,008	17	-	-
• 10-25	43	531	627	18	-	-
• >25	55	3,806	4,489	18	-	-
SUBTOTAL*	2,150	$7,550	$8,810	17%	190,000	6%
SOFTWARE PRODUCTS						
• $0.25-1	1,000	493	556	13	-	-
• 1-10	200	439	664	51	-	-
• >10	26	1,076	1,411	31	-	-
SUBTOTAL*	1,225	$2,008	$2,631	31%	41,100	31%
PROFESSIONAL SERVICES						
• $0.25-1	725	389	423	9	-	-
• 1-10	200	683	939	38	-	-
• >10	53	1,654	2,110	28	-	-
SUBTOTAL*	975	$2,726	$3,472	27%	88,000	6%
TOTAL COMPUTER SERVICES						
• $0.25-1	2,975	1,535	1,665	8	-	-
• 1-10	1,200	3,682	4,611	25	-	-
• > 10	177	7,067	8,637	22	-	-
TOTAL*	4,350	$12,284	$14,913	21%	319,100	8%

* MAY NOT TOTAL DUE TO ROUNDING

- The under $1 million companies may be encountering difficulties in this recession in convincing prospective customers that they will be around for the long term and be able to continue to service their customers. This would be particularly likely with the small processing services companies which coincidentally grew at the lowest rate (5%).

- The software products companies grew at the fastest rate for the small company category, but at the slowest rate relative to the next size category in its type (1:4.2). In addition, these companies may be encountering growth problems because new products are increasingly expensive to develop and market. Many of the major products being offered today cost more than $1 million to develop, a figure which exeeds all of these companies' annual revenues.

- A possible result of this situation is the increase in mergers and acquisitions by large firms of small software products and professional services companies.

- A trend seems to be developing for more of the large software products and professional services firms to go public. The new equity capital not only helps these companies reduce their debts, but enables them to afford investments in acquisitions and new product development.

- In addition, these companies are finding it increasingly necessary to be able to address national, rather than regional or local, markets in order to compete effectively for new business.

- Software products and professional services companies are increasing their percent of market share of the total computer services industry, as shown in Exhibit III-2.

  - If current growth rates continue, these companies combined will wrest market leadership from the processing services companies in the next several years.

EXHIBIT III-2

MARKET SHARE BY TYPE AND SIZE OF COMPANY

TYPE OF COMPANY • SIZE ($ millions)	PERCENT OF MARKET SERVED	
	1979	1980
PROCESSING SERVICES		
• $0.25-1	5%	5%
• 1-10	21	20
• 10-25	4	4
• >25	31	30
SUBTOTAL*	61%	59%
SOFTWARE PRODUCTS		
• $0.25-1	4%	4%
• 1-10	4	4
• >10	9	9
SUBTOTAL*	16%	18%
PROFESSIONAL SERVICES		
• $0.25-1	3%	3%
• 1-10	6	6
• >10	13	14
SUBTOTAL*	22%	23%
TOTAL*	100%	100%

* MAY NOT TOTAL DUE TO ROUNDING

- This is very possible because demand for these services will continue to be strong, as the cost of hardware continues to decline over that period.

- All three types of companies derive the lion's share of their revenue from their principal line of business, as shown in Exhibit III-3.

- But this is changing. All are gradually expanding into other modes of services, which can be seen by the growth rates shown in Exhibit III-4.

  - Software products and professional services modes have much higher growth rates than processing services modes within the processing services companies.

  - Processing services have a higher growth rate than professional services within the professional services companies.

  - Albeit these growth rates are from small bases, they do indicate a trend toward a more diversified base of service modes.

- Overall, productivity increased in the computer services industry, but there were some distinct exceptions to this trend, as shown in Exhibit III-5.

  - The under $10 million software products and professional services companies' productivity declined in 1980 from 1979.

  - The decline in productivity is probably due to the same causes as the slower revenue growth rates for the small companies cited above.

- The large professional services companies produced the largest increase in productivity (34%). This is due in part to their expanding geographic coverage, increase in revenue base, and maturing management.

  - Major cutbacks in the number of employees at several of the large firms at year end also contributed to this increase in productivity.

EXHIBIT III-3

REVENUE DISTRIBUTION OF SERVICE MODES BY
TYPE OF COMPANY
(percent)

SERVICE MODE	TYPE OF COMPANY			
	PROCES-SING SERVICES	SOFT-WARE PRODUCTS	PROFES-SIONAL SERVICES	TOTAL
REMOTE COMPUTING SERVICES	45%	2%	5%	28%
BATCH SERVICES	34	1	3	21
FACILITIES MANAGEMENT	10	0	3	7
PROCESSING SERVICES SUBTOTAL	89%	2%	11%	56%
APPLICATIONS SOFTWARE PRODUCTS	3	39	3	9
SYSTEMS SOFTWARE PRODUCTS	2	46	2	10
SOFTWARE PRODUCTS SUBTOTAL*	5%	85%	5%	19%
GOVERNMENT PROFESSIONAL SERVICES	3	4	44	13
COMMERCIAL PROFESSIONAL SERVICES	3	9	39	12
PROFESSIONAL SERVICES SUBTOTAL*	6%	13%	84%	25%
TOTAL*	100%	100%	100%	100%

*MAY NOT TOTAL DUE TO ROUNDING

EXHIBIT III-4

REVENUE GROWTH OF SERVICE MODES BY
TYPE OF COMPANY
(percent)

SERVICE MODE	TYPE OF COMPANY			
	PROCESSING SERVICES	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	TOTAL
REMOTE COMPUTING SERVICES	24%	20%	17%	24%
BATCH SERVICES	7	55	66	8
FACILITIES MANAGEMENT	19	0	49	21
PROCESSING SERVICES SUBTOTAL	16%	29%	35%	17%
APPLICATIONS SOFTWARE PRODUCTS	21	26	32	25
SYSTEMS SOFTWARE PRODUCTS	19	40	18	36
SOFTWARE PRODUCTS SUBTOTAL	20%	33%	26%	30%
GOVERNMENT PROFESSIONAL SERVICES	29	29	28	28
COMMERCIAL PROFESSIONAL SERVICES	15	16	25	23
PROFESSIONAL SERVICES SUBTOTAL	22%	20%	26%	25%
TOTAL	17%	31%	27%	21%

EXHIBIT III-5

PRODUCTIVITY BY TYPE AND SIZE OF COMPANY

TYPE OF COMPANY • SIZE ($ millions)	AVERAGE REVENUE PER EMPLOYEE ($ thousands)		PERCENT CHANGE
	1979	1980	
PROCESSING SERVICES			
• <$10	$37	$40	10%
• >$10	47	52	10
SUBTOTAL	$42	$46	11%
SOFTWARE PRODUCTS			
• <$10	74	66	(12)
• >$10	59	66	11
SUBTOTAL	$65	$66	0%
PROFESSIONAL SERVICES			
• <$10	43	41	(5)
• >$10	29	39	34
SUBTOTAL	$33	$39	19%
TOTAL COMPUTER SERVICES			
• <$10	42	44	5
• >$10	42	49	15
TOTAL	$42	$47	12%

B. PUBLIC COMPANY ANALYSIS

- The under $10 million category of public processing services companies produced a major improvement in profit margins in 1980, as shown in Exhibit III-6.

  - The next larger category had a smaller improvement while the large processing companies' margins declined.

  - The large public processing services companies had increases in their operating costs which impacted their margins. These increases were largely in the cost of sales which were caused by increased travel costs. Travel costs affect these companies more than the smaller ones because of the national scope of their sales efforts.

- Overall, the profit performance of the public computer services companies was above average when compared to the rest of American industry. The performance was exceptional considering it occurred in a major recession year.

- Selected financial ratios for public computer services companies are presented in Exhibit III-7, and the changes in the ratios from 1979 to 1980 are shown in Exhibit III-8.

- After tax return on equity is lower for processing services companies than it is for professional services, and much lower than for software products companies. This is a result of the larger equity base required to finance the hardware required for processing services.

- The professional services companies are more involved in processing services than are the software products companies.

EXHIBIT III-6

PRETAX PROFIT MARGINS OF
PUBLIC COMPANIES BY TYPE AND SIZE

(percent)

TYPE OF COMPANY • SIZE ($ millions)	PRETAX PROFIT MARGINS		PROFIT GROWTH 1979-1980
	1979	1980	
PROCESSING SERVICES			
• $1-10	7%	10%	63%
• 10-25	11	12	13
• >25	14	13	23
TOTAL	13%	13%	23%
SOFTWARE PRODUCTS	10	10	29
PROFESSIONAL SERVICES	7	9	49
WEIGHTED AVERAGE	12%	12%	28%

EXHIBIT III-7

FINANCIAL RATIOS FOR PUBLIC COMPANIES, 1980

ITEM	FINANCIAL RATIOS			
	PROCESSING SERVICES	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	INDUSTRY AVERAGE
CURRENT RATIO	1.78	2.02	1.41	1.67
AFTER-TAX RETURN ON EQUITY	18.1%	53.0%	27.3%	22.0%
LONG-TERM DEBT AS A PERCENT OF EQUITY	18.3%	72.2%	55.9%	27.7%
TRADE RECEIVABLES TURNOVER (DAYS)	57.2	84.7	80.6	66.3
ASSET TURNOVER	1.39	1.17	1.89	1.48
RETURN ON ASSETS	10.9%	20.4%	8.8%	11.4%
WORKING CAPITAL AS A PERCENT OF TOTAL ASSETS	19.2%	31.2%	19.9%	20.6%

CHANGE IN FINANCIAL RATIOS OF PUBLIC COMPANIES, 1979-1980

ITEM	PERCENT CHANGE IN FINANCIAL RATIOS			
	PROCESSING SERVICES	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	INDUSTRY CHANGE
CURRENT RATIO	6.2%	16.1%	(4.1%)	3.9%
AFTER TAX RETURN ON EQUITY	(13.2)	25.7	6.7	(1.7)
LONG-TERM DEBT AS A PERCENT OF EQUITY	(27.8)	(34.8)	(24.6)	(24.6)
TRADE RECEIVABLES TURNOVER (DAYS)	2.5	0.2	(0.4)	1.5
ASSET TURNOVER	(23.3)	(34.1)	(2.6)	(5.7)
RETURN ON ASSETS	(5.8)	67.6	13.6	6.3
WORKING CAPITAL AS A PERCENT OF TOTAL ASSETS	8.4	11.7	(9.6)	6.0

- Processing services companies have a much better trade receivables turnover than the other types of services because of their customers' dependency on applications which the processing services company can decline to run if a customer doesn't pay a bill promptly.

- One should take into consideration when comparing trade receivables turnover for the computer services industry that revenue recognition may be taking place before bills actually become payable, thus indicating a longer and not directly comparable collection period.

- Liquidity is high for all three types of service. Software products companies' current ratio is especially good at 2.02 after a 16% increase over 1979.

- All the companies reduced their long-term debt as a percent of equity.

  - In a year noted for high interest rates, this is not surprising.

  - An unusually large number of companies made public offerings of stock in 1980 in order to reduce this ratio and their interest cost.

- Balance sheet data are presented in Exhibit III-9 for 1980. Changes in balance sheet data from 1979 to 1980 are shown in Exhibit III-10.

C. TRENDS IN COMPUTER SERVICES COMPANIES

- The revenue distribution of responding computer services companies is shown in Exhibit III-11.

  - Foreign revenue accounted for 17% of all noncaptive computer services revenue in 1980.

EXHIBIT III-9

BALANCE SHEET ITEMS OF PUBLIC COMPANIES, 1980

(percent)

ITEM	BALANCE SHEET ITEM COMPARISONS			
	PROCESSING SERVICES	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	INDUSTRY AVERAGE
SELECTED ASSETS				
TRADE RECEIVABLES AS A PERCENT OF TOTAL ASSETS	25.0%	32.7%	48.1%	31.0%
CURRENT ASSETS AS A PERCENT OF TOTAL ASSETS	43.7	61.7	68.3	51.1
SELECTED LIABILITIES				
CURRENT LIABILITIES AS A PERCENT OF TOTAL LIABILITIES	62.3	49.6	71.5	63.6
LONG-TERM DEBT LESS CURRENT PORTION AS A PERCENT OF TOTAL LIABILITIES	28.13	45.3	26.6	29.87
DEFERRED TAXES AS A PERCENT OF CURRENT LIABILITIES	9.6	5.0	1.9	6.5
EQUITY				
EQUITY AS A PERCENT OF TOTAL ASSETS	60.6	38.6	32.2	51.9

CHANGE IN BALANCE SHEET ITEMS OF PUBLIC COMPANIES, 1979-1980

ITEM	PERCENT CHANGE IN BALANCE SHEET ITEM COMPARISONS 1979-1980			
	PROCESSING SERVICES	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	INDUSTRY AVERAGE
SELECTED ASSETS				
TRADE RECEIVABLES AS A PERCENT OF TOTAL ASSETS	(0.8%)	(31.1%)	(3.2%)	(4.6%)
CURRENT ASSETS AS A PERCENT OF TOTAL ASSETS	(0.2)	(5.9)	(0.6)	(0.1)
SELECTED LIABILITIES				
CURRENT LIABILITIES AS A PERCENT OF TOTAL LIABILITIES	5.3	(6.3)	6.7	4.1
LONG-TERM DEBT LESS CURRENT PORTION AS A PERCENT OF TOTAL LIABILITIES	(12.2)	0.6	(17.4)	(10.3)
DEFERRED TAXES AS A PERCENT OF CURRENT LIABILITIES	8.5	155.7	150.5	15.9
EQUITY				
EQUITY AS A PERCENT OF TOTAL ASSETS	8.5	33.3	6.5	8.2

EXHIBIT III-11

REVENUE DISTRIBUTION OF RESPONDING
COMPUTER SERVICES COMPANIES

TYPE OF COMPANY	REVENUE TYPE AS PERCENT OF TOTAL COMPANY REVENUE						
	COMPUTER SERVICES			TOTAL COMPUTER SERVICES	INTEGRATED SYSTEMS	OTHER	TOTAL*
	CAPTIVE	NONCAPTIVE FOREIGN	NONCAPTIVE U.S.				
PROCESSING SERVICES							
1979	7%	16%	73%	95%	1%	4%	100%
1980	7	16	72	94	2	4	100
SOFTWARE PRODUCTS							
1979	0	22	76	98	1	1	100
1980	0	23	73	96	2	2	100
PROFESSIONAL SERVICES							
1979	0	9	90	99	1	0	100
1980	0	12	87	99	1	0	100
TOTAL							
1979	5%	15%	77%	96%	1%	3%	100%
1980	5	15	75	95	2	3	100

* MAY NOT TOTAL DUE TO ROUNDING

- This revenue is growing faster than U.S. noncaptive revenue and is becoming increasingly important.

- INPUT estimates that computer services companies, exclusive of computer manufacturers, generated $1 billion in revenue from the sale of services in foreign markets in 1980.

- Although a significant percent of processing services and software products companies, particularly the larger ones, are offering integrated systems, they still only accounted for 2% of the respondents' revenues in 1980.

- Exhibit III-12 shows that the respondents generally reported higher growth rates than actually occurred in the industry from 1979 to 1980.

  - Overall, the industry grew at 21% compared to the respondents' growth of 25%.

  - A large part of the difference may be accounted for by the fact that industry growth takes into account the effect of acquisitions whereas the respondents' growth does not.

  - A larger factor is that the respondents are not representative of the industry in terms of the profile of the companies that responded.

  - Although not representative of the industry, a large number of companies did respond to the questionnaire and do provide interesting and useful data.

- The main point to be derived from Exhibit III-12 is that the 165 respondents in computer services continue to be very optimistic about their future revenue growth rates.

  - The respondents missed their targeted 1980 revenue of 27% by only 2%.

EXHIBIT III-12

RESPONDENTS' TARGETED AND ACTUAL GROWTH RATES

TYPE OF COMPANY • SIZE ($ millions)	WEIGHTED AVERAGE PERCENT GROWTH RATES		
	ACTUAL	TARGETED	
	1980	1980	1981
PROCESSING SERVICES			
• $0.25-1	18%	24%	25%
• 1-10	15	27	23
• 10-25	25	29	26
• >25	24	24	28
SUBTOTAL	23%	25%	28%
SOFTWARE PRODUCTS			
• $0.25-1	36	44	101
• 1-10	63	77	62
• >10	25	34	34
SUBTOTAL	34%	45%	44%
PROFESSIONAL SERVICES			
• $0.25-1	80	159	153
• 1-10	19	26	32
• >10	28	28	29
SUBTOTAL	27%	29%	32%
TOTAL	25%	27%	30%

- Their target of 30% for 1981 shows that the respondents do not expect a recession or any other major factors to hinder their growth in 1981.

- Processing services companies between $1 and $25 million in size have lowered their targets for growth in 1981 compared to 1980. This is a reflection of the difficulties they encountered in 1980 and expect to continue to encounter in 1981.

- Nearly one fifth of the respondents' growth in revenue in 1979 and 1980 came from price increases, as shown in Exhibit III-13.

  - They are projecting that 20% of their 1981 growth will come from price increases.

  - Though the recession has not reduced companies' growth by very much, these price increases certainly indicate that they are being influenced by inflation.

  - Unfortunately, their costs are increasing at least as fast as their prices so that profit margins are remaining basically the same.

- Software products companies have been the most successful in holding the line on price increases.

- Processing services and professional services companies both forecast that they are going to increase their acquisition activity in 1981. This is an extension of a trend for the processing services companies, but a relatively new phenomenon for the professional services companies.

- The fastest growing use of processing services, according to respondents, is transaction processing at 29%, as shown in Exhibit III-14.

  - This high growth rate is more a reflection of the large number of batch services acquisitions in 1980 than real growth.

EXHIBIT III-13

IMPACT OF PRICE INCREASES AND ACQUISITIONS ON RESPONDENTS' GROWTH

TYPE OF COMPANY • GROWTH FACTOR	REVENUE GROWTH, 1979-1980 (percent)		
	ACTUAL		FORECAST
	1979	1980	1981
PROCESSING SERVICES			
• PRICE INCREASES	20%	23%	23%
• ACQUISITIONS	2	3	5
• REAL GROWTH	78	74	72
GROWTH	100%	100%	100%
SOFTWARE PRODUCTS			
• PRICE INCREASES	7	6	7
• ACQUISITIONS	0	3	0
• REAL GROWTH	93	91	93
GROWTH	100%	100%	100%
PROFESSIONAL SERVICES			
• PRICE INCREASES	19	19	21
• ACQUISITIONS	0	2	3
• REAL GROWTH	81	79	76
GROWTH	100%	100%	100%
TOTAL COMPUTER SERVICES			
• PRICE INCREASES	17	19	20
• ACQUISITIONS	1	3	3
• REAL GROWTH	82	78	77
TOTAL GROWTH	100%	100%	100%

EXHIBIT III-14

USE OF PROCESSING SERVICES SOLD BY RESPONDING COMPANIES

USE OF PROCESSING SERVICES	PERCENT OF PROCESSING SERVICES REVENUE		1979/1980 PERCENT GROWTH
	1979	1980	
PROBLEM SOLVING AND DATA BASE MANAGEMENT SERVICES	36%	35%	18%
TRANSACTION PROCESSING SERVICES	45	48	29
VENDOR DATA BASE SERVICES	7	5	-3
UTILITY SERVICES	12	12	19
TOTAL	100%	100%	22%

107 RESPONDENTS

- The negative growth of vendor data base services is somewhat unexpected. This may be because this is a type of use with which companies have the most difficulty identifying revenue and growth.

- Processing revenue which could be identified by use of services grew at a slightly lower rate (22%) then did processing services in general (23%) for the respondents. The implication is that there may be other faster growing uses of processing services which were not categorized in this study.

- Respondents were asked to report what percent of their revenue was industry specific. One hundred and seventeen of the 165 respondents answered this question.

  - They reported that 86% of their revenue was industry specific. This revenue is shown in Exhibit III-15.

  - The revenue in the table represents 62% of the revenue reported by all 165 respondents.

- Respondents interpreted the question in two ways:

  - Some responded with the revenue from products that are marketed only to specific industries.

  - Others responded with all revenues according to the industry sector of the purchaser of the services.

  - The result was mixed data that are difficult to interpret.

- Most of the large respondents and virtually all the professional services companies reported all their revenue sold to all industry sectors, so the information is primarily a reflection of the repondent's customer base by industry sector.

EXHIBIT III-15

INDUSTRY-SPECIFIC REVENUE OF:
RESPONDING COMPUTER SERVICES COMPANIES

INDUSTRY	1979		1980		1979/1980 PERCENT CHANGE
	REVENUE ($ millions)	PERCENT OF TOTAL	REVENUE ($ millions)	PERCENT OF TOTAL	
DISCRETE MANUFACTURING	$ 167	13%	$ 206	13%	23%
PROCESS MANUFACTURING	90	7	118	7	31
TRANSPORTATION	19	2	23	1	20
UTILITIES	67	5	71	4	5
BANKING AND FINANCE	133	11	179	11	34
INSURANCE	52	4	75	5	36
MEDICAL	97	8	133	8	37
EDUCATION	5	0	7	1	40
RETAIL	44	4	58	4	31
WHOLESALE	46	4	63	4	37
FEDERAL GOVERNMENT	314	25	374	23	19
STATE AND LOCAL GOVERNMENT	48	4	59	4	21
SERVICES (CPAs, LAWYERS, ETC.)	92	7	136	9	49
OTHER	82	7	95	6	16
TOTAL*	$1,255	100%	$1,598	100%	27%

*MAY NOT TOTAL EXACTLY DUE TO ROUNDING

- The revenue of the reporting companies grew 25% from 1979 to 1980 while their industry-specific revenue grew at a slightly higher rate (27%).

  - Many of the high-growth industry sectors were from those which had relatively small proportions of the total revenue.

  - Industries with sizable bases of revenue and above average growth rates included banking and finance (34%), services (49%), and medical (37%).

  - The Federal Government sector was the largest as a percent of revenue (23%), but way below average in growth (19%).

- Most of the better growth opportunities are in the service sectors as opposed to the industrial and government sectors.

- A profile of the respondents' geographic sales coverage is shown in Exhibit III-16.

  - A much larger percent of the software products companies (82%) and professional services companies (63%) reported that they had national or international sales coverage than did the processing services companies (51%).

  - More than half (51%) of the software products companies reported that they had international sales coverage.

  - Since only 17% of the responding computer services companies' non-captive revenue comes from foreign sources and that revenue grew 36% from 1979 to 1980 (see Appendix C, Exhibit C-9) then the level of foreign sales coverage implies major opportunities in overseas markets for computer services. This is especially important to the software products companies.

EXHIBIT III-16

GEOGRAPHIC SALES COVERAGE OF
RESPONDING COMPUTER SERVICES COMPANIES

GEOGRAPHIC COVERAGE	TYPE OF COMPANY							
	PROCESSING SERVICES		SOFTWARE PRODUCTS		PROFESSIONAL SERVICES		TOTAL	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
LOCAL	16	17%	0	0%	5	12%	21	13%
REGIONAL	30	32	3	10	10	24	43	26
NATIONAL	24	25	9	31	14	34	47	28
INTERNATIONAL	25	26	17	51	12	29	54	33
TOTAL	95	100%	29	100%	41	100%	165	100%

- Only 10% of the software products companies reported that they had only local or regional sales coverage.

- Processing services companies have by far the largest number of foreign sales offices (201) of the three service types, as shown in Exhibit III-17. Only two professional service firms reported having foreign offices, but they averaged 20 offices per company which was the highest reported.

- Thirty-three percent of all respondents report international sales coverage, but only 19% actually have foreign sales offices.

  - Some of them must be selling through foreign distributors and/or marketing directly through advertising, the mail, or travel from U.S. offices.

- Foreign sales are much more significant than the statistics above would indicate.

  - The dollar strengthened by about 25% relative to a number of major foreign currencies in the past year.

  - Foreign sales held up well in spite of the products getting more expensive in terms of local foreign currencies which is an indication of how strong the demand is for U.S. produced computer services.

- With few exceptions, most types and sizes of respondent companies reported that their cost of sales as a percent of revenue increased in 1980 over 1979, as shown in Exhibit III-18.

  - The small companies generally reported lower cost of sales than did the large ones in spite of the fact that they reported a cost of marketing less frequently and included that in the cost of sales figure.

- Cost of marketing as a percent of revenue is shown in Exhibit III-19.

EXHIBIT III-17

FOREIGN SALES OFFICES OF
COMPUTER SERVICES COMPANY RESPONDENTS

TYPE OF COMPANY	TOTAL NUMBER OF RESPON-DENTS	RES-PONDENTS WITH FOREIGN OFFICES	TOTAL NUMBER OF FOREIGN OFFICES	AVERAGE NUMBER OF FOREIGN OFFICES
PROCESSING SERVICES	95	18	201	11
SOFTWARE PRODUCTS	29	12	90	8
PROFESSIONAL SERVICES	41	2	39	20
TOTAL	165	32	330	15

EXHIBIT III-18

COST OF SALES BY TYPE AND SIZE OF RESPONDENT

TYPE OF COMPANY • SIZE ($ millions)	AVERAGE PERCENT OF REVENUE	
	1979	1980
PROCESSING SERVICES		
• $0.25-1	18%	21%
• 1-10	21	24
• 10-25	20	19
• >25	20	22
SOFTWARE PRODUCTS		
• $0.25-1	19	21
• 1-10	26	29
• >10	31	30
PROFESSIONAL SERVICES		
• $0.25-1	12	13
• 1-10	25	25
• >10	23	24

EXHIBIT III-19

COST OF MARKETING BY TYPE AND SIZE OF RESPONDENT

TYPE OF COMPANY • SIZE ($ millions)	AVERAGE PERCENT OF REVENUE	
	1979	1980
PROCESSING SERVICES		
• $0.25-1	5%	7%
• 1-10	9	5
• 10-25	*	*
• >25	8	8
SOFTWARE PRODUCTS		
• $0.25-1	10	11
• 1-10	10	14
• >10	4	5
PROFESSIONAL SERVICES		
• $0.25-1	17	15
• 1-10	7	8
• >10	2	4

* INSUFFICIENT DATA

- For comparative purposes, companies reviewing costs of sales and marketing should look at the figures combined as well as separately, because some respondents did combine these data on their questionnaires under sales.

- The large companies generally reported a lower cost of marketing than did the small companies of all types. This is because many marketing expenses do not rise as rapidly as the revenue they support. There is a more efficient use of marketing activities in large companies.

- Research and development expenditures are predictably higher in software products companies than in the other types of services, as shown in Exhibit III-20:

  - The small professional services firms' relatively large expenditures on research and development are probably a result of their efforts to expand into the software products business.

  - All the research and development expenditures are substantially higher than the expenditures reported by the public companies. The expenditures reported by public companies are probably understated for accounting reasons.

  - The levels of expenditure for R&D seem appropriate to sustain future growth.

- The U.S. Congress has been considering implementing incentives to businesses which increase their expenditures for research and development. If the Federal Government provided a direct tax credit for increases in research and development expenditures, the respondents to this survey indicated that they would increase their R&D expenditures by 22%, as shown in Exhibit III-21.

  - The small firms reported that they would make a higher investment than did the large firms.

EXHIBIT III-20

RESEARCH AND DEVELOPMENT COST BY TYPE AND SIZE OF RESPONDENT

TYPE OF COMPANY • SIZE ($ millions)	AVERAGE PERCENT OF REVENUE	
	1979	1980
PROCESSING SERVICES		
• $0.25-1	8%	8%
• 1-10	9	8
• 10-25	6	*
• >25	5	5
SOFTWARE PRODUCTS		
• $0.25-1	26	22
• 1-10	17	14
• >10	21	21
PROFESSIONAL SERVICES		
• $0.25-1	24	15
• 1-10	4	6
• >10	*	1

* INSUFFICIENT DATA

EXHIBIT III-21

PROJECTED IMPACT OF DIRECT TAX CREDIT ON RESPONDENTS' R&D EXPENDITURES

TYPE OF COMPANY • SIZE ($ millions)	PERCENT INCREASE (WEIGHTED AVERAGE)
PROCESSING SERVICES	
• $0.25-1	44%
• 1-10	25
• 10-25	2
• >25	19
SUBTOTAL	20%
SOFTWARE PRODUCTS	
• $0.25-1	13
• 1-10	25
• >10	21
SUBTOTAL	21%
PROFESSIONAL SERVICES	
• $0.25-1	31
• 1-10	18
• >10	*
SUBTOTAL	32%
TOTAL COMPUTER SERVICES	
• $0.25-1	29
• 1-10	24
• 10-25	17
• >25	21
TOTAL	22%

* INSUFFICIENT DATA

- Professional services firms showed a greater willingness to invest in R&D under these circumstances than did the other types of services.

- The number of computer services companies selling and installing integrated systems has been rising for the past few years and is projected to increase in 1981 according to respondents, as shown in Exhibit III-22.

  - The number of processing services companies offering this type of product is larger and growing faster than the number of software products and professional services companies.

  - Software products companies are the least involved in this market, yet the growth rate of installations for them is the fastest, as shown in Exhibit III-23.

  - Processing services companies had a huge increase (384%) in installations between 1979 and 1980, but they are forecasting installing 14% fewer systems in 1981 than in 1980.

  - The slowdown is probably a result of the prior year's tremendous growth and the difficulties that come with having to service and maintain such a greatly increased base of installations.

- The overall growth in installations of integrated systems over the past three years of 51% by computer services companies shows how aggressively these firms are taking advantage of the lowering cost of hardware.

- With a number of new product announcements in 1980, user site hardware services (USHS) are now being offered by virtually all the major processing services companies.

  - These offerings represent still another way that computer services firms are taking advantage of lower priced hardware.

EXHIBIT III-22

COMPUTER SERVICES RESPONDENTS' REPORTING/PROJECTING
INTEGRATED SYSTEMS INSTALLATIONS

TYPE OF COMPANY	PERCENT OF RESPONDENTS REPORTING/PROJECTING INSTALLING INTEGRATED SYSTEMS		
	1979	1980	1981
PROCESSING SERVICES	21%	28%	36%
SOFTWARE PRODUCTS	10	17	17
PROFESSIONAL SERVICES	20	22	24
TOTAL COMPUTER SERVICES	19%	25%	30%

EXHIBIT III-23

RESPONDENTS' REPORTED/PROJECTED INSTALLATIONS OF INTEGRATED SYSTEMS

TYPE OF COMPANY	NUMBER OF YEARLY INSTALLATIONS			AVERAGE ANNUAL GROWTH RATE 1979-1981 (percent)
	1979	1980	1981	
PROCESSING SERVICES	135	654	565	105%
SOFTWARE PRODUCTS	14	36	117	190
PROFESSIONAL SERVICES	138	154	181	15
TOTAL COMPUTER SERVICES	287	844	863	73
SYSTEMS INTEGRATORS	1,360	1,940	2,897	46
TOTAL	1,647	2,784	3,760	51%

- The range in USHS is very broad, extending from intelligent terminals to IBM 4300 type systems and equivalents.

- Respondents rated how a number of major factors had impacted their businesses in 1980 and projected their anticipated impact by 1985, as shown in Exhibit III-24.

  - The lack of availability of skilled technical personnel is viewed as having the most serious detrimental effect on the companies in the industry.

  - But the still close to neutral rating of 4.0 indicates that this as well as the other factors, all rated less negatively, are not really hurting the firms very much.

- Customers' positive policies toward distributed data processing and new telecommunications offerings are expected to benefit companies in the industry the most.

- Entry into the computer services industry by other types of companies is viewed as more threatening in the future, but still not to an alarming degree.

- The success of mass marketing techniques in the personal computer marketplace has not gone unnoticed by the computer services companies which indicate by their rating that they will be doing more of this type of marketing in the future.

EXHIBIT III-24

IMPACT OF MAJOR FACTORS ON COMPUTER SERVICES COMPANIES

FACTORS AFFECTING COMPANY GROWTH	MEAN RATING* OF IMPACTS FOR ALL RESPONDENTS		
	IN 1980	BY 1985	CHANGE
RECESSION	4.4	4.6	0.2
ENTRY INTO COMPUTER SERVICES OF:			
BANKS	4.6	4.4	(0.2)
CPA FIRMS	4.4	4.1	(0.3)
TELEPHONE COMPANIES (AT&T, ETC.)	4.8	4.5	(0.3)
OTHERS (IBM, EXXON, AMERICAN EXPRESS)	4.7	4.3	(0.4)
COMPETITION FROM OTHER COMPUTER SERVICE FIRMS	4.4	4.3	0.1
FIRMWARE	4.8	4.9	0.1
NEW TELECOMMUNICATION OFFERINGS	5.3	6.1	0.8
REDUCTION IN EFFECTIVE COST TO END USERS DUE TO:			
MINI/MICRO COMPUTERS	5.5	6.1	0.6
INTEGRATED SYSTEMS (TURNKEY)	5.1	5.7	0.6
NEW MAINFRAMES	5.5	6.2	0.7
CUSTOMERS' POSITIVE POLICY TOWARD DISTRIBUTED DATA PROCESSING	5.9	6.8	0.9
FACTORS AFFECTING COMPANY PROFIT MARGINS			
LACK OF AVAILABILITY OF SKILLED TECHNICAL STAFF	4.0	4.1	0.1
INFLATION	4.1	4.2	0.1
PERSONNEL PRODUCTIVITY	4.8	5.2	0.3
LOW-COST MASS MARKETING (RETAIL,MAIL)	5.3	5.6	0.3

* RATING BASED ON A SCALE OF 0 TO 10; WHERE 0 INDICATES A VERY NEGATIVE IMPACT, 5 INDICATES NO IMPACT, AND 10 INDICATES A VERY POSITIVE IMPACT ON THE RESPONDENT'S COMPANY.

IV PROCESSING SERVICES COMPANIES

IV PROCESSING SERVICES COMPANIES

A. INDUSTRY ANALYSIS

- More than 2,000 processing services companies produced nearly $9 billion in revenue in 1980.

  - Ninety-seven had $10 million or more in processing services revenue.

  - Nine had more than $100 million in processing services revenue.

- Remote computing services is the predominant mode among processing services companies with 45% of their revenue, as shown in Exhibit IV-1.

  - Nearly half the revenue of the over $10 million companies came from RCS.

  - The smallest companies continue to offer primarily batch services, which are growing slower than the other service modes.

- The largest companies are the most diversified, deriving a larger percent of their income from software products and professional services than the smaller firms.

EXHIBIT IV-1

REVENUE DISTRIBUTION BY SERVICE MODES OF PROCESSING SERVICES COMPANIES, 1980

SERVICE MODE	PERCENT OF TOTAL REVENUES SIZE OF COMPANY ($ millions)				
	$0.25-1	$1-10	$10-25	>$25	TOTAL
REMOTE COMPUTING SERVICES	24%	43%	49%	49%	45%
BATCH SERVICES	67	40	26	26	34
FACILITIES MANAGEMENT	0	6	18	13	10
PROCESSING SERVICES SUBTOTAL	91%	89%	94%	88%	89%
APPLICATIONS SOFTWARE PRODUCTS	2	5	0	2	3
SYSTEMS SOFTWARE PRODUCTS	0	0	1	4	2
SOFTWARE PRODUCTS SUBTOTAL	2%	5%	2%	5%	5%
GOVERNMENT PROFESSIONAL SERVICES	0	3	2	4	3
COMMERCIAL PROFESSIONAL SERVICES	7	2	3	3	3
PROFESSIONAL SERVICES SUBTOTAL	7	5	5	7	6
TOTAL*	100%	100%	100%	100%	100%

* MAY NOT TOTAL DUE TO ROUNDING

- Processing services companies' fastest growing source of income is from professional services sold to government, but this is still a very small portion (3%) of their overall business, as shown in Exhibit IV-2.

  - Remote computing services will continue to be the most important service mode to these companies as it continues to grow at a high rate (24%) over its fairly substantial base of revenue.

  - The small processing services firms are losing ground to the large firms as their major source of revenue, batch services, grew only 6% from 1979 to 1980.

  - Facilities management services are growing faster in the over $25 million companies. This is due in some cases to the conversion of RCS and batch services to long-term agreements in order to meet cost pressures caused by lower priced hardware and intense competition from other processing services companies.

B. TRENDS IN PROCESSING SERVICES COMPANIES

- Processing services respondents reported the most significant growth was from foreign noncaptive computer services which grew 27% from 1979 to 1980, as shown in Exhibit IV-3.

  - Integrated systems grew much more rapidly (118%), but represent a very small proportion (2%) of the revenue.

  - The small companies (under $10 million) have the greatest involvement in integrated systems.

EXHIBIT IV-2

REVENUE GROWTH BY SERVICE MODES OF
PROCESSING SERVICES COMPANIES, 1979-1980

SERVICE MODE	REVENUE GROWTH 1979-1980 (percent)				
	SIZE OF COMPANY ($ millions)				TOTAL
	$0.25-1	$1-10	$10-25	>$25	
REMOTE COMPUTING SERVICES	1%	36%	21%	20%	24%
BATCH SERVICES	6	1	12	13	7
FACILITIES MANAGEMENT	0	15	15	21	19
PROCESSING SERVICES SUBTOTAL	5%	16%	18%	18%	16%
APPLICATIONS SOFTWARE PRODUCTS	14	23	100	19	21
SYSTEMS SOFTWARE PRODUCTS	0	0	33	19	19
SOFTWARE PRODUCTS SUBTOTAL	14%	14%	13%	19%	20%
GOVERNMENT PROFESSIONAL SERVICES	0	43	11	23	29
COMMERCIAL PROFESSIONAL SERVICES	13	30	24	10	15
PROFESSIONAL SERVICES SUBTOTAL	13	37	19	18	22
TOTAL	5%	17%	18%	18%	17%

EXHIBIT IV-3

REVENUE DISTRIBUTION OF RESPONDING
PROCESSING SERVICES COMPANIES, 1980

SIZE OF COMPANY ($ millions)	REVENUE TYPE AS A PERCENT OF TOTAL COMPANY REVENUE						
	COMPUTER SERVICES			TOTAL COMPUTER SERVICES	INTE-GRATED SYSTEMS	OTHER	TOTAL
	CAPTIVE	NONCAPTIVE FOREIGN	NONCAPTIVE U.S.				
$0.25-1							
• 1980	13%	1%	77%	90%	5%	5%	100%
• GROWTH 1979-1980	55	33	24	27	76	6	28
$1-10							
• 1980	11	16	57	84	6	10	100
• GROWTH 1979-1980	14	79	15	23	44	12	23
$10-25							
• 1980	4	23	68	95	3	3	100
• GROWTH 1979-1980	78	4	25	20	55	59	22
$>25							
• 1980	7	15	74	96	1	3	100
• GROWTH 1979-1980	28	26	24	24	268	27	26
TOTAL							
• 1980	7%	16%	72%	94%	2%	4%	100%
• GROWTH 1979-1980	27%	27%	23%	24%	118%	24%	25%

95 RESPONDENTS

- A disproportionate number of large companies responded to the survey which is reflected in the overall growth rate of 25% which is significantly higher than the industry growth rate for these companies.

- Seventy-five of the 95 processing services company respondents reported that they received some of their revenue from industry-specific sources.

  - Many of the companies reported that 100% of their revenue was industry-specific. This indicates that they were responding with a profile of the industry sectors from which they receive revenue, as opposed to revenue from products marketed only to specific industries.

  - The revenue in Exhibit IV-4 represents 81% of the 75 responding companies' revenues and 56% of all 95 processing companies' noncaptive U.S. computer services revenues.

  - The 75 companies with industry-specific revenues had a 23% growth rate for all noncaptive U.S. computer services revenue against which the industry-specific revenue growth rate compares favorably.

- Respondents' growth in the services industry was more than double the overall growth.

- Medical and banking and finance had the fastest growth from large bases of revenue.

- Discrete manufacturing, the largest source of revenue, is among the slowest growing industry sectors.

- More than half the respondents reported that their geographic sales coverage was regional or local with three or less sales offices per respondent, as shown in Exhibit IV-5.

EXHIBIT IV-4

INDUSTRY-SPECIFIC REVENUE OF
RESPONDING PROCESSING SERVICES COMPANIES

INDUSTRY	1979		1980		1979/1980 PERCENT CHANGE
	REVENUE ($ millions)	PERCENT OF TOTAL	REVENUE ($ millions)	PERCENT OF TOTAL	
DISCRETE MANUFACTURING	$123	17%	$146	16%	19%
PROCESS MANUFACTURING	64	9	77	8	20
TRANSPORTATION	12	2	14	2	21
UTILITIES	48	7	47	5	(2)
BANKING AND FINANCE	97	13	127	14	31
INSURANCE	38	5	47	5	14
MEDICAL	87	12	116	13	32
EDUCATION	3	1	5	1	31
RETAIL	34	5	43	5	24
WHOLESALE	35	5	46	5	32
FEDERAL GOVERNMENT	50	7	68	7	35
STATE AND LOCAL GOVERNMENT	10	1	12	1	14
SERVICES (CPAs, LAWYERS, ETC.)	55	7	83	9	53
OTHER	76	10	88	10	16
TOTAL*	$732	100%	$919	100%	25%

*MAY NOT TOTAL EXACTLY DUE TO ROUNDING

EXHIBIT IV-5

GEOGRAPHIC SALES COVERAGE OF
RESPONDING PROCESSING SERVICES COMPANIES

GEOGRAPHIC COVERAGE	NUMBER OF RESPONDENTS	NUMBER OF SALES OFFICES	AVERAGE NUMBER* OF SALES OFFICES PER RESPONDENT
LOCAL	16	22	1
REGIONAL	30	81	3
NATIONAL	24	124	5
INTERNATIONAL	25	619	25
TOTAL	95	846	9

* MAY NOT TOTAL DUE TO ROUNDING

- Processing services companies feel they have national sales coverage with an average of only five offices each.

- Competition for processing services business is obviously intense in the twenty largest cities in the U.S.

- Companies which are addressing international markets average 25 U.S. sales offices each and 33 sales offices worldwide each.

- Competition in foreign markets is expected to heat up.

- Processing services company respondents generally feel that none of the major factors given are having, or will have, a great impact on their business, as shown in Exhibit IV-6.

  - Distributed data processing is and will continue to have the most beneficial impact of all the factors mentioned.

  - Lack of skilled technicians is the worst problem today.

  - Entry of AT&T and other telephone companies into the services industry is expected to have a negative impact in the future.

  - Inflation is expected to be a persistent problem.

- Processing services companies expect to benefit from low-cost mass marketing.

  - It is not quite clear at this time what direction this will take.

  - But Tymshare's recent order of 100,000 low-cost, personal terminals from a French manufacturer seems to indicate that some form of mass marketing will be employed by them in their sales effort.

EXHIBIT IV-6

IMPACT OF MAJOR FACTORS ON PROCESSING SERVICES COMPANIES

FACTORS AFFECTING COMPANY GROWTH	MEAN RATING* OF IMPACTS FOR ALL RESPONDENTS		
	IN 1980	BY 1985	CHANGE
RECESSION	4.4	4.7	0.3
ENTRY INTO COMPUTER SERVICES OF:			
BANKS	4.3	4.0	(0.3)
CPA FIRMS	4.3	4.1	(0.2)
TELEPHONE COMPANIES (AT&T, ETC.)	4.6	4.0	(0.6)
OTHERS (IBM, EXXON, AMERICAN EXPRESS)	4.4	3.9	(0.5)
COMPETITION FROM OTHER COMPUTER SERVICE FIRMS	4.3	4.3	0.0
FIRMWARE	4.7	4.8	0.1
NEW TELECOMMUNICATION OFFERINGS	5.1	6.0	0.7
REDUCTION IN EFFECTIVE COST TO END USERS DUE TO:			
MINI/MICROCOMPUTERS	4.9	5.5	0.6
INTEGRATED SYSTEMS (TURNKEY)	4.8	5.4	0.6
NEW MAINFRAMES	5.1	5.7	0.6
CUSTOMERS' POSITIVE POLICY TOWARD DISTRIBUTED DATA PROCESSING	5.5	6.5	1.0
FACTORS AFFECTING COMPANY PROFIT MARGINS			
LACK OF AVAILABILITY OF SKILLED TECHNICAL STAFF	4.1	4.2	0.1
INFLATION	4.2	4.3	0.1
PERSONNEL PRODUCTIVITY	4.8	5.0	0.2
LOW-COST MASS MARKETING (RETAIL,MAIL)	5.2	5.5	0.3

*RATING BASED ON A SCALE OF 0 TO 10: WHERE 0 INDICATES A VERY NEGATIVE IMPACT, 5 INDICATES NO IMPACT, AND 10 INDICATES A VERY POSITIVE IMPACT ON THE RESPONDENT'S COMPANY.

V SOFTWARE PRODUCTS COMPANIES

V SOFTWARE PRODUCTS COMPANIES

A. INDUSTRY ANALYSIS

- Over 1,200 software products companies produced $2.6 billion in revenue in 1980.
  - Twenty-eight companies had more than $10 million in income from software products sales.
  - Only one company, IBM, had over $100 million in noncaptive U.S. software products sales.
- Software products companies derive 85% of their revenue from the sale of software, as shown in Exhibit V-1.
  - Professional services are an important source of income to the small and large software products companies, but of much less importance to the medium-sized firms.
  - The large firms derive more than twice as much revenue from systems as from applications software.
  - The small and medium-sized firms find applications software to be a much larger source of income than systems software.

EXHIBIT V-1

REVENUE DISTRIBUTION BY SERVICE MODES
OF SOFTWARE PRODUCTS COMPANIES, 1980

SERVICE MODE	PERCENT OF TOTAL REVENUE			
	SIZE OF COMPANY ($ millions)			
	$0.25-1	$1-10	>$10	TOTAL
REMOTE COMPUTING SERVICES	0%	0%	3%	2%
BATCH SERVICES	0	2	1	1
FACILITIES MANAGEMENT	0	0	0	0
PROCESSING SERVICES SUBTOTAL*	0%	2%	4%	2%
APPLICATIONS SOFTWARE PRODUCTS	56	58	23	39
SYSTEMS SOFTWARE PRODUCTS	28	37	58	46
SOFTWARE PRODUCTS SUBTOTAL*	85%	95%	80%	85%
GOVERNMENT PROFESSIONAL SERVICES	4	1	5	4
COMMERCIAL PROFESSIONAL SERVICES	12	2	11	9
PROFESSIONAL SERVICES SUBTOTAL*	15%	3%	16%	13%
TOTAL*	100%	100%	100%	100%

*MAY NOT TOTAL DUE TO ROUNDING

- Processing services are a minor source of income for the large firms and virtually nonexistent in the small firms.

- Systems software grew much faster (40%) than did applications software (26%) from 1979 to 1980, as shown in Exhibit V-2.

  - Batch services was the fastest growing source of revenue for software products companies, but represented only 1% of their 1980 revenue.

  - Government professional services grew nearly twice as fast as commercial professional services, but from a base that was half the size of the latter.

B. TRENDS IN SOFTWARE PRODUCTS COMPANIES

- Nearly 25% of software products respondents' noncaptive computer services revenue came from foreign sources in 1980, as shown in Exhibit V-3.

  - This large base of revenue grew 48% over 1979.

  - Small and medium-sized firms have strong export revenues, though not as strong as the larger firms.

  - If these firms can sustain this rate of growth for a period of time, export revenue could eventually be more important than domestic revenue to U.S. software products companies.

  - Integrated systems sales are approaching noticeable size (6% of revenue) among the medium-sized companies due to a 308% growth over 1979.

- The under-$10 million respondents reported very high growth rates in 1980.

EXHIBIT V-2

REVENUE GROWTH BY SERVICE MODES OF
SOFTWARE PRODUCTS COMPANIES, 1979-1980

SERVICE MODE	REVENUE GROWTH, 1979-1980 (percent)			
	SIZE OF COMPANY ($ millions)			
	$0.25-1	$1-10	>$10	TOTAL
REMOTE COMPUTING SERVICES	0%	0%	20%	20%
BATCH SERVICES	0	140	11	55
FACILITIES MANAGEMENT	0	0	0	0
PROCESSING SERVICES AVERAGE	0%	140%	18%	29%
APPLICATIONS SOFTWARE PRODUCTS	4	44	32	26
SYSTEMS SOFTWARE PRODUCTS	44	63	34	40
SOFTWARE PRODUCTS AVERAGE	15%	51%	33%	33%
GOVERNMENT PROFESSIONAL SERVICES	40	50	23	29
COMMERCIAL PROFESSIONAL SERVICES	-6	40	27	16
PROFESSIONAL SERVICES AVERAGE	2%	36%	27%	20%
WEIGHTED AVERAGE	13%	51%	31%	31%

EXHIBIT V-3

REVENUE DISTRIBUTION OF RESPONDING
SOFTWARE PRODUCTS COMPANIES, 1980

SIZE OF COMPANY ($ millions)	REVENUE TYPE AS A PERCENT OF TOTAL COMPANY REVENUE						
	COMPUTER SERVICES			TOTAL COMPUTER SERVICES	INTE-GRATED SYSTEMS	OTHER	TOTAL
	CAPTIVE	NONCAPTIVE FOREIGN	NONCAPTIVE U.S.				
$0.25-1							
• 1980	0%	15%	84%	98%	2%	0%	100%
• GROWTH 1979-1980	0	36	77	69	0	0	72
$1-10							
• 1986	1	11	80	92	6	2	100
• GROWTH 1979-1980	1	46	63	60	308	5	64
>$10							
• 1980	0	28	70	98	0	2	100
• GROWTH 1979-1980	0	49	25	31	0	148	33
TOTAL							
• 1980	0%	23%	73%	96%	2%	2%	100%
• GROWTH 1979-1980	1	48	34	37	389	81	40

- An important contributor has been the rapid growth of personal computers.

- Personal computers are expected to have a profound impact on the packaged software marketplace as the processors get orders of magnitude more powerful without a great increase in incremental cost.

- Users of personal computers are getting much more sophisticated and are growing less interested in games and gimmicks.

- Software products companies reported industry-specific revenue that should be interpreted as revenue generated by products sold to specific industries.

  - Nine of the 29 software products respondents reported having industry specific revenue; 51% of their revenue was industry specific.

    . Their overall revenue grew at 22% which was a much higher rate than the industry-specific growth rate of 17%.

  - The revenue shown in Exhibit V-4 represents only 22% of all 29 software products company revenues.

- Revenue from the insurance industry nearly doubled in 1980 and now equals the discrete manufacturing industry as the largest reported industry-specific source of revenue.

  - The retail industry showed the strongest growth, but from a smaller base.

  - Respondents reported sharp declines in their utility, and state and local government industry-specific revenues.

- Since most, if not all, of the industry-specific revenue is for applications software, it is a fairly sizable portion of that business.

EXHIBIT V-4

INDUSTRY-SPECIFIC REVENUE OF
RESPONDING SOFTWARE PRODUCTS COMPANIES

INDUSTRY	1979		1980		1979/1980 PERCENT CHANGE
	REVENUE ($ millions)	PERCENT OF TOTAL	REVENUE ($ millions)	PERCENT OF TOTAL	
DISCRETE MANUFACTURING	$5	18%	$6	18%	20%
PROCESS MANUFACTURING	0	0	0	1	0
TRANSPORTATION	0	0	0	0	0
UTILITIES	1	5	1	3	(18)
BANKING AND FINANCE	4	17	5	16	1
INSURANCE	3	11	5	18	93
MEDICAL	3	10	3	9	6
EDUCATION	1	5	2	6	54
RETAIL	0	2	1	4	132
WHOLESALE	2	7	2	7	16
FEDERAL GOVERNMENT	0	0	0	0	0
STATE AND LOCAL GOVERNMENT	4	14	2	6	(47)
SERVICES (CPAs, LAWYERS, ETC.)	2	7	2	7	16
OTHER	1	3	1	5	74
TOTAL*	$26	100%	$30	100%	17%

*MAY NOT TOTAL EXACTLY DUE TO ROUNDING

- The average software products respondent has five sales offices, as shown in Exhibit V-5.

  - With the amount of foreign revenue these firms have, it is not surprising that more than half of them indicated that they have international sales coverage.

  - It is significant to note that none of the respondents serve just a local market. Software products companies need a broad geographical market to support their products.

- Like other computer services companies, software products companies are negatively impacted most by the scarcity of skilled technical staff, as shown in Exhibit V-6. In addition, they see the problem getting worse in the future.

  - These companies are not being impacted much by competition today, but they do see it getting a little more difficult in the future, particularly competition from CPA firms.

  - For the most part, lower cost hardware is viewed as being favorable to the software products business, and costs are expected to go lower and business to benefit from this trend by 1985.

EXHIBIT V-5

GEOGRAPHIC SALES COVERAGE OF
RESPONDING SOFTWARE PRODUCTS COMPANIES

GEOGRAPHIC COVERAGE	NUMBER OF RESPONDENTS	NUMBER OF SALES OFFICES	AVERAGE NUMBER* OF SALES OFFICES PER RESPONDENT
LOCAL	0	0	0
REGIONAL	3	7	2
NATIONAL	9	25	3
INTERNATIONAL	16	114	7
TOTAL	28	146	5

* MAY NOT TOTAL DUE TO ROUNDING

EXHIBIT V-6

IMPACT OF MAJOR FACTORS ON SOFTWARE PRODUCTS COMPANIES

FACTORS AFFECTING COMPANY GROWTH	MEAN RATING* OF IMPACTS FOR ALL RESPONDENTS		
	IN 1980	BY 1985	CHANGE
RECESSION	4.5	4.4	(0.1)
ENTRY INTO COMPUTER SERVICES OF:			
BANKS	5.0	4.8	(0.2)
CPA FIRMS	5.0	4.5	(0.5)
TELEPHONE COMPANIES (AT&T, ETC.)	4.9	4.5	(0.4)
OTHERS (IBM, EXXON, AMERICAN EXPRESS)	4.8	4.4	(0.4)
COMPETITION FROM OTHER COMPUTER SERVICE FIRMS	4.2	4.3	0.1
FIRMWARE	5.4	5.4	0.0
NEW TELECOMMUNICATION OFFERINGS	5.6	5.9	0.3
REDUCTION IN EFFECTIVE COST TO END USERS DUE TO:			
MINI/MICROCOMPUTERS	6.7	7.0	0.3
INTEGRATED SYSTEMS (TURNKEY)	5.7	6.1	0.4
NEW MAINFRAMES	6.1	6.9	0.8
CUSTOMERS' POSITIVE POLICY TOWARD DISTRIBUTED DATA PROCESSING	6.5	7.0	0.5
FACTORS AFFECTING COMPANY PROFIT MARGINS			
LACK OF AVAILABILITY OF SKILLED TECHNICAL STAFF	4.1	3.9	(0.2)
INFLATION	4.2	4.4	0.2
PERSONNEL PRODUCTIVITY	5.5	5.5	0.0
LOW-COST MASS MARKETING (RETAIL,MAIL)	5.4	5.6	0.2

*RATING BASED ON A SCALE OF 0 TO 10: WHERE 0 INDICATES A VERY NEGATIVE IMPACT, 5 INDICATES NO IMPACT, AND 10 INDICATES A VERY POSITIVE IMPACT ON THE RESPONDENT'S COMPANY.

VI PROFESSIONAL SERVICES COMPANIES

VI PROFESSIONAL SERVICES COMPANIES

A. INDUSTRY TRENDS

- Nearly 1,000 professional services firms produced $3.5 billion in revenue in 1980.

  - Sixty computer services companies had more than $10 million in income from professional services.

  - Five companies had over $100 million in sales from professional services.

- Professional services companies derive 84% of their income from the sale of professional services, as shown in Exhibit VI-1.

  - These revenues are almost evenly divided between government and commercial services.

  - The large firms get three times as much revenue from government sales as they do from commercial sales.

  - The small firms' business is almost exlusively in the commercial sector.

EXHIBIT VI-1

REVENUE DISTRIBUTION BY SERVICE MODES
OF PROFESSIONAL SERVICES COMPANIES, 1980

SERVICE MODE	PERCENT OF TOTAL REVENUE			
	SIZE OF COMPANY ($ millions)			
	$0.25-1	$1-10	>$10	TOTAL
REMOTE COMPUTING SERVICES	0%	0%	9%	5%
BATCH SERVICES	0	4	3	3
FACILITIES MANAGEMENT	0	8	2	3
PROCESSING SERVICES SUBTOTAL*	0%	12%	13%	11%
APPLICATIONS SOFTWARE PRODUCTS	11	4	1	3
SYSTEMS SOFTWARE PRODUCTS	12	0	1	2
SOFTWARE PRODUCTS SUBTOTAL*	23%	4%	2%	5%
GOVERNMENT PROFESSIONAL SERVICES	0	17	65	44
COMMERCIAL PROFESSIONAL SERVICES	76	66	20	39
PROCESSING SERVICES SUBTOTAL*	76%	83%	85%	84%
TOTAL*	100%	100%	100%	100%

*MAY NOT TOTAL DUE TO ROUNDING

- The large firms get most of their nonprofessional services business from processing services, whereas the small firms get it from software products sales.

- Government professional services grew a little faster than commercial professional services in 1980, as shown in Exhibit VI-2.

  - These firms' software and processing businesses grew as fast or faster than their primary business.

  - Large professional services firms performed especially well with batch and facilities management processing services.

  - Applications software provided faster growth than did systems software for the professional services companies.

B. TRENDS IN PROFESSIONAL SERVICES COMPANIES

- The professional services respondents said that 99% of their revenue came from computer services, as shown in Exhibit VI-3.

  - The remaining 1% came from integrated systems which had a slightly negative growth rate over 1979.

  - Foreign revenue was only 12% of total revenue, but grew by 89% over 1980. This revenue was produced by only a few companies.

- The respondents' reported growth rate of 32% was a little higher than the industry growth rate of 27% for professional services companies.

- The professional services companies' report of industry-specific revenue is essentially revenue derived from industry sectors purchasing services.

EXHIBIT VI-2

REVENUE GROWTH BY SERVICE MODES OF PROFESSIONAL SERVICES COMPANIES, 1979-1980

SERVICE MODE	REVENUE GROWTH, 1979-1980 (percent)			
	SIZE OF COMPANY ($ millions)			
	$0.25-1	$1-10	>$10	TOTAL
REMOTE COMPUTING SERVICES	0%	0%	17%	17%
BATCH SERVICES	0	31	107	66
FACILITIES MANAGEMENT	0	51	48	49
PROCESSING SERVICES AVERAGE	0%	43%	32%	35%
APPLICATIONS SOFTWARE PRODUCTS	2	100	42	33
SYSTEMS SOFTWARE PRODUCTS	13	0	40	18
SOFTWARE PRODUCTS AVERAGE	9%	90%	37%	26%
GOVERNMENT PROFESSIONAL SERVICES	0	48	26	28
COMMERCIAL PROFESSIONAL SERVICES	9	32	30	25
PROFESSIONAL SERVICES AVERAGE	9%	35%	27%	26%
WEIGHTED AVERAGE	9%	38%	28%	27%

EXHIBIT VI-3

REVENUE DISTRIBUTION OF

RESPONDING PROFESSIONAL SERVICES COMPANIES, 1980

SIZE OF COMPANY ($ millions)	REVENUE TYPE AS A PERCENT OF TOTAL COMPANY REVENUE						
	COMPUTER SERVICES			TOTAL COMPUTER SERVICES	INTE-GRATED SYSTEMS	OTHER	TOTAL
	CAPTIVE	NONCAPTIVE FOREIGN	NONCAPTIVE U.S.				
$0.25-1							
• 1980	1%	1%	95%	98%	1%	1%	100%
• GROWTH 1979-1980	47	189	85	85	167	21	83
$1-10							
• 1986	2	1	88	91	8	1	100
• GROWTH 1979-1980	272	(32)	19	19.6	(4)	64	17
>$10							
• 1980	0	13	87	100	0	0	100
• GROWTH 1979-1980	0	87	28	33	0	0	0
TOTAL							
• 1980	0%	12%	87%	99%	1%	0%	100%
• GROWTH 1979-1980	238	89	27	32	(3)	42	32

- Twenty-five of the 41 professional services companies reported that 98% of their revenue was industry specific.

- These respondents' total revenue grew at 29%, just 1% slower than the industry-specific revenue.

- The revenue shown in Exhibit VI-4 equals 87% of the 41 professional services respondents' revenue.

- Not unexpectedly, the government sectors accounted for 55% of their revenue.

- Commercial revenue was fairly evenly distributed among the other industries with services, banking and finance, and discrete manufacturing contributing the largest shares of revenue.

- Leading growth industry sectors in 1980 were services (45%) and banking and finance (48%) for the large commercial industry groups.

- Professional services firms operate in the international arena less than the other types of computer services firms, with less than a third of them reporting international sales coverage, as shown in Exhibit VI-5.

  - Two-thirds of the respondents indicated that they have national or international sales coverage with an average of from six to nine offices each.

  - There was little difference in the number of offices between firms calling themselves regional and national.

- The customers' positive policy toward distributed data processing impacts the respondents' business the most positively and it is expected to get better by 1985, as shown in Exhibit VI-6.

EXHIBIT VI-4

INDUSTRY-SPECIFIC REVENUE OF
RESPONDING PROFESSIONAL SERVICES COMPANIES

INDUSTRY	1979		1980		1979/1980 PERCENT CHANGE
	REVENUE ($ millions)	PERCENT OF TOTAL	REVENUE ($ millions)	PERCENT OF TOTAL	
DISCRETE MANUFACTURING	$ 38	8%	$ 53	8%	36%
PROCESS MANUFACTURING	25	5	40	6	60
TRANSPORTATION	7	1	8	1	20
UTILITIES	18	4	22	4	23
BANKING AND FINANCE	30	6	46	7	48
INSURANCE	11	2	22	4	98
MEDICAL	5	1	11	2	135
EDUCATION	0	0	1	0	10
RETAIL	9	2	14	2	57
WHOLESALE	9	2	15	2	64
FEDERAL GOVERNMENT	263	54	304	48	16
STATE AND LOCAL GOVERNMENT	35	7	45	7	30
SERVICES (CPAs, LAWYERS, ETC.)	34	7	50	8	45
OTHER	5	1	5	1	8
TOTAL*	$488	100%	$637	100%	30%

*MAY NOT TOTAL EXACTLY DUE TO ROUNDING

EXHIBIT VI-5

GEOGRAPHIC SALES COVERAGE OF RESPONDING PROFESSIONAL SERVICES COMPANIES

GEOGRAPHIC COVERAGE	NUMBER OF RESPONDENTS	NUMBER OF SALES OFFICES	AVERAGE NUMBER* OF SALES OFFICES PER RESPONDENT
LOCAL	4	8	2
REGIONAL	8	32	4
NATIONAL	14	81	6
INTERNATIONAL	11	97	9
TOTAL	37	218	6

*MAY NOT TOTAL DUE TO ROUNDING

EXHIBIT VI-6

IMPACT OF MAJOR FACTORS ON PROFESSIONAL SERVICES COMPANIES

FACTORS AFFECTING COMPANY GROWTH	MEAN RATING* OF IMPACTS FOR ALL RESPONDENTS		
	IN 1980	BY 1985	CHANGE
RECESSION	4.2	4.4	0.2
ENTRY INTO COMPUTER SERVICES OF:			
BANKS	5.1	5.0	(0.1)
CPA FIRMS	4.2	3.7	(0.5)
TELEPHONE COMPANIES (AT&T, ETC.)	5.3	5.5	0.2
OTHERS (IBM, EXXON, AMERICAN EXPRESS)	5.2	5.2	0.0
COMPETITION FROM OTHER COMPUTER SERVICE FIRMS	4.5	4.3	(0.2)
FIRMWARE	5.0	4.9	(0.1)
NEW TELECOMMUNICATION OFFERINGS	5.5	6.5	1.0
REDUCTION IN EFFECTIVE COST TO END USERS DUE TO:			
MINI/MICROCOMPUTERS	6.2	7.2	1.0
INTEGRATED SYSTEMS (TURNKEY)	5.7	5.9	0.2
NEW MAINFRAMES	6.0	6.7	0.7
CUSTOMERS' POSITIVE POLICY TOWARD DISTRIBUTED DATA PROCESSING	6.4	7.4	1.0
FACTORS AFFECTING COMPANY PROFIT MARGINS			
LACK OF AVAILABILITY OF SKILLED TECHNICAL STAFF	3.8	3.9	0.1
INFLATION	3.9	3.9	0.0
PERSONNEL PRODUCTIVITY	4.9	5.2	0.3
LOW-COST MASS MARKETING (RETAIL,MAIL)	5.3	5.8	0.5

*RATING BASED ON A SCALE OF 0 TO 10: WHERE 0 INDICATES A VERY NEGATIVE IMPACT, 5 INDICATES NO IMPACT, AND 10 INDICATES A VERY POSITITVE IMPACT ON THE RESPONDENT'S COMPANY.

- The lack of availability of skilled technical staff is considered to be the biggest negative factor by professional services companies. This is ironic, since many of their clients subscribe to their services because of the same problem.

- By 1985, the professional services firms expect that the factor impacting their businesses most negatively will be competition from CPA firms.

- Inflation has and will continue to have a negative impact on profits.

VII INTEGRATED SYSTEMS COMPANIES

VII INTEGRATED SYSTEMS COMPANIES

- Integrated Systems (turnkey) companies integrate hardware and software into a total system designed to fulfill the processing requirements of an application (or applications) for a user. They do not manufacture the hardware used in the system. They often, but not necessarily, write the software for the system.

- Twenty-one integrated systems companies responded to this year's mail survey.

  - These companies had $117 million in revenue in 1980. The average company had $5.6 million in revenue.

  - Of those revenues, $101 million came from the sale of integrated systems, $13 million came from computer services, and $3 million came from other sources.

  - Five companies had less than $1 million and 16 had more than $1 million in revenue.

- Integrated systems companies grew by 49% from 1979 to 1980, as shown in Exhibit VII-1.

  - Integrated systems sales grew at twice the rate of their computer services sales.

EXHIBIT VII-1

REVENUE DISTRIBUTION OF
RESPONDING INTEGRATED SYSTEMS COMPANIES, 1980

SIZE OF COMPANY ($ millions)	REVENUE TYPE AS A PERCENT OF TOTAL COMPANY REVENUE						
	COMPUTER SERVICES			TOTAL COMPUTER SERVICES	INTE-GRATED SYSTEMS	OTHER	TOTAL
	CAPTIVE	NONCAPTIVE FOREIGN	NONCAPTIVE U.S.				
<$1							
• 1980	0%	0%	8%	8%	90%	2%	100%
• GROWTH 1979-1980	0	0	0	0	140	400	118
>$1							
• 1980	0	0	11	11	86	3	100
• GROWTH 1979-1980	0	0	24	24	51	99	48
TOTAL							
• 1980	0%	0%	11%	11%	86%	2%	100%
• GROWTH 1979-1980	0	0	24	24	52	101	49

- Computer services sales came from professional services (52%), software products (24%), and processing services (24%). Processing services were evenly divided between batch and remote computing services.

- The growth in the number of installations of integrated systems (46%) shown in Exhibit VII-2 was nearly the same as the growth in their revenues (52%).

- Integrated systems companies reported a pretax profit margin of 14% in 1979 and 16% in 1980. Margins increased as a result of profits increasing by 71% against a revenue growth of 49%.

- Nine respondents reported that they sold computer services and all nine companies reported their industry-specific computer services revenues, as shown in Exhibit VII-3.

  - The industry-specific revenue was 92% of total noncaptive computer services revenue reported by these companies.

  - The medical industry sector provided the most revenue (25%) with a fairly high growth of 37% in 1980.

  - The Federal Government sector was a little smaller (23% of revenue), but grew at a much faster rate (95%).

- Industry-specific revenue grew at a higher rate (29%) than did total computer services revenue (24%) for the systems integrators in 1980.

- Nearly 75% of the integrated systems companies reported that they had national or international sales coverage in 1980, as shown in Exhibit VII-4.

- Integrated systems companies reported that the recession had the most negative impact on their revenue in 1980, as shown in Exhibit VII-5.

  - A major portion of integrated systems sales are to small businesses.

EXHIBIT VII-2

INTEGRATED SYSTEMS COMPANY RESPONDENTS'
REPORTED/PROJECTED INSTALLATIONS OF INTEGRATED SYSTEMS

SIZE OF COMPANY ($ millions)	NUMBER OF INSTALLATIONS			AVERAGE ANNUAL GROWTH RATE 1979/1981 (percent)
	1979	1980	1981	
<1	30	82	108	90%
>1	1,330	1,858	2,789	45
TOTAL	1,360	1,940	2,897	46%

EXHIBIT VII-3

INDUSTRY-SPECIFIC REVENUE OF RESPONDING
INTEGRATED SYSTEMS COMPANIES

INDUSTRY	1979		1980		1979/1980 PERCENT CHANGE
	REVENUE ($ thousands)	PERCENT OF TOTAL	REVENUE ($ thousands)	PERCENT OF TOTAL	
DISCRETE MANUFACTURING	$1,349	15%	$ 1,524	13%	13%
PROCESS MANUFACTURING	383	4	364	3	(5)
TRANSPORTATION	89	1	84	1	(5)
UTILITIES	15	0	14	0	(5)
BANKING AND FINANCE	1,710	18	2,077	17	21
INSURANCE	33	0	34	0	6
MEDICAL	2,188	24	2,994	25	37
EDUCATION	162	2	182	2	12
RETAIL	411	4	393	3	(4)
WHOLESALE	234	3	190	2	(19)
FEDERAL GOVERNMENT	1,407	15	2,746	23	95
STATE AND LOCAL GOVERNMENT	44	1	42	0	(5)
SERVICES (CPAs, LAWYERS, ETC.)	804	8	862	7	7
OTHER	407	5	468	4	(5)
TOTAL*	$9,236	100%	$11,974	100%	29%

*MAY NOT TOTAL EXACTLY DUE TO ROUNDING

EXHIBIT VII-4

GEOGRAPHIC SALES COVERAGE OF
RESPONDING INTEGRATED SYSTEMS COMPANIES

GEOGRAPHIC COVERAGE	NUMBER OF RESPON-DENTS	NUMBER OF SALES OFFICES	AVERAGE NUMBER* OF SALES OFFICES PER RESPONDENT
LOCAL	1	1	1
REGIONAL	5	14	3
NATIONAL	7	18	3
INTERNATIONAL	8	61	8
TOTAL	21	94	5

*MAY NOT TOTAL DUE TO ROUNDING

EXHIBIT VII-5

IMPACT OF MAJOR FACTORS ON INTEGRATED SYSTEMS COMPANIES

FACTORS AFFECTING COMPANY GROWTH	MEAN RATING* OF IMPACTS FOR ALL RESPONDENTS		
	IN 1980	BY 1985	CHANGE
RECESSION	3.6	4.0	0.4
ENTRY INTO COMPUTER SERVICES OF:			
BANKS	4.2	4.5	0.3
CPA FIRMS	3.9	4.2	0.3
TELEPHONE COMPANIES (AT&T, ETC.)	4.4	4.4	0.0
OTHERS (IBM, EXXON, AMERICAN EXPRESS)	4.6	4.8	0.2
COMPETITION FROM OTHER COMPUTER SERVICE FIRMS	4.0	4.8	0.8
FIRMWARE	5.4	5.7	0.3
NEW TELECOMMUNICATION OFFERINGS	6.0	7.1	1.1
REDUCTION IN EFFECTIVE COST TO END USERS DUE TO:			
MINI/MICROCOMPUTERS	6.9	8.0	1.1
INTEGRATED SYSTEMS (TURNKEY)	7.3	8.1	0.8
NEW MAINFRAMES	5.1	5.3	0.2
CUSTOMERS' POSITIVE POLICY TOWARD DISTRIBUTED DATA PROCESSING	6.7	7.5	0.8
FACTORS AFFECTING COMPANY PROFIT MARGINS			
LACK OF AVAILABILITY OF SKILLED TECHNICAL STAFF	3.8	3.8	0.0
INFLATION	4.3	4.2	(0.1)
PERSONNEL PRODUCTIVITY	5.9	6.2	0.3
LOW-COST MASS MARKETING (RETAIL,MAIL)	4.6	5.2	0.6

*RATING BASED ON A SCALE OF 0 TO 10: WHERE 0 INDICATES A VERY NEGATIVE IMPACT, 5 INDICATES NO IMPACT, AND 10 INDICATES A VERY POSITIVE IMPACT ON THE RESPONDENT'S COMPANY.

- The high interest rates brought on by recession-fighting measures sponsored by the government had a negative impact on the ability of small businesses to finance the purchase of small business systems, many of which are provided by systems integrators.

- The respondents reported that the greatest competitive impact on their revenues came from CPA firms in 1980.

- Lower cost of hardware has had a positive impact on growth and it is expected to continue to have a positive impact on growth through 1985.

VIII VENDOR PERFORMANCE

VIII VENDOR PERFORMANCE

- The published results of 56 companies are presented in this chapter. Data given are for fiscal years 1979 and 1980.

  - The companies presented here represent less than 1% of the more than 4,000 computer services companies in the U.S., and 21% of all computer services revenues.

  - Their average revenue growth of 28% was much higher than the industry average of 21% in 1980.

  - Pretax profit margins were 12% in 1980, the same as in 1979.

- The 33 processing services companies shown in Exhibit VIII-1 account for 24% of all U.S. noncaptive processing services revenue.

  - Their revenue growth of 27% was almost 60% higher than processing services revenue growth of 17%.

  - Pretax profit margins declined from 14% in 1979 to 13% in 1980.

- The fastest growing processing services company was Anacomp which grew 76% in 1980.

EXHIBIT VIII-1

PUBLISHED RESULTS OF PUBLIC COMPANIES' PROCESSING SERVICES

COMPANY NAME	FISCAL YEAR END		FISCAL YEAR ($ millions) 1980	1979	PERCENT GROWTH 1979-1980	PERCENT PROFIT ON REVENUE	
ANACOMP	6/30	R	$67.08	$38.11	76%	1979	13%
		P	8.13	5.07	60	1980	12
ANSTAT	9/30	R	3.25	2.78	16	1979	15
		P	0.19	0.43	(56)	1980	6
AUTOMATIC DATA PROCESSING	6/30	R	454.93	368.84	23	1979	17
		P	76.13	64.44	18	1980	17
BRADFORD NATIONAL	12/31	R	142.7	120.14	19	1979	5
		P	4.07	6.40	(36)	1980	3
COMDATA NETWORK	12/31	R	14.37	11.20	28	1979	32
		P	5.40	3.62	49	1980	38
COMPUTEK COMPUTING	12/31	R	1.97	1.29	53	1979	6
		P	0.14	0.07	88	1980	7
COMPUTER NETWORK	3/31	R	21.24	21.0	1	1979	10
		P	1.23	2.06	(40)	1980	6
COMPUTER RESEARCH	8/31	R	2.45	2.04	20	1979	2
		P	0.17	0.04	377	1980	7
COMPUTER SERVICES, INC.	2/29	R	5.31	4.28	24	1979	18
		P	0.98	0.78	25	1980	18
COMSHARE	6/30	R	78.21	52.98	48	1979	15
		P	6.97	7.73	(10)	1980	9
DATATAB	12/31	R	6.23	6.65	(6)	1979	(7)
		P	(0.17)	(0.43)	60	1980	(3)

R=REVENUES (GROSS) P=PROFITS (BEFORE TAXES AND EXTRAORDINARY ITEMS)

EXHIBIT VIII-1 (CONT.)

PUBLISHED RESULTS OF PUBLIC COMPUTER SERVICES COMPANIES
PROCESSING SERVICES

COMPANY NAME	FISCAL YEAR END		FISCAL YEAR ($ millions) 1980	1979	PERCENT GROWTH 1979-1980	PERCENT PROFIT ON REVENUE	
DIGICON	7/3	R	$53.68	$38.73	39%	1979	2%
		P	3.45	0.91	280	1980	6
DYATRON	12/31	R	34.36	25.79	33	1979	4
		P	1.49	1.7	(12)	1980	7
ELECTRONIC DATA SYSTEMS	6/30	R	374.66	274.30	37	1979	14
		P	45.47	37.95	20	1980	12
ELECTRONIC TABULATING	12/31	R	5.33	4.96	8	1979	3
		P	0.83	0.15	455	1980	16
GENESEE COMPUTER CENTER	5/31	R	1.17	1.25	(6)	1979	5
		P	0.02	0.07	(76)	1980	1
INFORMATICS	12/31	R	125.89	112.39	12	1979	5
		P	7.66	5.13	49	1980	11
MANUFACTURING DATA SYSTEMS	8/31	R	55.90	42.55	31	1979	18
		P	9.71	7.87	23	1980	17
MATHEMATICAL APPLIATIONS	3/31	R	4.59	2.9	58	1979	15
		P	0.53	0.42	25	1980	11
NATIONAL DATA CORP.	5/31	R	60.13	49.36	22	1979	1
		P	9.14	6.85	33	1980	15
NETWORK DATA PROCESSING	3/31	R	1.73	2.13	(19)	1979	1
		P	0.19	0.03	626	1980	11
NUMERAX	6/30	R	4.19	3.42	22	1979	9
		P	0.27	0.31	(12)	1980	6

R=REVENUES (GROSS) P=PROFITS (BEFORE TAXES AND EXTRAORDINARY ITEMS)

EXHIBIT VIII-1 (CONT.)

PUBLISHED RESULTS OF PUBLIC COMPANIES' PROCESSING SERVICES

COMPANY NAME	FISCAL YEAR END		FISCAL YEAR ($ millions) 1980	1979	PERCENT GROWTH 1979-1980	PERCENT PROFIT ON REVENUE	
PAY-FONE SYSTEMS	6/30	R	$ 3.94	$ 2.9	31%	1979	19%
		P	0.84	0.58	45	1980	21
QUOTRON	12/31	R	63.81	47.42	35	1979	21
		P	16.07	9.85	63	1980	25
RAPIDATA	12/31	R	21.38	20.43	5	1979	8
		P	1.80	1.72	5	1980	8
SEI CORP.	12/31	R	23.06	18.21	27	1979	11
		P	2.88	2.01	43	1980	12
STSC	5/31	R	21.1	16.63	27	1979	14
		P	3.03	2.26	34	1980	14
SCIENTIFIC COMPUTERS	6/30	R	13.09	10.96	19	1979	18
		P	2.75	2.0	37	1980	13
SHARED MEDICAL SYSTEMS	12/31	R	106.58	82.80	29	1979	26
		P	26.22	21.57	22	1980	8
SYSTEMATICS	6/30	R	30.28	24.43	24	1979	7
		P	2.48	1.75	42	1980	8
TELECREDIT	4/30	R	38.44	31.83	20	1979	8
		P	1.01	2.56	(60)	1980	3
TIMESHARING RESOURCES	5/31	R	5.10	5.66	(10)	1979	28
		P	0.68	1.61	(57)	1980	13
TYMSHARE	12/31	R	235.85	193.09	22	1979	13
		P	34.39	26.06	32	1980	15
SUBTOTAL		R	$2,081.99	$1,641.54	27% *	1979	14%*
		P	274.15	$223.55	23% *	1980	13%*

R= REVENUES (GROSS) P= PROFITS (BEFORE TAXES AND EXTRAORDINARY ITEMS)

* WEIGHTED AVERAGE

- o The most profitable processing services company was Comdata Network with a 38% profit margin.

- o The six software products companies shown in Exhibit VIII-2 represent 9% of all U.S. noncaptive software products revenue.

  - Their revenue growth of 36% was 16% higher than the software products industry average of 31% in 1980.

  - Pretax profits grew at a slower rate (29%) than revenues, but profit margins in 1980 remained the same as in 1979, at 10%.

- o Cullinane was the fastest growing software products company with 44% revenue growth in 1980.

- o Cullinane was also the most profitable with 21% pretax margin, a nearly ten-fold improvement over the previous year.

- o The 17 professional services firms shown in Exhibit VIII-3 represent 26% of the professional services industry's total U.S. noncaptive revenue in 1980.

  - Their revenue growth of 27% was exactly equal to the industry for professional services revenue.

  - Their pretax profits grew at a slightly higher rate (28%) than their revenues, but their pretax profit margins remained the same as in 1979, 12%.

- o The Continuum Company had the highest revenue growth rate - 88% in 1980.

- o The Continuum Company also had the highest pretax profit margin - 31% in 1980.

EXHIBIT VIII-2

PUBLISHED RESULTS OF PUBLIC COMPANIES' SOFTWARE PRODUCTS

COMPANY NAME	FISCAL YEAR END		FISCAL YEAR ($ millions) 1980	1979	PERCENT GROWTH 1979-1980	PERCENT PROFIT ON REVENUE	
APPLIED DATA RESEARCH	12/31	R	$37.13	$28.68	29%	1979	1%
		P	1.22	0.17	604	1980	3
COMSERV	12/31	R	10.70	6.49	65	1979	14
		P	1.44	0.92	57	1980	13
CULLINANE	4/80	R	20.01	13.93	44	1979	2.2
		P	4.30	3.08	40	1980	21
MANAGEMENT SCIENCE AMERICA	12/31	R	51.69	37.72	37	1979	14
		P	5.67	5.35	6	1980	11
SOFTWARE AG	12/31	R	10.86	7.96	36	1979	21
		P	0.48	1.70	(72)	1980	4
UNIVERSITY COMPUTING CORP. (WYLY CORP.)	12/31	R	117.83	87.15	35	1979	9
		P	11.01	7.44	48	1980	9
SUBTOTAL		R	$248.22	$181.93	36%*	1979	10%*
		P	$24.12	$18.65	29%	1980	10%

R=REVENUES (GROSS) P=PROFITS (BEFORE TAXES AND EXTRAORDINARY ITEMS)

* WEIGHTED AVERAGE

EXHIBIT VIII-3

PUBLISHED RESULTS OF PUBLIC COMPANIES'
PROFESSIONAL SERVICES

COMPANY NAME	FISCAL YEAR END		FISCAL YEAR ($ millions) 1980	1979	PERCENT GROWTH 1979-1980	PERCENT PROFIT ON REVENUE	
AGS	12/31	R	$14.12	$13.88	2%	1979	7%
		P	1.03	0.99	4	1980	7
ADVANCED SYSTEMS	10/31	R	24.41	18.50	32	1979	17
		P	3.94	3.16	25	1980	16
AMERICAN MANAGEMENT SYSTEMS	12/31	R	58.50	48.10	22	1979	4
		P	3.68	2.18	69	1980	6
ANALYSTS INTER-NATIONAL	6/30	R	20.05	12.3	63	1979	7
		P	0.54	0.84	(35)	1980	3
AUXTON COMPUTER ENTERPRISES	12/31	R	9.04	8.08	12	1979	10
		P	0.62	0.83	(26)	1980	7
CACI INC.	6/30	R	34.73	19.78	76	1979	11
		P	2.42	2.22	9	1980	7
CGA COMPUTER ASSC.	4/30	R	11.81	8.79	34	1979	13
		P	1.64	1.11	48	1980	14
COMPUTER DATA SYSTEMS	6/30	R	14.84	8.69	71	1979	11
		P	1.39	0.92	52	1980	9
COMPUTER HORIZONS	2/29	R	10.24	7.93	29	1979	10
		P	0.50	0.81	(38)	1980	5
COMPUTER SCIENCES CORP.	3/31	R	452.63	342.01	32	1979	8
		P	43.23	28.36	52	1980	10
COMPUTER TASK GROUP	12/31	R	24.94	18.04	38	1979	6
		P	1.83	1.00	82	1980	7

R=REVENUES (GROSS) P=PROFITS (BEFORE TAXES AND EXTRAORDINARY ITEMS)

EXHIBIT VIII-3 (CONT.)

PUBLISHED RESULTS OF PUBLIC COMPANIES'
PROFESSIONAL SERVICES

COMPANY NAME	FISCAL YEAR END		FISCAL YEAR ($ millions) 1980	1979	PERCENT GROWTH 1979-1980	PERCENT PROFIT ON REVENUE	
THE CONTINUUM CO.	3/31	R	$ 9.35	$ 4.99	88%	1979	8%
		P	2.93	0.39	659	1980	31
DATA ARCHITECTS	11/31	R	8.56	6.21	38	1979	10
		P	0.71	0.60	19	1980	8
RAND INFORMATION SYSTEMS	2/29	R	18.99	15.91	19	1979	7
		P	(0.32)	1.11	(128)	1980	(2)
SOFTECH	5/31	R	13.83	8.80	57	1979	7
		P	0.38	0.63	(40)	1980	3
SYSTEM DEVELOPMENT CORP.	6/30	R	168.27	165.96	1	1979	4
		P	11.93	6.35	88	1980	7
TECHNALYSIS	12/31	R	5.24	4.42	19	1979	15
		P	0.80	0.66	20	1980	15
SUBTOTAL		R	$899.55	$712.39	26%*	1979	7%*
		P	$ 77.25	$ 52.16	48%*	1980	9%*
TOTAL		R	$3,229.76	$2,535.86	27%	1979	12%
		P	$375.52	$ 294.36	28%	1980	12%

R=REVENUES (GROSS) P=PROFITS (BEFORE TAXES AND EXTRAORDINARY ITEMS)
* WEIGHTED AVERAGE

APPENDIX A: DEFINITION OF TERMS

APPENDIX A: DEFINITION OF TERMS

A. REVENUES

- TOTAL REVENUES - Revenues received from total computer services, integrated systems (turnkey), and other revenues.

- TOTAL COMPUTER SERVICES REVENUES - Revenues received from services provided by vendors which perform data processing functions using vendor computers (processing services), or assist users to perform such functions on their own computers (software products and/or professional services).

- CAPTIVE COMPUTER SERVICES REVENUES - Revenues received from users who are part of the same parent corporation as the vendors.

- NONCAPTIVE COMPUTER SERVICES REVENUES - Revenues received for computer services provided within the United States from users who are not part of the same parent corporation as the vendor.

- NONCAPTIVE FOREIGN COMPUTER SERVICES REVENUES - Revenues received for computer services provided outside the United States from users who are not part of the same parent corporation as the vendor.

- INTEGRATED SYSTEMS (TURNKEY SYSTEMS) REVENUES - Revenues received from users of integrated systems, including hardware, software

professional services, maintenance, training and other support. An integrated system is a combination of hardware and software integrated into a total system designed to fulfill the processing requirements of an application (or applications) for a user.

- OTHER REVENUE - Revenue derived from lines of business other than those defined above.

B. SERVICE MODES

- PROCESSING SERVICES - Encompass facilities management, remote computing services, and batch services.

  - BATCH SERVICES - This includes data processing performed at vendors' sites of user programs and/or data which are physically transported (as opposed to electronically by telecomunications media) to and/or from those sites. Data entry and data output services, such as keypunching and COM processing, are also included. Batch services include those expenditures by users which take their data to a vendor site which has a terminal connected to a remote computer used for the actual processing.

  - REMOTE COMPUTING SERVICES - Provision of data processing to a user by means of terminals at the user's site(s) connected by a data communications network to the vendor's central computer.

  - FACILITIES MANAGEMENT (FM) - (Also referred to as "Resource Management" or "Systems Management.") The management of all or part of a user's data processing functions under a long-term contract (not less than one year). To qualify as FM, the contractor must directly plan and control as well as operate the facility provided to the user on-site, through communications lines or mixed mode. Simply providing

resources, even though under a long-term contract and/or for all of a user's processing needs, does not necessarily qualify as FM.

- SOFTWARE PRODUCTS - This category includes users' purchases of applications and systems packages for use on in-house computer systems. Included are lease and purchase expenditures, as well as fees for work performed by the vendor to implement and maintain the package at the users' sites. Fees for work performed by organizations other than the package vendor are counted in professional services. There are several subcategories of software products.

  - APPLICATIONS PRODUCTS - are software which perform processing to service user functions. They consist of:

    . CROSS-INDUSTRY PRODUCTS - which are used in multiple user industry sectors. Examples are payroll, inventory control, and financial planning.

    . INDUSTRY-SPECIALIZED PRODUCTS - which are used in a specific industry sector such as banking and finance, transportation, or discrete manufacturing. Examples are demand deposit accounting and airline scheduling.

  - SYSTEMS PRODUCTS - are software which enables the computer/communications system to perform basic functions. They consist of:

    . SYSTEMS OPERATIONS PRODUCTS - which function during applications program execution to manage the computer system resource. Examples include operating systems, DBMS, communication monitors, emulators, and spoolers.

    . SYSTEMS UTILIZATION PRODUCTS - which are used by operations personnel to utilize the computer system more effectively. Examples include performance measurement, job accounting, computer operations scheduling, and utilities.

. SYSTEMS IMPLEMENTATION PRODUCTS - which are used to prepare applications for execution by assisting in designing, programming, testing, and related functions. Examples include languages, sorts, productivity aids, data dictionaries, report writers, project control systems, program library management systems, and retrieval systems.

- PROFESSIONAL SERVICES - This category is made up of services related to EDP, including systems management, systems design, custom/contract programming, consulting, education, and training.

  - Services are provided on the basis of:

    . TIME AND MATERIALS - The billing rate is measured in units of time rather than actual costs.

    . FIXED PRICE - A firm price is agreed upon for a defined piece of work.

    . COST PLUS FEE - The billing rate depends on actual costs plus a fixed fee.

  - Services are sold to:

    . GOVERNMENT - which includes federal, state, and local governments and their agencies.

    . COMMERCIAL - which includes all nongovernment organizations.

C. USES OF PROCESSING SERVICES

- PROBLEM SOLVING AND DATA BASE MANAGEMENT SERVICES - Based on software tools designed to manage user data bases and/or convert data into usable information through the use of mathematical, statistical, or financial analysis tools. These tools usually enable the end user to readily and easily display the results in report or graphical form.

- TRANSACTION PROCESSING SERVICES - Usually highly repetitive, clerical applications. Most business accounting fits into this category: payroll, accounts receivable, order entry, portfolio accounting, and inventory control are all good examples of transaction processing. Many industry-specific applications also fit into this category; for example, wholesale distribution and most hospital processing services.

- VENDOR DATA BASE SERVICES - Based on data bases supplied by the vendor. Although the data base may be public or owned by a third party, the vendor controls access to it. Credit authorization and legal data bases are examples.

- UTILITY SERVICES - Provide access to a computer and/or communications network with basic software that enables users to develop their own program. Terminal-handling software, sorts, language compilers, scientific library routines, and other systems software, including language, are included in this category.

D. INDUSTRY-SPECIFIC REVENUES

- DISCRETE MANUFACTURING - Apparel, furniture, printing, leather, metal, machinery, electronics, transportation, scientific and control instruments, and miscellaneous manufacturing.

- PROCESS MANUFACTURING - Metal mining, anthracite mining, coal mining, oil and gas extraction, food products, tobacco, textile products, lumber and wood products, paper products, chemicals, petroleum, rubber and plastics, stone, glass, clay, and primary metals.

- TRANSPORTATION. - Railroads, local transit, motor freight, airlines, pipelines, and water transportation.

- UTILITIES - Communications, electric, gas, and sanitation.

- BANKING AND FINANCE - Banks, savings and loans, credit agencies, credit unions, security and commodity brokers, and holding and investment companies.

- INSURANCE - Insurance (life, health, etc.) and insurance agents.

- MEDICAL - Hospitals, clinics, nursing homes, physicians services, and dentists services.

- EDUCATION - Educational services.

- RETAIL - Building materials, hardware, general merchandise, food, automotive dealers and gas stations, apparel, furniture, eating and drinking, and miscellaneous retail.

- WHOLESALE - Durable and nondurable goods.

- STATE AND LOCAL GOVERNMENT - As appropriate.

- FEDERAL GOVERNMENT - As appropriate.

- SERVICES - Business services, accountants, CPAs, architects and engineers, business consultants, lawyers, and research institutions.

- OTHER - Agriculture, forestry, and fishing; construction; real estate; hotels, rooming houses, camps, and other lodging places; personal services; automotive repair, services, and garages; miscellaneous repair services; motion pictures; amusement and recreation services; social services; museums, art galleries, botanical and zoological gardens; membership organizations; and miscellaneous services.

- NOTE - Appropriate SIC codes for the above sectors are available from INPUT on request.

E. TRENDS AND ISSUES

- REVENUE GROWTH - Derived from one or more of the following:

  - PRICE INCREASES - Proportion of revenue increase derived solely from increasing the price of services.

  - ACQUISITION - Proportion of revenue increase derived from the acquisition of other companies.

  - REAL GROWTH - Proportion of revenue increase derived from all sources net of the effect of price increases and acquisitions.

- COSTS

  - SALES - Includes field sales offices, account representatives, technical representatives, branch management and support, and related functions.

  - MARKETING - Includes corporate marketing, product planning, market research, advertising, training, and related functions.

- RESEARCH AND DEVELOPMENT - Includes R&D personnel, amortization of software purchases, maintenance, enhancement of existing products, and development of new products. Excludes internal computer costs.

- PRETAX PROFITS - Profits before taxes and extraordinary items.

- FIRMWARE - A term applied to computer programs that are stored in a type of memory that can only be read, not erased or written into by the user.

- DISTRIBUTED DATA PROCESSING (DDP) - Distributed processing is the deployment of programmable intelligence in order to perform data processing functions where they can be accomplished most effectively, through the electronic interconnection of computers and terminals, arranged in a telecommunications network adapted to the user's characteristics.

- USER SITE HARDWARE SERVICES (USHS) - These offerings provided by RCS vendors place programmable hardware on the user's site (rather than the EDP center). USHS offers:

  - Access to a communications network.

  - Access through the network to the RCS vendor's larger computers.

  - Significant software as part of the service.

F. BALANCE SHEET DATA

- TRADE RECEIVABLES - Receivables from clients, excluding rent from tenants, income due from subsidiaries, and other nonclient receivables.

- TOTAL CURRENT LIABILITIES - Includes the current portion of long-term debt, which was also identified as a separate item in the questionnaire.

G. DEFINITIONS OF FINANCIAL RATIOS

- Current ratio =

$$\frac{\text{current assets}}{\text{current liabilities}}$$

- After tax return on equity =

$$\frac{\text{net income}}{\text{net worth}}$$

- Total debt as a percent of total capital =

$$\frac{\text{total debt including current portion}}{\text{(total debt and net worth)}}$$

- Long-term debt as a percent of equity =

$$\frac{\text{long-term debt}}{\text{equity}}$$

- Trade receivables turnover =

$$30 * \left[\frac{\text{trade receivables}}{\left[\frac{\text{annual revenue}}{12} \times 1 + \frac{\text{revenue growth rate}}{2} \right]} \right] = \text{days}$$

- Asset turnover =

$$\frac{\text{revenues}}{\text{total assets}}$$

- Return on assets =

$$\frac{\text{net income}}{\text{total assets}}$$

- Working capital as a percent of total assets =

$$\frac{\text{(current assets - current liabilities)}}{\text{total assets}}$$

- Trade receivables as a percent of total assets =

$$\frac{\text{trade receivables}}{\text{total assets}}$$

- Current assets as a percent of total assets =

$$\frac{\text{current assets}}{\text{total assets}}$$

- Long-term debt less current portion as a percent of total liabilities =

$$\frac{\text{long-term debt less current portion}}{\text{total liabilities}}$$

- Deferred taxes as a percent of current liabilities =

$$\frac{\text{deferred taxes}}{\text{current liabilities}}$$

- Equity as a percent of total assets =

$$\frac{\text{equity}}{\text{total assets}}$$

APPENDIX B: METHODOLOGY AND RECONCILIATION

APPENDIX B: METHODOLOGY AND RECONCILIATION

- The new methodology and expanded scope of this year's study resulted in significant changes in the estimate of 1979 market size.

  - The inclusion of services offered by computer manufacturers and intra-industry services added 16 large companies to the number of companies, as shown in Exhibit B1.

  - The revised estimate of companies added an additional 166 companies to 1979.

- The addition of the new categories of companies had the following effect.

  - Four banks and two computer manufacturers were added to the over $10 million processing services companies category.

  - Ten computer manufacturers were added to the over $10 million software products companies category.

  - Only six of the sixteen companies offered one type of service. The other ten offered various types of processing, software products, and professional services. Each was categorized by the predominant revenue source.

EXHIBIT B-1

RECONCILIATION OF NUMBER OF COMPANIES
IN 1979, IN 1980, AND 1981 REPORTS

TYPE OF COMPANY • SIZE ($ millions)	1980 REPORT OF 1979 COMPANIES	INCREASE FROM REVISED ESTIMATE*	ADDITION OF COMPUTER MANU-FACTURERS AND INTRA-INDUSTRY SERVICES	1981 REPORT OF 1979 COMPANIES	INCREASE IN NUMBER OF COMPANIES IN 1980	1980 NUMBER OF COMPANIES
Processing Services						
• >$10	65	17	6	88	10	98
• < 10	2,075	0	0	2,075	-25	2,050
Subtotal**	2,140	17	6	2,163	-15	2,150
Software Products						
• >$10	15	0	10	25	1	26
• < 10	1,080	60	0	1,140	60	1,200
Subtotal**	1,095	60	10	1,165	61	1,225
Professional Services						
• >$10	20	14	0	34	19	53
• < 10	800	75	0	875	50	925
Subtotal**	820	89	0	909	69	975
Total**	4,055	166	16	4,237	115	4,350

* FROM CENSUS OF OVER $10 MILLION COMPANIES AND BY RANDOM SAMPLE OF UNDER $10 MILLION COMPANIES.
**ROUNDED

- The revised estimate resulted in changes to the number of companies in all types of services.
  - Four of the 17 processing services companies in the over $10 million category were added as a result of new research which provided a better insight into their data processing services activities.
  - The other 13 companies in this group were identified through ongoing research since the last study.
  - Sixty software products companies were added to the under $10 million category based on the random sample.
  - No new software products companies were identified with more than $10 million in revenue.
- The most significant revisions occurred in the professional services category.
  - Fourteen companies in the over $10 million category were identified.
    - Several of them were major CPA firms
    - The remainder were primarily regional firms that escaped notice in the past.
  - The random sample indicated an estimate of 75 additional companies in the under $10 million category.
- The new estimate of the number of computer services companies (including the additional categories) is within 4% of the previous estimate which is well within the statistical confidence levels.
- The new companies added in 1980 are a result of growth from one category to another.

- The most significant new companies were in the small software products and professional services categories.

- The number of processing services companies in the under $10 million category declined due to the large number of acquisitions of companies in this category and to a lower than usual number of new companies being established in 1980.

- The impact on the revenue estimates of the additions and revisions is shown in Exhibit B-2.

  - Virtually all the additional software products revenues come from the inclusion of computer manufacturers.

  - The intra-industry companies accounted for more than half the additional processing services revenues.

  - The computer manufacturers also contributed most of the additional professional services revenues.

- The most profound revision of the revenue estimate was in the professional services category.

  - Most of these companies are privately held and few of them advertise to any degree.

  - Consequently, identification of professional services revenues is particularly difficult.

  - A large portion of the over $10 million category revenue revision was due to improved estimates of CPA firm activity in this area.

  - The balance of the revenues come from firms uncovered through rigorous research efforts.

EXHIBIT B-2

RECONCILIATION OF 1979 REVENUE IN 1980 AND 1981 REPORTS

($ millions)

TYPE OF COMPANY • SIZE ($ millions)	1980 REPORT OF 1979 COMPANIES	INCREASE FROM REVISED ESTIMATE*	ADDITION OF COMPUTER MANU-FACTURERS AND INTRA-INDUSTRY SERVICES	1981 REPORT OF 1979 COMPANIES	INCREASE IN NUMBER OF COMPANIES IN 1980	1980 NUMBER OF COMPANIES
Processing Services						
• >$10	$3,750	$ 281	$ 306	$ 4,337	779	5,116
• < 10	2,950	263	0	3,213	481	3,694
Subtotal	$6,700	$ 544	$ 306	$ 7,550	1,260	8,810
Software Products						
• >$10	250	118	708	1,076	335	1,411
• < 10	960	172	0	932	288	1,220
Subtotal	$1,210	$ 290	$ 708	$ 2,008	623	2,631
Professional Services						
• >$10	830	646	178	1,654	456	2,110
• < 10	720	352	0	1,072	290	1,362
Subtotal	$1,550	$ 998	$ 178	$ 2,726	746	3,472
Total	$9,460	$1,832	$1,192	$12,284	2,629	~~14,913~~

* FROM CENSUS OF OVER $10 MILLION COMPANIES AND BY RANDOM SAMPLE OF UNDER $10 MILLION COMPANIES.

- The random sample established the basis for the substantial increase in professional services revenues in the under $10 million category.

- If the original 1979 revenue is combined with the additional revenue coming from the new inclusions, the revised estimate implies an 11% error from year to year.

  - A disproportionate amount of this discrepancy came from the over $10 million category of professional services companies. It is expected that revenue identification of these companies will be less difficult in future years.

- The revision in market size had the most significant impact on growth for the professional services companies.

  - Their growth has been much higher than previously estimated.

  - Impact on the growth rates of the other two categories was minimal.

- The inclusion of computer manufacturers and intra-industry services had a small effect on the industry growth.

  - Growth rates of software products and professional services were unaffected.

  - The growth rates of processing services and the overall industry were increased by 1% from 16% and 20%, respectively, by the inclusion.

- The new methodology employed this year provides a much better estimate of the market size than in the past.

  - The statistics gathered have a 90% confidence level within $\pm$ 5%.

- Further refinements in the random sample technique are expected to result in an even higher confidence level in next year's survey.

APPENDIX C: DATA BASE

EXHIBIT C-1

REVENUE DISTRIBUTION BY COMPANY TYPE AND SERVICE MODE

(percent)

TYPE OF COMPANY • SIZE ($ millions)	SERVICE MODE							
	PROCESSING SERVICES		SOFTWARE PRODUCTS		PROFESSIONAL SERVICES		TOTAL*	
	1979	1980	1979	1980	1979	1980	1979	1980
PROCESSING SERVICES								
• $0.25-1	92%	91%	2%	2%	6%	7%	100%	100%
• 1-10	90	89	5	5	4	5	100	100
• 10-25	94	94	1	2	5	5	100	100
• >25	88	88	5	5	7	7	100	100
SUBTOTAL	90%	89%	5%	5%	6%	6%	100%	100%
SOFTWARE PRODUCTS								
• $0.25-1	0	0	83	85	17	15	100	100
• 1-10	1	2	96	95	3	3	100	100
• >10	4	4	79	80	17	16	100	100
SUBTOTAL	2%	2%	84%	85%	14%	13%	100%	100%
PROFESSIONAL SERVICES								
• $0.25-1	0	0	24	23	76	76	100	100
• 1-10	12	12	3	4	85	83	100	100
• >10	13	13	2	2	86	85	100	100
SUBTOTAL	11%	11%	5%	5%	84%	84%	100%	100%
TOTAL	58%	56%	18%	19%	24%	25%	100%	100%

*MAY NOT TOTAL 100% DUE TO ROUNDING

EXHIBIT C-2

COMPUTER SERVICES EMPLOYEES BY TYPE AND SIZE OF COMPANY

TYPE OF COMPANY • SIZE ($ millions)	NUMBER OF EMPLOYEES (thousands)	
	1979	1980
PROCESSING SERVICES		
• <$10	88	92
• >10	92	98
SUBTOTAL*	180	190
SOFTWARE PRODUCTS		
• <$10	12	19
• >10	18	21
SUBTOTAL*	30	40
PROFESSIONAL SERVICES		
• <$10	25	33
• >10	57	54
SUBTOTAL*	82	88
COMPUTER SERVICES		
• <$10	125	144
• >10	168	173
TOTAL*	293	318

*MAY NOT TOTAL DUE TO ROUNDING

EXHIBIT C-3

FINANCIAL RATIOS FOR PUBLIC COMPANIES, 1979

ITEMS	FINANCIAL RATIOS - 1979			
	PROCES-SING SERVICES	SOFTWARE PRODUCTS	PROFES-SIONAL SERVICES	INDUSTRY AVERAGE 1979
• CURRENT RATIO	1.69	1.74	1.47	1.61
• AFTER TAX RETURN ON EQUITY	20.8%	42.1%	25.6%	22.4%
• LONG-TERM DEBT AS A PERCENT OF EQUITY	25.3%	110.8%	74.2%	36.1%
• TRADE RECEIVABLES TURNOVER (DAYS)	55.8	84.5	81.0	65.3
• ASSET TURNOVER	1.42	1.78	1.94	1.57
• RETURN ON ASSETS	11.6%	12.2%	7.7%	10.7%
• WORKING CAPITAL AS A PERCENT OF TOTAL ASSETS	17.7%	27.9%	22.0%	19.4%

EXHIBIT C-4

BALANCE SHEET ITEMS OF PUBLIC COMPANIES, 1979

(percent)

ITEM	BALANCE SHEET ITEM COMPARISONS - 1979			
	PROCES-SING SERVICES	SOFTWARE PRODUCTS	PROFES-SIONAL SERVICES	INDUSTRY AVERAGE 1979
SELECTED ASSETS				
• TRADE RECEIVABLES AS A PERCENT OF TOTAL ASSETS	25.2%	47.4%	49.7%	32.5%
• CURRENT ASSETS AS A PERCENT OF TOTAL ASSETS	43.8	65.5	68.7	51.2
SELECTED LIABILITIES				
• CURRENT LIABILITIES A PERCENT OF TOTAL LIABILITIES	59.1	53.0	67.0	61.1
• LONG-TERM DEBT LESS CURRENT PORTION AS A PERCENT OF TOTAL LIABILITIES	32.0	45.0	32.2	33.3
• DEFERRED TAXES AS A PERCENT OF CURRENT LIABILITIES	8.8	2.0	0.8	5.6
EQUITY				
• EQUITY AS A PERCENT OF TOTAL ASSETS	55.8	28.9	30.3	48.0

EXHIBIT C-5

NUMBER OF MAIL SURVEY RESPONDENTS BY
TYPE AND SIZE OF COMPANY

TYPE OF SERVICE / SIZE OF COMPANY ($ millions)	NUMBER OF RESPONDENTS				
	$0.25-$0.99	$1-$9.9	$10-$24.9	>$25	TOTAL
PROCESSING SERVICES	29	43	9	14	95
SOFTWARE PRODUCTS	11	13	3	2	29
PROFESSIONAL SERVICES	16	15	8	2	41
COMPUTER SERVICES	56	71	20	18	165
SYSTEMS INTEGRATORS	5	13	2	1	21
TOTAL	61	84	22	19	186

EXHIBIT C-6

SURVEY RESPONDENTS AND TOTAL
INDUSTRY STATISTICS

TYPE OF COMPANY • SIZE ($ millions)	RESPONDENTS				INDUSTRY			
	NUMBER OF RESPON-DENTS	1980 REVENUE ($ millions)	PERCENT OF TOTAL	1979/1980 PERCENT CHANGE IN REVENUE	NUMBER OF COMPANIES	1980 REVENUE ($ millions)	PERCENT OF TOTAL	1979/1980 PERCENT CHANGE IN REVENUE
PROCESSING SERVICES								
• $0.25-1	29	$ 16	1%	24%	$1,250	$ 686	5%	5%
• 1-10	43	169	6	15	800	3,008	20	17
• 10-25	9	150	5	25	43	627	4	18
• >25	14	1,574	56	24	55	4,489	30	18
SUBTOTAL*	95	$1,910	68%	23%	$2,148	$ 8,810	59%	17%
SOFTWARE PRODUCTS								
• $0.25-1	11	5	0	77	1,000	556	4	13
• 1-10	13	35	1	63	200	664	4	51
• >10	5	100	4	25	26	1,411	9	31
SUBTOTAL*	29	$ 140	5%	34%	$1,226	$ 2,631	18%	31%
PROFESSIONAL SERVICES								
• $0.25-1	16	8	0	85	725	423	3	9
• 1-10	15	76	3	19	200	939	6	38
• >10	10	651	23	28	53	2,110	14	28
SUBTOTAL*	41	$ 736	26%	27%	$ 978	3,472	23%	27%
TOTAL	165	$2,786	100%	25%	$4,352	$14,913	100%	21%

*MAY NOT TOTAL EXACTLY DUE TO ROUNDING

EXHIBIT C-7

PROFIT MARGINS ON TOTAL REVENUES OF RESPONDENTS

TYPE OF COMPANY • SIZE ($ millions)	PRETAX PROFIT MARGINS (PERCENT)	
	1979	1980
PROCESSING SERVICES		
• $0.25-1	7%	8%
• 1-10	8	7
• 10-25	7	8
• >25	16	16
SUBTOTAL	14%	14%
SOFTWARE PRODUCTS		
• $0.25-1	5	(12)
• 1-10	11	11
• >10	*	*
SUBTOTAL	7%	9%
PROFESSONAL SERVICES		
• $0.25-1	13	7
• 1-10	6	6
• >10	9	7
SUBTOTAL	9%	7%
TOTAL COMPUTER SERVICES		
• $0.25-1	8	4
• 1-10	8	7
• 10-25	6	7
• >25	14	14
TOTAL	12%	12%

*INSUFFICIENT DATA

EXHIBIT C-8

PROFIT MARGINS REPORTED BY RESPONDENTS

TYPE OF COMPANY • SIZE ($ millions)	PRETAX PROFIT MARGINS (percent)	
	1979	1980
PROCESSING SERVICES		
• $0.25-1	6%	7%
• 1-10	8	6
• 10-25	9	10
• >25	*	*
TOTAL	11%	10%
SOFTWARE PRODUCTS		
• $0.25-1	*	15
• 1-10	18	12
• >10	*	12
TOTAL	9%	12%
PROFESSIONAL SERVICES		
• $0.25-1	15	9
• 1-10	7	6
• >10	9	7
TOTAL	9%	7%
TOTAL COMPUTER SERVICES		
• $0.25-1	9	9
• 1-10	9	7
• 10-25	7	7
• >25	11	9
TOTAL	10%	9%

*INSUFFICIENT DATA

EXHIBIT C-9

GROWTH RATES OF REVENUE SOURCES OF
RESPONDENTS, 1979-1980

TYPE OF COMPANY	REVENUE TYPE AS PERCENT OF TOTAL COMPANY REVENUE						
	NONCAPTIVE			TOTAL COMPUTER SERVICES	INTE-GRATED SYSTEMS	OTHER	TOTAL
		COMPUTER SERVICES					
	CAPTIVE	FOREIGN	U.S.				
PROCESSING SERVICES	27%	27%	23%	24%	118%	24%	25%
SOFTWARE PRODUCTS	–	48	34	37	389	81	40
PROFESSIONAL SERVICES	–	84	27	32	(3)	–	32
WEIGHTED AVERAGE	28%	36%	25%	26%	97%	25%	27%

EXHIBIT C-10

RESPONDENTS' NONCAPTIVE
FOREIGN COMPUTER SERVICES REVENUES, 1980
($ millions)

TYPE OF COMPANY	TYPE OF SERVICE				
	PROCESSING SERVICES	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	UNDEFINED SERVICES	TOTAL
PROCESSING SERVICES	$278	$ 36	$17	$88	$419
SOFTWARE PRODUCTS	1	43	0	1	45
PROFESSIONAL SERVICES	26	74	1	0	101
TOTAL	$305	$153	$18	$89	$565

APPENDIX D: QUESTIONNAIRE

CATALOG NO. A D 4 | | | |

CONFIDENTIAL

Company Name _____

Mailing Address _____

_____

_____

_____

Parent Company Name (if applicable) _____

Name _____

Title _____

Telephone Number ( ) _____

THANK YOU

Please check the gift you would like in return for your completing this questionnaire. Return it by March 31 for an additional bonus.

☐ ADAPSO Member

The INPUT Directory of the largest Information Services Companies in the U.S.

Summary report on "The Effectiveness of Corporate Planning In Computer Services Companies" for returning the questionnaire before March 31.

☐ Non-ADAPSO Member

The INPUT Directory of the largest Information Services Companies in the U.S. and a summary of the results from the ADAPSO annual report at no charge.

For returning the questionnaire before March 31, send the additional bonus of the summary report on "The Effectiveness of Corporate Planning In Computer Services Companies" and a $250 discount certificate for non-ADAPSO Members which will apply to the purchase price of the 1981 report.*

*The price of the 1981 ADAPSO report will be $595 through September 15, 1981 and $695 thereafter.

CONFIDENTIAL

Thank you very much for participating in this survey. Please be assured that the identity of your company will be kept confidential.

Return questionnaire to:
Kenneth Churilla
INPUT, Suite 600
2471 East Bayshore Road
Palo Alto, CA 94303
Phone: (415) 493-1600

Alternate return:
Mr. George Rittersbach
Peat, Marwick, Mitchell & Co.
345 Park Avenue
New York, NY 10022

FOR OFFICE USE ONLY

CATALOG NO. A D 4 (1)

Q TYPE ☐ (2)

C TYPE ☐ (3)

R TYPE ☐ (4)

☐☐☐☐ (5)

ADAPSO QUESTIONNAIRE-1981

GENERAL INSTRUCTIONS

This questionnaire is designed to be completed by management. The questionnaire asks for data describing your computer services business activity for fiscal years 1979 and 1980. The data will be held confidential, and will be used to produce an overall industry analysis for the industry and for the financial community. Terms used in the questionnaire are defined in the attached "Definitions" section. The definitions of terms are listed in the same sequence as the terms are first presented in the questionnaire. The numbers adjacent to the definitions correspond to the question numbers. Contact INPUT if additional copies are required.

GENERAL INFORMATION

1. **FISCAL YEAR.** When did your 1980 fiscal year end?

Year End Y Y ☐☐ (6) Month End M M ☐☐ (7)

2. **COMPANY STATUS.** Is your company a (check one)

Public Company? 1. ☐

Private Company? 2. ☐

Subsidiary/Division of a larger company? 3. ☐ (8)

REVENUES

Please provide revenues your company received in the past two fiscal years from the appropriate sources listed below.

	REVENUES ($000) Fiscal 1979	REVENUES ($000) Fiscal 1980
3. Total Revenues (Total of #4, 8, & 9)	$ (9)	$ (18)
4. Total Computer Services Revenues (Total of #5, 6, & 7)	$ (10)	$ (19)
5. Captive Computer Services Revenues	$ (11)	$ (20)
6. Non-captive U.S. Computer Services Revenues	$ (12)	$ (21)
7. Non-captive Foreign Computer Services Revenues	$ (13)	$ (22)
8. Integrated Systems (Turnkey) Revenues	$ (14)	$ (23)
9. Other Revenues	$ (15)	$ (24)

EMPLOYEES

Please list the average or mid-year number of employees you had associated with:

	EMPLOYEES Fiscal 1979	EMPLOYEES Fiscal 1980
10. Total Computer Services Revenues (# 4 above)	(16)	(25)
11. Non-captive U.S. Computer Services Revenues (#6 above)	(17)	(26)

REVENUE SOURCES

Of your **non-captive U.S. computer services revenues** (#6 above), what percentages were from the following services?

		1979	1980
12.	Software products	% (27)	% (37)
13.	Professional services	% (28)	% (38)
14.	Processing services	% (29)	% (39)
	TOTAL	100%	100%

Of your **processing services revenues** (#14 above), what percentages were from the following *types*:

15.	Problem solving and data base management services	% (30)	% (40)
16.	Transaction processing services	% (31)	% (41)
17.	Vendor data base services	% (32)	% (42)
18.	Utility services	% (33)	% (43)
	Processing services total	100%	100%

What percentages of **processing services revenues** (#14 above) were from the following *modes of delivery:*

19.	Batch services	% (34)	% (44)
20.	Remote computing services	% (35)	% (45)
21.	Facilities management	% (36)	% (46)
	Processing services total	100%	100%

Of your **non-captive foreign computer services revenues** (#7 above) what percentages came from:

	1980	
22. Software products		% (47)
23. Professional services		% (48)
24. Processing services		% (49)
TOTAL	100%	

25. What percentage of your **integrated system (turnkey)** revenues (#8 above) came from **foreign** sources in 1980? _____ % (50)

26. How many **integrated systems (turnkey)** did you (will you) install in:

1979 _____ (51) 1980 _____ (52) 1981 _____ (53)

MARKETING

27. How extensive is your geographic coverage? (check one)

Local 1. ☐
Regional 2. ☐
National 3. ☐
International 4. ☐ (54)

28. How many sales offices do you have in:

The U.S. _____ (55)
Outside the U.S. _____ (56)

INDUSTRY SPECIFIC REVENUES

29. What percentage of your **non-captive U.S. computer services revenues** (#6 above) was derived from services or products that are industry specific?

1979 [ ] % (57) 1980 [ ] % (60)

If no revenues were derived from the above, please continue to question 31.

30. Of these **industry specific revenues**, what percentages came from the following industries?

	PERCENT OF INDUSTRY SPECIFIC REVENUES	
	Fiscal 1979	Fiscal 1980
Discrete Manufacturing	[ ] % (61)	[ ] % (76)
Process Manufacturing	[ ] % (62)	[ ] % (77)
Transportation	[ ] % (63)	[ ] % (78)
Utilities	[ ] % (64)	[ ] % (79)
Banking and Finance	[ ] % (65)	[ ] % (80)
Insurance	[ ] % (66)	[ ] % (81)
Medical	[ ] % (67)	[ ] % (82)
Education	[ ] % (68)	[ ] % (83)
Retail	[ ] % (69)	[ ] % (84)
Wholesale	[ ] % (70)	[ ] % (85)
Federal Government	[ ] % (71)	[ ] % (86)
State and Local Government	[ ] % (72)	[ ] % (87)
Services (CPAs, Lawyers, etc.)	[ ] % (73)	[ ] % (88)
Other (please identify)		
_____ (58)	[ ] % (74)	[ ] % (89)
_____ (59)	[ ] % (75)	[ ] % (90)
TOTAL	100%	100%

TRENDS AND ISSUES

What were/are the **targeted** percentage growth rates of your **non-captive U.S. computer services revenues** (#6 above) for the following years?

31.	Fiscal 1979	(91)	%
32.	1980	(92)	%
33.	1981	(93)	%

What percentages of your **non-captive U.S. computer services revenues** (#6 above) growth were/will be the result of the following?

		Fiscal 1979	Fiscal 1980	Fiscal 1981
34.	Price increases	(94) %	(100) %	(106) %
35.	Acquisitions	(95) %	(101) %	(107) %
36.	Real growth	(96) %	(102) %	(108) %
	TOTAL	100%	100%	100%

For **non-captive U.S. computer services revenues** (#6 above), what were your costs as a percent of those revenues for:

		Fiscal 1979	Fiscal 1980
37.	Sales	(97) %	(103) %
38.	Marketing	(98) %	(104) %
39.	Research & development	(99) %	(105) %

40. If the federal government provides a direct tax credit for increases in research and development expenditures, by what percentage would you increase those expenditures?

(109) %

What were your **pretax profits or margins** for the following years?

	Fiscal 1979			Fiscal 1980		
	Amount ($000)	or	Percent	Amount ($000)	or	Percent
41. Total revenue (#3 above) profits	$ (110)	or	% (113)	$ (118)	or	% (121)
42. Total computer services revenue (#4 above) profits	$ (111)	or	% (114)	$ (119)	or	% (122)
43. Non-captive U.S. computer services revenue (#6 above) profits	$ (112)	or	% (115)	$ (120)	or	% (123)

44. What percentage of your **total computer services revenues** (#4 above) were from minority interest affiliates in the following years?

Fiscal 1979 (116) % Fiscal 1980 (124) %

45. What percentage of your total **computer services profits** were from minority interest affiliates in the following years?

Fiscal 1979 (117) % Fiscal 1980 (125) %

COMPANY IMPACTS

Please rate the following major factors as to how they affected your company in 1980, and how you expect them to affect your company by 1985. Please use a scale of 0 to 10; where 0 indicates a very negative impact, 5 indicates no impact, and 10 indicates a very positive impact.

GROWTH

FACTORS AFFECTING COMPANY GROWTH	In 1980	By 1985
46. Recession	(126)	(142)
Entry into computer services of:		
47. Banks	(127)	(143)
48. CPA firms	(128)	(144)
49. Telephone companies (AT&T, etc.)	(129)	(145)
50. Others (IBM, Exxon, American Express)	(130)	(146)
51. Competition from other computer service firms	(131)	(147)
52. Firmware	(132)	(148)
53. New telecommunication offerings	(133)	(149)
Reduction in effective cost to end user due to:		
54. Mini/microcomputers	(134)	(150)
55. Integrated systems (turnkey)	(135)	(151)
56. New mainframes	(136)	(152)
57. Customer's positive policy towards distributed data processing	(137)	(153)

PROFIT MARGINS

FACTORS AFFECTING COMPANY PROFIT MARGINS		
58. Lack of availability of skilled technical staff	(138)	(154)
59. Inflation	(139)	(155)
60. Personnel productivity	(140)	(156)
61. Low cost mass marketing (retail, mail)	(141)	(157)

APPENDIX E: REPLY FORM

APPENDIX E: REPLY FORM

TO: USERS OF THE 1981 ADAPSO ANNUAL REPORT

To help us continue to improve the Annual Report series, please complete this form and return it to me.

1. Please rate the sections of the report. (5 = excellent, 0 = poor)

Section		RATING		COMMENTS
		CLARITY	ACCEPTABILITY	
II	Executive Summary			
III	Total Computer Services Industry			
IV	Processing Services Companies			
V	Software Products Companies			
VI	Professional Services Companies			
VII	Systems Integrator Companies			
VIII	Vendor Performance			
	Appendices			

2. The report has several objectives. Please rate how well it succeeded. (5 = excellent, 0 = poor)

	Rating
It provides a basic reference source on size, profits, and growth of the industry.	_____
It is easy to read and use.	_____
Individual companies can compare performance to the industry.	_____
It is a tool for use in planning.	_____
It is a tool for financial analyses.	_____
It is timely.	_____

3. If you have used earlier ADAPSO Annual Reports, please compare this report to the earlier reports: _____

_____

_____

_____

4. Please comment on the overall 1981 Report, including suggestions for the 1982 Report:

a.) What specific items can be improved?

_____

_____

b.) What specific items can be added?

_____

_____

c.) Other suggestions?

_____

_____

Please return to: Jerry Dreyer
ADAPSO
1300 North Seventeenth Street
Arlington, VA 22209

THANK YOU!