



ASSOCIATION OF DATA PROCESSING
SERVICES ORGANIZATIONS

COMPUTER SERVICES INDUSTRY

1980

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The company carries out continuous and in-depth research. Working closely with clients on important issues, INPUT's staff 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.

Professional staff have, on average, nearly 20 years experience in specialization. Most in management position marketing, or planning enables INPUT to supply to complex business pro

Formed in 1974, INPUT is a leading international organization. Clients include over 100 of the largest and most technologically advanced companies.

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ABOUT ADAPSO

The Association of Data Processing Service Organizations (ADAPSO), founded in 1961, is a non-profit business organization that is committed to meet the needs of the multi-billion dollar computer services industry. Members represent all phases of the industry - data centers, software services and products, timesharing and facility management companies. Corporate members range from larger publicly-owned companies, chains and conglomerates with both national and international operations to smaller companies serving local markets or specialty segments of the industry.

The ADAPSO program appeals to both large and small companies, and includes the full range of educational, legislative, informational and management programs that can be expected from an aggressive association.

ADAPSO programs are designed to protect the computer services industry from unfair competition and unwise government action and legislation -while promoting industry standards and financial soundness. As the industry grows, ADAPSO is dedicated to identifying the computer user as being professional, committed, and responsible; to the financial growth and stability, and to the support a vigorous, competitive computer services industry.

Warren Sargent

AUTHOR

Fourteenth Annual Survey of the

TITLE

Computer Services Industry

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

FOURTEENTH ANNUAL SURVEY
OF
THE COMPUTER SERVICES INDUSTRY

Based On Data For The Year 1979

Published JULY 1980

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July 1980

Dear Reader:

ADAPSO and INPUT are pleased to present the Fourteenth Annual Report on the Computer Services Industry.

The principal objective of this report is to be the authoritative statement of computer services industry performance with regard to revenues and profit margins.

The report reveals that 1979 was another good year for revenue growth and profitability. Available U.S. revenue grew 22% to approximately \$9.5 billion. Pretax profit margins were reported at 10% of revenue. Productivity increased for the entire industry by 9% to an average revenue per employee of \$44,000.

This year, for the first time, hardware sales by computer services vendors are analyzed, and an analysis of turnkey system companies is provided in a separate chapter. Also, the number of public companies analyzed in this year's report was more than doubled to cover 45 companies. This is in addition to continued analysis of product and industry markets, expenditure patterns and selected balance sheet information.

This report will be of primary interest to computer services company management, financial analysts, investment managers, research firms, the media, shareholders, employees of computer services companies, and others who have a desire to see a quantification of the performance of the industry.

INPUT forecasts a compound annual growth rate of 19% over the next five years for the computer services industry, as new market opportunities continue to become available to provide high value added, full service solutions to users' computer-based needs.

A reader survey reply form has been incorporated as the last section of the report. Your cooperation in completing this survey will enable ADAPSO to meet your high standards for clarity, objectivity, and acceptance.

Lawrence J. Schoenberg
Chairman, ADAPSO Research &
Statistics Committee



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ANNUAL COMPUTER SERVICES INDUSTRY REPORT

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I INTRODUCTION

I INTRODUCTION

- This annual report of the computer services industry has been prepared by INPUT under a commission granted by the Association of Data Processing Service Organizations (ADAPSO). It is designed for use by industry management and financial analysts.
 - ADAPSO consists of over 400 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 processing industry. INPUT has studied the computer services industry in depth since 1974, and maintains several ongoing consulting programs for the industry.
- This fourteenth report differs from earlier reports in several respects:
 - Hardware sales by computer services vendors are analyzed for the first time.
 - Turnkey system companies are analyzed in a separate chapter.
- The computer services industry adds value to computer hardware and communications resources to serve the needs of the end user. The economic role of

this complementary services industry is to add value to computer hardware by integrating people, expertise, products, distribution networks, and education into the service.

- This report excludes the computer services revenues of hardware manufacturers offering services solely to support the use of their own company's hardware. It also excludes intra-industry computer services revenues such as banks providing computer services to other banks.
- This report also excludes revenues generated by one computer service vendor selling to another computer service vendor, particularly software product vendors selling products to processing service companies.
- This report also excludes individual practitioners, moonlighters, and "cottage industry" vendors whose characteristics are significantly different than companies covered by the survey. Companies with less than six employees were not included. All companies with less than \$250,000 a year in revenues were excluded.
- Revenues are segmented by type of company - processing services, software products, or professional services - based on the dominant source of revenues for each company. This facilitates comparison between types of companies on parameters such as expenditures, revenue distribution, and financial ratios.
- Revenues are presented as available U.S. revenues unless specifically labelled otherwise.
- Data for responding companies with revenues over \$10 million are fairly representative of the industry. The number of these companies that reported represents 51% of the total number of companies in this revenue size range.
- Respondent data for companies with less than \$10 million in revenues are less reliable as a predictor for the entire computer services industry.

- Approximately 11% of all computer services companies with revenues greater than \$2 million, but less than \$10 million, responded to the survey. These data reasonably depict the industry, but are not statistically reliable.
- Approximately 3% of all computer services companies with revenues less than \$2 million responded to the survey. These data are not statistically reliable and serve as an indicator only. It should not be assumed that these data fairly represent companies in this revenue size range.
- INPUT conducted special research during 1979 to determine the number of vendors serving the computer services industry. The result of this research was a modest revision in the number of computer services companies serving the market. The net result was an increase in the overall market size of \$250 million, which represented approximately 3% of the original 1978 market. Appendix C provides further information on the rationale and data supporting this change.
- Where there were fewer than five respondents reporting in a cell for an exhibit, data are not presented and a notation is made on the exhibit that insufficient data were present.
- Definitions of terms used in the report are incorporated, where appropriate, in the text. A list of definitions is also included in the Appendix.
- Copies of the survey questionnaires are also contained in the Appendix.
- Appendix E is a reply form which is for your comments on this report. Please let us have your evaluations and suggestions by completing and returning the form.

II EXECUTIVE SUMMARY

II EXECUTIVE SUMMARY

A. COMPUTER SERVICES INDUSTRY 1979 PERFORMANCE

I. MARKET SIZE AND GROWTH

- 1979 continued the trend of solid revenue and profit growth for the computer services industry in the U.S., as verified by the results of the 1980 survey carried out by INPUT on behalf of ADAPSO.
- Total available U.S. computer services revenues in 1979 were approximately \$9.5 billion as determined by this study and shown in Exhibit II-1. The total number of people employed to generate these revenues was over 230,000, giving a revenue per employee level of approximately \$41,000.
- Companies participating in the 1980 survey had revenues totalling \$3.88 billion, equivalent to 41% of the total.
- The available U.S. revenue growth for 1979 versus 1978 is estimated to have been 22%, which is a rate 16% higher than the 19% detailed in the last two ADAPSO Annual Reports of the Computer Services Industry. The 45 major, publicly-owned computer services companies tabulated in Chapter VIII of this report out-performed the total industry by achieving a 26% revenue increase.

EXHIBIT II-1

U.S. COMPUTER SERVICES INDUSTRY
1979 PERFORMANCE SUMMARY

TYPE OF COMPANY	NUMBER OF COMPANIES	1979 ⁽¹⁾ AVAILABLE U.S. REVENUES (\$ MILLION)	ACTUAL ⁽²⁾ INDUSTRY GROWTH 1978-1979	1979 ⁽³⁾ PRETAX PROFITS (\$ MILLION)	1979 PRETAX PROFIT MARGIN	NUMBER OF EMPLOYEES
PROCESSING SERVICES	2,140	\$6,700	20%	\$670	10%	165,200
SOFTWARE PRODUCTS	980	1,210	29	135	11	22,400
PROFESSIONAL SERVICES	820	1,550	26	105	7	43,100
TOTAL/WEIGHTED AVERAGE	4,055	\$9,460	22%	\$910	10%	230,700

(1) BASED ON 1979 RESPONDENTS FACTORED UP TO REPRESENT THE TOTAL INDUSTRY (ROUNDED).

(2) COMPARED TO MARKET SIZE REPORTED IN THE 1979 ADAPSO COMPUTER SERVICES INDUSTRY REPORT AS REVISED IN APPENDIX C.

(3) CALCULATED BY MULTIPLYING 1979 PROFIT MARGIN BY 1979 AVAILABLE U.S. REVENUES (ROUNDED).

- Profit totals in Exhibit II-1 are based on the 1980 survey. These profits represent a growth in actual industry profits of 11% over the 1978 profits reported in last year's report.
- In the 1980 survey, the pretax profit margin for the industry, as shown in Exhibit II-1, declined very slightly from the margin reported for 1978.
 - Profit margins for companies with revenues of more than \$2 million essentially remained the same in 1979 as in 1978 at 10%.
 - Companies with revenues of less than \$2 million had a decline in profit margins from 8% in 1978 to 7% in 1979. However, this decline is within the margin of error associated with this measure.
- The 45 public companies examined increased their profit (28%) at a slightly higher rate than they increased their revenues (26%) and, therefore, showed a slight improvement in their average profit margin in 1979 (10.8%) over 1978 (10.6%).

2. FORECASTS OF REVENUE GROWTH BY SURVEY RESPONDENTS

- The 1979 ADAPSO survey requested a forecast from the respondents for 1978 to 1979 revenue growth. The respondents forecasted 22%, as shown in Exhibit II-2. The actual growth reported for the period by respondents to the 1980 ADAPSO Survey was 26%.
- The respondents' forecast for 1979 to 1980 revenue growth in this survey is again 22%, and their forecast for the next five years is 19%. These forecasts were weighted by the respondents' 1979 revenues. The mean (unweighted) five-year growth rate was forecasted at 26%.
- Respondent revenue growth rates are higher than the industry averages because:

EXHIBIT II-2

COMPUTER SERVICES COMPANIES' ACTUAL GROWTH AND FORECASTS
OF TOTAL AVAILABLE U.S. REVENUES

TYPE OF COMPANY	RESPONDENTS TO SURVEY			
	FORECAST 1978 TO 1979	ACTUAL* 1978 TO 1979	FORECAST ⁽¹⁾ 1979 TO 1980	FORECAST ⁽¹⁾ FOR NEXT 5 YEARS (AAGR)
PROCESSING SERVICES	19%	24%	20%	18%
SOFTWARE PRODUCTS	37	35	40	32
PROFESSIONAL SERVICES	32	31	28	24
WEIGHTED AVERAGE	22%	26%	22%	19%

* ACTUAL REPORTED GROWTH INCLUDES THAT FROM SOURCES OTHER THAN INTERNAL GROWTH, PARTICULARLY ACQUISITIONS. THEREFORE, THIS GROWTH RATE IS OVERSTATED WHEN COMPARED TO THE ACTUAL 1978 TO 1979 GROWTH ESTIMATED TO HAVE BEEN 22% FOR THE TOTAL INDUSTRY.

⁽¹⁾ FORECASTS WERE WEIGHTED BY RESPONDENTS' REVENUES.

- Revenue growth from acquisitions is included in the respondents' figures, but they do not create additional industry revenues. Acquisitions are believed to account for at least the same percent of revenue as in 1978, which was about 4%.
- A high proportion of leading companies are included among the respondents. These companies increased their revenues at a higher rate than the industry in general.
- The growth outlook for the industry is perceived by the survey respondents to be excellent.
- INPUT has independently forecast a 19% growth rate for the industry for the same five-year period.

3. PROFIT MARGINS

- The profitability of segments of the industry is tabulated in Exhibit II-3:
 - The most profitable segment of the industry in 1979 was that of software products companies which maintained their profit margins at 11% from 1978.
 - Processing services companies profit margins declined from 12% in 1978 to 10% in 1979 due to companies below \$10 million in revenues.
 - Public processing services companies over \$25 million in annual revenues actually had profit margins in 1979 of over 14% average and increased their margins from 1978.
 - Professional services companies, particularly smaller ones, improved their margins from 1978.

EXHIBIT II-3

COMPUTER SERVICES COMPANIES' WEIGHTED AVERAGE
PROFITS BEFORE TAXES AS A PERCENT OF
1979 TOTAL REVENUES

TYPE OF COMPANY \ PROFIT-ABILITY	SIZE IN TOTAL 1979 ANNUAL REVENUES (\$ MILLION)			WEIGHTED AVERAGE
	LESS THAN \$2M	\$2-10M	GREATER THAN \$10M	
PROCESSING SERVICES	9%	7%	12% ⁽¹⁾	10%
SOFTWARE PRODUCTS	8	*	10	11
PROFESSIONAL SERVICES	10	8	5	7
WEIGHTED AVERAGE	8%	9%	10%	10%

⁽¹⁾ PROCESSING SERVICES COMPANIES IN THIS CATEGORY REPORTED PROFIT MARGINS AS FOLLOWS:

COMPANIES WITH REVENUES OF \$10-25 MILLION, 8%
COMPANIES WITH REVENUES OVER \$25 MILLION, 12%

*INSUFFICIENT DATA (3 RESPONDENTS) - RESULTS (16%) FACTORED INTO WEIGHTED AVERAGE

4. REVENUE AND PROFIT LEVELS PER EMPLOYEE

- The economies of scale favored the large processing companies as they achieved much higher revenue and profits per employee than the smaller processing companies, as shown in Exhibit II-4.
- Caution must be exercised in examining the data, however, as year end 1979 employee statistics, rather than average 1979 employee statistics, were used in conjunction with total revenues and profits for the year. The net effect is to lower the revenue and profit generated per employee on companies that experienced high employee growth rates during the year.
- The software product companies attained the highest revenue and profit levels per employee of the three categories. However, caution must be used in examining these data as a number of software companies have agents or distributors (in some cases processing services companies) whose employees are not included in the employee counts.
- The smaller professional services companies achieved a higher profit per employee than the larger professional services firms because of lower overhead cost and less participation in the government sector of the marketplace, where profit margins are lower than in the commercial sector.
- A special study was done comparing the revenue productivity per employee as reported in the 1979 survey and the 1980 survey.
 - The data indicates that productivity increased for the entire industry by 9%, as shown in Exhibit II-5, with processing services companies showing the greatest gain (12%).
 - This analysis was performed only for companies that responded to 1979 and 1980 surveys in order to eliminate as far as possible bias due to end-of-year employee counts being used.

EXHIBIT II-4

1979 AVAILABLE U.S. REVENUE AND PROFIT LEVELS PER EMPLOYEE
FOR RESPONDENTS BY COMPANY SIZE

TYPE OF COMPANY • SIZE (\$ MILLION)	AVERAGE REVENUE PER EMPLOYEE** (\$ THOUSAND)	AVERAGE PROFIT PER EMPLOYEE** (\$ THOUSAND)
PROCESSING SERVICES		
• <\$2	\$28	\$3
• \$2-10	30	2
• \$10-25	39	2
• >\$25	41	5
• GROUP AVERAGE	40	5
SOFTWARE PRODUCTS		
• <\$2	44	4
• \$2-10	*	*
• >\$10	56	5
• GROUP AVERAGE	54	5
PROFESSIONAL SERVICES		
• <\$2	24	2
• \$2-10	29	2
• >\$10	35	2
• GROUP AVERAGE	34	2
WEIGHTED OVERALL AVERAGE	\$40	\$4

* INSUFFICIENT DATA FOR REPORTING IN CELL, BUT INCLUDED IN GROUP AVERAGE.
REPORTED A VERY HIGH PROFIT PER EMPLOYEE

** AVERAGES WERE CALCULATED BASED ON YEAR END NUMBER OF EMPLOYEES AND
TOTAL AVAILABLE U.S. REVENUES AND PROFITS FOR THE YEAR

EXHIBIT II-5

CHANGE IN PRODUCTIVITY FROM 1978 TO 1979

TYPE OF COMPANY	AVERAGE REVENUE PER EMPLOYEE* (\$ THOUSAND)		PERCENTAGE CHANGE
	1978	1979	
PROCESSING SERVICES	\$38	\$43	12%
SOFTWARE PRODUCTS	52	54	5
PROFESSIONAL SERVICES	32	36	13
WEIGHTED AVERAGE	\$40	\$44	9%

*BASED ON DATA FROM COMPANIES THAT RESPONDED TO BOTH 1979 AND 1980 SURVEYS

B. KEY BALANCE SHEET DATA

- The industry continues to demonstrate a high degree of liquidity as demonstrated by the weighted average current ratio of 1.69 for companies over \$10 million reporting this year, as shown in Exhibit III-10.
- After-tax returns on equity remained essentially the same (21%) in 1979 as in 1978 for companies over \$10 million reporting this year.

C. MINICOMPUTER/TURNKEY SYSTEMS IMPACT

- Twice as many companies reported that they will install minicomputers in 1981 as reported that they had installed them in 1978.
- The rate of growth for turnkey installations was projected to be more than a 32% compounded annual growth rate from 1978 to 1981. A definition of turnkey systems as used in this survey appears in Appendix A, Section D.
- The number of companies reporting the installation of turnkey systems was 13% in 1978, projected to increase to 33% in 1981.

D. IMPACT OF INFLATION

- The survey showed that inflationary price increases accounted for 5% of revenues on average in 1979, compared with 6.5% reported in 1978 by the 1979 survey. Therefore industry growth net of the inflationary price increases would approximate 17% compared with 13% reported for 1978 in the 1979 survey.

- The respondents forecasted lower revenue growth rates accompanied by a much higher rate of inflationary price increases (8%) for 1980. The net effect is to reduce the forecasted revenue growth rate net of inflationary price increases to 14% in 1980.

E. MAJOR FACTORS IMPACTING THE COMPUTER SERVICES INDUSTRY

- Computer services companies consider that current events have a greater positive impact on their business than negative:
 - In general, the availability of more equipment, faster and less expensive hardware, and new communications offerings have a positive impact on the industry.
 - Inflation and the lack of availability of skilled people have the most negative impacts on the industry.
 - Overall, a recession is considered to have little or no effect on the industry, but companies are sharply divided on this issue. A little more than half of the respondents to this survey felt that a recession would significantly impact their business in a negative way, but another 35% indicated just as strongly that a recession would have a positive impact on them.

F. OPPORTUNITIES FOR PROCESSING SERVICES COMPANIES

- General business and utility types of services were reported to be growing at much higher rates of growth than the other types of service for the processing companies.

- Information analysis systems and data base management systems both offer excellent opportunities in this area.
 - Proprietary financial and economic data bases are also fueling much of this growth.
 - Systems supporting the decision-making process in marketing, finance, and personnel present opportunities for strong growth.
 - Turnkey systems sales for some companies are providing opportunities for future revenues through the subsequent sale of add-on hardware, software, and support services.
- Hardware revenues represent 5% of the processing services companies' total revenues, and are growing at 40% per year. There is an opportunity for processing services companies to increase their revenues through increased hardware sales.
 - Many companies have not properly priced the systems or have not considered the time costs of entering this business. As a result, these companies have experienced unsatisfactory profits from this new revenue source.
 - In its report, "Market Opportunities for User Site Hardware Services From Remote Computing Services Companies," INPUT has forecasted a market size of \$1 billion by 1984 for distributed data processing systems sold by processing services companies. A definition of these services is given in Appendix A, Section D. This represents a major growth area for the entire computer services industry.
 - The banking and finance industry sector provide the broadest range of opportunities with 19% of total revenues for responding processing companies. Medical and discrete manufacturing are also important industry markets.

- Industry specialty services continue to offer above average growth for the large processing companies.
- Professional services, particularly time and materials custom software, continue to provide opportunities for new sources of revenue and support for the sale of processing services.

G. OPPORTUNITIES FOR SOFTWARE PRODUCT COMPANIES

- Non-U.S. revenues, exclusive of European revenues, are growing at a significantly higher rate than the software products companies' growth rate in the U.S., which indicates that these companies are exploiting foreign markets.
- Although system utilization products represent a small percent of revenues, their very high growth rate indicates that companies should take a closer look at this area.

H. OPPORTUNITIES FOR PROFESSIONAL SERVICES COMPANIES

- Consulting, education, and training are growing at a higher than average growth rate and are likely to contribute more to revenues in the future.
- The Federal Government is still the major industry sector buying professional services, particularly for the large companies.
- Nearly 30% of the professional services companies reported that they were installing minicomputers in 1979, and the number of participants will grow to 40% in 1980.

- Processing services now represent 24% of these companies' revenues, but are primarily offered only by the large companies.
- All of the survey respondents reported that, after inflation, the lack of availability of skilled people was their most serious problem. This is a problem that the professional services companies are uniquely equipped to help solve.

III TOTAL COMPUTER SERVICES INDUSTRY
PERFORMANCE

III TOTAL COMPUTER SERVICES INDUSTRY PERFORMANCE

A. HISTORIC PERFORMANCE

- The industry achieved a higher rate of growth from 1978 to 1979 than in recent years, as shown in Exhibit III-1.
 - The high growth rate can be attributed, in part, to the industry's response to a robust, albeit inflationary, economy and increasing demand for information.
 - Revenue growth was impacted by the industry's broadening of its service offerings, especially with minicomputers and turnkey systems.
 - Revenue growth was enhanced by many companies' increased emphasis on specialty markets which have had a higher growth rate than other segments of the market.
- Revenues and number of companies by company type and size are shown in Exhibit III-1.
 - In addition to the count here, there are hundreds of very small software products companies working with microcomputers.

EXHIBIT III-1

U.S. COMPUTER SERVICES INDUSTRY 1979 PERFORMANCE SUMMARY –
REVENUES, BY COMPANY SIZE AND TYPE

TYPE OF COMPANY • SIZE (\$ MILLION)	NUMBER OF COMPANIES	AVAILABLE U.S. REVENUES (\$ MILLION)		GROWTH RATE 1979/1978
		1978	1979	
PROCESSING SERVICES				
• <\$2	1,800	\$1,400	\$1,650	18%
• \$2-10	275	1,100	1,300	18
• \$10-25	30	380	460	21
• > \$25	35	2,700	3,290	22
SUBTOTAL	2,140	\$5,580	\$6,700	20%
SOFTWARE PRODUCTS ⁽¹⁾				
• < \$2	980	410	540	32
• \$2-10	100	330	420	27
• > \$10	15	200	250	25
SUBTOTAL	1,095	\$ 940	\$1,210	29%
PROFESSIONAL SERVICES				
• < \$2	700	230	300	30
• \$2-10	100	330	420	27
• > \$10	20	670	830	24
SUBTOTAL	820	\$1,230	\$1,550	26%
TOTAL ⁽¹⁾	4,055	\$7,750	\$9,460	22%

(1) DUE TO CHANGES IN THE MAKE-UP OF SUBCATEGORIES, THESE FIGURES ARE NOT DIRECTLY COMPARABLE TO THOSE IN EXHIBIT III-1 OF THE 1979 ADAPSO REPORT. PLEASE REFER TO APPENDIX C FOR REVISIONS

- A number of them will become measureable (revenues over \$250,000) in the next several years.
- While overall profits of the industry increased by 9% from 1978 to 1979, there was a decline in profit margins for some categories, as shown in Exhibit III-2.
- It should be noted that respondents to the 1979 survey reported higher profit margins for 1978 than the 1980 survey respondents reported for the same period:
 - Less than one-half of the 1979 respondents responded in 1980.
 - This indicates that the respondent characteristics were quite different in 1979 from 1980.
 - The net impact is that, in INPUT's opinion, profit margins for smaller processing services companies declined slightly from 1978 to 1979 while other industry segments maintained their profit margins.
 - The decline in profitability reported by some processing services companies is believed to have been caused by their holding fast on their prices in a highly inflationary period in which they absorbed significantly higher costs, especially for labor.
- Individual segments of the industry generally outperformed 1978 revenue growth:
 - Large processing companies, with over \$25 million in revenues, continue to dominate the industry, with 35% of the total industry's revenues.
 - The public processing companies' published results indicate a growth rate of 26% in revenues. Most of these companies fit into the over \$25 million category and include acquisitions in their growth.

EXHIBIT III-2

U.S. COMPUTER SERVICES INDUSTRY 1979 PERFORMANCE SUMMARY –
PROFITS BY COMPANY SIZE AND TYPE

TYPE OF COMPANY • SIZE (\$ MILLION)	PROFITS BEFORE TAXES			
	1978 ⁽¹⁾		1979	
	MARGIN	AGGREGATE ⁽²⁾ (\$ MILLION)	MARGIN	AGGREGATE ⁽²⁾ (\$ MILLION)
PROCESSING SERVICES				
• < \$2	11%	\$150	9%	\$150
• \$2-10	13	140	7	90
• \$10-25	11	40	8	40
• > \$25	12	325	12	390
SUBTOTAL	12%	\$655	10%	\$670
SOFTWARE PRODUCTS				
• < \$2	12	49	8	45
• \$2-10	11	36	16	65
• > \$10	10	20	10	25
SUBTOTAL	11%	\$105	11%	\$135
PROFESSIONAL SERVICES				
• < \$2	6	14	10	30
• \$2-10	8	26	8	35
• > \$10	5	34	5	40
SUBTOTAL	6%	\$ 75	7%	\$105
TOTAL	11%	\$835	10%	\$910

(1) DUE TO CHANGES IN THE MAKE-UP OF SUBCATEGORIES, THESE FIGURES ARE NOT DIRECTLY COMPARABLE TO THOSE IN EXHIBIT III-2 OF THE 1979 ADAPSO REPORT. PLEASE REFER TO APPENDIX C FOR REVISIONS

(2) ROUNDED. CALCULATED BY MULTIPLYING U.S. AVAILABLE REVENUES BY REPORTED PROFIT MARGINS

- Software product companies continued to report and achieve above average revenue growth for the industry while generally retaining their profit margins.
- Professional services firms increased their profit margins in services to nongovernment sectors while also reporting fast revenue growth. The combination resulted in a 40% growth in overall profits in this segment.

B. SOURCES OF REVENUES

- Total available U.S. revenues of respondents grew at a rate (26%) nearly double that of captive revenues (14%), which increased available U.S. revenues' share to 81% of respondents' total revenues, as shown in Exhibit III-3.
- Revenues from areas other than the U.S. or Europe grew at 30%, faster than any other category, as shown in Exhibit III-4. Software products companies, in particular, are expanding in these markets.

C. IMPACT OF INFLATION

- Exhibit III-5 shows how the different types of service companies perceived the impact of inflationary price increases on their gross revenues in the 1978-1979 period.
 - Although economists indicate that the inflation rate was higher in 1979 than in 1978, the respondents reported that it had less of an effect on their prices in 1979. In 1978, the respondents reported that their revenues grew by 6.5% due to inflationary price increases, compared to 5% in 1979.

EXHIBIT III-3

REVENUE DISTRIBUTION FOR RESPONDING COMPUTER SERVICES
COMPANIES WITH REVENUES OVER \$10 MILLION IN 1979

TYPE OF COMPANY	REVENUE TYPE AS PERCENT OF TOTAL COMPANY REVENUES					
	CAPTIVE	NON-U.S.		TOTAL AVAILABLE U.S.	NON-COMPUTER SERVICES	TOTAL
		EUROPEAN	OTHER			
PROCESSING SERVICES						
• 1978	9%	5%	2%	82%	2%	100%
• 1979	9	4	2	82	3	100%
SOFTWARE PRODUCTS						
• 1978	*	11	6	83	0	100%
• 1979	*	10	7	83	0	100%
PROFESSIONAL SERVICES						
• 1978	*	9	1	81	9	100%
• 1979	*	5	2	84	9	100%
WEIGHTED AVERAGE						
• 1978	9%	5%	2%	80%	4%	100%
• 1979	8%	5%	2%	81%	4%	100%

* INSUFFICIENT DATA

EXHIBIT III-4

GROWTH RATES OF REVENUE SOURCES COMPANIES
WITH REVENUES OVER \$10 MILLION

TYPE OF COMPANY	REPORTED REVENUE GROWTH RATE 1978 TO 1979			
	CAPTIVE	NON-U.S.		TOTAL AVAILABLE U.S. ⁽¹⁾
		EUROPEAN	OTHER	
PROCESSING SERVICES	14%	18%	27%	25%
SOFTWARE PRODUCTS	*	27	52	39
PROFESSIONAL SERVICES	*	(36)	25	26
WEIGHTED AVERAGE	14%	10%	30%	26%

*NOT REPORTED

(1) INCLUDING ACQUISITIONS, INTER-SEGMENT TRANSFERS, ETC.

EXHIBIT III-5

REVENUE GROWTH DUE TO INFLATIONARY
PRICE INCREASES FROM 1978 TO 1979

TYPE OF COMPANY	OVERALL GROWTH* RATE 1978-1979	REVENUE GROWTH DUE TO INFLATIONARY PRICE INCREASES FROM 1978 TO 1979	ADJUSTED REVENUE GROWTH
PROCESSING SERVICES	20%	5%	15%
SOFTWARE PRODUCTS	29	5	24
PROFESSIONAL SERVICES	26	7	19
WEIGHTED AVERAGE	22%	5%	17%

*ADJUSTED U.S. AVAILABLE REVENUES

- Processing services companies reported slightly higher inflationary price increases, while the other two types of services reported inflationary price increases that were more than 40% lower than those reported in the 1979 ADAPSO survey for the 1977-1978 period.
- Growth net of the effects of inflationary price increases climbed substantially to 17% from the 13% reported for 1978 in the 1979 ADAPSO survey.
- The professional services companies reported significantly higher inflationary price increases than the other types of companies. Since these companies improved their profit margins outside the government sector, it seems that they have more effectively passed along the increased cost of doing business to their clients than they have in the past.
- Exhibit III-6 shows companies' anticipated inflationary price increases and the effects on their growth rates for 1979 to 1980.
 - All categories of companies forecasted lower revenue growth rates than they have reported, accompanied by a higher impact of inflationary price increases. This reduced the forecasted growth rate to 14%.
 - In this context, it should be noted that labor costs account for more than 60% of the industry's expenditures.
 - The annual inflation rate was almost 18% for the first quarter of 1980, and is expected by many economists to be at least 12% for the entire year.
 - If companies in the industry do not increase their prices to offset the added cost they incur due to inflation, INPUT anticipates a decline in profit margins this year.

EXHIBIT III-6

FORECASTS OF
REVENUE GROWTH DUE TO INFLATIONARY
PRICE INCREASES FROM 1979 TO 1980

TYPE OF COMPANY	FORECASTED GROWTH RATE 1979-1980	FORECASTED REVENUE GROWTH DUE TO INFLATIONARY PRICE INCREASES FROM 1979 TO 1980	ADJUSTED REVENUE GROWTH
PROCESSING SERVICES	20%	7%	13%
SOFTWARE PRODUCTS	40	8	32
PROFESSIONAL SERVICES	28	10	18
WEIGHTED AVERAGE	22%	8%	14%

- Inflation also brought a higher cost of money, which impacted most of the respondents to the survey.

D. ANALYSIS OF REVENUES BY TYPE OF SERVICE

- Professional services are becoming an increasingly significant source of revenues to processing services companies as shown in Exhibit III-7.
 - The rate of growth of professional services revenues for processing services companies is close to 40%, as shown in Exhibit III-8.
 - These companies are now selling professional services which support and expand their processing business, whereas they used to be 'given away.'
 - The amount of professional services may be understated due to companies including charges for them in their processing services revenues.
- The sale of hardware products by processing companies is a defensive strategy for many companies, while the sale of turnkey systems is more an extension of traditional services through a new delivery mechanism.
- Small software product companies appear to be diversifying their product offerings. Hardware products, either using standard software or customized solutions, are significant for this company type.
- Professional services firms are the most diversified in terms of sources of revenue. This is especially true for the largest companies, which generate just over 60% of their revenue from professional services, the balance being derived from processing services, software products, and hardware including turnkey systems.

EXHIBIT III-7

DISTRIBUTION OF REVENUES BY TYPE OF SERVICE REPORTED BY RESPONDENTS

TYPE OF COMPANY • SIZE (\$ MILLION)	PERCENT OF REVENUES					TOTAL **
	PROCESSING SERVICES	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	HARDWARE PRODUCTS	TURNKEY SYSTEM SOFTWARE AND SUPPORT	
PROCESSING SERVICES						
• <\$2	85%	4%	8%	2%	1%	100%
• \$2-10	88	2	3	6	1	100%
• \$10-25	93	1	1	4	1	100%
• >\$25	88	3	4	3	2	100%
• GROUP AVERAGE	86	3	4	4	2	100%
SOFTWARE PRODUCTS						
• <\$2	4	81	5	9	*	100%
• \$2-10	*	*	*	*	*	100%
• >\$10	*	92	*	*	*	100%
• GROUP AVERAGE	1	91	7	1	0	100%
PROFESSIONAL SERVICES						
• <\$2	6	14	80	0	0	100%
• \$2-10	9	3	85	2	2	100%
• >\$10	28	2	62	5	3	100%
• GROUP AVERAGE	24	3	67	4	3	100%

* INSUFFICIENT DATA

** MAY NOT TOTAL EXACTLY DUE TO ROUNDING

EXHIBIT III-8

REVENUE GROWTH FROM 1978 TO 1979 BY TYPE OF SERVICE
REPORTED BY RESPONDENTS

TYPE OF COMPANY • SIZE (\$ MILLION)	PERCENT GROWTH, 1978 TO 1979				
	PROCESSING SERVICES	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	HARDWARE PRODUCTS	TURNKEY SOFTWARE AND SUPPORT
PROCESSING SERVICES					
• < \$2	24%	26%	40%	24%	28%
• \$2-10	18	16	28	47	52
• \$10-25	*	*	*	*	*
• > \$25	*	*	*	*	*
• GROUP AVERAGE	21	22	38	34	38
SOFTWARE PRODUCTS					
• GROUP AVERAGE	2	47	30	*	*
PROFESSIONAL SERVICES					
• < \$2	20	46	50	*	*
• \$2-10	68	*	42	*	*
• > \$10	*	*	*	*	*
• GROUP AVERAGE	39	32	46	17	3

* INSUFFICIENT DATA

E. EXPENDITURE DISTRIBUTION

- Expenditures were analyzed as a percent of total revenues, as shown in Exhibit III-9.
 - Software product companies expended over three times as much of their revenues on research and development as did the processing services companies, and eight times as much as did the professional services companies. However, some companies included product maintenance and support as research and development.
 - The professional services companies reported below average marketing and sales costs, and above average general administrative costs. This is due to:
 - The way in which larger professional services companies account for costs in dealing with the federal government.
 - Principals in the smaller companies who perform much of the selling. Because they are the business owners/operators, their costs are consolidated under "general administrative."

F. KEY BALANCE SHEET, PROFIT, AND FINANCIAL ITEMS

- Selected financial ratios for computer services firms with over \$10 million in annual revenue are presented in Exhibit III-10, and the changes in the ratios from 1978 to 1979 are shown in Exhibit III-11. These changes are based on data from this year's sample only.
- The industry continues to demonstrate a high degree of liquidity, as demonstrated by the current ratio.

EXHIBIT III-9

COMPARISON OF EXPENDITURE PATTERNS AMONG
TYPES OF COMPUTER SERVICES COMPANIES

CATEGORY OF EXPENDITURE	PERCENT OF TOTAL 1979 REVENUES			
	PROCESSING SERVICES	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	WEIGHTED AVERAGE
MARKETING AND SALES				
• SALARIES, COMMISSIONS, BONUSES	11%	13%	5%	11%
• FRINGE BENEFITS	2	2	1	1
• TRAVEL, ENTERTAINMENT, OTHER	8	14	3	8
RESEARCH AND PRODUCT DEVELOPMENT	5	15	2	5
OPERATIONS				
• PERSONNEL				
– SALARIES	17	17	38	19
– FRINGE BENEFITS	2	2	9	3
• COMPUTER SYSTEM EQUIPMENT AND MAINTENANCE	11	5	9	10
• OTHER EQUIPMENT AND FACILITIES	11	2	2	10
• DATA COMMUNICATIONS	5	*	*	5
GENERAL ADMINISTRATIVE	10	11	22	12
ALL OTHER	8	8	2	7
PROFIT	10	11	7	10
TOTAL	100%	100%	100%	100%

* LESS THAN 1%.

EXHIBIT III-10

COMPARISON OF FINANCIAL RATIOS FOR COMPANIES WITH REVENUES OVER \$10 MILLION IN THE COMPUTER SERVICE INDUSTRY – 1979

ITEM	FINANCIAL RATIOS, 1979			
	PROCESSING SERVICES*	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	WEIGHTED AVERAGE
CURRENT RATIO	1.65	1.99	1.95	1.69
AFTER-TAX RETURN ON EQUITY	21%	28%	25%	21%
TOTAL DEBT AS A PERCENT OF TOTAL CAPITAL	23%	**	32%	24%
LONG-TERM DEBT AS A PERCENT OF EQUITY	27%	**	38%	27%
TRADE RECEIVABLES TURNOVER (DAYS)	46	67	68	48
ASSET TURNOVER	1.72	1.73	2.38	1.76
RETURN ON ASSETS	11%	12%	9%	11%
WORKING CAPITAL AS A PERCENT OF TOTAL ASSETS	17%	32%	35%	19%

* INCLUDES 3 COMPANIES IN THE \$2-10M CATEGORY

** INSUFFICIENT DATA

EXHIBIT III-11

COMPARISON OF FINANCIAL RATIOS FOR COMPANIES WITH
REVENUES OVER \$10 MILLION IN THE COMPUTER SERVICES INDUSTRY –
CHANGE FROM 1978 TO 1979

ITEM	PERCENT CHANGE IN FINANCIAL RATIOS, 1978–1979			
	PROCESSING SERVICES	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	WEIGHTED AVERAGE
CURRENT RATIO	+4%	+ 20%	+12%	+ 5%
AFTER-TAX RETURN ON EQUITY	+1	(3)	(13)	0
TOTAL DEBT AS A PERCENT OF TOTAL CAPITAL	+5	*	(1)	+4
LONG-TERM DEBT AS A PERCENT OF EQUITY	+34	*	0	+36
TRADE RECEIVABLES TURNOVER (DAYS)	+40	+ 55	+41	+41
ASSET TURNOVER	(7)	(15)	+1	(7)
RETURN ON ASSETS	(4)	(10)	(3)	(4)
WORKING CAPITAL AS A PERCENT OF TOTAL ASSETS	+5	+13	+12	+7

*INSUFFICIENT DATA

- Processing services companies, although certainly liquid, are the least so of the three company types.
- Software product companies increased their liquidity in 1979 over 1978, which reflects the higher sales in 1979.
- After-tax return on equity remained essentially the same in 1979 as in 1978.
- After-tax return on equity is highest for the software product and professional services companies, and lowest for the processing companies. This reflects the relatively low equity base needed to start a software product or professional services company compared with the higher equity base needed to start a processing services company.
- The computer services industry increased its long-term debt as a percent of equity by 36% in 1979 over 1978 as shown in Exhibit III-12. This reflects the poor equity market and availability of funds from financial institutions in 1979.
- Computer services companies' capacity for growth in 1979 over 1978 was heavily impacted by the 41% increase in trade receivables turnover.
 - Processing services firms have the best collection record and were the least affected by an increase in the number of days to collect. These firms have the greatest amount of control over clients, however, because the processing services company can refuse to run a client application until a bill is paid.
 - Although reported revenues for software product companies increased by 35%, the collection period increased by 55% to approximately a 67-day collection cycle.
 - One should take into consideration when comparing trade receivables turnover for the computer services industry with other industries that

EXHIBIT III-12

COMPARISON OF BALANCE SHEET ITEMS OF RESPONDING COMPANIES WITH REVENUES OVER \$10 MILLION IN THE COMPUTER SERVICES INDUSTRY—1979

ITEM	BALANCE SHEET ITEM COMPARISONS, 1979			
	PROCESSING SERVICES	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	WEIGHTED AVERAGE
SELECTED ASSETS				
• TRADE RECEIVABLES AS A PERCENT OF TOTAL ASSETS	28%	46%	62%	30%
• CURRENT ASSETS AS A PERCENT OF TOTAL ASSETS	43	65	72	46
SELECTED LIABILITIES				
• CURRENT PORTION OF LONG-TERM DEBT AS A PERCENT OF TOTAL LIABILITIES	5	*	5	5
• CURRENT LIABILITIES AS A PERCENT OF TOTAL LIABILITIES	59	57	57	58
• LONG-TERM DEBT LESS CURRENT PORTION AS A PERCENT OF TOTAL LIABILITIES	33	*	21	32
• DEFERRED TAXES AS A PERCENT OF CURRENT LIABILITIES	14	*	36	10
EQUITY				
• EQUITY AS A PERCENT OF TOTAL ASSETS	55	43	35	54

*INSUFFICIENT DATA

revenue recognition may be taking place prior to bills actually becoming payable, thus indicating a longer and not directly comparable collection period.

- Balance sheet data are presented in Exhibit III-12 for 1979. Changes in balance sheet data from 1978 to 1979 are shown in Exhibit III-13.

G. MINICOMPUTER/TURNKEY SYSTEMS IMPACT

- The number of minicomputers and microcomputers that companies had installed or will install from 1978 to 1981 are shown in Exhibit III-14.
 - The number of companies of all three types installing minicomputers and microcomputers at customer sites will double between 1978 and 1981.
 - The larger processing services companies were the most aggressive in their projections of minicomputer/microcomputer installations.
- The rate of growth for minicomputer/microcomputer installations is projected to be more than a 48% compounded annually through 1981 based on the data shown in Exhibit III-15.
- The rate of growth for turnkey system installations shown in Exhibit III-16 was similar to that for minicomputers and microcomputers but from a much smaller base of installations.
- The rate of growth for turnkey installations is projected to be 30% compounded annually through 1981 based on the data shown in Exhibit III-17.

EXHIBIT III-13

**COMPARISON OF BALANCE SHEET ITEMS OF RESPONDING COMPANIES
WITH REVENUES OVER \$10 MILLION IN THE COMPUTER SERVICES
INDUSTRY – CHANGE FROM 1978 TO 1979**

ITEM	PERCENT CHANGE IN BALANCE SHEET ITEM COMPARISONS, 1978–1979			
	PROCESSING SERVICES	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	WEIGHTED AVERAGE
SELECTED ASSETS				
• TRADE RECEIVABLES AS A PERCENT OF TOTAL ASSETS	+3%	(7%)	+4%	+3%
• CURRENT ASSETS AS A PERCENT OF TOTAL ASSETS	(1)	(10)	(1)	(1)
SELECTED LIABILITIES				
• CURRENT PORTION OF LONG-TERM DEBT AS A PERCENT OF TOTAL LIABILITIES	(27)	*	(1)	(26)
• CURRENT LIABILITIES AS A PERCENT OF TOTAL LIABILITIES	(10)	(29)	(7)	(10)
• LONG-TERM DEBT LESS CURRENT PORTION AS A PERCENT OF TOTAL LIABILITIES	+21	*	+16	+24
• DEFERRED TAXES AS A PERCENT OF CURRENT LIABILITIES	+8	*	+15	+11
EQUITY				
• EQUITY AS A PERCENT OF TOTAL ASSETS	(4)	(7)	+11	(4)

*INSUFFICIENT DATA

EXHIBIT III-14

RESPONDENTS REPORTING/PROJECTING MINICOMPUTER/MICROCOMPUTER
INSTALLATIONS AT CUSTOMER SITES

TYPE OF COMPANY ● SIZE (\$ MILLION)	PERCENT REPORTING/PROJECTING INSTALLED MINICOMPUTER/MICROCOMPUTERS AT CUSTOMER SITES			
	1978	1979	1980	1981
PROCESSING SERVICES				
● <\$2	14%	22%	45%	49%
● \$2-10	33	48	55	58
● >\$10	38	53	63	63
● GROUP AVERAGE	26	39	53	55
SOFTWARE PRODUCTS				
● GROUP AVERAGE	15	22	26	33
PROFESSIONAL SERVICES				
● GROUP AVERAGE	20	28	39	37
WEIGHTED OVERALL AVERAGE	23%	34%	45%	47%

EXHIBIT III-15

RESPONDENTS' REPORTED/PROJECTED GROWTH PER YEAR
OF MINICOMPUTER/MICROCOMPUTER INSTALLATIONS AT CUSTOMER SITES

TYPE OF COMPANY • SIZE (\$ MILLION)	AVERAGE NUMBER PER RESPONDENT 1978	REPORTED/PROJECTED GROWTH PER YEAR OF MINICOMPUTERS/ MICROCOMPUTERS AT CUSTOMER SITES			AVERAGE NUMBER PER RESPONDENT 1981
		1979	1980	1981	
PROCESSING SERVICES • < \$2 • \$2-10 • > \$10 • GROUP AVERAGE	2 14 79 36	150% 21 38 44	60% 47 86 67	100% 64 35 36	16 41 274 118
SOFTWARE PRODUCTS • GROUP AVERAGE	7	71	75	124	47
PROFESSIONAL SERVICES • GROUP AVERAGE	33	85	8	36	90
WEIGHTED OVERALL AVERAGE	32	53%	55%	37%	104

EXHIBIT III-16

RESPONDENTS REPORTING/PROJECTING TURNKEY SYSTEM
INSTALLATIONS AT CUSTOMER SITES

TYPE OF COMPANY ● SIZE (\$ MILLION)	PERCENT OF RESPONDENTS REPORTING/PROJECTING INSTALLED TURNKEY SYSTEMS			
	1978	1979	1980	1981
PROCESSING SERVICES				
● <\$2	6%	14%	29%	29%
● \$2-10	15	24	39	42
● >\$10	18	33	36	45
● GROUP AVERAGE	12	22	33	36
SOFTWARE PRODUCTS				
● GROUP AVERAGE	11	15	22	30
PROFESSIONAL SERVICES				
● GROUP AVERAGE	15	19	26	26
WEIGHTED OVERALL AVERAGE	13%	20%	30%	33%

EXHIBIT III-17

RESPONDENTS' REPORTED/PROJECTED GROWTH PER YEAR OF
TURNKEY SYSTEMS AT CUSTOMER SITES

TYPE OF COMPANY • SIZE (\$ MILLION)	AVERAGE NUMBER PER RESPONDENT 1978	REPORTED/PROJECTED GROWTH PER YEAR OF TURNKEY SYSTEMS AT CUSTOMER SITES			AVERAGE NUMBER PER RESPONDENT 1981
		1979	1980	1981	
PROCESSING SERVICES					
• <\$2	2	0%	200%	133%	12
• \$2-10	23	(9)	5	68	37
• >\$10	82	15	31	5	129
• GROUP AVERAGE	40	20	6	37	70
SOFTWARE PRODUCTS					
• GROUP AVERAGE	2	100	100	100	16
PROFESSIONAL SERVICES					
• GROUP AVERAGE	30	147	11	28	105
WEIGHTED OVERALL AVERAGE	32	53%	10%	30%	70

- This growth rate is lower than that for minicomputers and microcomputers because the turnkey system sale is usually more complex and systems take longer to install.
- The number of companies reporting the installation of turnkey systems was 13% in 1978, projected to increase to 33% in 1981.
 - Three times as many processing companies intend to install turnkey systems in 1981 as in 1978.
 - Approximately two-thirds of all responding companies reported that they do not plan to install turnkey systems by 1981.
- When asked to estimate what percent of their revenues were derived from hardware, software, and support for turnkey systems, some respondents had difficulty responding to this question as they did not account for their turnkey system revenues in these categories.
 - Overall, the respondents reported that they derived 60% of their revenues from hardware, 33% from software, and 7% from support, as shown in Exhibit III-18.
 - The large processing companies reported the largest percentage of revenue derived from hardware, at 66%.
 - INPUT considers that, in order to achieve reasonable profit margins in turnkey systems, hardware must represent a much smaller proportion of revenues.

EXHIBIT III-18

SOURCES OF REVENUES FOR TURNKEY SYSTEMS

TYPE OF COMPANY ● SIZE (\$ MILLION)	PERCENT OF REVENUES		
	HARDWARE	SOFTWARE	SUPPORT
PROCESSING SERVICES ● <\$2 ● \$2-10 ● >\$10 ● GROUP AVERAGE	59% 66 66 64	40% 25 29 31	1% 9 5 5
SOFTWARE PRODUCTS ● GROUP AVERAGE	58	35	7
PROFESSIONAL SERVICES ● GROUP AVERAGE	51	39	10
TURNKEY SYSTEMS ● GROUP AVERAGE	60	32	8
WEIGHTED OVERALL AVERAGE	60%	33%	7%

H. MAJOR FACTORS IMPACTING THE COMPUTER SERVICES INDUSTRY

- Companies with over \$10 million in revenues were asked to rate 16 major factors on a scale of 0 to 5 (where 5 indicates a high impact) in terms of their impact in 1979, and their anticipated impact in 1980. They were also asked to indicate whether the impact would be positive or negative. The results of this survey are summarized in Exhibit III-19, with further details tabulated in Appendix C, Exhibits C-11 through C-14. The factors are sorted by their impact in 1980, from most positive impact through no impact to most negative impact.
- In general, the availability of more equipment, faster and less expensive hardware, and new communications offerings were perceived as having a positive impact on the industry.
- Inflation and the lack of availability of skilled people were perceived as having the most negative impact on the industry.
- Overall, a recession was considered to have little or no effect on the industry, but respondents were sharply divided on this issue. A little more than half of the respondents felt that a recession would significantly impact their business in a negative way, but another 35% indicated just as strongly that a recession would have a positive impact on them.
- Respondents were even more equally divided on the issue of IBM's re-entry into the processing services industry. One-third felt that this would have no impact on them; another third felt it would have a fairly negative impact on them; while about 23% felt that it would have a positive impact on them.
- The respondents were sharply divided on IBM product announcements. Half of the respondents viewed this as having a very negative impact on them, the other half viewed it as very positive. Several respondents saw no impact at all.

EXHIBIT III-19

SUMMARY OF INDUSTRY IMPACTS –
COMPUTER SERVICES INDUSTRY

FACTOR	MEAN RATING* FOR ALL RESPONDENTS 1980	MEAN RATING* FOR ALL RESPONDENTS 1979
PROLIFERATION OF TERMINALS AS WORK STATIONS	3.1	2.4
DISTRIBUTED DP	2.8	2.2
NEW COMMUNICATION OFFERINGS	2.5	2.0
CHEAPER LARGE COMPUTERS	2.4	2.2
COMPUTER SERVICES FIRMS' NEW PRODUCT ANNOUNCEMENTS	2.0	1.9
APPLICATIONS SOFTWARE AVAILABILITY	1.9	1.6
PERSONNEL PRODUCTIVITY INCREASES	1.8	1.5
COMPUTER-ASSISTED INSTRUCTION AVAILABILITY	1.5	1.2
NON-IBM NEW PRODUCT ANNOUNCE- MENTS	1.0	0.8
CHEAPER SMALL COMPUTERS	0.9	0.7
TURNKEY SYSTEMS	0.9	0.7
IBM PRODUCT ANNOUNCEMENTS	0.3	0.0
IBM RE-ENTRY INTO PROCESSING SERVICES	(0.3)	(0.2)
RECESSION	(0.5)	(0.4)
AVAILABILITY OF SKILLED PEOPLE	(2.0)	(1.8)
INFLATION	(2.7)	(2.1)

TOTAL CASES = 49

* RATING BASED ON A SCALE OF 0 TO 5 WHERE 5 INDICATES THE HIGHEST IMPACT

- Turnkey systems comprised another issue which was perceived as either very good or very bad by the respondents. Some companies see an opportunity where others see a threat.
- New communication offerings are expected to have higher impact in 1980 than they did in 1979. This was the only factor which had a change in ranking.

I. ANALYSIS OF PUBLIC COMPANIES IN THE COMPUTER SERVICES INDUSTRY

I. REVENUE AND PROFIT LEVELS

- Responding public companies to this year's ADAPSO questionnaire were analyzed as a group to determine if performance was different from the entire industry.
- Exhibit III-20 shows the average revenue and profit per employee in responding public companies.
 - Revenue generated per employee in public companies is virtually the same as for all reporting companies.
 - Profit generated per employee in public companies is about 2% higher than for all reporting companies.

2. EXPENDITURE DISTRIBUTION

- Expenditure distributions for public companies by type of computer services company are shown in Exhibit III-21.

EXHIBIT III-20

AVERAGE 1979 AVAILABLE U.S. REVENUE AND PROFIT LEVELS
PER EMPLOYEE FOR RESPONDING PUBLIC COMPANIES

TYPE OF COMPANY ● SIZE (\$ MILLION)	AVERAGE REVENUE PER EMPLOYEE** (\$ THOUSAND)	AVERAGE PROFIT PER EMPLOYEE** (\$ THOUSAND)
PROCESSING SERVICES		
● < \$2	*	*
● \$2-10	\$ 18	\$ 1
● \$10-25	36	2
● > \$25	47	5
● GROUP AVERAGE	40	5
SOFTWARE PRODUCTS		
● < \$2	*	*
● \$2-10	*	*
● > \$10	*	*
● GROUP AVERAGE	*	*
PROFESSIONAL SERVICES		
● < \$2	*	*
● \$2-10	26	2
● > \$10	38	2
● GROUP AVERAGE	36	2
WEIGHTED OVERALL AVERAGE	\$ 39	\$ 4

* INSUFFICIENT DATA

** AVERAGES WERE CALCULATED BASED ON YEAR END NUMBER OF EMPLOYEES AND
TOTAL AVAILABLE U.S. REVENUES AND PROFITS FOR THE YEAR

EXHIBIT III-21

COMPARISON OF EXPENDITURE PATTERNS BETWEEN TYPES
OF RESPONDING PUBLIC COMPANIES

CATEGORY OF EXPENDITURE	PERCENT OF TOTAL 1979 REVENUES			
	PROCESSING SERVICES	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	TOTAL INDUSTRY
MARKETING & SALES				
• SALARIES, COMMISSIONS, BONUSES	12%	*	6%	11%
• FRINGE BENEFITS	1	*	1	1
• TRAVEL, ENTERTAINMENT, OTHER	9	*	2	9
RESEARCH & PRODUCT DEVELOPMENT	4	*	3	4
OPERATIONS				
• PERSONNEL				
– SALARIES	16	*	38	18
– FRINGE BENEFITS	3	*	6	3
• COMPUTER SYSTEM EQUIPMENT AND MAINTENANCE	10	*	14	10
• OTHER EQUIPMENT AND FACILITIES	12	*	4	12
• DATA COMMUNICATIONS	5	*	*	5
GENERAL ADMINISTRATIVE	10	*	16	10
ALL OTHER	6	*	*	6
PROFIT	12	*	5	11
TOTAL	100%	*	100%	100%

* INSUFFICIENT DATA OR LESS THAN 1%

- Public processing services companies are slightly more profitable than the total industry weighted average when measured by pre-tax profit margins.
- Public companies exhibit the same expenditure distribution as the overall industry average.

3. KEY BALANCE SHEET, PROFIT, AND FINANCIAL ITEMS

- There are no significant differences between the financial ratios and balance sheets for public company respondents and those for all respondents. This data is shown in the Appendix C in Exhibits C-15 to C-18.

IV PROCESSING SERVICES COMPANIES'
PERFORMANCE

IV PROCESSING SERVICES COMPANIES' PERFORMANCE

A. ANALYSIS OF TOTAL PROCESSING SERVICES REVENUES

- Companies whose revenues were derived primarily from remote computing, batch, and facilities management processing services are classified as processing services companies. Their revenues comprise 82% of the 1980 ADAPSO survey respondent total.
 - Since more than half of the responding companies are processing services companies, survey results for this category are presented in greater detail than could be done for the other categories where less data are available.
 - Also, two survey questionnaires were used this year. The questionnaire for companies with revenues over \$10 million solicited nearly twice as much information as the survey for companies of less than \$10 million. Two-thirds of the respondents in the over \$10 million category were processing companies. Therefore, this category was subject to more thorough analysis.
 - In this chapter, an analysis is made of companies with revenues from \$10-25 million, over \$25 million, and the total category, including less than \$10 million where data are available.

- Eighty-two percent of processing companies' revenues come from the available U.S. market, as shown in Exhibit IV-1. This is the second-fastest-growing source of revenue, with a 1978-1979 growth rate of 25%.
- For respondent companies in the \$10-25 million category, captive revenues, with 21% of the total, are a very important component of total revenues.
- The fastest-growing sector of business in the over \$25 million category was the "other non-U.S." sector with a 28% growth rate.
- European revenues are growing at a somewhat slower pace (18%), declining in importance by dropping from 5% to 4% of the revenue total for all responding processing companies with over \$10 million in revenue.

B. ANALYSIS OF REVENUES BY TYPE OF SERVICE

- Although companies were categorized according to their dominant source of revenue (processing services, software products, professional services, turnkey systems), they offer services in more than one category, as shown in Exhibit IV-2 and IV-3.

C. ANALYSIS OF EXPENDITURES

- In the 1980 survey, a distinction was made between the expenditure data obtained from companies with less than \$10 million and those with over \$10 million in revenues. In the over \$10 million category, respondents were asked to report 1978 expenditures in addition to those for 1979.

EXHIBIT IV-1

REVENUE DISTRIBUTION BY SIZE OF COMPANY FOR RESPONDING PROCESSING SERVICES
COMPANIES WITH REVENUES OVER \$10 MILLION

SIZE OF COMPANY (\$ MILLION)	REVENUE TYPE AS PERCENT OF TOTAL COMPANY REVENUES					TOTAL
	CAPTIVE	NON-U.S.		TOTAL AVAILABLE U.S.	NON-COMPUTER SERVICES	
		EUROPEAN	OTHER			
\$10-25						
• 1978	23%	4%	1%	72%	0%	100%
• 1979	21	4	1	74	0	100%
• % GROWTH	7	0	9	23	0	19%*
>\$25						
• 1978	8	5	2	83	2	100%
• 1979	8	5	2	83	2	100%
• % GROWTH	19	19	28	25	65	26%*
WEIGHTED AVERAGE						
• 1978	9%	5%	2%	82%	2%	100%
• 1979	9%	4%	2%	82%	3%	100%
• % GROWTH	14%	18%	27%	25%	65%	24%*

*WEIGHTED AVERAGE

EXHIBIT IV-2

DISTRIBUTION OF REVENUES BY TYPE OF SERVICE OF RESPONDING
PROCESSING SERVICES COMPANIES WITH REVENUES OF
\$10-25 MILLION

TYPE OF SERVICE	PERCENT OF TOTAL REVENUES	GROWTH 1978-1979
PROCESSING SERVICES		
• GENERAL BUSINESS	53%	47%
• SCIENTIFIC AND ENGINEERING	*	*
• INDUSTRY SPECIALTY	37	13
• UTILITY	*	9
SUBTOTAL	90%	—
SOFTWARE PRODUCTS		
• APPLICATION PRODUCTS: — CROSS-INDUSTRY	*	*
— INDUSTRY SPECIALTY	1	*
• SYSTEM PRODUCTS: — SYSTEM OPERATION	*	*
— SYSTEM UTILIZATION	*	*
— IMPLEMENTATION SYSTEM	*	*
SUBTOTAL	1%	—
PROFESSIONAL SERVICES		
• CUSTOM SOFTWARE — TIME AND MATERIALS	*	*
— FIXED PRICE	*	*
— COST PLUS FEE	*	*
• CONSULTING, EDUCATION, TRAINING	*	*
SUBTOTAL	1%	—
HARDWARE	5	40
TURNKEY SYSTEM SOFTWARE AND SUPPORT	1	86
TOTAL REVENUES**	100%	—

* LESS THAN 1% OR NONE REPORTED

** MAY NOT TOTAL EXACTLY DUE TO ROUNDING

— NOT COMPUTED

EXHIBIT IV-3

DISTRIBUTION OF REVENUES BY TYPE OF SERVICE OF RESPONDING
PROCESSING SERVICES COMPANIES WITH REVENUES OVER
\$25 MILLION

TYPE OF SERVICE	PERCENT OF TOTAL REVENUES	GROWTH 1978-1979
PROCESSING SERVICES		
• GENERAL BUSINESS	31%	24%
• SCIENTIFIC AND ENGINEERING	7	14
• INDUSTRY SPECIALTY	44	30
• UTILITY	7	44
SUBTOTAL	89%	—
SOFTWARE PRODUCTS		
• APPLICATION PRODUCTS:		
— CROSS-INDUSTRY	1	14
— INDUSTRY SPECIALTY	1	37
• SYSTEM PRODUCTS:		
— SYSTEM OPERATION	*	*
— SYSTEM UTILIZATION	*	*
— IMPLEMENTATION SYSTEM	*	*
SUBTOTAL	3%	—
PROFESSIONAL SERVICES		
• CUSTOM SOFTWARE		
— TIME AND MATERIALS	3	24
— FIXED PRICE	*	*
— COST PLUS FEE	*	*
• CONSULTING, EDUCATION, TRAINING	*	*
SUBTOTAL	3%	—
HARDWARE	3	55
TURNKEY SYSTEM SOFTWARE AND SUPPORT	2	56
TOTAL REVENUES	100%	—

* LESS THAN 1%
— NOT COMPUTED

- Exhibit IV-4 shows the expenditure distribution for companies with more than \$10 million in revenues for 1978 and 1979, and the percent change from year to year.
 - Personnel expenditures rose most dramatically.
 - The responding companies made a larger commitment to research and product development, increasing their expenditures by 38% over 1978.
- The expenditure growth rate (23%) shown in Exhibit IV-4 was reported to be a little lower than the revenue growth rate (25%) for processing companies with revenues over \$10 million. The profit margins reported by companies which gave expenditure data were 11.84% for 1978 and 12.35% for 1979.
 - Actual profits improved for these companies by over 30% due to the improvement in profit margins combined with the revenue growth rate.
 - Note should be made that the total revenue figures include captive revenues for this analysis.
- Exhibit IV-5 shows expenditure distributions for all processing services respondents, categorized by size of company.
 - The larger companies spend nearly twice as much on marketing and sales as do the smaller companies.
 - Data communications were a bigger cost factor for the larger companies, due to their wider geographical coverage and network orientation.

EXHIBIT IV-4

**EXPENDITURE DISTRIBUTION FOR 1978 AND 1979 OF RESPONDING
PROCESSING SERVICES COMPANIES WITH REVENUES
OVER \$10 MILLION**

CATEGORY OF EXPENDITURE	PERCENT OF TOTAL REVENUES		CHANGE IN DOLLARS EXPENDED 1978-1979
	1978	1979	
MARKETING			
• SALARIES, BONUSES	1%	1%	25%
• FRINGE BENEFITS	*	*	24
• TRAVEL, ENTERTAINMENT, OTHER	1	2	42
SALES			
• SALARIES, COMMISSIONS BONUSES	11	11	34
• FRINGE BENEFITS	1	1	35
• TRAVEL, ENTERTAINMENT, OTHER	8	7	9
RESEARCH AND PRODUCT DEVELOPMENT	5	5	38
OPERATIONS			
• PERSONNEL			
– SALARIES	16	15	23
– FRINGE BENEFITS	2	2	16
• COMPUTER SYSTEM EQUIPMENT AND MAINTENANCE	9	9	17
• OTHER EQUIPMENT AND FACILITIES	12	12	23
• DATA COMMUNICATIONS	6	6	20
GENERAL ADMINISTRATIVE	9	9	12
ALL OTHER	7	8	35
PROFIT	12	12	32
TOTAL **	100%	100%	23%

* LESS THAN 1%.

**MAY NOT TOTAL EXACTLY DUE TO ROUNDING.

EXHIBIT IV-5

EXPENDITURE DISTRIBUTION OF RESPONDING PROCESSING SERVICES COMPANIES BY REVENUES SIZE

CATEGORY OF EXPENDITURE	EXPENDITURES AS A PERCENT OF TOTAL REVENUES				
	<\$2 MILLION	\$2-10 MILLION	\$10-25 MILLION	\$25 MILLION	ALL SIZES
MARKETING AND SALES					
• SALARIES, COMMISSIONS BONUSES	7%	6%	12%	12%	11%
• FRINGE BENEFITS	1	1	2	1	2
• TRAVEL, ENTERTAINMENT OTHER	1	2	6	10	8
RESEARCH AND PRODUCT DEVELOPMENT	5	3	5	4	5
OPERATIONS					
• PERSONNEL					
– SALARIES	28	24	11	16	17
– FRINGE BENEFITS	4	4	1	3	2
• COMPUTER SYSTEM EQUIPMENT AND MAINTENANCE	18	17	17	9	11
• OTHER EQUIPMENT AND FACILITIES	5	7	5	12	11
• DATA COMMUNICATIONS	1	3	4	6	11
GENERAL ADMINSTRATIVE	14	12	11	9	10
ALL OTHER	7	14	18	6	8
PROFIT	9	7	8	12	10
TOTAL **	100%	100%	100%	100%	100%

* LESS THAN 1%.

** MAY NOT TOTAL EXACTLY DUE TO ROUNDING.

D. MAJOR FACTORS IMPACTING THE PROCESSING SERVICES COMPANIES

- Respondents were asked to rate 16 major factors on a scale of 0 to 5 (where 0 indicates no impact and 5 indicates a high impact) in terms of their impact in 1979 and their anticipated impact in 1980. They were also asked to indicate whether the impact would be positive or negative. The results of this survey are summarized in Exhibit IV-6, with further details tabulated in Appendix C, Exhibit C-12. The factors are sorted by their impact in 1980, from most positive impact through no impact to most negative impact.
- Processing companies felt that the proliferation of terminals as work stations would have the greatest positive impact on them. The respondents interpreted these work stations to be a part of word processing systems or other small turnkey systems, and they expect these terminals to have communications capability so that they may more easily access the processing company's computer. Distributed data processing and new communications offerings ranked high for similar reasons.
- Processing companies were sharply divided on the impact of turnkey systems, but nearly twice as many respondents felt they would have a positive impact as felt that they would have a negative impact. More of the processing companies are viewing turnkey systems as an opportunity rather than a threat. The same attitude seems to carry over toward their view on cheaper small computers.
- On average, IBM product announcements came in as having zero impact on the processing companies; but in looking at the negative and positive sides in Exhibit C-12, it is apparent that the respondents felt that these would have either a very positive or very negative impact on their businesses.
- The processing companies are rather indifferent toward IBM re-entering the processing services industry, as they feel it will not impact them.

EXHIBIT IV-6

SUMMARY OF INDUSTRY IMPACTS –
PROCESSING SERVICES COMPANIES

FACTOR	MEAN RATING* FOR ALL RESPONDENTS 1980	MEAN RATING* FOR ALL RESPONDENTS 1979
PROLIFERATION OF TERMINALS AS WORK STATIONS	3.2	2.4
DISTRIBUTED DP	2.6	2.3
NEW COMMUNICATION OFFERINGS	2.5	2.0
COMPUTER SERVICES FIRMS' NEW PRODUCT ANNOUNCEMENTS	2.0	2.0
CHEAPER LARGE COMPUTERS	2.0	1.9
PERSONNEL PRODUCTIVITY INCREASES	1.9	1.8
COMPUTER-ASSISTED INSTRUCTION AVAILABILITY	1.7	1.3
APPLICATIONS SOFTWARE AVAILABILITY	1.5	1.3
TURNKEY SYSTEMS	0.9	0.7
NON-IBM NEW PRODUCT ANNOUNCE- MENTS	0.8	0.7
CHEAPER SMALL COMPUTERS	0.1	(0.1)
IBM PRODUCT ANNOUNCEMENTS	0.0	(0.2)
IBM RE-ENTRY INTO PROCESSING SERVICES	(0.1)	0.0
RECESSION	(0.2)	0.0
AVAILABILITY OF SKILLED PEOPLE	(1.9)	(1.8)
INFLATION	(2.3)	(1.9)

TOTAL CASES = 33

*RATING BASED ON A SCALE OF 0 TO 5 WHERE 5 INDICATES THE HIGHEST
IMPACT

- Inflation and the lack of availability of skilled people were felt to present the largest negative impact on their businesses in 1980.
- The respondents were rather ambivalent about the effects of a recession in 1980. It is difficult to interpret whether they felt a recession would or would not arrive, or whether it would or would not impact their business in a negative manner. They felt much more negative about inflation than they did about a recession.

V SOFTWARE PRODUCT COMPANIES'
PERFORMANCE

V SOFTWARE PRODUCT COMPANIES' PERFORMANCE

A. ANALYSIS OF TOTAL SOFTWARE PRODUCTS REVENUES

- Companies whose revenues were derived primarily from the sale of software products make up this category, which 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.
- Respondent revenues in the software products company category comprised 5% of the total revenues of all companies responding to the survey.
 - This relatively low participation limits the degree of detail possible in the analysis of software product companies.
 - In addition, over 75% of the companies responding in this category had revenues of less than \$10 million, so they reported on the short-form survey.
- The sources of 1978 and 1979 revenues for responding companies with revenues over \$10 million are shown in Exhibit V-1.

EXHIBIT V-I

REVENUE DISTRIBUTION AND GROWTH FOR RESPONDING
SOFTWARE PRODUCT COMPANIES WITH REVENUES
OVER \$10 MILLION

YEAR	REVENUE TYPE AS A PERCENT OF TOTAL COMPANY REVENUES					
	CAPTIVE	NON-U.S.		TOTAL AVAILABLE U.S.	NON- COMPUTER SERVICES	TOTAL
		EUROPEAN	OTHER			
1978	0%	11%	6%	83%	0%	100%
1979	0	10	7	83	0	100%
% GROWTH	0%	27%	52%	39%	0%	43%

- In both 1978 and 1979, European and other non-U.S. revenues combined contributed 17% to total revenues. Of these two, other non-U.S. revenues are growing nearly twice as fast as European revenues, and they have increased their share of the total by 1%.
- None of these respondents reported any captive or noncomputer service revenues.
- The expenditure distribution of responding software products companies is shown in Exhibit V-2.

B. ANALYSIS OF REVENUES BY TYPE OF SERVICE

- Insufficient data prevents the evaluation of the growth rates of the various types of service offered by responding software product companies with revenues over \$10 million.
- Software companies continue to focus on their segment of the business, with only 10% of their revenues being derived from processing services and professional services combined, as shown in Exhibit V-3.

C. MAJOR FACTORS IMPACTING THE SOFTWARE PRODUCT COMPANIES

- The respondents were asked to rate 16 major factors on a scale of 0 to 5 (where 0 indicates no impact and 5 indicates a high impact) in terms of their impact in 1979 and anticipated impact in 1980. They were also asked to indicate whether the impact would be positive or negative. The results of this survey are summarized in Exhibit V-4, with further details tabulated in Appendix C, Exhibit C-13. The factors are sorted by their impact in 1980, from most positive impact through no impact to most negative impact.

EXHIBIT V-2

EXPENDITURE PATTERN OF RESPONDING SOFTWARE PRODUCTS COMPANIES

CATEGORY OF EXPENDITURE	PERCENT OF 1979 REVENUES
MARKETING AND SALES	
• SALARIES, COMMISSIONS, BONUSSES	13%
• FRINGE BENEFITS	2
• TRAVEL, ENTERTAINMENT, OTHER	14
RESEARCH AND PRODUCT DEVELOPMENT	15
OPERATIONS	
• PERSONNEL	
– SALARIES	17
– FRINGE BENEFITS	2
• COMPUTER SYSTEM EQUIPMENT AND MAINTENANCE	5
• OTHER EQUIPMENT AND FACILITIES	2
• DATA COMMUNICATIONS	*
GENERAL ADMINISTRATIVE	11
ALL OTHER	8
PROFIT	11
TOTAL	100%

* LESS THAN 1%

EXHIBIT V-3

DISTRIBUTION OF REVENUES BY TYPE OF SERVICE OF RESPONDING SOFTWARE PRODUCT COMPANIES WITH REVENUES OVER \$10 MILLION

TYPE OF SERVICE	PERCENT OF TOTAL REVENUES	REAL GROWTH 1978-1979
PROCESSING SERVICES		
• GENERAL BUSINESS	*	*
• SCIENTIFIC AND ENGINEERING	*	*
• INDUSTRY SPECIALTY	1%	*
• UTILITY	*	*
SUBTOTAL	1%	—
SOFTWARE PRODUCTS		
• APPLICATION PRODUCTS:		
— CROSS-INDUSTRY	32	*
— INDUSTRY SPECIALTY	11	*
• SYSTEM PRODUCTS:		
— SYSTEM OPERATION	3	*
— SYSTEM UTILIZATION	*	*
— IMPLEMENTATION SYSTEM	44	
SUBTOTAL	90%	—
PROFESSIONAL SERVICES		
• CUSTOM SOFTWARE		
— TIME AND MATERIALS	6	*
— FIXED PRICE	*	*
— COST PLUS FEE	*	*
• CONSULTING, EDUCATION, TRAINING	3	*
SUBTOTAL	9%	—
HARDWARE	*	*
TURNKEY SYSTEM SOFTWARE AND SUPPORT	*	*
TOTAL REVENUES	100%	—

* LESS THAN 1% OR INSUFFICIENT DATA.

— NOT COMPUTED

EXHIBIT V-4

SUMMARY OF INDUSTRY IMPACTS –
SOFTWARE PRODUCT COMPANIES

FACTOR	MEAN RATING* FOR ALL RESPONDENTS 1980	MEAN RATING* FOR ALL RESPONDENTS 1979
CHEAPER LARGE COMPUTERS	4.5	3.7
CHEAPER SMALL COMPUTERS	3.5	3.2
DISTRIBUTED DP	3.2	2.3
PROLIFERATION OF TERMINALS AS WORK STATIONS	3.0	2.5
APPLICATIONS SOFTWARE AVAILABILITY	2.8	2.4
COMPUTER SERVICES FIRMS' NEW PRODUCT ANNOUNCEMENTS	2.2	2.0
NEW COMMUNICATIONS OFFERINGS	2.0	1.5
TURNKEY SYSTEMS	1.3	0.8
COMPUTER-ASSISTED INSTRUCTION AVAILABILITY	1.0	1.0
PERSONNEL PRODUCTIVITY INCREASED	1.0	0.5
IBM PRODUCT ANNOUNCEMENTS	0.7	0.8
NON-IBM NEW PRODUCT ANNOUNCE- MENTS	0.0	0.0
RECESSION	(0.7)	(0.7)
IBM RE-ENTRY INTO PROCESSING SERVICES	(0.8)	(0.2)
AVAILABILITY OF SKILLED PEOPLE	(1.7)	(1.5)
INFLATION	(2.0)	(1.8)

TOTAL CASES = 7

*RATING BASED ON A SCALE OF 0 TO 5 WHERE 5 INDICATES THE HIGHEST
IMPACT

- The software companies reported that they view cheaper, large computers as having an extremely positive impact on them, with a rating of 4.5 out of a possible 5.
- Cheaper small computers and other advances which make the computer more available were also viewed as highly positive.
- The respondents were evenly divided on IBM product announcements, but those who felt positive about it felt very positive.
- Inflation and the lack of availability of skilled people were seen as the biggest negative factors in 1980 as well as in 1979.

VI PROFESSIONAL SERVICES COMPANIES'
PERFORMANCE

VI PROFESSIONAL SERVICES COMPANIES' PERFORMANCE

A. ANALYSIS OF TOTAL PROFESSIONAL SERVICES REVENUES

- This category comprises companies whose revenues were derived primarily from the sale of professional services; i.e., 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.

- Respondent revenues in the professional services company category comprised 13% of the total revenues of all companies responding to the survey. Although the revenues represent a significant part of the total, only 25% of the responding companies in this category had revenues of more than \$10 million, so a relatively small sample reported on the long-form survey which required and produced more detailed information. Therefore, the amount of analysis which could be done on the data for this category is limited relative to that for processing services companies in Chapter IV.

- The sources of 1978 and 1979 revenues for responding companies with revenues over \$10 million are shown in Exhibit VI-1.
- In 1979, respondents reported a sharp decline in European revenues which reduced it from 9% of the total in 1978 to 5% of the total in 1979.
- The fastest-growing source of revenue was in the total available U.S. market.
- The expenditure distribution of responding professional services companies is shown in Exhibit VI-2.

B. ANALYSIS OF REVENUES BY TYPE OF SERVICE

- A significant amount (31%) of processing services was included in the professional services companies, as shown in Exhibit VI-3. These revenues were also reported to be growing at a very high rate.
- In the professional services, time-and-materials custom software accounted for 21% of that sector's revenues and were reported to be growing at 31%.
- Hardware and turnkey system software and support together accounted for 9% of total revenues.

C. MAJOR FACTORS IMPACTING THE PROFESSIONAL SERVICES COMPANIES

- The respondents were asked to rate 16 major factors on a scale of 0 to 5 (where 5 indicates a high impact) in terms of their impact in 1979 and their anticipated impact in 1980. They were also asked to indicate whether the impact would be positive or negative. The results of this survey are summarized in Exhibit VI-4, with further details tabulated in Appendix C,

EXHIBIT VI-1

REVENUE DISTRIBUTION AND GROWTH FOR RESPONDING PROFESSIONAL SERVICES COMPANIES WITH REVENUES OVER \$10 MILLION

YEAR	REVENUE TYPE AS A PERCENT OF TOTAL COMPANY REVENUES					
	CAPTIVE	NON-U.S.		TOTAL AVAILABLE U.S.	NON-COMPUTER SERVICES	TOTAL
		EUROPEAN	OTHER			
1978	0%	9%	1%	81%	9%	100%
1979	0	5	2	84	9	100%
% GROWTH	0%	(36%)	25%	26%	17%	19%

EXHIBIT VI-2

EXPENDITURE PATTERN OF RESPONDING
PROFESSIONAL SERVICES COMPANIES

CATEGORY OF EXPENDITURE	PERCENT OF 1979 REVENUES
MARKETING AND SALES	
• SALARIES, COMMISSIONS, BONUSES	5%
• FRINGE BENEFITS	1
• TRAVEL, ENTERTAINMENT, OTHER	3
RESEARCH AND PRODUCT DEVELOPMENT	2
OPERATIONS	
• PERSONNEL	
– SALARIES	38
– FRINGE BENEFITS	9
• COMPUTER SYSTEM EQUIPMENT AND MAINTENANCE	9
• OTHER EQUIPMENT AND FACILITIES	2
• DATA COMMUNICATIONS	*
GENERAL ADMINISTRATIVE	22
ALL OTHER	2
PROFIT	7
TOTAL	100%

* LESS THAN 1%

EXHIBIT VI-3

DISTRIBUTION OF REVENUES BY TYPE OF SERVICE OF RESPONDING
PROFESSIONAL SERVICES COMPANIES WITH REVENUES OVER
\$10 MILLION

TYPE OF SERVICE	PERCENT OF TOTAL REVENUES	GROWTH 1978-1979
PROCESSING SERVICES		
• GENERAL BUSINESS	15%	73%
• SCIENTIFIC AND ENGINEERING	1	*
• INDUSTRY SPECIALTY	14	29
• UTILITY	1	*
SUBTOTAL	31%	—
SOFTWARE PRODUCTS		
• APPLICATION PRODUCTS:		
— CROSS-INDUSTRY	*	*
— INDUSTRY SPECIALTY	1	*
• SYSTEM PRODUCTS:		
— SYSTEM OPERATION	*	*
— SYSTEM UTILIZATION	*	*
— IMPLEMENTATION SYSTEM	*	*
SUBTOTAL	2%	—
PROFESSIONAL SERVICES		
• CUSTOM SOFTWARE		
— TIME AND MATERIALS	21	31
— FIXED PRICE	16	13
— COST PLUS FEE	11	8
• CONSULTING, EDUCATION, TRAINING	10	15
SUBTOTAL	58%	—
HARDWARE	6	21
TURNKEY SYSTEM SOFTWARE AND SUPPORT	3	9
TOTAL REVENUES WEIGHTED AVERAGE	100%	—

* LESS THAN 1% OR INSUFFICIENT DATA.
— NOT COMPUTED

EXHIBIT VI-4

SUMMARY OF INDUSTRY IMPACTS –
PROFESSIONAL SERVICES COMPANIES,

FACTOR	MEAN RATING* FOR ALL RESPONDENTS 1980	MEAN RATING* FOR ALL RESPONDENTS 1979
DISTRIBUTED DP	3.1	1.9
PROLIFERATION OF TERMINALS AS WORK STATIONS	2.9	2.0
APPLICATIONS SOFTWARE AVAILABILITY	2.8	1.9
NEW COMMUNICATION OFFERINGS	2.7	2.3
CHEAPER LARGE COMPUTERS	2.4	2.1
NON-IBM NEW PRODUCT ANNOUNCE- MENTS	2.4	2.0
CHEAPER SMALL COMPUTERS	2.0	1.8
COMPUTER SERVICES FIRMS' NEW PRODUCT ANNOUNCEMENTS	1.7	1.4
PERSONNEL PRODUCTIVITY INCREASED	1.6	0.9
COMPUTER-ASSISTED INSTRUCTION AVAILABILITY	1.3	0.9
IBM PRODUCT ANNOUNCEMENTS	1.3	0.9
TURNKEY SYSTEMS	0.8	0.5
IBM RE-ENTRY INTO PROCESSING SERVICES	(1.1)	(0.7)
RECESSION	(1.4)	(1.2)
AVAILABILITY OF SKILLED PEOPLE	(2.9)	(2.3)
INFLATION	(4.3)	(3.7)

TOTAL CASES = 9

*RATING BASED ON A SCALE OF 0 TO 5 WHERE 5 INDICATES THE HIGHEST
IMPACT

Exhibit C-14. The factors are sorted by their impact in 1980, from most positive impact through no impact to most negative impact.

- In general, the availability of more equipment, faster and less expensive hardware, and new communications offerings were seen as having a positive impact on the professional services companies.
- The respondents felt that inflation had a serious impact on them in 1979, and that it will get worse in 1980.
- The lack of availability of skilled people was also seen to have a negative impact on most of these respondents.

VII TURNKEY SYSTEM COMPANIES'
PERFORMANCE

VII TURNKEY SYSTEM COMPANIES' PERFORMANCE

A. INTRODUCTION

- An analysis of turnkey system companies is being introduced into the ADAPSO Annual Survey of the Computer Services Industry for the first time this year.
- INPUT defines turnkey systems as a combination of hardware and software integrated into a system designed to fulfill the processing requirements of an application (or applications) for a user.
- Twenty percent of all companies in the computer services industry reported that they were installing turnkey systems in 1979. Thirty-three percent of these respondents indicated that they plan to install turnkey systems by 1981.
- Respondents reporting the installation of turnkey systems had an average of 32 installations each in 1978, which they projected to grow at an average annual compound growth rate of 30% to 70 installations each in 1981.
- INPUT estimates that there are 4,500 companies in the United States which derive revenues from turnkey systems.
- INPUT estimates that turnkey system companies produced \$3 billion in revenues in 1979, which would add almost one-third to the revenues estimated for the computer services industry.

- The turnkey system company respondents to this survey reported that their growth in revenues was 37% in 1979.
- The turnkey system companies forecasted a 1979-1980 growth rate of 47%, and a five-year growth rate of 34%. This compares very favorably with the computer services industry forecast of 22% and 19% respectively for the same periods.
 - It should be noted, however, that the average available U.S. revenues of turnkey system respondents was less than \$2 million. A further breakdown of revenues is shown in Exhibit C-10.
- The reported profit growth in 1979 for the turnkey companies was a little higher (35%) than that reported for the computer services companies.
- Profit margins were reported in 1979 to be substantially lower for turnkey systems companies (5%) than for computer services companies.
 - These lower profit margins are probably due to the fact that none of the turnkey system company respondents had revenues greater than \$10 million.
 - Turnkey system companies with revenues of less than \$2 million reported a profit margin of 2%, while those greater than \$2 million reported 7% profit margins. It is expected that, as these companies establish larger bases of revenue, they will improve their profit margins, as have the companies in the computer services industry.
- The processing services companies with revenues over \$25 million reported, as shown in Exhibit III-8, that 3% of their revenues were derived from hardware and 2% from turnkey system software and support. A significant portion of this 5% of total revenues was from turnkey systems.

- In summary, turnkey systems are a significant source of revenue for the computer services industry and will continue to grow in importance in the coming years. Also, turnkey systems companies are very similar to computer services companies in that they add value through software and service to hardware in order to meet users' needs.

B. ANALYSIS OF EXPENDITURES

- Exhibit VII-1 shows the expenditure distribution of responding turnkey system companies.
 - Apparently, most of the respondents reported the cost of their hardware in the "other" category, which was the largest expenditure category.
 - A relatively small portion (5-13%) of their expenditures were for marketing and sales.

EXHIBIT VII-1

EXPENDITURE DISTRIBUTION OF RESPONDING TURNKEY
SYSTEM COMPANIES**

CATEGORY	PERCENT OF TOTAL REVENUES	
	< \$2 MILLION	> \$2 MILLION
MARKETING AND SALES		
• SALARIES, COMMISSIONS, BONUSES	9%	5%
• FRINGE BENEFITS	1	*
• TRAVEL, ENTERTAINMENT, OTHER	3	*
RESEARCH AND PRODUCT DEVELOPMENT	4	3
OPERATIONS		
• PERSONNEL		
– SALARIES, BONUSES	20	27
– FRINGE BENEFITS	3	*
• COMPUTER SYSTEMS, EQUIPMENT, AND MAINTENANCE	14	5
• OTHER EQUIPMENT AND FACILITIES	2	2
• DATA COMMUNICATIONS	1	1
GENERAL ADMINISTRATIVE	9	8
OTHER	32	42
PROFIT	2	7
TOTAL	100%	100%

* LESS THAN 1%

** BASED ON 15 RESPONDENTS

VIII VENDOR PERFORMANCE

VIII VENDOR PERFORMANCE

- The published results of public computer services companies are presented in this chapter. Data given are for fiscal years 1978 and 1979, except for one company whose fiscal year ends in the first quarter. In that case, data is for fiscal year 1979 and 1980.
 - The 45 companies included here represent less than 1% of the over 4,000 computer services companies in the U.S., and 31% of the estimated total 1979 computer services industry revenues.
 - Their average growth in revenues from 1978 to 1979 was 26% (weighted average rounded), as shown in Exhibit VIII-3. This compares to a 22% industry growth estimate based on the ADAPSO survey. Again, however, allowance must be made for acquisitions and non-U.S. growth.
 - Their average profit before taxes was 11% in 1979, compared to the 10% for the respondents to the ADAPSO survey.
 - The above comparison adds substance to the ADAPSO survey in that public companies in the industry are actually performing at growth and profit levels close to but better than the average of the over 200 companies included in the survey. (Many of the public companies in the following exhibits also participated in the survey.)

- The 24 processing services companies shown in Exhibit VIII-1 represent about 1% of the 2,140 processing services companies in the U.S., and 26% of the estimated total 1979 processing services companies' revenues.
 - Their average growth in revenues from 1978 to 1979 was 25%. This compares to a 20% processing services company growth estimate based on the ADAPSO survey.
 - Their average profit before taxes was 13%, compared to the 10% for the respondents to the ADAPSO survey.

- The seventeen professional services companies shown in Exhibit VIII-2 represent about 2% of the 820 professional services companies in the U.S., and 72% of the estimated total 1979 professional services companies' revenues.
 - Their average growth in revenues in 1979 compared to 1978 was 26%. This compares to a 26% professional services company growth estimate based on the ADAPSO survey.
 - Their average profit before taxes was 7%, the same as that of the respondents to the ADAPSO survey.

- The four software products companies shown in Exhibit VIII-3 represent a small percentage of the 1,095 software products companies in the U.S., and 5% of the estimated total 1979 software products companies' revenues.
 - Their average growth in revenues in 1979 compared to 1978 was 43%. This compares to a 29% software products company growth estimate based on the ADAPSO survey.
 - Their average profit before taxes was 10%, compared to the 11% for the respondents to the ADAPSO survey.

EXHIBIT VIII-1

PUBLISHED RESULTS OF PUBLIC COMPUTER SERVICES
COMPANIES – PROCESSING SERVICES

COMPANY NAME	FISCAL YEAR END		FISCAL YEAR		% GROWTH 1978-1979	% PROFIT ON REVENUES	
			1979 (\$ MILLION)	1978			
ANACOMP	6/30	R P	\$ 38.12 5.07	\$ 21.62 3.18	76% 59	78 79	15% 13
AUTOMATIC DATA PROCESSING	6/30	R P	371.06 64.13	299.26 54.03	24 19	78 79	18 17
BRADFORD NATIONAL	12/31	R P	120.14 6.40	118.74 7.40	1 (14)	78 79	6 5
COMPUTERIZED AUTO- MOTIVE REPORTING SERVICE, INC.	12/31	R P	25.79 1.70	20.22 1.55	28 10	78 79	8 7
COMPUSERV	12/31	R P	19.61 2.74	15.84 1.37	24 100	78 79	9 14
COMPUTER USAGE CO.	9/30	R P	9.81 0.17	9.93 0.26	(1) (35)	78 79	3 2
COMPUTER NETWORK CORPORATION	3/31	R P	21.01 2.06	16.60 1.79	27 15	78 79	11 10
COMSHARE	6/30	R P	52.98 7.73	25.64 3.76	107 106	78 79	15 15
ELECTRONIC DATA SYSTEMS	6/30	R P	274.30 37.95	217.84 32.47	26 17	78 79	15 14
INFORMATICS	12/31	R P	112.39 5.13	92.51 3.23	21 59	78 79	4 5
KEY DATA	7/31	R P	16.79 (1.63)	15.07 (0.31)	11 (425)	78 79	(2) (10)
MANUFACTURING DATA SYSTEMS, INC.	8/31	R P	42.55 7.87	28.80 6.27	48 26	78 79	22 18
NATIONAL CSS	2/28	R P	68.28 9.71	48.89 7.45	40 30	78 79	15 14
NATIONAL DATA CORP.	5/31	R P	49.36 6.85	39.16 5.01	26 37	78 79	13 14
ON-LINE SYSTEMS	4/30	R P	29.25 4.25	22.62 2.92	29 46	78 79	13 15
QUOTRON	12/31	R P	47.42 9.85	39.38 6.51	20 51	78 79	17 21

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		% GROWTH 1978-1979	% PROFIT ON REVENUES	
			1979 (\$ MILLION)	1978			
RAPIDATA	12/31	R	\$ 20.43	\$ 19.11	7% (32)	78	13%
		P	1.72	2.52		79	8
SCIENTIFIC COMPUTERS, INC.	6/30	R	10.96	9.41	16 40	78	15
		P	2.01	1.44		79	18
SHARED MEDICAL	12/31	R	82.80	63.05	31 20	78	29
		P	21.57	18.03		79	26
TELECREDIT	4/30	R	31.83	24.70	29 61	78	6
		P	2.56	1.58		79	8
TIMESHARING RESOURCES, INC.	5/31	R	5.66	4.64	22 23	78	28
		P	1.61	1.31		79	28
TYMSHARE	12/31	R	193.09	149.56	29 34	78	13
		P	26.06	19.39		79	13
WYLY CORP. (UCC)	12/31	R	89.02	78.88	13 55	78	6
		P	7.44	4.80		79	8
SUBTOTAL		R	\$1,732.65	\$1,381.47	25%* 25%*	78	13%*
		P	\$ 232.95	\$ 185.96		79	13%*

R = REVENUES (GROSS)

P = PROFITS (BEFORE TAXES AND EXTRAORDINARY ITEMS)

*WEIGHTED AVERAGE

EXHIBIT VIII-2

PUBLISHED RESULTS OF PUBLIC COMPUTER SERVICES
COMPANIES – PROFESSIONAL SERVICES

COMPANY NAME	FISCAL YEAR END		FISCAL YEAR		% GROWTH 1978-1979	% PROFIT ON REVENUES	
			1979 (\$ MILLION)	1978			
ADVANCED COMPUTER TECHNIQUES	3/31	R	\$ 17.86	\$ 14.36	24%	78	1%
		P	0.51	0.20	155	79	3
AGS COMPUTERS	12/31	R	13.79	9.49	45	78	5
		P	0.99	0.46	115	79	7
AMERICAN MANAGEMENT SYSTEMS	12/31	R	48.10	31.88	51	78	7
		P	2.18	2.26	(4)	79	5
ANALYSTS INTERNATIONAL, INC.	6/30	R	12.30	6.81	81	78	11
		P	0.84	0.74	14	79	7
AUXCO	3/31	R	8.08	6.34	27	78	9
		P	0.88	0.58	52	79	11
CGA COMPUTER ASSOCIATES	4/30	R	8.79	5.78	52	78	9
		P	1.11	0.53	109	79	13
COMPUTER ASSISTANCE, INC.	1/31	R	6.81	4.40	55	78	12
		P	0.66	0.54	22	79	10
COMPUTER DATA SYSTEMS	6/30	R	8.69	6.29	38	78	6
		P	0.92	0.38	142	79	11
COMPUTER HORIZONS, INC.	2/28	R	9.01	6.86	31	78	8
		P	0.73	0.52	40	79	8
COMPUTER SCIENCE CORP.	3/31	R	452.63**	342.41**	32**	79	8
		P	43.23**	28.36**	52**	80	10
COMPUTER TASK GROUP	12/31	R	18.04	14.14	28	78	6
		P	1.01	0.83	22	79	6
DATA ARCHITECTS	11/30	R	6.21	5.08	22	78	11
		P	0.60	0.57	5	79	11
KEANE ASSOCIATES	12/31	R	15.73	11.11	42	78	6
		P	1.20	0.66	82	79	8
LOGICON	3/31	R	43.72	33.57	30	78	5
		P	2.96	1.55	91	79	7
MATHEMATICA	6/30	R	25.55	26.50	(4)	78	2
		P	1.78	0.45	296	79	7
PLANNING RESEARCH CORP.	6/30	R	261.92	223.39	17	78	4
		P	9.30	9.80	(5)	79	4
RAND INFORMATION SYSTEMS	2/25	R	15.93	11.67	37	78	9
		P	1.11	1.10	1	79	7
SYSTEMS DEVELOPMENT CORP.	6/24	R	165.96	145.04	14	78	3
		P	6.35	4.51	41	79	4
SUBTOTAL		R	\$1,139.12	\$905.12	26%*	78	6%*
		P	\$ 76.36	\$ 54.04	41%*	79	7%*

R = REVENUES (GROSS)
P = PROFITS (BEFORE TAXES AND EXTRAORDINARY ITEMS)
*WEIGHTED AVERAGE
** FIGURES SHOWN ARE FOR FISCAL YEARS 1979 AND 1980

EXHIBIT VIII-3

PUBLISHED RESULTS OF PUBLIC COMPUTER SERVICES
COMPANIES – SOFTWARE PRODUCTS

COMPANY NAME	FISCAL YEAR END		FISCAL YEAR		% GROWTH 1978-1979	% PROFIT ON REVENUES	
			1979 (\$ MILLION)	1978			
APPLIED DATA RESEARCH	12/31	R	\$ 28.69	\$ 22.63	27% (70)	78	13%
		P	0.92	3.02		79	3
CACI INC	6/30	R	19.78	12.41	59 134	78	8
		P	2.22	0.95		79	11
COMSERV	12/31	R	6.49	4.26	52 70	78	13
		P	0.92	0.54		79	14
CULLINANE	4/30	R	13.93	8.92	56 55	78	22
		P	3.08	1.99		79	22
SUBTOTAL		R	\$ 68.89	\$ 48.22	43%* 10%*	78	13%*
		P	\$ 7.14	\$ 6.50		79	10%*
GRAND TOTAL		R	\$2,940.66	\$2,334.81	26%* 28%*	78	10.6%*
		P	\$ 316.45	\$ 246.50		79	10.8%*

R = REVENUES (GROSS)

P = PROFITS (BEFORE TAXES AND EXTRAORDINARY ITEMS)

*WEIGHTED AVERAGE

APPENDIX A: DEFINITION OF TERMS

APPENDIX A: DEFINITION OF TERMS

A. REVENUES

- Computer Services. Those services provided by vendors which perform data processing functions using vendors' computers (processing services), or assist users to perform such functions on their own computers (software products and/or professional services).
- Captive Revenues. Computer services revenues received from users who are part of the same parent corporation as the vendor.
- Revenues from Non-Consolidated Foreign Affiliates. Revenues from foreign affiliates which are not included in non-U.S. revenues; profits from these revenues may be consolidated in total profits.
- Processing Services. Processing services encompass facilities management processing services, remote computing services, and batch services. They are categorized by type of services bought by users as follows:

- General Business services are processing services for applications which are common to users across industry categories. Software is provided by the vendor; this can be a complete package, such as a payroll package, or an application "tool," such as a budgeting model, where a user provides much of the customizing of the finished product it uses. General business processing is often repetitive and transaction-oriented.

- Scientific and Engineering services are the processing of scientific and engineering problems for users across industries. The problems usually involve the solution of mathematical equations. Processing is generally problem solving and is nonrepetitive, except in the sense that the same packages or "tools" are used to address similar but not identical problems.

- Industry Specialty services provide processing for particular functions or problems unique to an industry or industry group. The software is provided by the vendor either as a complete package or as an application "tool" which the user employs to produce its unique solution. Specialty applications can be either business or scientific in orientation; data base services, where the vendor supplies the data base and controls access to it (although it may be owned by a third party), are also included under this category. Examples of industry specialty applications are: seismic data processing, numerically-controlled machine tool software development, and demand deposit accounting.

- Utility Services are those where the vendor provides access to a computer and/or communications network with basic software which enables any user to develop its own problem solution or processing system. These basic tools include terminal handling software, sorts, language compilers, data base management systems, information retrieval software, scientific library routines, and other systems software.

- Software Products. This category includes users' purchase 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.
 - Application 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.
 - System Products are software which enable the computer/communications system to perform basic functions. They consist of:
 - System Operations Products, which function during applications program execution to manage the computer system resource. Examples include operating systems, DBMS, communication monitors, emulators, and spoolers.
 - System 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.
 - System Implementation Products, which are used to prepare applications for execution by assisting in design, 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.
- Hardware. This category includes processors, storage, printers, terminals, and other computer hardware devices which are purchased by clients. Hardware maintenance revenue is included as well. The amount reported is the actual revenue generated from hardware sales and maintenance, not just the cost of the hardware. Only the hardware and hardware maintenance components of a turnkey system sale are included in this category. The software and support revenues of turnkey system sales are reported in a separate category. The cost of terminals or computers provided to customers without charge is not included. Most user site hardware services, for example, are processing services, because hardware is not actually sold to the end user.
- Turnkey Systems Software and Support: This category excludes all hardware and hardware maintenance components of a turnkey system sale.

B. INDUSTRY SECTORS

- 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 goods and non-durable 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.

C. DELIVERY MODES

- 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. The three submodes of RCS are:
 - Interactive (timesharing), characterized by interaction of the user with the system, primarily for problem-solving timesharing, but also for data entry and transaction processing: the user is "on-line" to the program/files.
 - Remote Batch, where the user hands over control of a job to the vendor's computer, which schedules job execution according to priorities and resource requirements.

- Data Base Inquiry, characterized by the retrieval of information from a vendor-maintained data base. This may be owned by the vendor or a third party.
- 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 telecommunications 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 with a terminal connected to a remote computer used for the actual processing.
- 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. Professional or contract services provided on a long-term contract, where users purchase services from the vendor's staff in order to run their computer facilities, does not qualify as FM but as professional services.

D. OFFERINGS

- Turnkey Systems. A combination of hardware and software integrated into a system designed to fulfill the processing requirements of an application (or applications) for a user.
- User Site Hardware Services (USHS). These are offerings, typically provided by RCS vendors, which place programmable hardware at the user site (as compared to 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.
- 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."

E. 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.

F. EXPENDITURES

- Marketing. Includes corporate marketing, product planning, market research, advertising, training, and related functions.
- Sales. Includes field sales offices, account representatives, technical representatives, branch management and support, and related functions.
- Research and Product Development. Includes R&D personnel, amortization of software purchases, maintenance, enhancement of existing products, and development of new products. Excludes internal computer costs.

- Operations:
 - Personnel. Operators, analysts, programmers, and those involved in related functions. Includes direct revenue-producing personnel in professional services. Excludes maintenance personnel for the three subcategories which follow. In-house maintenance personnel costs should be shown in the appropriate operations subcategory.
 - Computer System Equipment and Maintenance. Includes hardware cost, interest, depreciation, property tax, and related expenditures.
 - Other Equipment and Facilities. Includes cost of equipment other than computer hardware, rent, utilities, taxes, and related expenditures.
 - Data Communications. Includes hardware cost, carrier services, maintenance, and related expenditures.
- General and Administrative. Finance and administrative expenses and interest on loans, but excluding federal and state taxes.
- Other. Any expense that could not be allocated to the previous categories. Respondents were asked to make every effort, however, to apply expenses to the previous categories so that more valid category totals could be developed.

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 =

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

- 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 =

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

- Trade receivables as a percent of total assets =

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

- Current assets as a percent of total assets =

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

- Current portion of long-term debt as a percent of total liabilities =

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

APPENDIX B: METHODOLOGY

- The methodology followed was to mail a questionnaire to nearly 6,000 potential respondents.
 - Two questionnaires were used in the survey:
 - A long questionnaire was mailed to companies with revenues of \$10 million and over.
 - A short questionnaire was mailed to companies with revenues of less than \$10 million.
 - All companies with revenues of \$10 million and over were contacted by phone to expedite the response.
 - ADAPSO made a special effort to develop responses from its members.
 - Of 257 responses obtained, 222 contained the data required and were incorporated in the analysis.
 - Data gathering took place in March and April 1979, with analysis and writing being completed in May.

- Data from INPUT's library and research facilities are included to complete the analysis and expand on the survey findings where appropriate. Where this has been done, the data is identified as INPUT's.
- Categorization of companies by product.
 - The questionnaire requested amounts of revenues by type of product. The products were grouped into four categories: processing services, software products, professional services and turnkey systems.
 - A company was placed in the category which accounted for the highest proportion of its 1979 revenues.
- Categorization by size.
 - Companies were categorized into three groupings based on their 1979 available U.S. computer services revenues: less than \$2 million, \$2-10 million, and over \$10 million. Because of the importance of processing companies with revenues over \$25 million, an additional category was created to analyze these companies.
 - Captive revenues and non-U.S. revenues were included in the total figure; they are broken out where appropriate in the report itself to provide available U.S. revenues. Revenues for nonconsolidated foreign affiliates were reported separately and are not included in total revenues.

APPENDIX C: MARKET SIZE REVISION AND
OTHER STATISTICS

APPENDIX C: MARKET SIZE REVISION AND OTHER STATISTICS

- INPUT conducted an in-depth analysis of the number of companies in the computer services industry this year.
 - The analysis was based on a variety of INPUT research projects, industry statistics from the Bureau of the Census County Business Patterns, statistical information drawn from INPUT's Company Analysis and Monitoring Program computer data base, and from various lists and directories of companies in the industry.
 - The results of this analysis impacted the number of companies estimated in various size categories of the software products and professional services-type companies which are shown in Exhibit C-1 as understated in 1978.
 - The 1978 base number of companies was increased by 9% which resulted in a 3% increase in INPUT's estimate of computer services industry revenues.
- The net new companies in each category in 1979 shown in Exhibit C-1 is derived from movement of companies across size boundaries and acquisitions of companies. New formations and business discontinuances have negligible impact in this area except in the movement of companies across the \$250,000 annual revenue threshold.

EXHIBIT C-1

U.S. COMPUTER SERVICES INDUSTRY RECONCILIATION OF
1978 AND 1979 NUMBER OF COMPANIES

TYPE OF COMPANY • SIZE (\$ MILLION)	NUMBER OF COMPANIES			
	1978	NET NEW IN 1979	UNDERSTATED IN 1978	TOTAL 1979
PROCESSING SERVICES				
• < \$2	1,780	20	—	1,800
• \$2—10	250	25	—	275
• \$10—25	24	6	—	30
• > \$25	35	0	—	35
SUBTOTAL	2,089	51	—	2,140
SOFTWARE PRODUCTS				
• < \$2	680	160	140	980
• \$2—10	60	30	10	100
• > \$10	12	3	—	15
SUBTOTAL	752	193	150	1,095
PROFESSIONAL SERVICES				
• < \$2	480	80	140	700
• \$2—10	60	25	15	100
• > \$10	10	10	—	20
SUBTOTAL	550	115	155	820
TOTAL	3,391	359	305	4,055

- There was only modest normal growth in the number of processing services companies from 1978 to 1979, as shown in Exhibit C-1.
- More software products vendors were identified. The criteria for inclusion was that the company must generate at least \$250,000 in revenues per year.
 - The major portion of the revised company count reflects new firms entering the business as well as firms crossing the \$250,000 threshold for inclusion in the category.
 - The microcomputer acceptance has created an explosion of new software product vendors. However, only a small number of these vendors reached the \$250,000 revenue level in 1979. More will reach this level in 1980.
- There were more professional services companies identified in 1979 than in 1978. The criterion for inclusion was that the company must generate at least \$250,000 in revenues per year.
- The growth in professional services vendors can be attributed to two major factors:
 - There is a shortage of skilled computer people. Companies are increasingly employing professional services firms to supplement their own internal development efforts. The supplement may be for additional programmers or for highly specialized technicians not available internally.
 - There are few barriers to entry in this business. Anyone can open up a business as a way of providing their own job. In fact, many programmers, particularly specialists are becoming independent contractors, sometimes as a group practice hence forming a new vendor company.

- This analysis excludes individual practitioners, moonlighters, and "cottage industry" vendors whose characteristics are significantly different from companies covered by the survey. Companies with less than six employees were not included. All companies with less than \$250,000 a year in revenues were excluded.

- After the distribution of companies by size was determined, some adjustments were made to the average size of the companies in each cell to reflect additional data available. In particular, the average size of professional service companies from \$2-10 million was reduced from \$5.5 million to \$4.4 million in 1978 to bring it in line with the other services segments. Consequently, although there were more companies in this cell, the market size for 1978 was not revised.

- Total industry revenues were then recalculated. Exhibit C-2 shows the original 1978 industry revenues, the revised 1978 revenues based on the new companies that were added to the industry counts, the 1979 revenue, and the growth rate between the revised 1978 and 1979 revenue levels.
 - Approximately \$250 million in revenues were added due to companies added this year.

 - Over \$1.7 billion in revenues were added through growth in 1979, which represents a 22% growth rate over 1978.

- Because of significant differences in profit margins between the 1979 and 1980 survey, INPUT has totally re-examined the data for both surveys to obtain as accurate an estimate as possible.

- Examination of individual questionnaires used in the 1979 survey has shown that for some processing services companies over \$25 million in annual revenues misleading data was reported and employed in the profit calculation.

EXHIBIT C-2

U.S. COMPUTER SERVICES INDUSTRY RECONCILIATION OF
1978 AND 1979 AVAILABLE REVENUES

TYPE OF COMPANY • SIZE (\$ MILLION)	REVENUES (\$ MILLION)			PERCENT GROWTH BETWEEN REVISED 1978 AND 1979
	ORIGINAL 1978	REVISED 1978	1979	
PROCESSING SERVICES				
• < \$2	\$1,400	\$1,400	\$1,650	18%
• \$2-10	1,100	1,100	1,300	18
• \$10-25	380	380	460	21
• > \$25	2,700	2,700	3,290	22
SUBTOTAL	\$5,580	\$5,580	\$6,700	20%
SOFTWARE PRODUCTS				
• < \$2	350	410	540	32
• \$2-10	240	330	420	27
• > \$10	170	200	250	25
SUBTOTAL	\$ 760	\$ 940	\$1,210	29%
PROFESSIONAL SERVICES				
• < \$2	200	230	300	30
• \$2-10	330	330	420	27
• > \$10	670	670	830	24
SUBTOTAL	\$1,200	\$1,230	\$1,550	26%
TOTAL	\$7,540	\$7,750	\$9,460	22%

The profits reported by several companies included profits on non-computer services revenues while their total reported revenues were only the computer services component.

- As a result, last year's profit margin for processing services companies over \$25 million was overstated, as shown by comparing the "1979 Report 1978 Profits" and "Revised 1978 Profits" columns in Exhibit C-3.
- The net impact of the adjustments derived from this analysis was to reduce the processing services profit margin for 1978 from 13% to 12% while the overall industry margin of 11% remained the same.
- These results were checked against profit margins for 1978 reported by 1980 survey respondents. For the processing services companies with over \$25 million annual revenues (the segment with the most reliable data) the results of this comparison were very consistent.
- Profit margins for companies over \$25 million in the 1979 and 1980 surveys were also examined by public and 'hidden' vendor characteristics. Profit margins for public companies responding to the survey were consistent with the published data, showing over 14% in 1979. 'Hidden' vendor responses were also consistent from year to year showing profit margins of less than 10%.
- Further, companies which responded to both year's surveys also showed profit margins as virtually the same for both years.
- In these circumstances INPUT considers that processing services companies over \$25 million in aggregate maintained or slightly improved profit margins from 1978 to 1979 while smaller processing services companies' profit margin in aggregate stayed the same or slightly declined.

EXHIBIT C-3

U.S. COMPUTER SERVICES INDUSTRY RECONCILIATION
OF 1978 AND 1979 PRETAX PROFIT LEVELS

TYPE OF COMPANY • SIZE (\$ MILLION)	1979 REPORT 1978 PROFITS		REVISED 1978 PROFITS		1980 SURVEY 1979 PROFITS	
	MARGIN	AGGREGATE (\$ MILLION)	MARGIN	AGGREGATE (\$ MILLION)	MARGIN	AGGREGATE (\$ MILLION)
PROCESSING SERVICES						
• < \$2	11%	\$150	11%	\$150	9%	\$150
• \$2-10	13	140	13	140	7	90
• \$10-25	11	40	11	40	8	40
• > \$25	14	380	12	325	12	390
SUBTOTAL*	13%	\$700	12%	\$655	10%	\$670
SOFTWARE PRODUCTS						
• < \$2	12	42	12	49	8	45
• \$2-10	11	26	11	36	16	65
• > \$10	10	17	10	20	10	25
SUBTOTAL*	11%	\$ 85	11%	\$105	11%	\$135
PROFESSIONAL SERVICES						
• < \$2	6	12	6	14	10	30
• \$2-10	8	26	8	26	8	35
• > \$10	5	34	5	34	5	40
SUBTOTAL*	6%	\$ 70	6%	\$ 75	7%	\$105
TOTAL*	11%	\$850	11%	\$835	10%	\$910

*WEIGHTED AVERAGES (ROUNDED)

- INPUT applied the revised profit margin obtained as above to the revised revenue figures for 1978 calculated this year due to the addition of software products and professional services companies described in Exhibit C-2.
 - The profit margin and aggregate profits for each cell are reported in "Revised 1978 Profits" in Exhibit C-3.
 - The net impact is that the industry aggregate profits for 1978 are now calculated to be \$835 million on total industry revenues of \$7,750 million versus \$850 million in total industry revenues of \$7,540 million reported last year.
 - Industry profit margin stays the same at 11%.
- For clarification purposes Exhibit C-3 contains the following data:
 - "1979 Report 1978 Profile" contains the profit margin and aggregate profits for 1978 for each category and size of company as reported in the Annual Survey of the Computer Services Industry published in July 1979.
 - "Revised 1978 Profile" contains revisions to the profit margins and aggregate profits for 1978 (calculated using 1979 survey data and 1980 estimates of 1978 industry revenues) for each category and size of company. These revisions are based on:
 - Reduction in profit margins from 14% to 12% for processing services companies over \$25 million as described above.
 - Adjustments reported above in industry revenues for each category of software products companies and professional services companies under \$2 million in annual revenue.

- "1980 Survey 1979 Profits" contains the profit margins and aggregate profits for 1979 based on the 1980 survey.
- Other statistics given in this appendix include the following:
 - A profile of the survey respondents and the industry by type and size of company is shown in Exhibit C-4.
 - Sources and amounts of revenue for the responding computer services companies are shown in Exhibit C-5.
 - The amount of revenue derived from industry sectors of responding companies with revenues over \$10 million is shown in Exhibit C-6.
 - Balance sheet data are given in Exhibit C-7.
 - A breakdown of revenues by type of service between categories is displayed in Exhibit C-8.
 - The number of respondents involved with minicomputers/microcomputers and turnkey systems is shown in Exhibit C-9.
 - Turnkey system respondent data are presented in Exhibit C-10.
 - More detailed data on respondents' perceptions of how major factors will impact them in 1980 are shown in Exhibits C-11, C-12, C-13, and C-14.
 - Exhibits C-15 through C-18 show financial data for public companies with revenues over \$10 million in the computer services industry.
 - Software products and professional services companies data are not presented since it would be possible to identify respondents as there are so few of them.

- . The data for these companies is included in the weighted averages.

EXHIBIT C-4

SURVEY RESPONDENTS AND TOTAL COMPUTER SERVICES INDUSTRY STATISTICS

TYPE OF COMPANY • SIZE (\$ MILLION)	RESPONDENTS TO SURVEY			TOTAL FOR COMPUTER SERVICES INDUSTRY		
	NUMBER OF COMPANIES	1979 TOTAL REVENUES (\$ MILLION)	NUMBER OF EMPLOYEES	NUMBER OF COMPANIES	1979 TOTAL REVENUES (\$ MILLION)	NUMBER OF EMPLOYEES
PROCESSING SERVICES						
• < \$2	49	\$ 43	1,496	1,800	\$1,650	57,400
• \$2-10	33	190	4,890	275	1,300	33,500
• \$10-25	13	258	4,749	30	460	8,500
• > \$25	19	2,688	53,721	35	3,290	65,800
SUBTOTAL	114	\$3,179	64,856	2,140	\$6,700	165,200
SOFTWARE PRODUCTS						
• < \$2	18	14	311	980	540	12,000
• \$2-10	3	28	435	100	420	6,500
• > \$10	6	159	2,447	15	250	3,800
SUBTOTAL	27	\$ 201	3,193	1,095	\$1,210	22,400
PROFESSIONAL SERVICES						
• < \$2	26	8	305	700	300	11,400
• \$2-10	15	89	2,486	100	420	11,700
• > \$10	13	399	9,605	20	830	20,000
SUBTOTAL	54	\$ 496	12,396	820	\$1,550	43,100
TOTAL	195	\$3,876	80,445	4,055	\$9,460	230,700

EXHIBIT C-5

REVENUE DISTRIBUTION FOR RESPONDING COMPUTER SERVICES COMPANIES
WITH REVENUES OVER \$10 MILLION IN 1979

TYPE OF COMPANY	RESPONDENT PROFILE													
	CAPTIVE REVENUES		NON-U.S.				TOTAL AVAILABLE U.S. REVENUES				NON-COMPUTER SERVICES REVENUES		TOTAL REVENUES	
	(\$ MILLION)	NUMBER OF RESPONDENTS	EUROPEAN REVENUES		OTHER REVENUES		TOTAL AVAILABLE U.S. REVENUES		NON-COMPUTER SERVICES REVENUES		TOTAL REVENUES			
			(\$ MILLION)	NUMBER OF RESPONDENTS	(\$ MILLION)	NUMBER OF RESPONDENTS	(\$ MILLION)	NUMBER OF RESPONDENTS	(\$ MILLION)	NUMBER OF RESPONDENTS	(\$ MILLION)	NUMBER OF RESPONDENTS		
PROCESSING SERVICES														
1978	\$251	14	\$107	13	\$35	13	\$1,904	32	\$ 51	14	\$2,348	32		
1979	287	14	126	13	45	13	2,380	33	86	14	2,924	33		
SOFTWARE PRODUCTS														
1978	0	3	13	4	7	5	91	7	0	0	111	7		
1979	0	3	17	4	11	5	126	7	0	0	154	7		
PROFESSIONAL SERVICES														
1978	1	5	26	6	4	6	219	9	25	6	275	9		
1979	1	5	16	6	5	6	275	9	30	6	327	9		
TOTAL														
1978	\$252	22	\$146	23	\$46	24	\$2,214	48	\$ 76	20	\$2,734	49		
1979	\$288	22	\$159	23	\$61	24	\$2,781	49	\$116	20	\$3,405	50		

EXHIBIT C-6

REVENUES BY INDUSTRY SECTOR FOR RESPONDING COMPUTER SERVICES COMPANIES
WITH REVENUES OVER \$10 MILLION IN 1979

INDUSTRY SECTOR	TYPE OF COMPANY									
	PROCESSING SERVICES		SOFTWARE PRODUCTS		PROFESSIONAL SERVICES		TOTAL			
	REVENUES (\$ MILLION)	NUMBER OF RESPONDENTS	REVENUES (\$ MILLION)	NUMBER OF RESPONDENTS	REVENUES (\$ MILLION)	NUMBER OF RESPONDENTS	REVENUES (\$ MILLION)	NUMBER OF RESPONDENTS		
DISCRETE MANUFACTURING	\$ 172	11	\$ 9	4	\$ 7	2	\$ 188	17		
PROCESS MANUFACTURING	44	9	7	4	8	2	59	15		
TRANSPORTATION	25	5	6	4	1	3	32	12		
UTILITIES	110	8	5	4	3	3	118	15		
BANKING AND FINANCE	293	15	7	4	15	3	315	22		
INSURANCE	142	10	23	4	8	3	173	17		
MEDICAL	192	12	4	3	*	2	196	17		
EDUCATION	5	5	5	4	*	1	10	10		
RETAIL	158	10	5	4	25	3	188	17		
WHOLESALE	49	9	4	2	3	1	56	12		
FEDERAL GOVERNMENT	85	9	1	3	128	6	214	18		
STATE AND LOCAL GOVERNMENT	91	8	6	4	28	5	125	17		
SERVICES (CPAs, LAWYERS, ETC.)	101	9	*	1	5	4	106	14		
OTHER	160	16	*	1	28	5	188	22		
TOTAL	\$1,627	24	\$82	5	\$259	8	\$1,968	37		

* LESS THAN \$1 MILLION

EXHIBIT C-7

BALANCE SHEET DATA FOR RESPONDING COMPUTER SERVICES COMPANIES
WITH REVENUES OVER \$10 MILLION IN 1979

FINANCIAL DATA	TYPE OF COMPANY									
	PROCESSING SERVICES		SOFTWARE PRODUCTS		PROFESSIONAL SERVICES		TOTAL			
	REVENUES (\$ MILLION)	NUMBER OF RESPOND- ENTS	REVENUES (\$ MILLION)	NUMBER OF RESPOND- ENTS	REVENUES (\$ MILLION)	NUMBER OF RESPOND- ENTS	REVENUES (\$ MILLION)	NUMBER OF RESPOND- ENTS		
SELECTED ASSETS										
• TRADE RECEIVABLES	\$ 330	22	\$27	5	\$46	8	\$ 403	35		
• CURRENT ASSETS	514	22	38	5	54	8	606	35		
• TOTAL ASSETS	1,196	22	58	5	74	8	1,328	35		
SELECTED LIABILITIES										
• CURRENT PORTION OF LONG-TERM DEBT	25	20	1	3	2	7	28	30		
• CURRENT LIABILITIES	312	22	19	5	28	8	359	35		
• LONG-TERM DEBT LESS CURRENT PORTION	177	22	9	3	10	7	196	32		
• DEFERRED TAXES	44	16	5	4	10	8	59	28		
EQUITY	663	22	25	5	26	8	714	35		

COMPARISON OF REVENUES BY TYPE OF SERVICE BETWEEN CATEGORIES OF RESPONDING COMPANIES WITH REVENUES OVER \$10 MILLION IN 1979

TYPE OF SERVICE	TYPE OF COMPANY									
	PROCESSING SERVICES		SOFTWARE PRODUCTS		PROFESSIONAL SERVICES		TOTAL			
	REVENUES (\$ MILLION)	NUMBER OF RESPONDENTS	REVENUES (\$ MILLION)	NUMBER OF RESPONDENTS	REVENUES (\$ MILLION)	NUMBER OF RESPONDENTS	REVENUES (\$ MILLION)	NUMBER OF RESPONDENTS		
PROCESSING SERVICES										
• GENERAL BUSINESS	\$ 769	21	\$ 1	1	\$ 42	4	\$ 812	26		
• SCIENTIFIC AND ENGINEERING	144	6	0	0	4	2	148	8		
• INDUSTRY SPECIALTY	1,034	27	1	1	37	5	1,072	33		
• UTILITY	156	10	0	0	2	2	158	12		
SUBTOTAL	\$2,103	33	\$ 2	2	\$ 85	8	\$2,190	43		
SOFTWARE PRODUCTS										
• APPLICATION PRODUCTS:										
— CROSS-INDUSTRY	24	4	42	2	1	1	67	7		
— INDUSTRY SPECIALTY	20	7	13	2	3	3	36	12		
• SYSTEM PRODUCTS:										
— SYSTEM OPERATION	3	1	13	2	1	1	17	4		
— SYSTEM UTILIZATION	10	2	0	0	•	1	10	3		
— IMPLEMENTATION SYSTEM	8	1	47	3	•	1	55	5		
SUBTOTAL	\$ 65	13	\$115	6	\$ 5	7	\$ 185	26		
PROFESSIONAL SERVICES										
• CUSTOM SOFTWARE										
— TIME AND MATERIALS	72	8	7	2	58	8	137	18		
— FIXED PRICE	8	4	0	0	43	6	51	10		
— COST PLUS FEE	6	1	0	0	29	3	35	4		
• CONSULTING, EDUCATION, TRAINING	1	6	3	4	29	4	33	14		
SUBTOTAL	\$ 87	19	\$ 10	4	\$159	8	\$ 256	31		
HARDWARE	78	13	0	0	17	6	95	19		
TURNKEY SYSTEM SOFTWARE AND SUPPORT	47	7	0	0	8	5	55	12		
TOTAL	\$2,380	33	\$127	7	\$274	9	\$2,781	49		

* LESS THAN \$1 MILLION

EXHIBIT C-9

RESPONDENTS' MINICOMPUTER/MICROCOMPUTER AND TURNKEY SYSTEM INVOLVEMENT

TYPE OF COMPANY • SIZE (\$ MILLION)	NUMBER OF RESPONDENTS OFFERING MINICOMPUTERS/ MICROCOMPUTERS	NUMBER OF RESPONDENTS OFFERING TURNKEY SYSTEMS	NUMBER OF RESPONDENTS
PROCESSING SERVICES			
• < \$2	11	7	49
• \$2-10	16	8	33
• \$10-25	9	6	13
• > \$25	8	4	19
SUBTOTAL	44	25	114
SOFTWARE PRODUCTS			
• < \$2	4	4	18
• \$2-10	0	0	3
• > \$10	2	0	6
SUBTOTAL	6	4	27
PROFESSIONAL SERVICES			
• < \$2	3	1	26
• \$2-10	4	3	15
• > \$10	8	6	13
SUBTOTAL	15	10	54
TURNKEY SYSTEMS			
• < \$2	14	14	17
• \$2-10	5	5	6
SUBTOTAL	19	19	23
TOTAL	84	58	218

EXHIBIT C-10

1979 TURNKEY SYSTEM RESPONDENT DATA

ITEM	COMPANY SIZE	
	< \$2M	> \$2M
U.S. AVAILABLE REVENUES	\$15M	\$27M
REVENUE GROWTH, 1978-1979	39%	36%
PROFIT BEFORE TAX	\$223K	\$1,448K
PROFIT GROWTH, 1978-1979	*	*
MARGIN	1.7%	6.7%
MARGIN GROWTH, 1978-1979	**	94%
NUMBER OF RESPONDENTS	17	6

* INSUFFICIENT DATA

** FROM -7.6% IN 1978 TO +1.7% IN 1979

EXHIBIT C-11

DETAILED SUMMARY OF INDUSTRY IMPACTS - COMPUTER SERVICES INDUSTRY

FACTOR	1980 IMPACT					
	TOTAL NUMBER OF RESPONDENTS	NUMBER OF NEGATIVE RESPONSES	MEAN RATING* FOR NEGATIVE RESPONSES	NUMBER OF "NO IMPACT" RESPONSES	NUMBER OF POSITIVE RESPONSES	MEAN RATING* FOR POSITIVE RESPONSES
PROLIFERATION OF TERMINALS AS WORK STATIONS	45	1	(2.0)	2	42	3.4
DISTRIBUTED DP	45	4	(2.5)	1	40	3.4
NEW COMMUNICATION OFFERINGS	42	1	(3.0)	5	36	3.0
CHEAPER LARGE COMPUTERS	46	7	(3.3)	2	37	3.6
COMPUTER SERVICES FIRMS' NEW PRODUCT ANNOUNCEMENTS	42	3	(2.0)	6	33	2.7
APPLICATIONS SOFTWARE AVAILABILITY	44	9	(2.9)	4	31	3.5
PERSONNEL PRODUCTIVITY INCREASES	45	8	(2.6)	7	30	3.3
COMPUTER-ASSISTED INSTRUCTION	43	0	0.0	15	28	2.4
NON-IBM NEW PRODUCT ANNOUNCEMENTS	42	7	(3.1)	12	23	2.8
CHEAPER SMALL COMPUTERS	46	17	(3.6)	1	28	3.8
TURNKEY SYSTEMS	41	12	(3.0)	6	23	3.2
IBM PRODUCT ANNOUNCEMENTS	43	17	(3.2)	6	20	3.4
IBM RE-ENTRY INTO PROCESSING SERVICES	44	17	(2.6)	16	11	2.7
RECESSION	46	26	(2.8)	3	17	2.9
AVAILABILITY OF SKILLED PEOPLE	46	34	(4.3)	0	12	4.3
INFLATION	44	36	(4.1)	1	7	4.0

TOTAL CASES = 49

*RATING BASED ON A SCALE OF 0 TO 5 WHERE 5 INDICATES THE HIGHEST IMPACT

EXHIBIT C-12

DETAILED SUMMARY OF INDUSTRY IMPACTS – PROCESSING SERVICES COMPANIES

FACTOR	1980 IMPACT						MEAN RATING* FOR POSITIVE RESPONSES
	TOTAL NUMBER OF RESPONDENTS	NUMBER OF NEGATIVE RESPONSES	MEAN RATING* FOR NEGATIVE RESPONSES	NUMBER OF "NO IMPACT" RESPONSES	NUMBER OF POSITIVE RESPONSES		
PROLIFERATION OF TERMINALS AS WORK STATIONS	31	1	(2.0)	1	29	3.5	
DISTRIBUTED DP	30	4	(2.5)	0	26	3.4	
NEW COMMUNICATION OFFERINGS	31	1	(3.0)	2	28	2.9	
COMPUTER SERVICES FIRMS' NEW PRODUCT ANNOUNCEMENTS	30	2	(2.5)	4	24	2.8	
CHEAPER LARGE COMPUTERS	31	6	(3.3)	2	23	3.5	
PERSONNEL PRODUCTIVITY INCREASES	31	5	(2.2)	4	22	3.2	
COMPUTER-ASSISTED INSTRUCTION AVAILABILITY	29	0	0.0	8	21	2.3	
APPLICATIONS SOFTWARE AVAILABILITY	31	8	(2.9)	3	20	3.5	
TURNKEY SYSTEMS	29	9	(3.1)	3	17	3.2	
NON-IBM NEW PRODUCT ANNOUNCEMENTS	29	5	(3.6)	8	16	2.6	
CHEAPER SMALL COMPUTERS	31	15	(3.7)	1	15	3.9	
IBM PRODUCT ANNOUNCEMENTS	29	12	(3.1)	5	12	3.1	
IBM RE-ENTRY INTO PROCESSING SERVICES	31	11	(2.3)	12	8	2.9	
RECESSION	31	16	(2.7)	3	12	3.2	
AVAILABILITY OF SKILLED PEOPLE	31	23	(4.0)	0	8	4.4	
INFLATION	30	23	(4.1)	1	6	4.2	

TOTAL CASES = 33

* RATING BASED ON A SCALE OF 0 TO 5 WHERE 5 INDICATES THE HIGHEST IMPACT

EXHIBIT C-13

DETAILED SUMMARY OF INDUSTRY IMPACTS — SOFTWARE PRODUCT COMPANIES

FACTOR	1980 IMPACT						
	TOTAL NUMBER OF RESPONDENTS	NUMBER OF NEGATIVE RESPONSES	MEAN RATING* FOR NEGATIVE RESPONSES	NUMBER OF "NO IMPACT" RESPONSES	NUMBER OF POSITIVE RESPONSES	MEAN RATING* FOR POSITIVE RESPONSES	
CHEAPER LARGE COMPUTERS	6	0	0.0	0	6	4.5	
CHEAPER SMALL COMPUTERS	6	0	0.0	0	6	3.5	
DISTRIBUTED DP	6	0	0.0	1	5	3.8	
PROLIFERATION OF TERMINALS AS WORK STATIONS	6	0	0.0	1	5	3.6	
APPLICATIONS SOFTWARE AVAILABILITY	5	0	0.0	1	4	3.5	
COMPUTER SERVICES FIRMS' NEW PRODUCT ANNOUNCEMENTS	5	0	0.0	1	4	2.8	
NEW COMMUNICATION OFFERINGS	4	0	0.0	2	2	4.0	
TURNKEY SYSTEMS	4	1	(2.0)	1	2	3.5	
COMPUTER-ASSISTED INSTRUCTION AVAILABILITY	5	0	0.0	3	2	2.5	
PERSONNEL PRODUCTIVITY INCREASED	6	2	(3.5)	1	3	4.3	
IBM PRODUCT ANNOUNCEMENTS	6	3	(3.3)	0	3	4.7	
NON-IBM NEW PRODUCT ANNOUNCEMENTS	5	1	(3.0)	3	1	3.0	
RECESSION	6	4	(2.5)	0	2	3.0	
IBM RE-ENTRY INTO PROCESSING SERVICES	5	2	(3.0)	2	1	2.0	
AVAILABILITY OF SKILLED PEOPLE	6	4	(4.8)	0	2	4.5	
INFLATION	5	4	(3.3)	0	1	3.0	

TOTAL CASES = 7

* RATING BASED ON A SCALE OF 0 TO 5 WHERE 5 INDICATES THE HIGHEST IMPACT

EXHIBIT C-14

DETAILED SUMMARY OF INDUSTRY IMPACTS – PROFESSIONAL SERVICES COMPANIES

FACTOR	1980 IMPACT					
	TOTAL NUMBER OF RESPONDENTS	NUMBER OF NEGATIVE RESPONSES	MEAN RATING* FOR NEGATIVE RESPONSES	NUMBER OF "NO IMPACT" RESPONSES	NUMBER OF POSITIVE RESPONSES	MEAN RATING* FOR POSITIVE RESPONSES
DISTRIBUTED DP	9	0	0.0	0	9	3.1
PROLIFERATION OF TERMINALS AS WORK STATIONS	8	0	0.0	0	8	2.9
APPLICATIONS SOFTWARE AVAILABILITY	8	1	(3.0)	0	7	3.6
NEW COMMUNICATION OFFERINGS	7	0	0.0	1	6	3.2
CHEAPER LARGE COMPUTERS	9	1	(3.0)	0	8	3.1
NON-IBM NEW PRODUCT ANNOUNCEMENTS	8	1	(1.0)	1	6	3.3
CHEAPER SMALL COMPUTERS	9	2	(3.5)	0	7	3.6
COMPUTER SERVICES FIRMS' NEW PRODUCT ANNOUNCEMENTS	7	1	(1.5)	1	5	2.6
PERSONNEL PRODUCTIVITY INCREASED	8	1	(3.0)	2	5	3.2
COMPUTER-ASSISTED INSTRUCTION AVAILABILITY	9	0	0.0	4	5	2.4
IBM PRODUCT ANNOUNCEMENTS	8	2	(3.5)	1	5	3.4
TURNKEY SYSTEMS	8	2	(3.0)	2	4	3.0
IBM RE-ENTRY INTO PROCESSING SERVICES	8	4	(3.5)	2	2	2.5
RECESSION	9	6	(3.2)	0	3	2.0
AVAILABILITY OF SKILLED PEOPLE	9	7	(4.9)	0	2	4.0
INFLATION	9	9	(4.3)	0	0	0.0

TOTAL CASES = 9

* RATING BASED ON A SCALE OF 0 TO 5 WHERE 5 INDICATES THE HIGHEST IMPACT

EXHIBIT C-15

FINANCIAL RATIOS FOR RESPONDING COMPANIES WITH
REVENUES OVER \$10 MILLION IN THE COMPUTER SERVICES INDUSTRY –
PUBLIC COMPANIES, 1979

ITEM	FINANCIAL RATIOS, 1979			
	PROCESSING SERVICES	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	WEIGHTED AVERAGE
CURRENT RATIO	1.66	*	*	1.69
AFTER-TAX RETURN ON EQUITY	21%	*	*	21%
TOTAL DEBT AS A PERCENT OF TOTAL CAPITAL	23%	*	*	23%
LONG-TERM DEBT AS A PERCENT OF EQUITY	26%	*	*	27%
TRADE RECEIVABLES TURNOVER (DAYS)	46	*	*	47
ASSET TURNOVER	1.71	*	*	1.72
RETURN ON ASSETS	11%	*	*	11%
WORKING CAPITAL AS A PERCENT OF TOTAL ASSETS	17%	*	*	18%

* INSUFFICIENT DATA

EXHIBIT C-16

FINANCIAL RATIOS FOR RESPONDING COMPANIES WITH
REVENUES OVER \$ 10 MILLION IN THE COMPUTER SERVICES INDUSTRY –
PUBLIC COMPANIES, CHANGE FROM 1978 TO 1979

ITEM	PERCENT CHANGE IN FINANCIAL RATIOS, 1978–1979			
	PROCESSING SERVICES	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	WEIGHTED AVERAGE
CURRENT RATIO	+4%	*	*	+5%
AFTER-TAX RETURN ON EQUITY	+1	*	*	0
TOTAL DEBT AS A PERCENT OF TOTAL CAPITAL	+8	*	*	+8
LONG-TERM DEBT AS A PERCENT OF EQUITY	+40	*	*	+37
TRADE RECEIVABLES TURNOVER (DAYS)	+41	*	*	+42
ASSET TURNOVER	(7)	*	*	(7)
RETURN ON ASSETS	(4)	*	*	(5)
WORKING CAPITAL AS A PERCENT OF TOTAL ASSETS	+6	*	*	+8

* INSUFFICIENT DATA

EXHIBIT C-17

**BALANCE SHEET ITEMS OF RESPONDING COMPANIES
WITH REVENUES OVER \$10 MILLION IN THE COMPUTER SERVICES
INDUSTRY – PUBLIC COMPANIES, 1979**

ITEM	BALANCE SHEET ITEM COMPARISONS, 1979			
	PROCESSING SERVICES	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	WEIGHTED AVERAGE
SELECTED ASSETS				
• TRADE RECEIVABLES AS A PERCENT OF TOTAL ASSETS	28%	*	*	29%
• CURRENT ASSETS AS A PERCENT OF TOTAL ASSETS	44	*	*	45
SELECTED LIABILITIES				
• CURRENT PORTION OF LONG-TERM DEBT AS A PERCENT OF TOTAL LIABILITIES	4	*	*	5
• CURRENT LIABILITIES AS A PERCENT OF TOTAL LIABILITIES	59	*	*	58
• LONG-TERM DEBT LESS CURRENT PORTION AS A PERCENT OF TOTAL LIABILITIES	33	*	*	33
• DEFERRED TAXES AS A PERCENT OF CURRENT LIABILITIES	14	*	*	15
EQUITY				
• EQUITY AS A PERCENT OF TOTAL ASSETS	55	*	*	55

* INSUFFICIENT DATA.

EXHIBIT C-18

BALANCE SHEET ITEMS OF RESPONDING COMPANIES
WITH REVENUES OVER \$10 MILLION IN THE COMPUTER SERVICES
INDUSTRY — PUBLIC COMPANIES, CHANGE FROM 1978 TO 1979

ITEM	PERCENT CHANGE IN BALANCE SHEET ITEM COMPARISONS, 1978-1979			
	PROCESSING SERVICES	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	WEIGHTED AVERAGE
SELECTED ASSETS				
TRADE RECEIVABLES AS A PERCENT OF TOTAL ASSETS	4%	*	*	4%
• CURRENT ASSETS AS A PERCENT OF TOTAL ASSETS	0	*	*	0
SELECTED LIABILITIES				
• CURRENT PORTION OF LONG-TERM DEBT AS A PERCENT OF TOTAL LIABILITIES	(28)	*	*	(25)
• CURRENT LIABILITIES AS A PERCENT OF TOTAL LIABILITIES	(10)	*	*	(10)
• LONG-TERM DEBT LESS CURRENT PORTION AS A PERCENT OF TOTAL LIABILITIES	25	*	*	25
• DEFERRED TAXES AS A PERCENT OF CURRENT LIABILITIES	5	*	*	4
EQUITY				
• EQUITY AS A PERCENT OF TOTAL ASSETS	(5)	*	*	(4)

* INSUFFICIENT DATA.

APPENDIX D: QUESTIONNAIRES - LONG FORM/
SHORT FORM

ADAPSO QUESTIONNAIRE - 1980

FOR OFFICE USE ONLY	
CAT. NO.	<input type="text" value="A"/> <input type="text" value="D"/> <input type="text" value="3"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Q TYPE	<input type="checkbox"/> (2) (1)
C TYPE	<input type="checkbox"/> (3)
R TYPE	<input type="checkbox"/> (4)

GENERAL INSTRUCTIONS

This questionnaire is designed to be completed by management. The questionnaire asks for data describing your computer services business activity for fiscal year 1979. 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. Contact INPUT if additional copies are required.

GENERAL INFORMATION

1. **FISCAL YEAR.** The information requested in this questionnaire is primarily for fiscal year 1979. If your fiscal year is not equivalent to calendar year 1979, please indicate the applicable time period.

mo. yr.		to	mo. yr.
<input type="text"/> <input type="text"/>			<input type="text"/> <input type="text"/>
(5) (6)			(7) (8)

2. **EMPLOYEES.** How many U.S. employees did you have as of the end of your last fiscal year?

--

(9)

3. **COMPANY STATUS.** Is your company a (circle one) 1. public company 2. private company?
(10)

REVENUES

1. **TOTAL REVENUES.** What were your total revenues?

Fiscal 1978	Fiscal 1979	
\$ <input type="text"/>	\$ <input type="text"/>	THOUSANDS
(11)	(12)	

2. **TOTAL AVAILABLE REVENUES.** What were your total available (non-captive) U.S. revenues?

Fiscal 1978	Fiscal 1979	
\$ <input type="text"/>	\$ <input type="text"/>	THOUSANDS
(13)	(14)	

3. **CAPTIVE REVENUES.** If you had captive revenues, what were they in?:

Fiscal 1978	Fiscal 1979	
\$ <input type="text"/>	\$ <input type="text"/>	THOUSANDS
(15)	(16)	

4. **NON-U.S. REVENUES.** If you had non-U.S. revenues, what were they in?:

		Fiscal 1978		Fiscal 1979	
Europe	\$	<input style="width: 100%; height: 20px;" type="text"/> (17)	\$	<input style="width: 100%; height: 20px;" type="text"/> (18)	THOUSANDS
Other Non-U.S.	\$	<input style="width: 100%; height: 20px;" type="text"/> (19)	\$	<input style="width: 100%; height: 20px;" type="text"/> (20)	THOUSANDS

5. **NON-CONSOLIDATED REVENUES.** If you had non-consolidated revenues, what were they in?:

		Fiscal 1978		Fiscal 1979	
	\$	<input style="width: 100%; height: 20px;" type="text"/> (21)	\$	<input style="width: 100%; height: 20px;" type="text"/> (22)	THOUSANDS

COMPUTER SERVICES REVENUE ANALYSIS

Please analyze your company's fiscal 1979 available (non-captive) U.S. computer services revenues and estimate appropriate breakdowns and growth percentages.

	<u>Fiscal 1979 Revenues (in THOUSANDS)</u>	<u>Actual Growth 1978 versus 1979</u>	<u>Growing in Importance (Circle One)</u>
• Processing			
– General Business	\$ <input style="width: 100px; height: 20px;" type="text"/> (23)	<input style="width: 100px; height: 20px;" type="text"/> % (38)	1. Yes ₍₅₃₎ 2. No
– Scientific and Engineering	\$ <input style="width: 100px; height: 20px;" type="text"/> (24)	<input style="width: 100px; height: 20px;" type="text"/> % (39)	1. Yes ₍₅₄₎ 2. No
– Industry Specialty	\$ <input style="width: 100px; height: 20px;" type="text"/> (25)	<input style="width: 100px; height: 20px;" type="text"/> % (40)	1. Yes ₍₅₅₎ 2. No
– Utility	\$ <input style="width: 100px; height: 20px;" type="text"/> (26)	<input style="width: 100px; height: 20px;" type="text"/> % (41)	1. Yes ₍₅₆₎ 2. No
• Software Products			
– Application Products:			
• Cross Industry	\$ <input style="width: 100px; height: 20px;" type="text"/> (27)	<input style="width: 100px; height: 20px;" type="text"/> % (42)	1. Yes ₍₅₇₎ 2. No
• Industry Specialty	\$ <input style="width: 100px; height: 20px;" type="text"/> (28)	<input style="width: 100px; height: 20px;" type="text"/> % (43)	1. Yes ₍₅₈₎ 2. No
– System Products:			
• System Operation	\$ <input style="width: 100px; height: 20px;" type="text"/> (29)	<input style="width: 100px; height: 20px;" type="text"/> % (44)	1. Yes ₍₅₉₎ 2. No
• System Utilization	\$ <input style="width: 100px; height: 20px;" type="text"/> (30)	<input style="width: 100px; height: 20px;" type="text"/> % (45)	1. Yes ₍₆₀₎ 2. No
• Implementation System	\$ <input style="width: 100px; height: 20px;" type="text"/> (31)	<input style="width: 100px; height: 20px;" type="text"/> % (46)	1. Yes ₍₆₁₎ 2. No
• Professional Services			
– Custom Software – Time and Materials	\$ <input style="width: 100px; height: 20px;" type="text"/> (32)	<input style="width: 100px; height: 20px;" type="text"/> % (47)	1. Yes ₍₆₂₎ 2. No
– Custom Software – Fixed Price	\$ <input style="width: 100px; height: 20px;" type="text"/> (33)	<input style="width: 100px; height: 20px;" type="text"/> % (48)	1. Yes ₍₆₃₎ 2. No
– Custom Software – Cost Plus Fee	\$ <input style="width: 100px; height: 20px;" type="text"/> (34)	<input style="width: 100px; height: 20px;" type="text"/> % (49)	1. Yes ₍₆₄₎ 2. No
– Consulting, Education, Training	\$ <input style="width: 100px; height: 20px;" type="text"/> (35)	<input style="width: 100px; height: 20px;" type="text"/> % (50)	1. Yes ₍₆₅₎ 2. No
• Hardware	\$ <input style="width: 100px; height: 20px;" type="text"/> (36)	<input style="width: 100px; height: 20px;" type="text"/> % (51)	1. Yes ₍₆₆₎ 2. No
• Turnkey System Software and Support	\$ <input style="width: 100px; height: 20px;" type="text"/> (37)	<input style="width: 100px; height: 20px;" type="text"/> % (52)	1. Yes ₍₆₇₎ 2. No
• Total Revenue*	\$ <input style="width: 100px; height: 20px;" type="text"/>		

*SHOULD BE THE SAME NUMBER REPORTED IN "TOTAL AVAILABLE REVENUES," PAGE 1

INDUSTRY ANALYSIS

Please indicate approximate 1978 and 1979 total available U.S. revenues by user industry sector.

		THOUSANDS	
		<u>Fiscal 1978</u>	<u>Fiscal 1979</u>
Discrete Manufacturing	\$	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (68)	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (83)
Process Manufacturing	\$	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (69)	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (84)
Transportation	\$	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (70)	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (85)
Utilities	\$	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (71)	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (86)
Banking and Finance	\$	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (72)	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (87)
Insurance	\$	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (73)	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (88)
Medical	\$	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (74)	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (89)
Education	\$	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (75)	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (90)
Retail	\$	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (76)	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (91)
Wholesale	\$	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (77)	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (92)
Federal Government	\$	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (78)	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (93)
State and Local Government	\$	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (79)	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (94)
Services (CPAs, Lawyers, etc.)	\$	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (80)	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (95)
Other (please identify)			
_____	\$	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (81)	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (96)
_____	\$	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (82)	<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> (97)

FINANCIAL ANALYSIS

1. **BALANCE SHEET DATA.** (Please give dollar amounts in THOUSANDS)

	<u>Fiscal 1978</u>	<u>Fiscal 1979</u>
<u>Selected Assets</u>		
Trade Receivables	\$ (98)	\$ (107)
Total Current Assets	\$ (99)	\$ (108)
Total Assets	\$ (100)	\$ (109)
<u>Selected Liabilities</u>		
Current Portion of Long -term Debt	\$ (101)	\$ (110)
Total Current Liabilities	\$ (102)	\$ (111)
Long-term Debt Less Current Portion	\$ (103)	\$ (112)
Deferred Taxes	\$ (104)	\$ (113)
<u>Equity</u>	\$ (105)	\$ (114)
<u>Minority Interests</u>	\$ (106)	\$ (115)

2. **GROWTH.** What percent internal (not including acquisitions) growth in available U.S. revenues

- a. do you forecast for 1980 versus 1979? %
(116)
- b. do you forecast as a compounded growth rate for the next 5 years? %
(117)

3. **INFLATION.** By what percent did your available U.S. revenues

- a. grow in 1979 versus 1978 due to inflationary price increases? %
(118)
- b. what percent do you anticipate they will grow in 1980 versus 1979 due to inflationary price increases? %
(119)

4 PROFIT. What was your profit (in THOUSANDS)?

		Fiscal 1978		Fiscal 1979	
a	Before taxes and extraordinary items	\$	<input type="text" value=""/>	\$	<input type="text" value=""/>
			(120)		(121)
b	After taxes and before extraordinary items	\$	<input type="text" value=""/>	\$	<input type="text" value=""/>
			(122)		(123)

5 MINORITY INTERESTS. If you have non-consolidated affiliates (U.S. and foreign), please complete the following:

THOUSANDS

		Fiscal 1978		Fiscal 1979				
		Revenue	Profit	Revenue	Profit			
What was the amount reported from minority interests?	\$	<input type="text" value=""/>	\$	<input type="text" value=""/>	\$	<input type="text" value=""/>	\$	<input type="text" value=""/>
		(124)	(125)	(126)	(127)			

OFFERINGS

1. MINICOMPUTERS/MICROCOMPUTERS. How many of your user sites did have, or will have, your minicomputer/microcomputer offerings installed in:

1978	1979	1980	1981
<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>
(128)	(129)	(130)	(131)

2. TURNKEY SYSTEMS. Are you marketing turnkey systems? (Circle One) 1. Yes 2. No

If yes, what was your fiscal 1979 revenue from turnkey systems? \$ THOUSANDS

(132)

(133)

Please indicate the percent of turnkey revenues derived from:

Hardware	<input type="text" value=""/>	%	Software	<input type="text" value=""/>	%	Support	<input type="text" value=""/>	%
	(134)			(135)			(136)	

How many turnkey systems have you, or do you expect to install in:

1978	1979	1980	1981
<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>
(137)	(138)	(139)	(140)

EXPENDITURES

Please state expenditures associated with your total revenues. (Please give dollar amounts in THOUSANDS)

		<u>Total Fiscal 1978 Expenditures</u>		<u>Total Fiscal 1979 Expenditures</u>
• Marketing	<u>Category</u>			
– Salaries, Bonuses		\$ (141)	\$	 (155)
– Fringe Benefits		\$ (142)	\$	 (156)
– Travel, Entertainment, Other		\$ (143)	\$	 (157)
• Sales				
– Sales, Commissions, Bonuses		\$ (144)	\$	 (158)
– Fringe Benefits		\$ (145)	\$	 (159)
– Travel, Entertainment, Other		\$ (146)	\$	 (160)
• Research and Product Development		\$ (147)	\$	 (161)
• Operations				
– Personnel:				
• Salaries, Bonuses		\$ (148)	\$	 (162)
• Fringe Benefits		\$ (149)	\$	 (163)
– Computer Systems Equipment and Maintenance		\$ (150)	\$	 (164)
– Other Equipment and Facilities		\$ (151)	\$	 (165)
– Data Communications		\$ (152)	\$	 (166)
• General Administrative		\$ (153)	\$	 (167)
• All Other (define) _____		\$ (154)	\$	 (168)

INDUSTRY IMPACTS

Please rate the following major factors that you feel affected the computer services industry in 1979, and that you anticipate will affect the industry in 1980. Please use a scale of 0-5 where 0 indicates no impact and 5 indicates a high impact.

FACTOR	Ranking (0 = None; 5 = High)		Is the Impact Positive or Negative? (Circle one)
	1979 IMPACT (Circle One)	1980 IMPACT (Circle One)	
Applications Software Availability	0 1 2 3 4 5 (169)	0 1 2 3 4 5 (185)	1. Positive 2. Negative (201)
Cheaper Small Computers	0 1 2 3 4 5 (170)	0 1 2 3 4 5 (186)	1. Positive 2. Negative (202)
Cheaper Large Computers	0 1 2 3 4 5 (171)	0 1 2 3 4 5 (187)	1. Positive 2. Negative (203)
Computer Assisted Instruction Availability	0 1 2 3 4 5 (172)	0 1 2 3 4 5 (188)	1. Positive 2. Negative (204)
Computer Services Firms New Product Announcements	0 1 2 3 4 5 (173)	0 1 2 3 4 5 (189)	1. Positive 2. Negative (205)
Distributed Data Processing	0 1 2 3 4 5 (174)	0 1 2 3 4 5 (190)	1. Positive 2. Negative (206)
Hardware Vendor New Product Announcements (Except IBM)	0 1 2 3 4 5 (175)	0 1 2 3 4 5 (191)	1. Positive 2. Negative (207)
IBM Re-entry into Processing Services	0 1 2 3 4 5 (176)	0 1 2 3 4 5 (192)	1. Positive 2. Negative (208)
IBM Product Announcements	0 1 2 3 4 5 (177)	0 1 2 3 4 5 (193)	1. Positive 2. Negative (209)
Personnel Productivity Increases	0 1 2 3 4 5 (178)	0 1 2 3 4 5 (194)	1. Positive 2. Negative (210)
Proliferation of Terminals as Work Stations	0 1 2 3 4 5 (179)	0 1 2 3 4 5 (195)	1. Positive 2. Negative (211)
Turnkey Systems	0 1 2 3 4 5 (180)	0 1 2 3 4 5 (196)	1. Positive 2. Negative (212)
New Communications Offerings	0 1 2 3 4 5 (181)	0 1 2 3 4 5 (197)	1. Positive 2. Negative (213)
Availability of Skilled People	0 1 2 3 4 5 (182)	0 1 2 3 4 5 (198)	1. Positive 2. Negative (214)
Inflation	0 1 2 3 4 5 (183)	0 1 2 3 4 5 (199)	1. Positive 2. Negative (215)
Recession	0 1 2 3 4 5 (184)	0 1 2 3 4 5 (200)	1. Positive 2. Negative (216)

THANK YOU FOR YOUR PARTICIPATION!

ADAPSO QUESTIONNAIRE - 1980

FOR OFFICE USE ONLY	
CAT. NO.	A D 3 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> (1)
Q TYPE	<input type="checkbox"/> (2)
C TYPE	<input type="checkbox"/> (3)
R TYPE	<input type="checkbox"/> (4)

GENERAL INSTRUCTIONS

This questionnaire is designed to be completed by management. The questionnaire asks for data describing your computer services business activity for fiscal year 1979. 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. Contact INPUT if additional copies are required.

GENERAL INFORMATION

1. **FISCAL YEAR.** The information requested in this questionnaire is primarily for fiscal year 1979. If your fiscal year is not equivalent to calendar year 1979, please indicate the applicable time period.

mo. yr.		to	mo. yr.
<input type="text"/>	<input type="text"/>		<input type="text"/>
(5)	(6)		(7) (8)

2. **EMPLOYEES.** How many U.S. employees did you have as of the end of your last fiscal year?

<input type="text"/>
(9)

3. **COMPANY STATUS.** Is your company a (circle one) 1. public company 2. private company?
(10)

REVENUES

1. **TOTAL REVENUES.** What were your total revenues?

	Fiscal 1978	Fiscal 1979	
\$	<input type="text"/>	<input type="text"/>	THOUSANDS
	(11)	(12)	

2. **TOTAL AVAILABLE REVENUES.** What were your total available (non-captive) U.S. revenues?

	Fiscal 1978	Fiscal 1979	
\$	<input type="text"/>	<input type="text"/>	THOUSANDS
	(13)	(14)	

COMPUTER SERVICES REVENUE ANALYSIS

Please analyze your company's fiscal 1979 available (non-captive) U.S. computer services revenues and estimate appropriate breakdowns and growth percentages.

<u>Product Category</u>	<u>Fiscal 1979 Revenues (in THOUSANDS)</u>	<u>Actual Growth 1978 versus 1979</u>	<u>Growing in Importance? (Circle One)</u>
Processing	\$ <input type="text"/> (15)	<input type="text"/> % (20)	1. Yes 2. No (25)
Software Products	\$ <input type="text"/> (16)	<input type="text"/> % (21)	1. Yes 2. No (26)
Professional Services	\$ <input type="text"/> (17)	<input type="text"/> % (22)	1. Yes 2. No (27)
Hardware	\$ <input type="text"/> (18)	<input type="text"/> % (23)	1. Yes 2. No (28)
Turnkey System Software and Support	\$ <input type="text"/> (19)	<input type="text"/> % (24)	1. Yes 2. No (29)
Total Revenue*	\$ <input type="text"/>		

FINANCIAL ANALYSIS

1. **GROWTH.** What percent internal (not including acquisitions) growth in available U.S. revenues

- a. do you forecast for 1980 versus 1979? % (30)
- b. do you forecast as compounded growth rate for the next 5 years? % (31)

2. **INFLATION.** By what percent did your available U.S. revenues

- a. grow in 1979 versus 1978 due to inflationary price increases? % (32)
- b. what percent do you anticipate they will grow in 1980 versus 1979 due to inflationary price increases? % (33)

3. **PROFIT.** What was your profit (in THOUSANDS)?

- | | | |
|--|------------------------------|------------------------------|
| | Fiscal 1978 | Fiscal 1979 |
| a. Before taxes and extraordinary items? | \$ <input type="text"/> (34) | \$ <input type="text"/> (35) |
| b. After taxes and before extraordinary items? | \$ <input type="text"/> (36) | \$ <input type="text"/> (37) |

4. **NET WORTH.** What was your net worth in:

Fiscal 1978 Fiscal 1979
 \$ (38) \$ (39) THOUSANDS

*SHOULD BE THE SAME NUMBER REPORTED IN "TOTAL AVAILABLE REVENUES," PAGE 1

OFFERINGS

1. **MINICOMPUTERS/MICROCOMPUTERS.** How many of your user sites did have, or will have, your minicomputer/microcomputer offerings installed in:

1978	1979	1980	1981
<input style="width: 80px; height: 20px;" type="text"/>	<input style="width: 80px; height: 20px;" type="text"/>	<input style="width: 80px; height: 20px;" type="text"/>	<input style="width: 80px; height: 20px;" type="text"/>
(40)	(41)	(42)	(43)

2. **TURNKEY SYSTEMS.** Are you marketing turnkey systems? (Circle one) 1. Yes 2. No (44)

If yes, what was your fiscal 1979 revenues from turnkey systems? \$ THOUSANDS
(45)

Please indicate the percent of turnkey revenues derived from:

Hardware <input style="width: 60px; height: 20px;" type="text"/> %	Software <input style="width: 60px; height: 20px;" type="text"/> %	Support <input style="width: 60px; height: 20px;" type="text"/> %
(46)	(47)	(48)

How many turnkey systems have you or do you expect to install in:

1978	1979	1980	1981
<input style="width: 80px; height: 20px;" type="text"/>	<input style="width: 80px; height: 20px;" type="text"/>	<input style="width: 80px; height: 20px;" type="text"/>	<input style="width: 80px; height: 20px;" type="text"/>
(49)	(50)	(51)	(52)

EXPENDITURES

Please give dollar amounts in THOUSANDS.

<u>Category</u>	<u>Total Fiscal 1979 Expenditures</u>
• Marketing and Sales	
– Salaries, Commissions, Bonuses	\$ <input style="width: 100px; height: 20px;" type="text"/> (53)
– Fringe Benefits	\$ <input style="width: 100px; height: 20px;" type="text"/> (54)
– Travel, Entertainment, Other	\$ <input style="width: 100px; height: 20px;" type="text"/> (55)
• Research and Product Development	\$ <input style="width: 100px; height: 20px;" type="text"/> (56)
• Operations	
– Personnel:	
• Salaries, Bonuses	\$ <input style="width: 100px; height: 20px;" type="text"/> (57)
• Fringe Benefits	\$ <input style="width: 100px; height: 20px;" type="text"/> (58)
– Computer Systems Equipment and Maintenance	\$ <input style="width: 100px; height: 20px;" type="text"/> (59)
– Other Equipment and Facilities	\$ <input style="width: 100px; height: 20px;" type="text"/> (60)
– Data Communications	\$ <input style="width: 100px; height: 20px;" type="text"/> (61)
• General Administrative	\$ <input style="width: 100px; height: 20px;" type="text"/> (62)
• All Other (define) _____	\$ <input style="width: 100px; height: 20px;" type="text"/> (63)

THANK YOU FOR YOUR PARTICIPATION!

APPENDIX E: REPLY FORM

APPENDIX E: REPLY FORM

TO: USERS OF THE 1980 ADAPSO ANNUAL REPORT

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

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

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

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

	<u>Rating</u>
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 1980 Report, including suggestions for the 1981 Report:

a.) What specific items can be improved?

b.) What specific items can be added?

c.) Other suggestions?

Please return to: Jerry Dreyer
ADAPSO
1925 North Lynn Street
Arlington, VA 22209

THANK YOU!

