

COMPUTER SERVICES OPPORTUNITIES
FOR PERSONAL TRUST SYSTEMS

INPUT

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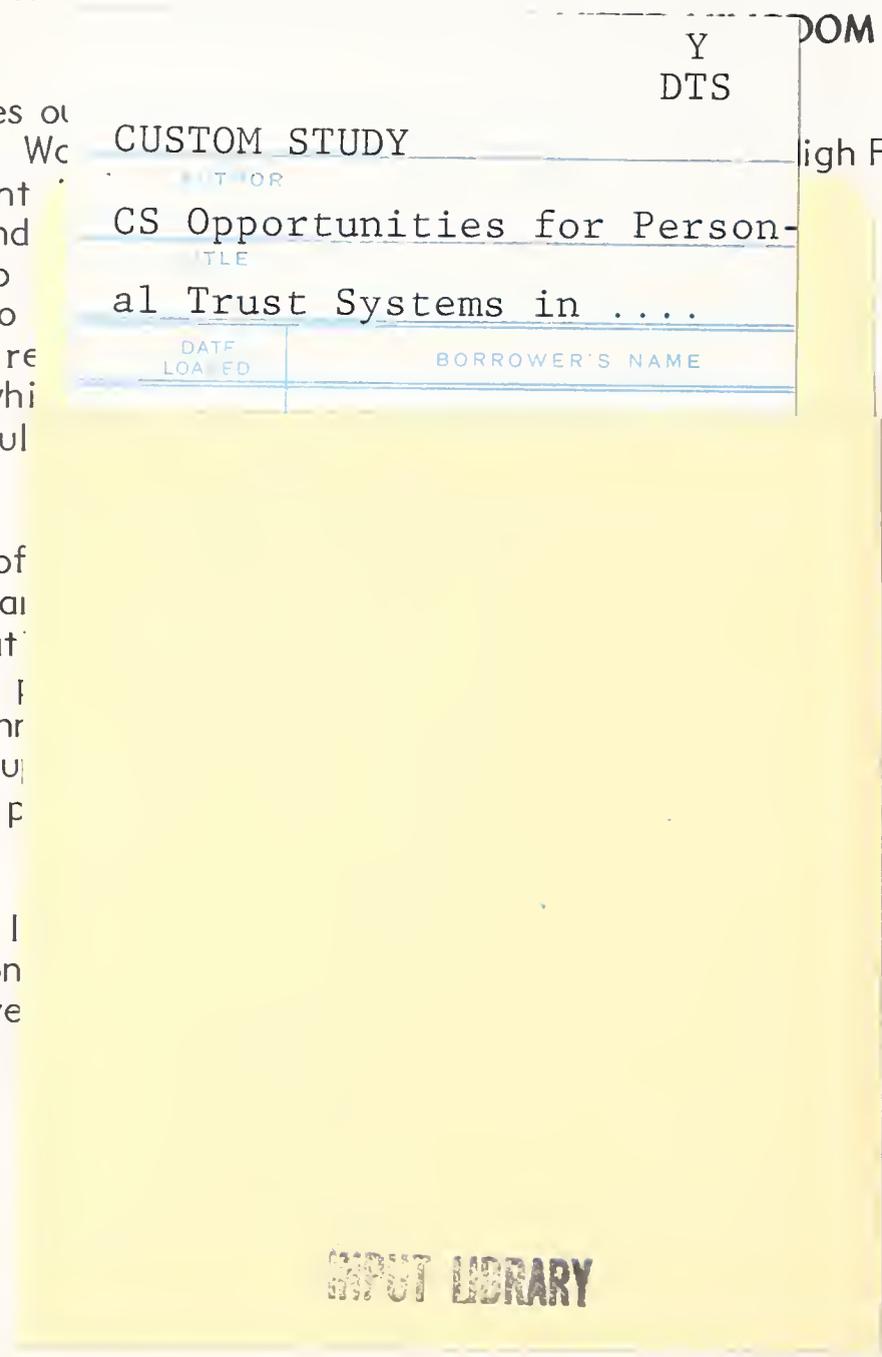
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UNITED STATES, West Coast
 2471 East Bayshore Blvd.
 Suite 600
 Palo Alto, California 94303
 (415) 493-1600
 Telex 171407

UNITED STATES, East Coast
 Park 80 Plaza West-1
 Saddle Brook, New Jersey 07662
 (201) 368-9471



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High Road

ce Company, Ltd.
 lo. 12-7 Kita Aoyama

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COMPUTER SERVICES OPPORTUNITIES
FOR PERSONAL TRUST SYSTEMS
IN TRUST DEPARTMENTS (COMPANIES)
IN THE UNITED STATES AND CANADA

Prepared For:
DATACROWN LTD.

APRIL 1979

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COMPUTER SERVICES OPPORTUNITIES FOR PERSONAL TRUST SYSTEMS
IN TRUST DEPARTMENTS (COMPANIES) IN THE
UNITED STATES AND CANADA

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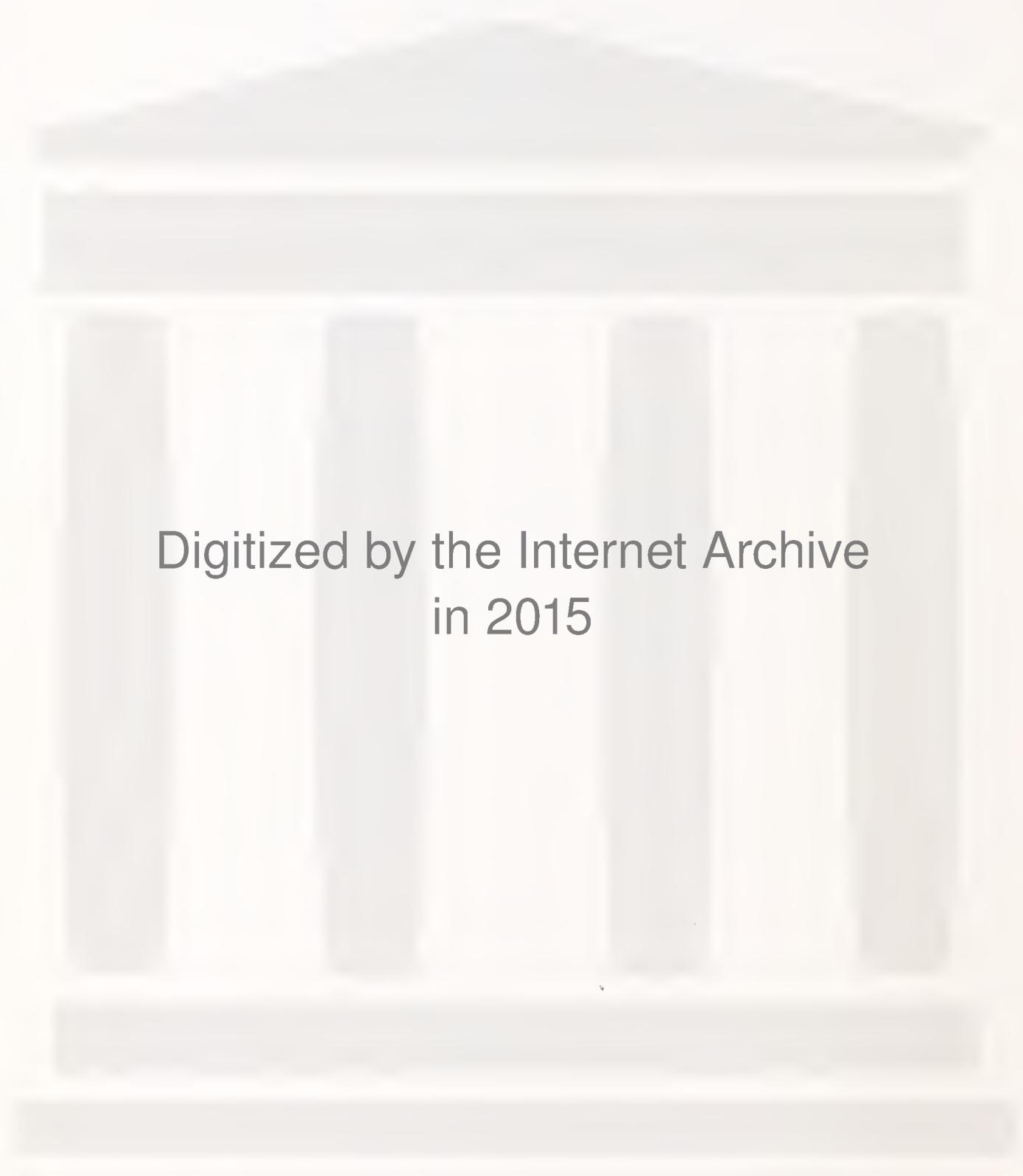
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UNITED STATES AND CANADA

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I INTRODUCTION

I INTRODUCTION

- This study was approved at a meeting held at Datacrown Ltd. on February 2, 1979.
- The final interview questionnaire and the selection of respondents were approved at a meeting held at Datacrown on February 7, 1979.
- The interviews were based on the following definition of Trust Department (Trust Company) asset size.

SIZE	TRUST ASSETS MANAGED
Large (L)	Assets greater than \$800 million
Medium Large (ML)	Assets between \$400-800 million
Medium (M)	Assets between \$200-400 million
Medium Small (MS)	Assets Between \$75-200 million
Small (S)	Assets less than \$75 million

- Interviews were conducted between February 12 and March 23, 1979. The interview program consisted of 50 bank trust departments (companies); 39 phone, and 11 on-site; and 12 vendor interviews.

- The user interviews included the responsible trust officer in four multi-bank holding companies. The geographic distribution of interviews is shown in Exhibit I-1. The states included in each region in the U.S. are shown in Exhibit I-2.
- A midpoint meeting was held at Datacrown on March 7, 1979.
- Every attempt was made to interview the senior personal (ETA) trust officer. For large banks (companies), both the senior trust executive and the trust operations officer were contacted.
- Respondents were generally cooperative and were most interested in receiving the executive summary of the research results which was promised early in the interview.
- The telephone interviews were identified as being 20 minutes in duration. In fact they averaged 20 minutes for the smaller trust departments, 30 minutes for the medium size trust departments, and 45 minutes for the large trust departments. The duration of the on-site interviews was identified as 30-45 minutes with the trust executive and another 20 minutes, as necessary, with the trust operations officer. The on-site interviews averaged 90 minutes.
- Respondents were advised that they would not be identified by name in any published report.
- Forecasts found in this report are based on current U.S. dollars, and include an allowance of 6% for inflation.
- Definitions of the terms used throughout this report can be found in Appendix A.
- User and vendor interview questionnaires are found in Appendix B.

TRUST DEPARTMENT (COMPANY) INTERVIEW DISTRIBUTION

TRUST DEPARTMENT SIZE	ATLANTIC		SOUTHWEST		CENTRAL		WEST		CANADA		TOTALS		
	ON-SITE	PHONE	ON-SITE	PHONE	ON-SITE	PHONE	ON-SITE	PHONE	ON-SITE	PHONE	ON-SITE	PHONE	ALL
LARGE ASSETS >\$800M	3	2	-	1	1	-	1	1	1	-	6	4	10
MEDIUM-LARGE ASSETS \$400M-800M	-	1	-	-	-	1	2	-	2	2	4	4	8
MEDIUM ASSETS \$200M-400M	-	4	1	2	-	1	-	-	-	-	1	7	8
MEDIUM SMALL-ASSETS \$75M-200M	-	3	-	3	-	3	-	3	-	2	-	14	14
SMALL ASSETS <\$75M	-	2	-	3	-	1	-	3	-	1	-	10	10
TOTALS	3	12	1	9	1	6	3	7	3	5	11	39	50

EXHIBIT I-2

STATES (PROVINCES) BY REGION INCLUDED IN
INTERVIEW PROGRAM

REGION	STATES/PROVINCES
ATLANTIC	MAINE, NEW HAMPSHIRE MASSACHUSETTS PENNSYLVANIA NEW YORK NORTH CAROLINA FLORIDA
SOUTHWEST	LOUISIANA, TEXAS, OKLAHOMA NEW MEXICO, COLORADO NEVADA, ARIZONA
CENTRAL	ILLINOIS, MICHIGAN OHIO
WEST	CALIFORNIA, OREGON WASHINGTON
CANADA	ONTARIO, QUEBEC, ALBERTA, BRITISH COLUMBIA

II EXECUTIVE SUMMARY

II EXECUTIVE SUMMARY

A. OVERVIEW

- The current climate is favorable for offering on-line, real time personal trust computer services to trust departments (companies) which manage in excess of \$10 million in trust assets.
- Trust departments (companies) are becoming more independent and profit oriented. U.S. commercial banks are still heavily involved in conversion of their commercial operations to on-line systems, giving trust officers increased opportunity to utilize outside services.
- U.S. and Canadian legislation, both in the retirement (pension) area and in the tax area require increased and ever more complex record keeping, setting the trend for personal trust oriented data base management systems (DBMS).
- However, there are a number of competitors already in the marketplace. SEI and Bradford National are well established RCS vendors. Comshare, through acquisition, is also becoming a market force. Shear Development is installing on-site mini systems for personal trust operations in two large U.S. trust departments.
- The marketplace also appears attractive in the area of selling additional personal trust (ETA) related computer services, such as investment advisory

services, employee benefit plan participant accounting, portfolio analysis and estate planning.

B. RECOMMENDATIONS

- INPUT recommends that Datacrown, Ltd. proceed cautiously in planning to market the personal trust system under joint development with Canada Permanent Trust, Ltd.
- While the market is shifting toward increased use of outside services vendors, there are a number of computer vendors already active in the marketplace.
- Entering the market in 1980 and aggressively capturing 20% of the available market will mean potentially \$15 million in annual revenues by 1982.
- Development and maintenance of a personal trust system is an expensive proposition. SEI, Inc. reports spending over \$10 million in development of Trust-Aid II.
- Personal trust (ETA) systems, once developed, are always changing. SEI, Inc. continues to spend over \$2 million per year to improve, customize and revise Trust-Aid to meet ever changing market and regulatory requirements.
- Marketing and supporting personal trust systems requires a significant level of technical expertise. While technical expertise exists at Canada Permanent Trust Ltd. for systems definition and development, Datacrown will have to acquire trust marketing and support talent; talent which is both expensive and in short supply.
- If Datacrown decides to proceed with market entry, then INPUT offers the following marketing and technical recommendations:

- For the system to be competitive it must be on-line and in real time at least in the area of security movement and control (SMAC).
- The system should be designed on a highly modularized basis. The basic module for small users should be personal trust accounting. Additional modules should be offered as enhancements at various levels of trust department (company) sophistication.
- It appears that the Canadian market would be better served by a distributed data processing system.
- INPUT believes that the market is shifting toward the use of on-site minicomputers. Datacrown should consider IBM compatible equipment for on-site minis in a distributed network for both the Canadian and U.S. market.
- The personal trust system should be developed using a data base management system (DBMS). The DBMS should be capable of operating on a distributed basis.
- Personal trust data bases should be maintained in the country of origin.
- The system should be priced for service on a modular basis. Prices for additional modules should be reflected incrementally on an account/month basis.
- Successful penetration requires offering a total system; personal trust information system, communications network, site hardware (i.e., mini/terminals), conversion, training, technical support, and hardware maintenance.

- The services should be offered on a minimum of a two-year lease. Longer term leases are possible for smaller trust departments, but a five-year lease will be difficult for senior trust executives in large trust departments to sell company management.
- The system should include modules which provide ancillary services such as investment analysis and performance, master trust, and employee benefits participant accounting.

C. SUMMARY OF RESULTS

- U.S. and Canadian trust departments (companies) spent nearly \$180 million for data processing related to personal trust operations in 1978. Nearly \$110 million was expended for in-house operations and \$70 million or nearly 40% was expended for computer services. Nearly \$130 million was spent for personal trust operations and another \$50 million on ancillary services.
- By 1980, trust departments (companies) will spend \$234 million for computer processing for an average annual growth rate (AAGR) of over 14%. The EDP expenditures for outside computer services will be nearly \$110 million, or 47% of, total expenditures as shown in Exhibit II-1. Personal trust (ETA) expenditures will be \$67 million with another \$42 million spent on ancillary services.
- EDP expenditures for personal trust processing will rise from \$128 million to \$167 million for an AAGR of 14%. However, the computer services portion will rise from \$42 million (33%) to \$67 million (40%) for an AAGR of 26%.
- In 1978 there were 1,600 U.S. trust departments and 40 Canadian trust companies large enough for trust automation. Little growth, if any, in the total number of departments (companies) will occur by 1980.

EXHIBIT II-1

TRUST DEPARTMENT (COMPANY) EXPENDITURES FOR
PERSONAL TRUST (ETA) AND TRUST RELATED DATA PROCESSING,
1978-1980

YEAR	PERSONAL TRUST (ETA)			ANCILLARY SERVICES (\$M)	TOTAL (\$M)
	PRO-CESSING (\$M)	SOFTWARE (\$M)	TOTAL (\$M)		
● 1978					
- IN-HOUSE					
● U.S.	\$ 74		\$ 74		
● CANADA	12		12		
● TOTAL	\$ 86		\$ 86	\$ 23	\$ 109
- COMPUTER SERVICES					
● U.S.	\$ 35	\$ 5	\$ 40		
● CANADA	2		2		
● TOTAL	\$ 37	\$ 5	\$ 42	\$ 28	\$ 70
● TOTAL (1978)	\$123	\$ 5	\$128	\$ 51	\$ 179
● 1980					
- IN-HOUSE					
● U.S.	\$ 85		\$ 85		
● CANADA	15		15		
● TOTAL	\$100		\$100	\$ 25	\$ 125
- COMPUTER SERVICES					
● U.S.	\$ 57	\$ 6	\$ 63		
● CANADA	4		4		
● TOTAL	61	\$ 6	\$ 67	\$ 42	\$ 109
TOTAL (1980)	\$ 61	\$ 6	\$167	\$ 67	\$ 234
AAGR (%) 1980/1978	14.4%	9.5%	14.2%	14.6%	14.3%

- A major drawback in market entry is the number of computer services vendors already in the marketplace.
- SEI, Inc. and Bradford National currently dominate the market for personal trust computer services, as shown in Exhibit II-2. SEI currently services 250 small to large trust departments and has been growing at 20% annually with 1978 revenues of \$18.5 million. Bradford currently serves 70 medium to large trust departments and had 1978 revenues of \$5 million in this field.
- Shear Development, Comshare, Key Financial Systems, and National Computer Systems are all installing on-site minicomputers in trust departments. They currently control 12% of the existing market. INPUT believes their portion will increase over the next several years.
- There is an emerging market for personal trust systems for the top 65 U.S. savings and loans associations and for selected states and municipalities. However, INPUT estimates that 1978 EDP expenditures for personal trust systems in these other market areas did not exceed \$10 million.
- Except for large trust departments (companies) in money centers or in special situations such as state (province) agencies, trust executives were not pushing corporate trust services. In fact, some were referring new corporate business to their money center correspondents.
- There is a strong trend on the part of trust executives toward shifting securities custody to depository trust companies, either directly or through "piggy-back" arrangements.
- There is a market trend toward trust departments (companies) shifting from in-house to outside computer services vendors. In the past two years the portion of trust departments (companies) which used outside services increased from 16% to 36%. Over half (52%) of the trust executives interviewed indicated that they would consider using outside computer services for personal trust and personal trust related operations.

EXHIBIT II-2
 VENDOR MARKET SHARE OF PERSONAL TRUST
 RELATED COMPUTER SERVICES REVENUES,
 1978

TYPE OF SERVICES VENDOR	REVENUES (\$ MILLIONS)	PERCENT (%)
PERSONAL TRUST SERVICES (ETA)		
- REMOTE COMPUTING VENDORS		
● SEI, INC.	\$18.5	44.5%
● BRADFORD NATIONAL CORP.	5.0	12.0
● OTHERS	2.1	5.0
- FACILITY MANAGERS		
● EDS, SYSTEMATICS, ETC.	6.0	14.5
- SOFTWARE VENDORS		
● VAUGHAN, SHAW, ETC.	5.0	12.0
- ON-SITE MINI VENDORS		
● COMSHARE, KFS, SHEAR, ETC.	5.0	12.0
TOTAL PERSONAL TRUST	\$41.6	100.0%
ANCILLARY SERVICES		
- TAX PREPARATION		
● CTA DIGITAX	0.8	2.8%
● COMPUTAX	0.5	1.8
● OTHERS	1.7	6.0
- EMPLOYEE BENEFITS PARTICIPANT ACCOUNTING		
● IMPEFACTS	4.0	14.0
● COMPUTECH FUND SERVICES INC.	6.0	21.1
● COMSHARE (TRILOG)	1.5	5.3
● OTHERS	4.0	14.0
- INVESTMENT ANALYSIS AND PERFORMANCE		
● ADP, IDC, NCSS, SBC, ETC.	10.0	35.0
TOTAL ANCILLARY	\$28.5	100.0%
TOTAL	\$70.1	-

- Fourteen (28%) of the trust executives interviewed indicated they would be changing their present personal trust system over the next several years.
- The study found that, on the one hand, trust executives were biased against selecting diversified computer services vendors for personal trust services. On the other hand, trust executives were wary of the smaller, thinly staffed and financed personal trust specialist computer services vendors. The solution frequently offered was that of a trust specialist company as a subsidiary to a large, stable financial or diversified computer services company.
- On-line real time processing is the dominant (67%) delivery mode for personal trust computer services vendors. Most trust executives felt that the real time file aspects were an important consideration in system selection. The on-line nature of the personal trust system helped trust executives market trust services, reduce paperwork, and improve audit procedures.
- In the U.S. the Central region currently offers the greatest potential for market entry. Nearly 43% of the respondents were using computer services vendors. Another 43% were in the process of selecting new personal trust systems, while 86% would consider using computer services vendors for personal trust operations.
- Only a minimal number (11%) of respondents used soft dollars as a partial payment method for personal trust and ancillary computer services.

III SURVEY RESULTS

III SURVEY RESULTS

A. MARKET STRUCTURE

I. UNITED STATES

a. Banks and Trust Companies

- At the end of 1978 there were over 4,450 banks and trust companies executing their trust powers, an increase of 1,100 from 1970 for an average annual growth rate (AAGR) of 3.7% over 7 years. The number of banks and trust companies involved in trust functions is expected to reach approximately 4,800 by 1980.
- Not all trust departments are likely candidates for some type of computer automation. Nearly 70% of small bank trust departments manage assets less than \$10 million and are considered poor candidates for trust automation. Indeed, 85% of all trust departments manage assets of less than \$75 million. Distribution of trust departments according to trust asset size is shown in Exhibit III-1.

b. Trust Assets Managed

- The market value of trust assets managed by commercial banks and trust companies exceeded \$530 billion at the end of 1978. The assets have grown

EXHIBIT III-1

DISTRIBUTION OF U.S. TRUST DEPARTMENTS
 BY TRUST ASSET SIZE,
 1977-1980

TRUST DEPARTMENT ASSET SIZE	NUMBER (1977)	PORTION (%)	AAGR 1980/1977 (%)	NUMBER (1978)	NUMBER (1980)
LARGE > \$800M	94	2.1%	7.4%	101	117
MEDIUM - LARGE \$400M-800M	58	1.3	6.0	61	69
MEDIUM \$200M-400M	252	5.8	5.4	266	296
MEDIUM - SMALL \$75M-200M	249	5.8	6.6	265	301
SMALL < \$75M	3,653	85.0	3.3	3,774	4,027
TOTALS	4,306	100.0%	3.7%	4,467	4,810

from nearly \$310 billion in 1970 for an AAGR of 6.7%. Total assets managed is expected to exceed \$600 billion by 1980.

- Trust assets are distributed unevenly among the various size trust departments. Approximately 2% of the banks having assets greater than \$800 million control over 75% of all managed assets. Distribution of trust assets by trust department size is shown in Exhibit III-2.

c. Trust Accounts Managed

- The number of trust accounts managed by commercial banks and trust companies exceeded 1.6 million in 1978, growing from over 1.0 million in 1970, for an AAGR of 5.9%. The number of trust accounts is expected to rise to over 1.8 million by 1980.
- Distribution of trust accounts is the more critical of the indices commonly used to estimate market structure. Trust departments frequently estimate costs and price services on an account basis. Of significance is the fact that the majority (55%) of the accounts are held by trust departments managing trust assets between \$10 and 800 million. Distribution of trust accounts is shown in Exhibit III-3.

d. Geographic Distribution

- The majority (56%) of trust accounts are located in three regions of the U.S.; the North Central (25%); Southeast (18%) and Midwest (13%). These three regions also contain 77% of the operating trust departments, indicating an attractive market for offering trust services. Regional distribution is shown in Exhibit III-4.
- As shown in Exhibit III-5, ten states account for 60% of total trust accounts and 75% of total trust assets.

EXHIBIT III-2

DISTRIBUTION OF U.S. TRUST ASSETS
 BY ASSET SIZE,
 1977-1980

TRUST DEPARTMENT ASSET SIZE	1977 (\$B)	PORTION %	AAGR 1980/1977 (%)	1978 (\$B)	1980 (\$B)
LARGE > \$800M	\$378.3	75.5%	7.0%	\$404.8	\$463.5
MEDIUM- LARGE \$400M-800M	32.6	6.5	4.2	34.0	36.9
MEDIUM \$200M-400M	27.7	5.5	4.6	29.0	31.7
MEDIUM- SMALL \$75M-200M	30.8	6.2	6.6	32.8	37.3
SMALL < \$75M	31.6	6.3	5.3	33.2	36.8
TOTALS	\$501.0	100.0%	6.7%	\$533.8	\$606.2

EXHIBIT III-3

DISTRIBUTION OF U.S. TRUST ACCOUNTS BY TRUST DEPARTMENT SIZE
1977-1980

TRUST DEPARTMENT ASSET SIZE	1977 (000)	PORTION %	AAGR 1980/1977 (%)	1978 (000)	1980 (000)
LARGE >\$800M	551	36.1%	6.2%	585	660
MEDIUM-LARGE \$400M-800M	145	9.5	5.5	153	170
MEDIUM \$200M-400M	165	10.8	5.4	174	193
MEDIUM-SMALL \$75M-200M	222	14.5	6.5	236	268
SMALL >\$75M	445	29.1	5.4	469	520
TOTALS	1,528	100.0%	5.9%	1,617	1,811

EXHIBIT III-4
REGIONAL DISTRIBUTION OF U.S. TRUST ASSETS, TRUST DEPARTMENTS
AND TRUST ACCOUNTS,
1978

REGION	BANK TRUST DEPARTMENTS		ACCOUNTS		ASSETS	
	NUMBER	(%)	QUANTITY (000)	(%)	QUANTITY (\$B)	(%)
NEW ENGLAND	239	5.4%	134.9	8.3%	\$ 33.9	6.4%
NORTHEAST	483	10.8	376.3	23.2	215.6	40.4
NORTH CENTRAL	1,126	25.2	408.9	25.4	113.6	21.3
SOUTHEAST	1,129	25.3	294.1	18.2	74.1	13.8
MIDWEST	1,224	27.4	200.1	12.3	43.0	8.1
MOUNTAIN	188	4.2	65.7	4.1	9.9	1.8
PACIFIC COAST	78	1.7	137.0	8.5	43.7	8.2
TOTALS	4,467	100.0%	1,617.0	100.0%	\$533.8	100.0%

EXHIBIT III-5
 DISTRIBUTION OF U.S. TRUST ACCOUNTS BY STATES,
 1978

STATE	ACCOUNTS		ASSETS		BANKS	
	QUANTITY (000)	(%)	QUANTITY (\$B)	(%)	NUMBER	(%)
PENNSYLVANIA	178.5	11.0%	\$ 42.7	8.0%	222	5.0%
NEW YORK	155.3	9.6	166.1	31.2	154	3.4
ILLINOIS	130.0	8.0	48.5	9.1	441	10.0
OHIO	102.2	6.3	27.8	5.2	119	2.7
CALIFORNIA	99.3	6.1	37.0	6.9	41	0.9
MICHIGAN	72.5	4.5	22.7	4.3	106	2.3
TEXAS	70.6	4.4	17.6	3.3	301	6.7
MASSACHUSETTS	55.4	3.4	18.3	3.4	100	2.2
FLORIDA	52.8	3.3	9.8	1.8	178	4.0
CONNECTICUT	48.5	3.0	10.6	2.0	40	0.9
TOTAL	965.1	59.6	401.4	75.2	1,702	38.1
ALL OTHERS	651.9	40.4	132.4	24.8	2,765	61.9
TOTAL	1,617.0	100.0%	\$533.8	100.0%	4,467	100.0%

e. Trust Account Distribution

- Distribution of major trust account types among the 42 U.S. trust departments interviewed is shown in Exhibit III-6. The proportion of employee benefit accounts (23%) is growing and is rapidly gaining in importance to trust department managers. The "estates" category covers probates. "Other" includes land and oil trusts.
- By utilizing the data from Exhibit III-6 and the data on total trust accounts (Exhibit III-3), the distribution of trust accounts by type was determined. Data in Exhibit III-7 give an indication where additional ancillary services can be offered (e.g., employee benefit participation accounting, tax return preparation, and investment advisory services).

2. CANADA

a. Differences with United States Market

- There are some differences between the Canadian and U.S. markets that must be considered when planning offering personal trust (ETA) services to both market places.
- In the U.S., trust departments are part of commercial banks. In Canada, trust companies are separately chartered and are more restricted in the variety of financial services they can offer.
- In Canada, trust companies can be chartered to do business in any province whereas U.S. banks are restricted to local (state or city) operation. The regional nature of Canadian trust company operations adds an additional level of administrative reporting and control to personal trust system operations.

EXHIBIT III-6
 RESPONDENT TRUST DEPARTMENTS AND THEIR DISTRIBUTION OF TRUST ACCOUNTS,
 UNITED STATES,
 1978

TRUST DEPARTMENT SIZE	SAMPLE SIZE	TYPE OF TRUST ACCOUNT (PERCENT DISTRIBUTION)						
		EMPLOYEE BENEFITS (PENSION) TRUSTS	PERSONAL TRUSTS	ESTATES	AGENCIES		OTHER	TOTAL
					PERSONAL	CORPO-RATE		
LARGE	9	19.5%	62.7%	4.8%	10.3%	2.5%	0.2%	100.0%
MEDIUM-LARGE	4	29.6	51.9	6.5	10.1	1.9	-	100.0
MEDIUM	8	25.2	51.8	5.2	6.6	7.8	3.4	100.0
MEDIUM-SMALL	12	21.2	46.8	11.5	11.6	5.0	3.9	100.0
SMALL	9	29.9	40.0	9.9	9.5	1.5	9.2	100.0
TOTAL	42	22.5%	56.8%	6.1%	9.9%	3.1%	1.6%	100.0%

EXHIBIT III-7
DISTRIBUTION OF TRUST ACCOUNTS BY TRUST ACCOUNT TYPE,
UNITED STATES,
1978

TRUST DEPARTMENT SIZE	NUMBER (000)							TOTAL
	EMPLOYEE BENEFITS (PENSION) TRUSTS	PERSONAL TRUST	ESTATES	AGENCIES		OTHER	CORPO- RATE	
				PERSONAL				
LARGE	114.1	366.7	28.1	60.3	14.6	1.2	585	
MEDIUM- LARGE	45.3	79.4	9.9	15.5	2.9	-	153	
MEDIUM	43.8	90.1	9.1	11.5	13.6	5.9	174	
MEDIUM- SMALL	50.0	110.4	27.2	27.4	11.8	9.2	236	
SMALL	140.2	187.6	46.4	44.6	7.1	43.1	469	
TOTAL	393.4	834.2	120.7	159.3	50.0	59.4	1,617	

- There are some basic tax law differences between Canada and the U.S. with respect to asset valuation, holding periods, and capital gain determination. Some additional differences exist among the several states in the U.S. and among the Canadian provinces.
- There are different and fluctuating values of U.S. and Canadian currencies which affect automated transactions, such as stock pricing and portfolio evaluation.

b. Trust Companies

- There were only 80 trust companies chartered to do trust business in 1978. The number has not grown significantly in the past five years. In fact the number of trust companies is expected to decline through acquisition and merger.
- Not all trust companies are executing their fiduciary ETA powers. It is estimated that only half do so.
- Not all trust companies are likely candidates for trust automation. Some 70%, with trust assets less than \$75 million, are at best marginal candidates for trust automation.
- Distribution of Canadian trust companies according to trust company size is shown in Exhibit III-8.

c. Trust Assets Managed

- The market value of trust assets managed by trust companies was nearly \$51 billion at the end of 1978. Trust assets have been growing at an average annual rate (AAGR) of nearly 16% over the past several years and are expected to reach over \$68 billion by 1980.

EXHIBIT III-8

DISTRIBUTION OF CANADIAN TRUST COMPANIES
 BY TRUST COMPANY SIZE,
 1976-1980

TRUST COMPANY ASSET SIZE	NUMBER 1976	NUMBER 1978	PORTION (%)	AAGR 1980/1976 (%)	NUMBER 1980
LARGE >\$800M	7	9	11.4%	13.4%	11
MEDIUM-LARGE \$400M-800M	4	5	6.2	11.8	6
MEDIUM \$200M-400M	6	5	6.2	-	4
MEDIUM-SMALL \$75M-200M	6	5	6.2	-	4
SMALL <\$75M	55	56	70.0	.9	57
TOTAL	78	80	100.0%	1.3%	82

- The rapid growth of managed trust assets has resulted from more aggressive marketing programs by Canadian trust companies, both in pension fund and in individual registered retirement savings plans.
- Over 95% of all trust assets managed are held by 14, or only 17%, of all trust companies. These trust companies are the only ones experiencing significant growth as shown in Exhibit III-9. A portion of their growth has come from merger and consolidation.

d. Trust Accounts Managed

- The number of trust accounts managed by trust companies was over 160,000 in 1978. The number of accounts has been growing at an AAGR of 11% over the past several years and is expected to reach nearly 200,000 by 1980. Trust account growth has been primarily in company pension plans and in individual self-administered, registered retirement savings plans (RRSP).
- Growth has been primarily with the top 14 companies which held 87% of all managed trust accounts. These companies have been the most active in seeking both corporate employee pension plans, and in offering investment advisory services for individual self-administered, registered retirement savings plans.
- Distribution of trust accounts according to trust company size is shown in Exhibit III-10. The total number of accounts managed includes estates, trusts, agencies, pension plans and self-administered registered retirement savings plans, estimated at 20% of total RRSP (1.3 million).

EXHIBIT III-9

DISTRIBUTION OF CANADIAN TRUST ASSETS
 BY TRUST COMPANY SIZE,
 1976-1980

TRUST COMPANY ASSET SIZE	1976 (\$BILLION)	1978 (\$BILLION)	PORTION (%)	AAGR 1980/1976 (%)	1980 (\$BILLION)
LARGE >\$800M	\$32.7	\$45.5	89.6%	17.2%	\$62.5
MEDIUM LARGE \$400M-800M	2.4	2.9	5.6	9.5	3.5
MEDIUM \$200M-400M	1.6	1.4	2.8	-	1.2
MEDIUM SMALL \$75M-200M	0.8	0.6	1.1	-	0.4
SMALL < \$75M	0.5	0.5	0.9	0	0.5
TOTAL	\$38.0	\$50.9	100.0%	15.7%	\$68.1

EXHIBIT III-10

DISTRIBUTION OF CANADIAN TRUST ACCOUNTS
 BY TRUST COMPANY SIZE,
 1976-1980

TRUST COMPANY ASSET SIZE	NUMBER 1976 (000)	NUMBER 1978 (000)	PORTION (%)	AAGR 1980/1976 (%)	NUMBER 1980 (000)
LARGE > \$800M	88.6	112.5	69.7%	12.5%	142.4
MEDIUM-LARGE \$400M-800M	22.7	28.0	17.3	11.0	34.5
MEDIUM \$200M-400M	5.7	6.2	3.8	4.0	6.7
MEDIUM-SMALL \$75M-200M	3.1	3.5	2.3	6.9	4.0
SMALL > \$75M	10.5	11.2	6.9	3.5	12.0
TOTAL	130.6	161.4	100.0%	11.2%	199.6

B. OTHER MARKET AREAS

I. SAVINGS AND LOAN ASSOCIATIONS (UNITED STATES)

- There are approximately 5,000 savings and loan associations, having deposits in 1978 exceeding \$400 billion. Some 65 institutions, with deposits over \$500 million, hold over \$170 billion or nearly 43% of total deposits and are considered potential candidates for offering personal trust services.
- Savings and loan associations are showing increased interest in personal trust services:
 - A large California savings and loan holding company has a separate trust company (Ahmanson). The large customer base of the multi-branch S&L offers an attractive opportunity for trust services by the subsidiary trust company.
 - Another large California savings and loan association (Home Federal of San Diego) has established a trust department within its parent organization.
 - Several S&Ls in Florida have established a joint venture service company to offer trust services to their depositors.
- Savings and loan associations are a good market for offering computer services. S&Ls are experienced with the benefits of on-line services. They are used to contracting for many of their services from computer services vendors.

2. GOVERNMENT AGENCIES (UNITED STATES)

- Several states (e.g., Pennsylvania) and large counties (e.g., Los Angeles) have large employee retirement plans which are self-administered. Although the

asset value managed is large (\$ billion), the number of accounts is small (<100). Supplying personal trust services to fund managers in this area would require both highly effective investment analysis/performance techniques, and employee benefits participant accounting.

- INPUT estimates that there are between 60 and 100 state and county self-administered retirement funds large enough to require trust automation.
- There is a trend among public employee retirement fund managers to form agency relationships with money center banks to take advantage of depository trust arrangements.

3. INSURANCE, BROKERAGE AND LAW FIRMS

- As part of the vendor survey, inquiry was made as to vendor assessment of market areas for personal trust systems in other than banks and trust companies. None of the vendors interviewed felt that there was a significant market (if any at all) for personal trust information systems as a whole, for insurance companies, brokerage houses or law firms.
- Some functions which comprise a personal trust system could be offered on an RCS basis if the function can be developed as a separate module of the total system.
 - Investment modeling and investment performance could be offered to brokerage houses and insurance companies, and a few very large law firms.
 - Automated tax preparation and capital gains accounting could be offered to law firms.
 - On-line security movement and control could be offered to large insurance companies.

- Most of the offerings would be in competition with existing services offered by RCS vendors such as IDC, NCSS and ADP.
- The greatest benefits of an effective on-line personal trust system would be to the trust departments (companies) themselves. The system would enhance trust department (company) agency and custody business with law firms and insurance companies.

C. INFLUENCING FACTORS

- There are a number of factors which are affecting the structure of the market for personal trust services in the United States and Canada. All of them favor the increased use of computer services.

I. UNITED STATES

a. Statutory And Regulatory Factors

- Federal legislation in the area of employee benefits (ERISA), the 1976 tax reform act, and SEC disclosure regulations placed new and unusual burdens on personal trust record keeping functions and fiduciary responsibilities. The legislation and regulations required major modifications to existing in-house personal trust software as well as software and services provided by computer services vendors. Programming groups of large commercial banks give much lower priority to trust department requirements, frequently forcing trust officers to look elsewhere for either new software packages or outside computer services support.
- The several software houses that create trust accounting packages have frequently been unresponsive to changing requirements, particularly in the areas of investment management and performance, and in ERISA reporting.

- ERISA legislation has resulted in a major shift of employee retirement plan fiduciary responsibility from plan administrators and company treasurers to bank trust officers. This shift has increased demand for bank personal trust processing systems.
- Senior trust officers perceive the ERISA Act as the tip of an iceberg of future government requirements for reporting more and varied information about trust holdings. This concern is reflected in the desire by trust officers for trust information systems that are more flexible and responsive, hence the trends toward data base management systems and on-line operation.
- The fiduciary performance requirements of the ERISA Act place greater responsibility on trust officers to prudently manage trust assets. The investment analysis and performance functions are becoming an essential element of personal trust systems.
 - Respondent senior trust officers were either installing improved investment analysis and performance measurement systems or desired to obtain them within the next several years (see Exhibit III-38 in Section F.6 of this chapter).
- ERISA fiduciary requirements hold trust officers responsible for properly calculating and allocating participant benefits. Senior trust officers are responding by trying to bring all ancillary services, including employee benefits participant accounting, in-house. The participant costs can be passed on with incremental profit in the form of fees to the plan administrator (see Exhibit III-40 in Section G of this chapter).
 - b. Operational Factors
 - In the past, trust departments were largely neglected by bank management. Trust services were offered in the hope of capturing large accounts for the commercial side. Now most bank chief executive officers expect trust departments to be separate profit centers. The marked decrease in the use of

"credits for commercial deposits" evidences this trend. Only 20% of the senior trust officers interviewed utilized commercial credits for profitability determination, (see Exhibit III-28 in Section E.3 of this chapter). Recent legislation permitting interest on commercial deposits puts further pressure on trust departments to be profitable in their own right.

- Trust officers are having a greater say in the selection of personal trust information systems. They are seriously looking at the option of using trust services vendors, both on an RCS basis and on on-site mini computers located in the trust department.
- Banks are in the midst of offering on-line consumer services for the commercial side, leaving trust departments to operate as best they can, primarily in batch mode. The situation offers opportunities for computer services vendors to provide services independent of the banks' in-house data processing system. The number of trust departments leaving the banks' mainframe has increased dramatically. Over 35% of all trust executives interviewed had by 1978 shifted to computer services vendors (see Exhibit III-33 in Section F.3 of this chapter). The number of trust officers who will be making a decision about a new trust system was also significant (28%) (see Exhibit III-30 in Section E.6 of this chapter).
- Acceleration in the formation of multi-bank holding companies increases the opportunities for offering personal trust computer services. Holding company management is more open to cost/effective solutions to trust system operations, whether in-house, or equally through computer services vendors.

c. Technology Factors

- Technology in the form of the "mega mini" computer (e.g., DEC 2020, IBM 4300) is impacting the marketplace for personal trust services. The cost of computation and data storage has decreased to the point that it is becoming increasingly more cost/effective to use on-site mini systems for selected applications than use large remote mainframes integrated with costly data communications networks.
- The on-site mini solution appeals to many trust officers because it represents a system dedicated to his trust department's needs. The data never leaves the trust area, which to him means less likelihood of unauthorized access or loss.
- All other factors being equal, banks have a preference for buying, versus leasing, equipment. In larger banks the purchase price of the mini system can fall within the capital budgeting authority of the senior trust officer. He needs only "rubber stamp" approval of his lease/buy decision.
- A number of computer services vendors have already elected to go the on-site minicomputer route. Their turnkey systems are being ordered this year by some of the very large banks (see Chapter V - Competition).
- The announcement of the IBM 4300 series processors should accelerate this trend. Some large banks may install separate IBM 4300 series processors for trust operations.

d. Competitive Environment

- Bank trust departments are becoming more aggressive in the marketplace. This is evidenced by the number of trust departments (54%), where trust offices are assigned full time to develop new business (see Exhibit III-29 in Section E.4 of this chapter). Competition is particularly fierce in the area of employee retirement plans.

- Money center banks tend to lead the way in innovation. Achieving a high degree of on-line automation and real-time ("memo post") file maintenance has permitted such innovations as Master Trust, whereby the cash management, security movement and control, custody, accounting and performance for all employee benefit plans (both managed and agency) for a large corporation are handled by the trust department offering Master Trust services.
- Successful implementation of on-line S&L consumer transaction systems has forced commercial banks to meet competition by moving to on-line systems on the consumer side. Better investment decisions, increased responsiveness, and customer satisfaction resulting from effective on-line personal trust systems in leading bank trust departments are forcing other trust departments to meet competition by also going on-line.

2. CANADA

a. Statutory And Regulatory Factors

- Pending revisions to the Bank Act will broaden charter bank lending powers. The new powers will extend into the areas of commercial leasing and consumer installment finance. Banks will be directly competing with leasing and finance companies. Formerly these companies obtained working capital from the charter banks. They will no longer be able to do so and remain competitive.
- Leasing and finance companies have been acquiring trust companies. They plan to either extend the operations of the trust company more into the area of leasing and consumer finance (hopefully through new lending powers granted trust companies when the Trust Act is revised), or merge trust company operations into those of a newly established chartered bank. This will require divestiture of the trust (ETA) holdings. The net result will be a decrease through acquisition and merger of the number of trust companies offering trust (ETA) services.

b. Geographic Factors

- Trust companies can operate in all provinces. By doing so they must comply with local province regulations with respect to such items as tax accounting and asset custody. The regional nature of trust operations offers the possibility of accomplishing trust applications through distributed processing. Availability of IBM compatible "mega mini" computers (IBM 8100 and 4300 series) strengthens the applicability of distributed processing to personal trust operations.

D. MARKET ANALYSIS

I. PERSONAL TRUST SERVICES

a. United States

- The market value of trust assets managed by trust departments will exceed \$670 billion by 1980 for an average annual growth rate of 12% for the two years. The projected increase will result primarily from growth in employee benefits and some in personal trust. The projections assume, all other factors held equal (i.e., no major recession), that any rise in the securities market will be net of offsetting effects of inflation.
- The growth rate was calculated by summarizing the projected growth from the interview sample (42) for each trust department size.
- The small trust departments expect the largest growth rate (15.5%). Other growth rates are found in Exhibit III-11.
- Large trust departments will hold over \$514 billion or 77% of all trust assets, and expect their greatest growth in the employee benefits area. Trust assets held by other size trust departments are shown in Exhibit III-12.

EXHIBIT III-11
RESPONDENT MARKET VALUE OF ASSETS
MANAGED BY TRUST DEPARTMENTS,
UNITED STATES,
1978-1980

TRUST DEPARTMENT SIZE	SAMPLE SIZE	RANGE 1977 (\$ MILLION)	AVERAGE		
			1978 (\$ MILLION)	1980 (\$ MILLION)	AAGR 1980/1978 (%)
LARGE	9	\$ 1,000-11,000	\$3,900	\$4,960	12.7%
MEDIUM-LARGE	4	500-820	730	880	9.8
MEDIUM	8	220-404	280	320	6.9
MEDIUM-SMALL	12	97-200	150	180	9.6
SMALL	9	16-78	60	80	15.5
TOTAL	42	-	-	-	-

EXHIBIT III-12

FORECAST OF UNITED STATES TRUST ASSETS,
1978-1980

TRUST DEPARTMENT SIZE	TRUST DEPOSITS 1978 (\$ BILLION)	AAGR 1980/1978 (%)	TRUST DEPOSITS 1980 (\$ BILLION)
LARGE	\$404.8	12.7%	\$514.1
MEDIUM-LARGE	34.0	9.8	41.0
MEDIUM	29.0	5.2	32.1
MEDIUM-SMALL	32.8	9.6	39.4
SMALL	33.2	15.2	44.3
TOTAL	\$533.8	12.1%	\$670.9

- A summary of respondent data on range and growth of trust accounts managed is shown in Exhibit III-13. The projected growth rates are higher than the 1970-1975 historical rates. This is due in major part to the combination of eliminating inactive and unprofitable accounts, and combining sub-accounts over the past several years, reducing costs and increasing trust department profitability. The largest growth rate (17.5%) occurs for the medium-large size trust departments.
- Interview results indicate that all but small trust departments, with assets less than \$10 million, are potential candidates for computer services vendors offering effective on-line computer services, whether on an RCS basis or on on-site mini systems.
- Several large bank trust departments were considering using external trust services for at least two years before moving the trust system in-house again. The two year interval is meant to allow the commercial side to go on-line with demand deposit accounting.
- Projecting the respondent account growth rates (Exhibit III-13) over the historical distribution (Exhibit III-3) results in a 1980 forecast of 1.9 million in the number of trust accounts managed, or an AAGR of 8.3% as shown in Exhibit III-14.
- Personal trust account processing cost data was collected from 42 respondents; 26 trust departments used in-house systems and 16 used computer services. Cost data gathered for in-house systems is not considered reliable. Over half (68%) report that their processing costs are allocated using such variables as office space and number of trust personnel. In-house processing cost data was tabulated with other INPUT respondent trust executive data, and is summarized in Exhibit III-15.
- Cost data from the 16 respondents using computer services was tabulated with other INPUT respondent trust executive data and is summarized in Exhibit III-16. Average processing costs per account on a monthly basis for services

EXHIBIT III-13

NUMBER OF ACCOUNTS MANAGED PER
TRUST DEPARTMENT AS REPORTED BY RESPONDENTS,
UNITED STATES,
1978-1980

TRUST DEPARTMENT SIZE	SAMPLE SIZE	ACCOUNTS			AAGR 1978/1980 (%)
		RANGE	AVERAGE		
		1978	1978	1980	
LARGE	9	4,200- 10,000	6,350	6,770	3.3%
MEDIUM-LARGE	4	1,550- 4,000	2,863	3,974	17.5
MEDIUM	8	650- 2,605	1,456	1,667	6.8
MEDIUM-SMALL	12	433- 1,500	881	1,062	9.1
SMALL	9	150- 968	481	606	11.9
TOTAL	42	-	-	-	-

EXHIBIT III-14

FORECAST OF NUMBER OF TRUST ACCOUNTS,
 UNITED STATES,
 1978-1980

TRUST DEPARTMENT SIZE	TRUST ACCOUNTS 1978 (000)	TRUST ACCOUNTS 1980 (000)	AAGR 1980/1978 (%)
LARGE	585	622	3.3%
MEDIUM-LARGE	153	211	17.5
MEDIUM	174	198	6.8
MEDIUM-SMALL	236	281	9.1
SMALL	341	427	11.9
<\$10M	128	159	11.9
TOTAL	1,617	1,898	8.3%

EXHIBIT III-15

RESPONDENTS' ESTIMATES OF TRUST DEPARTMENT
 PERSONAL TRUST SYSTEM IN-HOUSE COSTS,
 UNITED STATES

TRUST DEPARTMENT SIZE	DOLLARS /ACCOUNT / MONTH		PERCENT OF TOTAL BUDGET		PORTION COSTS ALLOCATED	PORTION INCLUDING TERMINALS
	RANGE (\$)	AVERAGE (\$)	RANGE (%)	AVERAGE (%)	RANGE (%)	AVERAGE (%)
LARGE	\$ 4.00-10.00	\$6.95	6-15%	9.0%	47%	47%
MEDIUM-LARGE	3.30-9.00	6.50	6-16	10.0	50	40
MEDIUM	2.00-7.00	3.50	5-14	9.7	55	9
MEDIUM-SMALL	2.30-5.50	3.70	4-16	10.4	67	10
SMALL	1.60-6.50	4.00	4-15	9.0	67	11
TOTALS	-	-	-	-	68%	23%

EXHIBIT III-16
 RESPONDENTS' TRUST DEPARTMENT PERSONAL TRUST SYSTEM
 COMPUTER SERVICES COSTS,
 UNITED STATES

TRUST DEPARTMENT SIZE	DOLLARS/ACCOUNTS / MONTH		PERCENT OF TOTAL BUDGET		PORTION COSTS DIRECT (%)	PORTION INCLUDING TERMINALS (%)	PORTION SOFT DOLLARS (%)
	RANGE (\$)	AVERAGE (\$)	RANGE (%)	AVERAGE (%)			
LARGE	\$4.50-8.50	\$7.60	9-14%	12.0%	100.0%	100.0%	0%
MEDIUM - LARGE	5.80-7.75	6.90	10-18	14.0	100.0	100.0	20.0
MEDIUM	4.25-7.89	6.70	10-12	11.0	100.0	85.7	0
MEDIUM - SMALL	4.80-6.60	5.20	8-25	14.1	80.0	86.7	13.3
SMALL	2.05-5.40	4.80	10-22	14.5	92.3	69.2	7.7
TOTAL	-	-	-	-	89.5%	83.3%	10.5%

vendors varied from \$4.80 for small trust departments to \$7.60 for large ones. Processing costs were billed directly for nearly 90% of trust departments, the exception being those banks with facilities management (FM) arrangements. Soft dollars were used as a partial method of payment by only 11% of respondent banks. The cost data were used to calculate the revenues projections that follow.

- Total EDP expenditures for personal trust operations will rise from over \$114 million in 1978 to over \$148 million by 1980 for an AAGR of 14%. Growth in expenditures will be greatest for medium-large trust departments, expenditures which will grow from nearly \$13 million in 1978 to nearly \$20 million in 1980 for an AAGR of 24.2%. Expenditures projections for other size trust departments are shown in Exhibit III-17.
- Respondent data on use of in-house systems versus computer services vendors was tabulated with other INPUT respondent trust data and is summarized in Exhibit III-18. Currently large trust departments process primarily in-house, whereas small trust departments make widespread use of computer services vendors.
- Assuming the respondent data is representative of the split between all trust department use of in-house versus computer services, then 1978 computer services expenditures for personal trust systems will be over \$35 million or 31% of total EDP expenditures. The distribution by trust department size is shown in Exhibit III-19.
- The portion of total trust department EDP expenditures allocated to computer services vendors is increasing. The survey showed that out of a sample of 50, the number of respondents using outside services vendors had doubled since 1976. Trust executive intentions regarding new system selection (see Exhibit III-30 in Section F.3 of this chapter) support an increased shift to computer services. Only half of those respondents intending to select a new personal trust system need to choose a computer services vendor to sustain the rate of change from in-house to computer services.

EXHIBIT III-17
TOTAL EDP EXPENDITURES
FOR ALL BANK PERSONAL TRUST SYSTEMS,
UNITED STATES,
1978-1980

TRUST DEPART- MENT SIZE	1978 (\$ MILLION)	1980 (\$ MILLION)	AAGR 1980/1978 (%)
LARGE	\$ 53.4	\$ 63.7	9.2%
MEDIUM- LARGE	12.7	19.6	24.2
MEDIUM	14.0	17.8	12.8
MEDIUM- SMALL	14.7	19.7	15.8
SMALL	19.6	27.7	18.9
TOTAL	\$114.4	\$148.5	13.9%

EXHIBIT III-18

RESPONDENTS' REPORTED USE OF IN-HOUSE VERSUS COMPUTER SERVICES
 FOR PERSONAL TRUST SYSTEMS,
 UNITED STATES,
 1978

TRUST DEPARTMENT SIZE	PORTION		TOTAL (%)
	IN-HOUSE (%)	COMPUTER SERVICES (%)	
LARGE	88%	12%	100%
MEDIUM-LARGE	67	33	100
MEDIUM	56	44	100
MEDIUM-SMALL	58	42	100
SMALL	38	62	100
AVERAGE	59%	41%	100%

EXHIBIT III-19

PERSONAL TRUST EDP EXPENDITURES
 IN-HOUSE AND COMPUTER SERVICES VENDORS,
 UNITED STATES,
 1978

TRUST DEPARTMENT SIZE	IN-HOUSE (\$ MILLION)	COMPUTER SERVICES VENDORS (\$ MILLION)
LARGE	\$47.0	\$ 6.4
MEDIUM - LARGE	8.5	4.2
MEDIUM	7.9	6.1
MEDIUM - SMALL	8.5	6.2
SMALL	7.4	12.2
TOTAL	\$79.3	\$35.1

- The forecast for the use of in-house versus computer services for personal trust systems for 1980 is shown in Exhibit III-20. The proportion of trust departments using computer services has increased from 41% to 48% over the two year period.
- Applying the portion of trust departments using computer services across all trust departments by asset size results in a 1980 computer services forecast of \$57 million or nearly 39% of total EDP expenditures for personal trust processing as shown in Exhibit III-21.

b. Canada

- The respondent sample size (8) is too small to use for market analysis of the Canadian market for personal (ETA) trust services. The analysis that follows is based on the following assumptions:
 - The 1978-1980 distribution of trust companies assets and accounts as determined from industry data in Section A: Market Structure.
 - The costs for personal trust computer processing on an account basis for Canadian trust companies are equivalent on a U.S. dollar basis to those for U.S. trust departments of the same trust asset size.
 - The portion of the number of small trust companies having assets less than \$10 million is the same as that portion (79%) for U.S. trust departments.
 - The portion of accounts managed by small trust companies having trust assets less than \$10 million is the same as that portion (27%) for U.S. trust departments.
 - The number of trust companies shifting from in-house to computer services will double over the next two years.

EXHIBIT III-20

FORECAST USE OF IN-HOUSE VERSUS COMPUTER SERVICES
 FOR PERSONAL TRUST SYSTEMS,
 UNITED STATES,
 1980

TRUST DEPARTMENT SIZE	PORTION		TOTAL (%)
	IN-HOUSE (%)	COMPUTER SERVICES (%)	
LARGE	82%	18%	100%
MEDIUM-LARGE	60	40	100
MEDIUM	56	44	100
MEDIUM-SMALL	50	50	100
SMALL	27	73	100
AVERAGE	52%	48%	100%

EXHIBIT III-21

PERSONAL TRUST EDP EXPENDITURES
 IN-HOUSE AND COMPUTER SERVICES VENDORS,
 UNITED STATES,
 1980

TRUST DEPARTMENT SIZE	IN-HOUSE (\$ MILLION)	COMPUTER SERVICES VENDORS (\$ MILLION)
LARGE	\$52.2	\$11.5
MEDIUM- LARGE	11.8	7.8
MEDIUM	10.0	7.8
MEDIUM- SMALL	9.8	9.9
SMALL	7.5	20.2
TOTAL	\$91.3	\$57.2

- Based on the above assumptions, total EDP expenditures for personal trust operations will rise from nearly \$14 million in 1978 to over \$19 million by 1980 for an AAGR of 18%. The major portion (over 90%) of total 1978 EDP expenditures will be with the eleven large and medium-large trust companies, as shown in Exhibit III-22.
- The estimated use of in-house systems versus outside computer services by Canadian trust companies for personal trust (ETA) systems for 1978-1980 is shown in Exhibit III-23.
- Twelve, or 21% of small trust companies have assets over \$10 million, giving a total of 36 trust companies which are susceptible to automation (Exhibit III-8). Two trust companies plus Canada Permanent Ltd. (FM) are using computer services vendors.
- The survey results indicated two respondents are in the process of selecting new personal trust (ETA) systems. An assumption that the number of trust companies using outside computer services will double by 1980 appears reasonable.
- Total EDP expenditures for personal trust services will more than double between 1978-1980, as shown in Exhibit III-24. Growth will be primarily in the large and medium-large trust companies. 1980 expenditures of over \$4.4 million represent nearly 23% of total EDP expenditures for personal trust (ETA) services.

2. ANCILLARY SERVICES

- The survey of 50 trust executives revealed that trust departments (companies) use a number of other computer services which were directly related to the personal trust (ETA) function. The identified services are:
 - Income tax preparation.

EXHIBIT III-22
TOTAL EDP EXPENDITURES FOR
TRUST COMPANY PERSONAL TRUST (ETA) SYSTEMS,
CANADA,
1978-1980

TRUST COMPANY SIZE	1978 (\$ MILLION)	1980 (\$ MILLION)	AAGR 1980/1978 (%)
LARGE	\$10.3	\$14.6	19.1%
MEDIUM-LARGE	2.3	3.2	18.0
MEDIUM	0.5	0.6	9.5
MEDIUM-SMALL	0.2	0.3	13.0
SMALL	0.5	0.6	9.5
TOTAL	\$13.8	\$19.3	18.3%

EXHIBIT III-23

FORECAST USE OF IN-HOUSE VERSUS COMPUTER SERVICES FOR
 PERSONAL TRUST (ETA) SYSTEMS,
 CANADA,
 1978-1980

TRUST DEPART- MENT SIZE	PORTION			
	1978		1980	
	IN-HOUSE (%)	COMPUTER SERVICES (%)	IN-HOUSE (%)	COMPUTER SERVICES (%)
LARGE	89%	11%	82%	18%
MEDIUM- LARGE	60	40	50	50
MEDIUM	100	0	75	25
MEDIUM- SMALL	100	0	100	0
SMALL	100	0	100	0
AVERAGE	92%	8%	84%	16%

EXHIBIT III-24

PERSONAL TRUST (ETA) COMPUTER SERVICES EXPENDITURES,
CANADA,
1978-1980

TRUST COMPANY SIZE	1978 (\$ MILLION)	1980 (\$ MILLION)	AAGR 1980/1978 (%)
LARGE	\$1.1	\$2.6	53.7%
MEDIUM- LARGE	0.9	1.6	33.3
MEDIUM	-	0.2	-
MEDIUM- SMALL	-	-	-
SMALL	-	-	-
TOTAL	\$2.0	\$4.4	48.0%

- Employee retirement (pension) plan participant accounting.
 - Automated security pricing.
 - Investment analysis and performance.
 - Master trust accounting.
 - Personal trust related software packages for in-house use.
- Personal trust tax preparation costs average \$6.00/return for personal trust and \$10.00/return for estates.
 - Employee participant accounting averages \$4.00/account participant/year.
 - Security pricing services are already included in the method used to calculate total EDP expenditures. Security pricing services used for in-house systems are considered as a transfer cost; that is, a reduction from in-house expenditures and an incremental addition to computer services expenditures.
 - Personal trust related software packages sold for in-house use are also considered as transfer costs.
 - Accurate estimates of EDP expenditures for investment analysis and performance computer services are difficult to assess. Access to major segments and at times the entire trust data base is required for effective results.
 - The distribution of the types of trust accounts was used where possible as basis for market estimates (Exhibits III-6 and III-7).
 - Total EDP expenditures for services ancillary to personal trust (ETA) systems, over \$51 million in 1978, will rise to over \$67 million by 1980 for an AAGR of nearly 15%. Nearly \$42 million of total 1980 EDP expenditures will be for outside computer services according to service type as shown in Exhibit III-25.

EXHIBIT III-25
EDP EXPENDITURES FOR ANCILLARY PERSONAL TRUST FUNCTIONS,
1978-1980

ANCILLARY SERVICE TYPE	1978			1980			AAGR 1980/1978 (%)
	IN-HOUSE (\$ MILLION)	COMPUTER SERVICES (\$ MILLION)	TOTAL (\$ MILLION)	IN-HOUSE (\$ MILLION)	COMPUTER SERVICES (\$ MILLION)	TOTAL (\$ MILLION)	
INCOME TAX PREPARATION	\$ 5.9	\$ 3.0	\$ 8.9	\$ 5.8	\$ 5.0	\$ 10.8	10.1%
EMPLOYEE PARTICIPANT ACCOUNTING	10.4	15.5	25.9	11.9	22.2	34.1	14.8
INVESTMENT ANALYSIS AND PERFORMANCE	6.4	10.0	16.4	7.8	14.5	22.3	16.5
TOTALS	\$22.7	\$28.5	\$51.2	\$25.5	\$41.7	\$67.2	14.6%

- Unlike personal trust systems, the major portion of total EDP expenditures for ancillary services are for computer services. This portion will rise from nearly 50% in 1978 to over 62% by 1980, with an AAGR of nearly 21%. Clearly the market for ancillary computer services should be considered in conjunction with the primary market for personal trust systems.

E. TRUST EXECUTIVE ATTITUDES

I. REVENUE GROWTH

- Over 60% of the trust executives interviewed felt that the greatest revenue growth over the next several years would be in retirement (pension) plans. This assessment held for large and medium U.S. and Canadian companies. Executives at smaller Canadian trust companies felt that personal trust would still be their area of greatest revenue growth.
- There are special situations. Particular trust departments are heavily involved with oil and gas trusts, while others are primarily involved in estate administration.
- The rapid revenue growth for retirement (pension) plans implies increased computer services expenditures in this area.
- The summary of trust executive judgements on revenue growth according to trust department (company) size is shown in Exhibit III-26.

2. PROFIT POTENTIAL

- Trust executives' assessment of areas of greatest profitability varied widely. Personal trust was, overall, the area of greatest profit potential for 38% of executives interviewed. Another 30% felt that retirement (pension) plans would become the most profitable. Only large U.S. and Canadian trust

RESPONDENTS' ASSESSMENT OF AREAS OF GREATEST REVENUE GROWTH POTENTIAL
IN TRUST DEPARTMENTS (COMPANIES)

TRUST DEPARTMENT SIZE	AREAS							TOTAL
	RETIREMENT (PENSION) PLANS	PERSONAL TRUST	CORPORATE TRUST	ESTATES	AGENCIES	OTHER		
LARGE	9	-	-	-	-	1		10
MEDIUM-LARGE	5	-	-	1	1	1		8
MEDIUM	2	4	-	1	1	-		8
MEDIUM-SMALL	9	3	1	-	-	1		14
SMALL	6	2	1	-	1	-		10
TOTAL	31	9	2	2	3	3		50

company executives favored retirement (pension) plans for profit potential. The shift to personal trust was apparent for executives at medium size and below U.S. and Canadian trust companies.

- Again there were some specialized situations. One Canadian trust company focused on special corporate trust situations. A medium-size U.S. trust department specialized in mineral rights management.
- Variety in perceived areas of profitability imply the need to supply trust system modules that can effectively handle specialized situations.
- The summary of trust executives' judgements on profit potential according to trust department (company) size is shown in Exhibit III-27.

3. PROFITABILITY

- The trend toward management requiring trust departments to become profitable in their own right was discussed in Section C: Influencing Factors.
- Over 66% of all U.S. trust departments and 57% of all Canadian trust company executives reported that their operations were profitable. Of those profitable, only 24% of U.S. and 33% of Canadian trust officers used "credits" for other deposit balances in profitability determination.
- Some trust executives still retain the "credits" approach because of cash management involved in managing large company retirement (pension) plans. Cash balances become even more significant under Master Trust arrangements.
- Trust executives' future plans for more widespread use of cost and fee accounting systems also indicate the trend toward profit center management.
- Other information on trust (ETA) department profitability is shown in Exhibit III-28.

RESPONDENTS' ASSESSMENT OF AREAS OF GREATEST PROFIT POTENTIAL
IN TRUST DEPARTMENTS (COMPANIES)

TRUST DEPARTMENT SIZE	AREAS						TOTAL
	RETIREMENT (PENSION) PLANS	PERSONAL TRUST	CORPORATE TRUST	ESTATES	AGENCIES	OTHER	
LARGE	5	2	-	2	-	1	10
MEDIUM-LARGE	3	1	1	1	1	1	8
MEDIUM	2	4	1	1	-	-	8
MEDIUM-SMALL	2	8	1	2	-	1	14
SMALL	3	4	-	2	-	1	10
TOTAL	15	19	3	8	1	4	50

EXHIBIT III-28

RESPONDENT EXECUTIVES' ATTITUDES TOWARD
TRUST DEPARTMENT COMPANY PROFITABILITY

TRUST DEPARTMENT SIZE	SAMPLE SIZE		STATUS WITHOUT OFFSETTING CREDITS								USE CREDITS	
			DON'T KNOW		NOT PROFIT-ABLE		MARGIN-ALLY PROFIT-ABLE		PROFIT-ABLE			
	U.S.	CAN.	U.S.	CAN.	U.S.	CAN.	U.S.	CAN.	U.S.	CAN.	U.S.	CAN.
LARGE	9	1	-	-	1	-	0	-	8	1	3	-
MEDIUM-LARGE	4	4	-	1	-	-	2	2	2	1	1	1
MEDIUM	8	0	1	-	1	-	1	-	5	-	1	-
MEDIUM-SMALL	12	2	-	-	3	1	2	-	7	1	1	1
SMALL	9	1	3	-	-	-	3	-	3	1	2	-
TOTAL	42	8	4	1	5	1	8	2	25	4	8	2

4. MARKETING

- Another indication of trust (ETA) department viability is the attention given to new business development. The number of trust officers exclusively assigned for new business development was used as a measure of viability for new products and services.
- There is a significant difference in new business development between the Canadian trust companies and U.S. bank trust departments.
- As can be seen in Exhibit III-29, executive trust officers at all levels of U.S. bank trust departments have assigned trust officers for new business development. In Canada only large trust companies had separately assigned new business trust officers. This is due to two factors: (1) The past passive "conservator image;" and (2) The regional (province) or branch nature of Canadian trust companies, whereby the branch trust officer has this as a low key responsibility.
- Nearly 67% of all U.S. bank trust departments have separately assigned new business personnel. Only 3 or 14% of all medium to large size trust departments did not have trust officers separately assigned for new business development.
- Except at money center banks, U.S. trust executives were not aggressively marketing corporate trust services. Many of the small medium size trust departments were referring business to their money center correspondents. Corporate agencies were handled but not actively sought.
- The increased use of separately assigned new business personnel implies the increased use of automated trust services as trust offices go out to offer more responsive fiduciary and financial services to prospective clients.

EXHIBIT III-29

RESPONDENT TRUST EXECUTIVES' ATTITUDES
TOWARD MARKETING TRUST SERVICES

TRUST DEPARTMENT SIZE	SAMPLE SIZE		PROVIDE SEPARATE NEW BUSINESS DEVELOPMENT PERSONNEL		NUMBER OF NEW BUSINESS DEVELOPMENT PERSONNEL			
	U.S.	CAN.	U.S.	CAN.	U.S.		CANADA	
					RANGE	AVERAGE	RANGE	AVERAGE
LARGE	9	1	5	1	7-15	10.8	12.0	12.0
MEDIUM-LARGE	4	4	4	1	1-8	3.3	0.5	0.5
MEDIUM	8	0	6	-	1-5	3.2	-	-
MEDIUM-SMALL	12	2	8	-	1-4	1.9	-	-
SMALL	9	1	2	-	1-2	1.5	-	-
TOTALS	42	8	25	2	-	-	-	-

5. OUTSIDE COMPUTER SERVICES

- Executives' attitudes toward using the use of computer services vendors (both RCS and on-site) is indicative of the growing proportion of personal trust expenditures being used for outside computer services. Eighteen, or over one-third, currently use outside services vendors. Over half (52%) of trust executives responded that they already use or would consider using outside computer services vendors. Only one-third preferred remaining in-house.
- Fourteen or 28% of trust department (company) executives interviewed reported that they would be deciding within the next several years about a new trust information system. All but two are or will be looking at outside (on-site or RCS) computer services vendors. The data clearly includes a good market opportunity.
- Other data on trust executive intentions is available in Exhibit III-30.

6. COMPUTER SERVICES VENDORS

- Trust executives believe that trust functions are both complex and specialized in areas of law and public accounting. They have a bias against the ability of a diversified computer services vendor supplying needed services.
- The number of trust executives who feel only banks can adequately offer trust services is declining.
- Trust executives make little differentiation between trust specialist firms and bank or bank subsidiaries, but do prefer them to diversified computer services firms. Trust executives in large trust departments (companies) are rather neutral. These preferences are shown in Exhibit III-31.
- Canadian trust executives expressed a strong preference of keeping their trust database either on-site, or within Canada. A similar strong preference probably exists with U.S. trust executives.

EXHIBIT III-30

RESPONDENT TRUST EXECUTIVES' ATTITUDES TOWARD
USING OUTSIDE COMPUTER SERVICES VENDORS

TRUST DEPARTMENT SIZE	SAMPLE SIZE	ATTITUDES					IN PROCESS OF SELECTING
		DON'T HAVE THE CHOICE / DON'T KNOW	PREFER IN-HOUSE	WOULD CONSIDER OUT-SIDE SERVICES	USE IN-HOUSE	USE COMPUTER SERVICES VENDORS	
LARGE	10	0	6	4	9	1	-
MEDIUM-LARGE	8	1	0	7	4	4	2
MEDIUM	8	2	3	3	4	4	3
MEDIUM-SMALL	14	3	4	7	12	2	7
SMALL	10	2	3	5	3	7	2
TOTAL	50	8	16	26	32	18	14

EXHIBIT III-31
 RESPONDENT TRUST EXECUTIVES' PREFERENCES
 FOR DEALING WITH SELECTED TRUST SERVICES VENDORS

TRUST DEPARTMENT SIZE	VENDOR TYPE		
	WELL FINANCED SPECIALITY COMPANY (e.g. SEI)	BANK OR BANK SUBSIDIARY (e.g. BANKERS TRUST, MELLON BANK)	DIVERSIFIED COMPUTER SERVICES FIRM (e.g. EDS, ADP, COMSHARE)
LARGE	2.7*	3.0*	3.0*
MEDIUM-LARGE	3.0	2.3	3.0
MEDIUM	4.0	3.4	3.0
MEDIUM-SMALL	4.6	4.8	2.7
SMALL	4.9	3.6	2.8
AVERAGE	3.9	3.6	2.9

*RANKING 1 = LEAST DESIRABLE
 5 = MOST DESIRABLE

- Trust executives gave strong preference for dealing with computer services vendors which are stable, well financed and highly responsive to changing market conditions. Several trust executives felt that it would be ideal if trust specialist firms were a subsidiary of a larger more stable financial or computer services organization. They are little nervous with SEI, Inc. and with the several small vendors offering on-site mini systems.

F. PERSONAL TRUST SERVICES

I. DEGREE OF AUTOMATION

- The survey results showed a considerable shift in the level of personal trust systems automation in the past several years.
 - In 1976 13 of 50, or 26% of, trust departments (companies) were not yet automated.
 - In 1978 only three, or just 6%, were still not computerized.
- Increased automation has occurred in the U.S. market primarily in the medium to small size trust departments.
- In Canada three medium-large trust companies have automated since 1976, two with unsatisfactory results. Three smaller trust companies are still looking for a cost/effective solution to their more limited fiduciary business.

2. METHOD OF DELIVERY

- In 1976 some 84% of trust departments (companies) interviewed accomplished their personal trust functions in-house. By 1978 the portion who were still in-house had decreased to 64%.

- Batch processing is still the dominate (70%) delivery mode for in-house systems.
- Data entry is accomplished on-line in seven, or 24% of, in-house systems through direct interaction with the host processor, or by use of an on-line data acquisition minicomputer.
- On-line processing is the dominate (67%) delivery mode for computer trust services vendors. Trust executives generally felt that the on-line real time aspects of computer services vendors were very important factors in vendor selection. These features were especially useful for security movement and control, as an aid in marketing trust services, to reduce paper reports, and to improve audit trails.
- Data covering delivery method according to trust department (company) size is shown in Exhibits III-32 to III-34.

3. MASTER TRUST

- Only 30% of the respondents interviewed were offering or planning to offer master trust arrangements in the near term. Two smaller trust departments on SEI Trust Aid II offered master trust arrangements. Interest in offering master trust is focused in the larger money center banks.
- Respondents currently involved in master trust arrangements rendered consolidated reporting, either monthly (70%) or on a more flexible schedule (30%), but none issued reports as infrequently as quarterly.
- Either managing or being agent for plans under the master trust arrangement requires receipt and disbursement of all funds. Hence, automated cash management was very important to all respondents involved in master trust.
- Nearly all (90%) of the respondents using master trust required portfolio performance measurement. Respondents found it difficult to assess

EXHIBIT III-32

STATUS OF RESPONDENTS' PERSONAL TRUST SYSTEMS,

1976

TRUST DEPARTMENT SIZE	SAMPLE SIZE		IN-HOUSE						OUTSIDE COMPUTER SERVICES				
			MANUAL		AUTO-MATED		SOFTWARE DEVELOPMENT		FM		MINI		COMPUTER SERVICES
							IN-HOUSE	OUT-SIDE					
	U.S.	CAN.	U.S.	CAN.	U.S.	CAN.	U.S.	CAN.	U.S.	CAN.	U.S.	CAN.	
LARGE	9	1	1	-	8	1	6	1	2	-	-	-	-
MEDIUM-LARGE	4	4	-	3	4	1	2	1	2	-	-	-	-
MEDIUM	8	0	2	-	3	-	2	-	1	-	-	-	3
MEDIUM-SMALL	12	2	1	2	11	-	6	-	5	-	-	-	-
SMALL	9	1	3	1	1	-	-	-	-	-	-	-	5
TOTALS	42	8	7	6	27	2	17	2	10	-	-	-	8

STATUS OF RESPONDENTS' PERSONAL TRUST SYSTEMS,

1978

TRUST DEPARTMENT SIZE	SAMPLE SIZE		IN-HOUSE										OUTSIDE COMPUTER SERVICES						
			MANUAL		AUTO-MATED		SOFTWARE DEVELOPMENT		IN-HOUSE		OUTSIDE		FM	MINI	COMPUTER SERVICES				
																U.S.	CAN.	U.S.	CAN.
			U.S.	CAN.	U.S.	CAN.	U.S.	CAN.	U.S.	CAN.	U.S.	CAN.	U.S.	CAN.	U.S.	CAN.			
LARGE	9	1	-	-	8	1	5	1	3	-	-	-	-	-	-	-	-	1	-
MEDIUM-LARGE	4	4	-	-	2	2	1	1	1	1	-	-	-	-	-	-	-	2	2
MEDIUM	8	0	-	-	4	-	2	-	2	-	-	-	-	-	-	-	-	4	-
MEDIUM-SMALL	12	2	-	2	10	-	5	-	5	-	1	-	-	-	1	-	-	1	-
SMALL	9	1	-	1	2	-	1	-	1	-	-	-	-	-	-	-	-	7	-
TOTALS	42	8	-	3	26	3	14	2	12	1	1	1	-	-	-	-	-	15	2

EXHIBIT III-34

DELIVERY MODE OF RESPONDENTS' PERSONAL TRUST SYSTEMS,

1978

TRUST DEPARTMENT SIZE	SAMPLE SIZE		IN-HOUSE										COMPUTER SERVICES VENDOR								
			MANUAL		BATCH PRO-CESSEING		ON-LINE DATA ENTRY		ON-LINE INQUIRY		REAL TIME FILE UPDATE		BATCH PRO-CESSEING		ON-LINE DATA ENTRY		ON-LINE INQUIRY		REAL TIME FILE UPDATE		
			U.S.	CAN.	U.S.	CAN.	U.S.	CAN.	U.S.	CAN.	U.S.	CAN.	U.S.	CAN.	U.S.	CAN.	U.S.	CAN.	U.S.	CAN.	U.S.
LARGE	9	1	-	-	2	1	6	-	5	-	3	-	1	-	1	-	1	-	1	-	-
MEDIUM-LARGE	4	4	-	-	2	-	2	-	-	-	-	2	-	1	-	2	1	2	1	2	1
MEDIUM	8	0	-	-	4	-	-	-	-	-	-	-	-	1	-	3	-	3	-	-	-
MEDIUM-SMALL	12	2	-	2	9	-	1	-	1	-	1	-	-	-	2	-	-	-	-	-	-
SMALL	9	1	-	1	2	-	-	-	-	-	-	-	-	2	-	5	-	5	-	5	-
TOTAL	42	8	-	3	19	1	7	2	6	2	4	-	5	1	11	1	11	1	11	1	1

performance between portfolio managers, as the master trust manager seldom has investment management responsibilities for all plans under the master trust.

- Other respondent data on master trust arrangements can be found in Exhibit III-35.

4. VAULT OPERATIONS

- In order to meet security clearance requirements (5 days), trust departments (companies) are turning custody of listed securities and selected municipal bonds over to depository trust companies either directly or through "piggy back" arrangements. Over 20% of respondent trust departments (companies) had vault operations done by another party. This proportion is expected to increase as depository trust operations become interconnected by electronic clearance networks.
- The major portion (84%) of securities is still held in nominee name. Bulk certificates are used in only selected situations (correspondent participation or multi-bank holding company relationships).
- The major portion (83%) of respondent U.S. bank trust departments had only one vault, whereas the opposite was true for Canadian trust company respondents; 88% had multiple vaults.
- Income reconciliation was separated from vault operations by 82% of U.S. and Canadian respondents.
- Other data on respondents methods of handling vault operations according to trust department (company) size are shown in Exhibit III-36.

EXHIBIT III-35

RESPONDENT TRUST EXECUTIVES' REQUIREMENTS FOR MASTER TRUST ACCOUNTING, UNITED STATES

TRUST DEPARTMENT SIZE	SAMPLE SIZE	MASTER TRUST			RESPONDENT FREQUENCY		REQUIRE CASH MANAGEMENT			REQUIRE PERFORMANCE MEASUREMENT		USE POOLED FUNDS		NEED PARTICIPANT ACCOUNTING
		NOT OFFERED	OFFERED	OFFERED IN FUTURE	FLEXIBLE	MONTHLY	VI*	FI*	NI*	PORTFOLIO	MANAGER	COMMON	INDEX	
LARGE	9	4	5	1	1	4	5	-	-	4	1	4	-	2
MEDIUM-LARGE	4	3	1	1	1	-	1	-	-	1	1	-	1	1
MEDIUM	8	6	2	1	1	1	2	-	-	2	1	-	2	1
MEDIUM-SMALL	12	11	1	-	-	1	1	-	-	1	-	-	-	-
SMALL	9	8	1	-	-	1	1	-	-	1	-	-	1	-
TOTAL	42	32	10	3	3	7	10	-	-	9	3	4	4	4

*VI = VERY IMPORTANT FI = FAIRLY IMPORTANT NI = NOT IMPORTANT

RESPONDENTS' METHODS OF HANDLING TRUST DEPARTMENT
(COMPANY) VAULT OPERATIONS

TRUST DEPARTMENT SIZE	SAMPLE SIZE			VAULT DONE BY ANOTHER PARTY		HOW HELD			NUMBER OF VAULTS			INCOME RECONCILIATION				
	U.S.	CAN.	U.S. CAN.	U.S.	CAN.	U.S. CAN.	U.S.	CAN.	U.S. CAN.	ONE	MULTIPLE	WITH VAULT	SEPARATE	U.S.	CAN.	U.S. CAN.
LARGE	9	1	-	6	1	3	-	8	-	1	2	-	7	1		
MEDIUM-LARGE	4	4	2	4	3	-	1	3	-	1	4	1	3	3		
MEDIUM	8	0	2	6	-	2	-	6	-	2	-	0	-	8		
MEDIUM-SMALL	12	2	3	9	2	3	-	9	-	3	2	3	1	9	1	
SMALL	9	1	3	9	1	0	-	9	1	-	-	1	-	8	1	
TOTAL	42	8	9	34	7	8	1	35	1	7	7	2	35	6		

5. FUTURE TRENDS

- Trust personnel data was collected to give an indication of automation intentions. The personnel profile is shown in Exhibit III-37. In 1978, over 40% of all trust department (ETA) personnel was devoted to trust operations. The AAGR in trust operations personnel is a little over 1% for 1978-1980. This low growth rate is consistent with trust executives' expectations to increase their use of on-line automation for personal trust accounting.
- Highest on trust executives' list of future requirement is retirement (pension) plan employee participant accounting systems. Following closely behind were those executives that were in the process of selecting a new personal trust system.
- Another group of executives intends to shift to on-site mini systems for personal trust operations and administration.
- Other near term trust information system high priority needs are listed in Exhibit III-38.

6. BANK HOLDING COMPANIES

- During the market research trust executives were interviewed in four U.S. multibank holding companies to see how personal trust systems were selected.
- Unlike the commercial side of banking, the trust management function was not located in the holding company, but resided with the senior trust officer of the lead bank.
- Selection of the personal trust system has not been, by and large, a holding company decision. This may change when holding companies have consolidated and installed uniform operations on the commercial side.

EXHIBIT III-37

RESPONDENTS' TRUST DEPARTMENT (COMPANY) PERSONNEL PROFILE

TRUST DEPARTMENT (COMPANY) SIZE	ENTIRE DEPARTMENT (COMPANY) (ETA)		TRUST OPERATIONS				
	RANGE 1978	AVER-AGE 1978	RANGE 1978	AVER-AGE 1978	TRUST-OPS. PORTION (%)	AVER-AGE 1980	AAGR 1980/1978 (%)
LARGE	125-670	352	90-300	152	43%	156	1.3%
MEDIUM-LARGE	63-170	142	3-91	54	47	49	-
MEDIUM	23-83	44	6-26	13	30	13	0.1
MEDIUM-SMALL	14-55	31	3-10	6	19	7	8.0
SMALL	6-26	15	2-17	7	47	7	0.1
AVERAGE	-	103	-	42	41%	43	1.2%

EXHIBIT III-38

RESPONDENT TRUST EXECUTIVES' PLANNED CHANGES AND REQUESTS FOR
FUTURE TRUST COMPUTER SERVICES

FUNCTION/SERVICE	NUMBER OF EXECUTIVES RESPONDING						TOTAL
	LARGE	MEDIUM- LARGE	MEDIUM	MEDIUM- SMALL	SMALL		
EMPLOYEE BENEFITS PARTICIPANT ACCOUNTING	3	1	4	4	2		14
REDEFINE/SELECT NEW SYSTEM	4	1	-	5	2		12
ON-LINE SYSTEMS	-	2	2	3	3		10
AUTOMATED CASH MANAGEMENT	3	-	1	3	1		8
QUERY /INQUIRY AND REPORTING	3	0	2	1	1		7
INVESTMENT ANALYSIS AND PERFORMANCE	2	2	1	1	-		6
ON-SITE MINI SYSTEM	1	1	2	1	-		5
MASTER TRUST ACCOUNTING	2	1	1	1	-		5

- None of the bank holding companies were yet using the same personal trust system bank-wide. However, in one bank holding company, all but the lead bank were using the same personal trust system. Another multi-bank holding company was in the process of developing a uniform personal trust system for all but the lead bank.

7. GEOGRAPHIC DIFFERENCES

- Segregating the 50 interviews on a regional basis highlights the attractiveness of the Central and Atlantic regions for initial marketing efforts in the United States.
- In the Central region, three out of seven, or 43% of, respondents were already using computer services. Another 43% were in the process of selecting a new personal trust system, and all would consider using computer services vendors.
- In the Atlantic region, one-third of respondents were using computer services vendors, another one-third were in the process of selecting a new system, and, of those, at least 60% would consider using a computer services vendor.
- Data on other variables by geographic region can be found in Exhibit III-39.
- Trust executives in the Central and Southwest regions mentioned the importance of good farm management and mineral rights subsystems as a real plus in considering personal trust computer services vendors.

EXHIBIT III-39

GEOGRAPHIC ANALYSIS OF RESPONDENTS' PRESENT AND
POTENTIAL USE OF PERSONAL TRUST COMPUTER SERVICES

REGION	SAMPLE SIZE	IN-HOUSE	OUTSIDE SERVICES		IN SELECTION PROCESS	GROWTH POTENTIAL				WOULD CONSIDER OUTSIDE SERVICES	
			FM	COMPUTER SERVICES		REVENUE		PROFIT			
						EB	PT	EB	ET		ES
ATLANTIC	15	10	-	5	5	11	3	5	2	7	8
CENTRAL	7	4	1	2	3	5	1	3	2	2	6
SOUTHWEST	10	6	-	4	1	5	2	4	1	3	2
WEST	10	6	-	4	2	8	1	2	-	6	5
CANADA	8	6	-	2	3	2	2	1	3	1	5
TOTAL	50	32	1	17	14	31	9	15	8	9	26

G. RETIREMENT (PENSION) PLAN EMPLOYEE BENEFITS ACCOUNTING

- Less than 10% of all employee benefits participant accounting is accomplished by the respondents' personal trust systems. Another 14% used separate in-house systems, either on a mainframe or on a minicomputer (Wang). Mostly manual methods were still used by 24% of the respondents, as shown in Exhibit III-40.
- Currently 36% of all respondents use an outside specialist to do the participant accounting. Another 18% of the participant accounting is done by the plan administrator who in turn uses outside specialists.
- The majority (56%) of respondents want to handle participant accounting as part of a personal trust system. The data implies that employee benefits participant accounting should be offered as an enhancement to a personal trust system.

EXHIBIT III-40

RESPONDENTS' CURRENT METHODS OF HANDLING RETIREMENT
(PENSION) PLAN EMPLOYEE BENEFITS ACCOUNTING

TRUST DEPARTMENT SIZE	SAMPLE SIZE	PROCESSING METHOD						WANT TO COMBINE WITH PERSONAL TRUST SYSTEM (%)
		IN-HOUSE			OUTSIDE			
		BY SEPARATE SYSTEM (%)	MANUALLY (%)	BY PERSONAL TRUST SYSTEM (%)	BY PLAN ADMINISTRATOR (%)	BY OUTSIDE SPECIALIST (%)		
LARGE	10	40%	10%	-	10%	40%	50%	
MEDIUM-LARGE	8	12.5	12.5	25%	12.5	37.5	75	
MEDIUM	8	0	25	12.5	25	37.5	38	
MEDIUM-SMALL	14	7	29	7	14	43	64	
SMALL	10	10	40	0	30	20	50	
TOTAL	50	14%	24%	8%	18%	36%	56%	

IV MARKETING AND TECHNICAL
REQUIREMENTS

IV MARKETING AND TECHNICAL REQUIREMENTS

A. MARKETING REQUIREMENTS

- Successful trust department (company) market penetration by computer services vendors requires a marketing organization which has a high degree of technical expertise in all aspects of personal (ETA) trust information systems. Marketing personnel must be intimately familiar with the operational requirements of the trust department (company) as well as the methods used to solve trust management and accounting problems. Trust operations officers make excellent customer liaison and support personnel.
- Marketing personnel must be able to deal with the trust executive in his terms rather than in computer jargon (this was a universally expressed desire by senior trust executives).
- Statutory and regulatory issues must be tracked by legal experts, either on retainer or on the trust vendor's staff, to ensure that data and necessary computations required by ever changing legal opinions and tax interpretations are reflected in the trust information system data base and processing software.
- Trust marketing personnel must not only be well versed in federal judiciary and statutory requirements, but also those of the particular state (province) where the trust department (company) operates.

- Trust officers in selected states (provinces) have strong preference for doing business with "their neighbors." Market personnel should be selectively recruited for the Southeast (e.g., North and South Carolina) and the Southwest (e.g., Texas).
- Continual communication on system problems and product improvement between users and the vendor is necessary.
 - Users groups should be promoted.
 - Regional meetings should be held quarterly.
 - An annual meeting pays high dividends.
- An effective trust system demonstration program is required. The demonstration program is useful for both trust automation conventions and demonstrations at the potential user's site. Many respondents felt the most effective demonstration would be the processing of a representative day's trust transactions.
- The personal trust system should be marketed in a modular fashion, both with respect to trust functions accomplished and to pricing. Most smaller users only want basic trust accounting functions. Users should have the option of adding greater sophistication in trust management (e.g., investment, security movement, cash management) as trust departments grow.
- Personal trust systems should be priced so that they can be compared on an account/month basis. A basic price should be charged for the trust accounting subsystem, with add-on amounts for additional functions such as security movement and control, investment performance, fee accounting, etc.

- The marketing organization should be supported by an effective education and training program. The use of interactive program teaching for trust department operations personnel, utilizing both hard copy and video terminals, is an effective approach.
- Not enough can be said for fully supporting the customer during conversion. Vendors should plan continuous and thorough training sessions. Vendors should offer to convert user files on a fee basis.
- Trust executives must be offered a total service; that is, personal trust software, terminal hardware (or on-site mini), communications as necessary, technical support, and hardware maintenance.
- The trust services vendor must be able to OEM the necessary hardware for lease/purchase to the end user.

B. TECHNICAL REQUIREMENTS

- The personal trust system should be highly modularized. At the base of the modularization should be the personal trust (ETA) accounting system, which may be the only product initially offered to small trust departments (companies). Additional modules should be made available to enhance each functional area from basic trust accounting to investment management. Typical modules are:
 - Automated cash management.
 - Security movement and control.
 - Performance analysis.
 - Fee and cost accounting.

- Automated custody management.
- ERISA reporting.
- A complete list of key features for the personnel trust (ETA) system, together with degree of applicability according to trust department (company) size is found in Exhibit IV-1.
- Ancillary functions to the personal trust (ETA) system can be offered as additional modules. Examples are:
 - Automated income tax preparation.
 - Retirement (Pension) fund employee benefit participant accounting.
 - Farm management accounting.
 - Mineral rights accounting.
 - Estate planning.
 - Will file maintenance.
- The personal (ETA) trust system should have a very flexible data base access and reporting system. The same data base structure should be used from the smallest to the largest trust department (company). This will permit the trust department (company) to grow in size and in the variety of services offered without having to recode the trust information data base.
- The system should be highly interactive. Trust operations personnel should be lead through data entry, updating, and report preparation utilizing prompt/-entry/response interactive methodology. This approach is also effective for system module selection.

EXHIBIT IV-1
KEY ELEMENTS OF PERSONAL (ETA) TRUST INFORMATION SYSTEMS
DESIRED BY RESPONDENT TRUST OFFICERS

KEY ELEMENT	TRUST DEPARTMENT (COMPANY) SIZE															
	LARGE			MEDIUM-LARGE			MEDIUM			MEDIUM-SMALL			SMALL			
	VI*	FI*	NI*	VI*	FI*	NI*	VI*	FI*	NI*	VI*	FI*	NI*	VI*	FI*	NI*	
• SECURITY MOVEMENT AND CONTROL (SMAC)	X			X			X					X				X
• INVESTMENT PERFORMANCE AND ANALYSIS	X			X			X				X					X
• AUTOMATED FEE ACCOUNTING	X			X			X				X					X
• AUTOMATED CASH MANAGEMENT	X			X			X				X					X
• CUSTOMIZED CUSTOMER ACCOUNT STATEMENTS	X			X			X				X					
• ACCOUNT MANAGEMENT CONTROL	X			X			X				X					
• TAX LOT ACCOUNTING (UNITED STATES)	X			X			X				X					
• CAPITAL GAINS ACCOUNTING (CANADA)	X			X			X				X					
• EFFECTIVE DIARY SYSTEM	X			X			X				X					

* VI-VERY IMPORTANT *FI-FAIRLY IMPORTANT *NI-NOT IMPORTANT

EXHIBIT IV-1 (CONTD.)
KEY ELEMENTS OF PERSONAL (ETA) TRUST INFORMATION SYSTEMS
DESIRED BY RESPONDENT TRUST OFFICERS

KEY ELEMENT	TRUST DEPARTMENT (COMPANY) SIZE															
	LARGE			MEDIUM-LARGE			MEDIUM			MEDIUM-SMALL			SMALL			
	VI*	FI*	NI*	VI*	FI*	NI*	VI*	FI*	NI*	VI*	FI*	NI*	VI*	FI*	NI*	
● AUTOMATED NOTE COLLECTION	X			X			X				X			X		
● AUTOMATED INTEREST ALLOCATION	X			X			X				X			X		
● FLEXIBLE REPORT PREPARATION	X			X			X				X			X		
● DAILY BALANCING	X			X			X				X			X		
● MANAGEMENT REPORTS	X			X			X				X			X		
● SUMMARY ACCOUNT REVIEWS	X			X			X				X			X		
● MONTHLY TRANSACTION SUMMARIES AND AUDIT TRAILS	X			X			X				X			X		
● AUTOMATED COMMON FUND ACCOUNTING	X			X				X				X				X
● ERISA REPORTING	X			X			X				X			X		

* VI-VERY IMPORTANT *FI-FAIRLY IMPORTANT *NI-NOT IMPORTANT

EXHIBIT IV-1 (CONTD.)
 KEY ELEMENTS OF PERSONAL (ETA) TRUST INFORMATION SYSTEMS
 DESIRED BY RESPONDENT TRUST OFFICERS

KEY ELEMENT	TRUST DEPARTMENT (COMPANY) SIZE															
	LARGE			MEDIUM LARGE			MEDIUM			MEDIUM SMALL			SMALL			
	VI*	FI*	NI*	VI*	FI*	NI*	VI*	FI*	NI*	VI*	FI*	NI*	VI*	FI*	NI*	
● REAL PROPERTY MANAGEMENT	X			X												
● FARM MANAGEMENT		X			X											
● MINERAL RIGHTS MANAGEMENT		X			X											
● TAX REPORTING	X			X			X			X			X			
● AUTOMATIC DIVIDEND PROCESSING	X			X			X			X			X			
● AUTOMATED DISBURSEMENTS	X			X			X			X			X			
● AUTOMATED REMITTANCES	X			X			X			X			X			
● DEMAND NOTE ACCOUNTING	X			X			X			X			X			X
● AUTOMATED SECURITY PRICING	X			X			X			X			X			X
● ACCOUNT MODELING	X			X										X		
● RETIREMENT (PENSION) PLAN PARTICIPANT ACCOUNTING		X			X								X			
● MASTER TRUST ACCOUNTING	X				X										X	

*VI-VERY IMPORTANT *FI -FAIRLY IMPORTANT *NI-NOT IMPORTANT

- An interactive program teaching methodology should be incorporated in the system design so trust personnel can educate and re-educate themselves in effective system operation.
- Both hard copy and video terminals are required. The hard copy terminals should have high print quality and provide multiple copy through pin feed carriages. The hard copy terminals are used by the smaller trust departments (companies). The video terminals are used in medium to large trust departments (companies) for inquiry, investment analysis, and for trust administration.
- Highspeed (300 to 900 lpm) line printers are required for the larger trust departments (companies).
- A highly reliable and economic leased line communication network is required. Line speed from 1,200 to 9,600 bps is needed. The network is needed for remote operation of small trust departments, for transmission of pricing data, investment decisions, and output for printed reports.
- Terminal response time is not nearly as critical for the trust application as for the consumer demand deposit or saving applications. Response times between 3 to 5 seconds appear adequate.
- An economic and effective report delivery service is required for the reports which are printed remotely. Coordination with specialized air and mail delivery carriers is necessary for smaller trust departments.
- A forms design and printing service is required for check and account statement preparation. Continuous forms printing for checks and statements is required.

- Customer orientated account statements are essential. Several respondents suggested the following structure: (1) an income part; (2) an asset part; and (3) the essential transactions free of adjustments which support the income and assets part.
- A distributed processing approach should be utilized in the design of the personal trust (ETA) system. For the smaller trust department (company), only data formatting and editing would be accomplished on an intelligent terminal. All other processing would be accomplished in a remote processor (either central or regional). For medium-large size trust departments a minicomputer placed on-site would accomplish the basic trust (ETA) accounting functions. Selected functions such as pricing and investment decision would be accomplished in a remote processor. The minicomputer could also be used to accomplish such ancillary functions as pricing local municipal bonds and handling employee retirement (pension) benefits participant accounting.
- The system must be able to input data entry on-line. This method is becoming standard for both in-house and by computer services vendors.
- The system must be able to handle data inquiry on-line. Inquiry ability must be provided for both hard copy and video terminals.
- Remote computing vendors, vendors offering on-site mini systems, and software product vendors all offer personal trust systems which update the trust data base in real time (or pseudo real time through the "memo posting" technique). This time constraint is required for only a portion of the personal trust system, that of security movement and control (SMAC). However, auditors support its use for the entire system to reduce audit trial requirements.
- The trust information system should have the ability to automate multiple vault operations in (Canada) and an to interface with regional depository trust companies (United States).

- Personal trust (ETA) information systems have significant data store requirements. Disc file storage is estimated at 40 million bytes of storage for approximately 2,000 active accounts. The accounts include representative proportions of personal trust, employee retirement (pension) plans, estates, and agencies. The trust information data base must be backed up, either on disc or magnetic tape.
- The trust data base should be maintained in the country of origin.
- The data is inconclusive with regard to data base language compatibility. Of the 13 large and medium-large U.S. trust departments, only 2 were aware of what data base system they were using, and only 4 felt that there would be a problem if another DBMS were used by the commercial side of the bank.

V COMPETITION

V COMPETITION

A. MARKET SHARE

- The total 1978 market for personal trust and trust related computer services is just over \$70 million. Forty-two million dollars, or 69%, are revenues for personal trust services and over \$28 million are revenues for ancillary services.
- SEI with 1978 revenues of \$18.5 million, and Broadford National with revenues of over \$5 million dominate (57%) the personal trust services market segment. Another 14% of total revenues go to facility managers such as National Sharedata.
- The market share of vendors offering on-site minicomputers is currently only 12%, but is rapidly growing.
- 1978 revenues for personal trust computer services vendors are shown Exhibit V-1.
- There is a significant market in ancillary computer services, services that can be offered as add-ons to personal trust computer services. Three categories are identified: (1) tax preparation; (2) retirement (pension) plan employee participant accounting; and (3) investment analysis and performance.

EXHIBIT V-1

PERSONAL TRUST COMPUTER SERVICES

VENDORS MARKET SHARE, 1978

VENDOR TYPE	REVENUES (\$ MILLION)	PERCENT
● REMOTE COMPUTING VENDORS		
SEI	\$18.5	44.5%
BRADFORD	5.0	12.0
ADP	0.5	1.2
SBC	0.6	1.4
NMF	1.0	2.4
● FACILITY MANAGERS		
EDS, NATIONAL SHAREDATA, SYSTEMATICS, ETC.	6.0	14.5
● SOFTWARE VENDORS		
VAUGHAN SYSTEMS, KEY FINANCIAL, SHAW, SHRIVER, ETC.	5.0	12.0
● ON-SITE MINI VENDORS		
COMSHARE (DIGITRUST)	1.5	3.6
NCS	-	-
KEY FINANCIAL	0.5	1.2
SHEAR DEVELOPMENT	3.0	7.2
TOTAL	\$41.6	100.0%

- Computech with revenues of \$6.0 million and Implefacts with revenues of \$4 million are leading vendors of employee participant accounting services.
- Tax return preparation revenues are based on: (1) the number of personal trust and estate accounts derived in Exhibit III-7; (2) the same proportion of outside services as was derived from respondent data for personal trust services revenues; and (3) vendor supplied pricing information in Exhibit V-6.
- Retirement (Pension) plan employee participant accounting revenues were based on vendor supplied data on participant accounts processed for trust departments, and on respondent supplied expenditures.
- It is difficult to separate personal trust related RCS revenues for investment performance and analysis from the more widespread use of RCS services for investment advisory and other financial services. Trust executives expect to significantly increase expenditures in this area by 1980.
- 1978 revenues for personal trust related computer services vendors are shown in Exhibit V-2.

B. PERSONAL TRUST (ETA) COMPUTER VENDORS

I. REMOTE COMPUTING VENDORS

- ADP has formed a financial services division to concentrate selling RCS services to commercial banks and savings and loans associations. In commercial banking, ADP has been concentrating in the areas of financial information systems and financial planning and management systems. ADP has several good packages for trust investment advisory services.
- In 1977 ADP began offering an on-line personal trust accounting system to small to medium-small banks. There are now 16 users on-line. ADP has

EXHIBIT V-2

PERSONAL TRUST RELATED COMPUTER SERVICES

VENDOR MARKET SHARE, 1978

SERVICE TYPE	REVENUES (\$ MILLION)	PORTION (%)
● TAX PREPARATION		
CTA DIGITAX	\$ 0.8	2.8%
COMPUTAX	0.5	1.8
OTHERS	1.7	6.0
● EMPLOYEE BENEFITS PARTICIPANT ACCOUNTING		
IMPLEFACTS	4.0	14.0
COMPUTECH FUND SERVICES INC.	6.0	21.1
COMSHARE (TRILOG)	1.5	5.3
OTHERS	4.0	14.0
● INVESTMENT PER- FORMANCE AND ANALYSIS		
ADP, IDC, NCSS, SBC, CATALATICS, ETC.	10.0	35.0
TOTAL	\$28.5	100.0%

picked entry in the low end of the market place to gain experience. They could shift this trust software to their IBM compatible on-site mini and offer the service to larger banks. ADP has the financial and technical resources to make itself felt in the personal trust market should they decide to expand market entry.

- Bradford National reports 70 users of its IBM 370 on-line personal trust information system. The system has recently been enhanced. The system, as originally obtained from Centurex, operated under the IBM DOS operating system. The most recent version operates under OS/MVS through CICS. This allows Bradford to offer trust departments the option of subscribing for RCS services for two years with the subsequent option of shifting in-house with a compatible system.
 - Bradford is marketing only to large and medium-large trust departments. They try to offer personal trust services as part of a total package which includes corporate stock transfer, and vault custody operations.
- Comshare, through its acquisition of Digitrust, offers both the NCNB Trustor II trust software package for in-house installation, and a subset of Trustor II on a DEC PDP-8 mini to small to medium-small trust departments. There are approximately 24 systems currently installed. By acquiring TRILOG in the employee benefit area, Comshare has become a major vendor of personal trust services. Comshare is studying the feasibility of shifting the personal trust software to an on-site IBM compatible mini.
- NMF Inc. offers AUTO-TRUST, a RCS personal trust system using automated dial-up lines. Sycor intelligent terminals are used by the trust department to enter, edit, and validate input data on-line during the day. Data is recorded on tape cassette. The processor (IBM 360/50) polls the terminals at night, processes data on a remote batch basis and returns the data to the tape cassette for printing. The vendor reports 60 small to medium-small trust departments throughout the country are using the system.

- SBC offers a number of financial management and planning RCS services to trust departments. In January 1977, they were licensed to offer the St. Josephs Bank personal trust system. SBC has 15 customers currently using the system. Brokerage Transaction Services Inc. (BTSI) a CDC subsidiary is being aligned with the SBC organization. BTSI offers back office services to trust departments, including stock transfer and employee benefits accounting. SBC, like ADP, has the capability of making themselves felt in the personal trust marketplace.
- SEI, INC. with TRUST-AID II, an on-line real time personal trust management system currently services 250 banks. At the end of 1976 they were servicing 111,000 accounts; at the end of 1977, 150,000 accounts; and at the end of 1978, 220,000 accounts, or approximately 14% of the available marketplace. 1978 revenues are \$18.5 million. Growth in 1979 is not expected to be as dramatic as SEI consolidates its position and develops its plans to revise the system through increased use of distributed processing.
- Summary data on leading computer services vendors is shown in Exhibit V-3.

2. SOFTWARE VENDORS

- There are at least seven (7) non-bank trust department software vendors who license personal trust accounting and management packages for in-house installation. There are also an equal number of bank trust departments who will license trust accounting packages to other users. Major personal trust software products vendors are listed in Exhibit V-4.
- The Mellon Bank personal trust system is offered through Key Financial Systems Inc. The system uses the IMS data base management system, is completely on-line, and is in use at Bankers Trust, one of the largest money center trust departments.
- First Computer Corporation, a joint venture between First National Bank, Minneapolis, and First Trust Company, St. Paul, offers their on-line personal

PERSONAL TRUST COMPUTER SERVICES VENDORS

VENDOR/ TYPE	USERS	TYPE OF SERVICE DELIVERY				COST PER MONTH PER ACCOUNT* (\$)	1978 REVENUES (\$ MILLION)
		REMOTE BATCH	ON-LINE DATA ENTRY	ON-LINE INQUIRY	REAL TIME UPDATE		
● RCS VENDORS ADP	16		X	X	X	\$4.00	\$0.5
BRADFORD NATIONAL	70		X	X	X	500-\$5.50 1,000-\$5.00 2,000-\$4.50 2,000+-\$4.00	5.0
NMF INC. (AUTO- TRUST)	60	X	X	X		200-\$3.25 200+-\$2.75	1.0
SEI	250		X	X	X	\$4.50 TO \$6.50	18.5
SBC	15	X				\$4.00	0.6

*DOES NOT INCLUDE TERMINAL COSTS

EXHIBIT V-4
PERSONAL TRUST SOFTWARE VENDORS

VENDOR	TRUST DEPARTMENT SIZE	DELIVERY MODE							PACKAGE COST (\$)
		BATCH	RJE	ON-LINE INQUIRY	ON-LINE DATA ENTRY	REAL TIME FILE UPDATE	EQUIPMENT USED		
GENERAL COMPUTER SERVICES INC.	MEDIUM-SMALL TO MEDIUM-LARGE	X	X	X				IBM 370 BURROUGHS 4700	\$ 30,000 TO \$120,000
FLORDIA SOFTWARE SERVICES INC.	MEDIUM TO MEDIUM-LARGE	X						IBM 370	30,000 TO 60,000
ST. JOSEPH BANK & TRUST COMPANY	SMALL TO MEDIUM	X						IBM 370 BURROUGHS 1700 BURROUGHS 4700 NCR CRITERION	17,500 TO 22,500
VAUGHAN COMPUTER SYSTEMS	MEDIUM-SMALL TO MEDIUM-LARGE	X		X	X			IBM 370	60,000
MELLON BANK (KEY FINANCIAL)	MEDIUM-LARGE TO LARGE		X	X	X	X	X	IBM 370 IMS	125,000 TO 160,000
FIRST TRUST COMPANY (FIRST COMPUTER)	MEDIUM-LARGE TO LARGE		X	X	X	X	X	IBM 370 CICS	215,000
R. SHRIVER ASSOCIATES	MEDIUM TO MEDIUM-LARGE		X	X	X	X	X	IBM 370	75,000 TO 125,000
SHAW SYSTEMS INC.	MEDIUM-LARGE TO LARGE		X	X	X	X	X	IBM 370	70,000 TO 150,000

trust management system both as a software package for in-house use and as an RCS service. The system operates under OS/MVS through CICS . The system currently processes trust information for 12 trust departments with \$8 billion in managed assets and 29,000 accounts.

- The software packages and consulting services of Vaughan Computer Services Inc. receive uniformly good press from users. Comtrust Systems are currently installed in over 50 banks, managing nearly \$10 billion in trust assets and 40,000 accounts.

3. ON-SITE MINI VENDORS

- In addition to Comshare (Digitrust), three other vendors are offering turnkey personal trust systems on minicomputers, as shown in Exhibit V-5. Improved mini price/performance (particularly the IBM 4300) will accelerate distributed processing through the use of on-site minicomputers.
- National Computer Systems (NCS) offers an on-line personal trust system, Trustware, using software developed by GCS trust software personnel, a TI 990 micro mini and selected peripherals. NCS offers the turnkey system with direct maintenance support. NCS will likely have problems maintaining a diverse set of on-site hardware.
- Key Financial Systems offers a turnkey personal trust system on a DEC PDP-II Series mini with DEC peripherals. The system was developed using a data base management system DMS (DEC Database Management System). The system can be tied into Bankers Trust Company for securities custody.

EXHIBIT V-5

ON-SITE MINI PERSONAL TRUST SYSTEM VENDORS

VENDOR	INSTAL-LATIONS	MINI	ASSETS MANAGER (\$ B)	ACCOUNTS (000)	COST (\$)
COMSHARE (DIGITRUST)	24	PDP-8	\$5	20	\$425-900/MO SOFTWARE \$650-2,000/MO HARDWARE
NCS (TRUSTWARE)	N/A	TI 990	N/A	N/A	\$5K/MONTH INCLUDED MAINTENANCE
KEY FINANCIAL SYSTEMS (TRUST MASTER)	2	PDP-11	.3	2	\$2.00/ACCT/MO +70K HARDWARE
SHEAR DEVELOPMENT CORPORATION	22	PDP-11	5	15	\$150K SOFTWARE \$70-150 HARDWARE

N/A NOT AVAILABLE

- Shear Development Corporation has developed a turnkey personal trust system also on DEC PDP-II Series minis. The system uses DMS, and operates on-line in real time. Shear has 22 installations, with \$5 billion in managed assets, and 15,000 accounts. They are currently installing two systems for the Bank of California, which has a large trust department (\$2.2 billion assets managed). They have a contract to install two personal trust systems in Chase Manhattan Bank.

C. ANCILLARY SERVICES

- There are more than a dozen vendors offering specialized services which relate to personal trust (ETA) functions. Ancillary services range from retirement (pension) plan participant accounting, to fund performance evaluation, to the most recent service, master trust accounting. Major vendors together with ancillary services offered are shown in Exhibit V-6.
- Computech Funds Services Inc. is a subsidiary of First Pennsylvania Company. Computech does employee benefits participant accounting for Chase Manhattan and 15 other trust departments.
- CTA Digitax is a subsidiary of COPE Industries. SEI offers Digitax as a private label service. CTA is growing rapidly, reportedly doubling in size every 2 years, as their coverage (state as well as federal) increases.
- Financial Statistics Inc. (FSI) offers a turnkey employee benefits accounting system using a Wang minicomputer. FSI also has investment analysis and performance packages available for the Wang mini or under license for IBM System 370 in-house installation. FSI also provides employee benefits participant accounting to over 50 trust departments.
- CATALATICS Inc. specializes in providing services to large trust departments. They provide employee benefits participant accounting, performance

EXHIBIT V-6

PERSONAL TRUST ANCILLARY SERVICES VENDORS

VENDOR NAME	USERS	ACCOUNTS	SERVICES OFFERED	DELIVERY MODE			EQUIP- MENT USED	COSTS
				MINI	IN-HOUSE	RCS		
COMPUTECH FUND SERVICES INC.	15	1,100,000	EMPLOYEE BENEFITS PARTICIPANT ACCOUNTING STOCK RECORD KEEPING			X	IBM 370	\$4-6/PARTICIPANT/ YEAR
CTA DIGITAX	200	100,000	AUTOMATED PERSONAL TRUST AND ESTATES TAX RETURNS			X	DEC 10	\$5-8/PERSONAL TRUST \$8-12/ESTATE RETURN
FINANCIAL STATISTICS INC.	60	130,000	EMPLOYEE BENEFITS PARTICIPANT ACCOUNTING TRUST INVESTMENT ANALYSIS AND PERFORMANCE	X	X	X	WANG IBM 370	NOT AVAILABLE
IMPLEFACTS, INC.	23	1,200,000	EMPLOYEE BENEFITS PARTICIPANT ACCOUNTING		X	X	IBM 370	\$4-5/PARTICIPANT/ YEAR
CATALYTICS INC.	10	N.A.	EMPLOYEE BENEFITS PARTICIPANT ACCOUNTING MASTER TRUST ACCOUNTING		X	X	IBM 370	NOT AVAILABLE
INFORMATION SCIENCES INC.	200	N.A.	TRUST FEE EVALUATION TRUST DEPARTMENT COST AND PROFIT ACCOUNTING		X	X	IBM 370	NOT AVAILABLE

measurement, and master trust accounting both as computer services and with licensed software product and professional services.

- Information Sciences Inc. (ISI) specializes in personal trust services fee pricing and in trust department cost and profit center accounting. ISI both licenses its software products and provides services to over 200 trust departments.

D. VENDORS AND PRODUCTS

- This section briefly describes the leading vendors of personal trust related software products and services. The vendors have been grouped into the following types:

1. Personal Trust Remote Computing Services (RCS) Vendors

- ADP Financial Services Division.
- Bradford National Corporation.
- SEI Inc.
- NMF Inc. (AUTO-TRUST).
- Service Bureau Company (SBC).

2. Personal Trust Software Vendors

- Florida Software Services.
- General Computer Services.
- St. Joseph Bank & Trust Company.

- . Vaughan Computer Systems.
- . First Trust Company (First Computer Company).
- . R. Shriver Associates.
- . Shaw Systems, Inc.

3. On-site Mini Vendors

- . Comshare (Digitrust).
- . NCS (Trustware).
- . Key Financial Systems (Trustmaster).
- . Shear Development Corporation.

4. Ancillary Trust Computer Services Vendors

- . Computech Fund Services Inc.
- . CTA Digitax
- . Financial Statistics Inc.
- . Implefacts Inc.
- . Catalytics Inc.

NAME: ADP, Financial Services Division

ADDRESS: 41 Broadway
New York, NY 10004

ANNUAL REVENUES: \$20 - 40 million
\$500,000 from personal trust services.

EMPLOYEES: 200

SERVICES: Offers on-line personal trust system called Teletrust. System purchased from R. Schriver Associates. System designed for small to medium size trust departments. Data entry and inquiry are on-line, and files are updated in real-time. System is not offered for in-house installation. Also offers other financial analysis services including investment performance and portfolio analysis. Teletrust may be offered on an on-site mini.

EQUIPMENT USED: Prime 400

PROGRAMMING LANG: FORTAN IV

USERS:

Banks	Trust Asset Size	Account Size
16	\$20 - 200 million	100 - 800

COSTS: \$4-6/month/account

COMPETITION: SEI, Inc.
Bradford National Corporation
SBC
Comshare, Inc.

NAME: Bradford National Corporation

ADDRESS: 2 Broadway
New York, NY 10004

ANNUAL REVENUES: \$120 million
\$5 million from personal trust services

EMPLOYEES: 1000+

SERVICES: Offers a wide variety of services to trust departments including: (1) trust accounting, (2) custody, (3) stock transfer, and (4) clearance. Personal trust system is on-line for data entry and inquiry and real time for file updating. Personal trust system is offered either on a service basis or for in-house installation. The latest version operates under OS/MVS through CICS and will allow for compatible transfer to in-house use.

EQUIPMENT USED: IBM 370/158

PROGRAMMING LANG: COBOL

USERS:	Banks	Trust Asset Size	Account Size
	70	\$400M - 2B	2,000 - 15,000

COSTS:	Minimum 500 accounts - \$5.00/acct./month + Term. @ \$100/month
	500-1,000 - \$5.00/acct./month
	1,000-2,000 - \$4.50/acct./month
	2,000 - \$4.00/acct./month

COMPETITION: SEI, Inc.
Comshare, Inc.

NAME: SEI, Inc.

ADDRESS: 680 E. Swedesford Road
Wayne, PA 19087

ANNUAL REVENUES: \$18.5 million

EMPLOYEES: 240

SERVICES: Offers personal trust accounting and trust management system. The system is on-line for data entry and inquiry, and real time for file updating. The system is modular in both service offerings and pricing. Ancillary services currently offered are tax return preparation through a private label service (GTA DIGITAX). Two system services are available, TRUST-AID I for smaller banks trust departments, and TRUST-AID II for medium to large size bank trust departments. Additional features offered are automated cash management, security movement and control and piggy back custody.

EQUIPMENT USED: PRIME 400

PROGRAMMING LANG: FORTRAN IV

USERS:

Banks	Trust Asset Size	Account Size
250	\$15M - 3B	300-12,000

COSTS: \$4.50-6.00/mo/acct. + \$150-400/mo/terminal
(including leased line costs)

COMPETITION: Bradford National Corporation
Comshare, Inc.
Shear Development
Key Financial

NAME: NMF, Inc.

ADDRESS: 500 E. Morehead Street
Charlotte, NC 28202

ANNUAL REVENUES: \$1 million

EMPLOYEES: 20-40

SERVICES: Offers personal trust and employee benefit services for small and medium-small size bank trust departments. The personal trust service is called AUTO-TRUST and it is offered on an rje basis using intelligent terminals. The latest service offering AUTO-TRUST III incorporates distributed processing in a Sycor micro-mini allowing for on-line inquiry on a local basis.

EQUIPMENT USED: IBM 360/50

PROGRAMMING LANG: COBOL

USERS:

Banks	Trust Asset Size	Account Size
60	\$40-200 M	800-3,500

COSTS: \$3.25/acct./mo for first 200 + terminal rental
\$2.75/acct./mo thereafter

COMPETITION: Bradford National Corporation
SEI, Inc.
General Computer Services, Inc.
Florida Software Systems, Inc.

NAME: Service Bureau Company
(Subsidiary of CDC)

ADDRESS: 500 West Putnam Avenue
Greenwich, CT 06830

ANNUAL REVENUES: \$100 million
\$600,000 for personal trust services
\$1-3 million for trust investment and analysis

EMPLOYEES: 2000+

SERVICES: Offers personal trust services on a remote batch basis using St. Joseph Package under CALL Plus system. SBC also offers financial analysis services; financial analysis using PROPHIT II; asset review using VALPORT; estate and financial planning using EXPLAN; and Mutual funding using MUFU. Offers back office processing for stock transfer and security clearance through BTSI, Inc. in New York.

EQUIPMENT USED: IBM 370/158

PROGRAMMING LANG: COBOL, PL/I, BASIC

USERS: 15 banks for personal trust services

COSTS: Packages offered as part of general timesharing services. Costs for personal trust package run \$4/acct/month for daily processing.

COMPETITION: IDC for financial analysis
Bradford National for personal trust and corporate trust
SEI, Inc. for personal trust
ADP for personal trust

NAME: Florida Software Systems, Inc.

ADDRESS: 711 Semoran Blvd.
Suite 400
Alta Monte Springs, FL 32701

ANNUAL REVENUES: \$500,000 - 1,500,000

EMPLOYEES: 80-100

SERVICES: Offers personal trust accounting software system to medium and to medium-large size bank trust departments. The package is used on a remote batch basis. The package does not yet provide for on-line data entry, inquiry, or real time file updating.

EQUIPMENT USED: IBM 370
NCR CRITERION SERIES
Burroughs 4000 Series
Honeywell 6000

PROGRAMMING LANG: COBOL

USERS:

Banks	Trust Asset Size	Account Size
80	\$200-800 million	500-4,000

COSTS: Licensed at \$25,000 - 40,000

COMPETITION: St. Joseph Bank & Trust Company
General Computer Services Inc.
Vaughn Computer Systems, Inc.

NAME: General Computer Services, Inc.

ADDRESS: P.O. Box 514B
Huntsville, AL 35805

ANNUAL REVENUES: \$1-2 million

EMPLOYEES: 60

SERVICES: Offers software package for personal trust systems. Packages are for medium-small to large size banks. System operates on remote batch basis. Larger systems handle data entry and inquiry on-line.

EQUIPMENT USED: IBM 370
Burroughs 4000 line
Burroughs 800 line

PROGRAMMING LANG: COBOL

USERS:

Banks	Trust Asset Size	Account Size
90	\$200-500 million	1,200-3,000
	\$70-200 million	500-1,000

COSTS: Licensed at \$30,000 for medium-small
\$120,000 for medium - large

COMPETITION: NCNB-TRUSTOR II
SEI, Inc. TRUST-AID
Bradford National Corporation
Florida Software Services, Inc.
Vaughn Computer Services, Inc.

NAME: St. Joseph Bank and Trust Company
ADDRESS: 202 South Michigan Street
 South Bend, IN 46601
ANNUAL REVENUES: \$800,000
EMPLOYEES: 30-60
SERVICES: Sells and installs remote batch personal trust systems in medium size banks. Recently licensed SBC to use package on remote batch basis using Sycor intelligent terminals.
EQUIPMENT USED: IBM 360/370 OS/DOS
 Burroughs 1700-4700
 NCR Criterion Series
PROGRAMMING LANG: COBOL
USERS: 110 users Trust Asset Size Account Size
 \$50-250 million 100-2,000 accounts
COSTS: Licensed for \$17,500 - 22,500 plus \$1,500 maintenance/year
COMPETITION: Shaw System Associates
 Bradford National Corporation
 Vaughan Computer Systems, Inc.
 General Computer Systems, Inc.
 Florida Software Systems, Inc.

NAME: Vaughan Computer Systems, Inc.

ADDRESS: 1417 United Missouri Bank Building
Kansas City, MO 64101

ANNUAL REVENUES: \$300,000

EMPLOYEES: 10-15

SERVICES: Offers three software products all for personal trust for medium-small to medium-large size trust departments. Two systems - COMTRUST III for medium-small and medium size banks, and COMTRUST IV for medium-large banks in a multi-bank environment are batch oriented. The third system (System IV-S) for medium-large users provides on-line data entry and on-line data inquiry. The system provides real time file updating through "memo posting."

EQUIPMENT USED: IBM 360/370

PROGRAMMING LANG: COBOL

USERS:

Banks	Trust Asset Size	Account Size
50	\$15-500 million	300-3,500

COSTS: Licensed at \$25,000 + 7,500 on-line data entry for small to medium batch system
\$60,000 - 80,000 for large on-line system

COMPETITION: SEI, Inc.
Bradford National Corporation
General Computer Services, Inc.
St. Joseph Bank and Trust Company
Florida Software Services, Inc.

NAME: First Trust Company
(First Computer Company)

ADDRESS: First National Bank Building
St. Paul, MN 55101

ANNUAL REVENUES: \$10 million+ (trust services and new venture)

EMPLOYEES: 120+

SERVICES: First Computer Company, a joint venture of First National Bank, Minneapolis and First Trust of St. Paul, offers an on-line personal trust system either as a software package or on an RCS basis. The system has been installed in 12 trust departments within the holding company, handling 12,000 accounts. The system has on-line data entry and inquiry and uses the "memo post" approach for security movement and control. The system uses a master file as apposed to a DBMS approach, and operates under VS/MVS through CICS.

EQUIPMENT USED: IBM 370/158, 3033

PROGRAMMING LANG: Main body is ANSI COBOL on-line operations in ALC.

USERS: 12

COSTS: \$215,000 for software license.
\$4-6/account/month on an RCS basis.

COMPETITION: SEI Inc.
Bradford National Corporation
Comshare, Inc.

NAME: R. Shriver Associates

ADDRESS: 120 Zittleton Road
Parispany, NJ 07054

ANNUAL REVENUES: \$500,000

EMPLOYEES: 15

SERVICES: Consulting service to banks for trust services. Sold on-line TELETRUST personal trust service to ADP Network Services, Inc. Shriver is marketing MERCHANTS/-SHRIVER Trust accounting software system for in-house installation. System has on-line data entry and on-line inquiry. Master file is updated by "memo posting."

EQUIPMENT USED: IBM 370

PROGRAMMING LANG: ANSI COBOL

USERS: 2

COSTS: \$75,000-125,000

COMPETITION: NCNB - TRUSTOR II
St. Joseph Bank and Trust Company.
General Computer Services Inc.
Florida Computer Services, Inc.
Vaughn Computer Systems, Inc.

NAME: Shaw System Associates, Inc.

ADDRESS: 2315 Southwest Freeway
Houston, TX 77006

ANNUAL REVENUES: Less than \$1 million

EMPLOYEES: Less than 20

SERVICES: Offers personal trust management system (TMS-I), software package for in-house installation in medium-large to large bank trust departments. The system has on-line data entry and on-line inquiry. Shaw also offers a on-line stock transfer and stockholder record keeping system (STOPS II).

EQUIPMENT USED: IBM 370/158

PROGRAMMING LANG: COBOL & BAL

USERS: Ten Large to medium-large size bank trust departments.

COSTS: \$120,000 - 150,000 for the personal trust system.
\$79,000 - 90,000 for the stock transfer system.

COMPETITION: Bradford National Corporation.
Vaughn Computer Systems, Inc.
Key Financial Systems, Inc.
First Computer Corporation.

NAME: Comshare, Incorporated
Trust Marketing Division

ADDRESS: 1700 Market Street
Philadelphia, PA 19102

ANNUAL REVENUES: \$3.5 million

EMPLOYEES: 100+

SERVICES: The Trust Marketing Division offers the following trust services: (1) Digitrust a personal trust system operating on a PDP-8 mini; (2) Trustor II personal trust software package developed by NCNB; (3) employee benefits participant accounting and (4) RCS financial and investment analysis services. Comshare has selected the trust market place as an area of specialization. They are considering offering personal trust services on an on-site mini which can be connected to their network.

EQUIPMENT USED: Digitrust - PDP-8
Other services - IBM 370

USERS: 24 trust installations for Digitrust
50 trust departments with 300,000 accounts for employee participant accounting.

COSTS: Digitrust
Small system - \$1200/month hardware + \$425/month software.
Medium system - \$2700/month hardware + \$900/month software.
Participant accounting \$4-6/participant/yr.
Trustor II - \$110,000 for license.

COMPETITION: SEI Inc.
Bradford National Corporation.
ADP.
SBC.

NAME: National Computer Systems (NCS)

ADDRESS: 4401 W. 76th Street
Minneapolis, MN 55435

ANNUAL REVENUES: \$12 million (trust system a new product)

EMPLOYEES: 300+

SERVICES: NCS has just begun to market TRUSTWARE an on-line personal trust system developed for a Texas Instruments 990/10 micro mini computer. NCS is offering the hardware (TI mini, TI terminals, Calcomp 50-200 mb Disks, CDC 300-600 lpm printer and TI tape drive) together with the software, developed by a breakaway group from General Computer Services, as a turnkey system that NCS will maintain.

EQUIPMENT USED: TI 990/10 micro mini.

PROGRAMMING LANG: Fortran IV plus Assy.

USERS: Not available.

COSTS: \$5,000/month on a 5 year lease including maintenance.

COMPETITION: Shear Development Corporation
SEI Inc.
Key Financial Systems Inc.
Comshare (Digitrust) Inc.
NMF Inc. (AUTO-TRUST)

NAME: Key Financial System (KFS) Inc.

ADDRESS: 248 Lorraine Avenue
Upper Montclair, NJ 07043

ANNUAL REVENUES: \$800,000

EMPLOYEES: 10

SERVICES: KFS offers licensing and installation of the Mellon Bank personal trust system. The system is on-line and operates in real time under IMS. The most recent product is the Trust Master personal trust system developed for the DEC PDP-II Series minicomputers. KFS offers the software integrated with all DBC OEM hardware. The system is on-line and operates in real time using DEC DMS (DBMS). The system also supports custody services on a piggy-back arrangement with Bankers Trust Company.

EQUIPMENT USED: Mellon Trust System - IBM 370/158
Trust Master - DEC PDP-II

PROGRAMMING LANG: Trust Master - DMS
Mellon Trust Systems - IMS

USERS: Mellon Trust System - 2
Trust Master - 2

COSTS: Trust Master software \$2.00/account/month.
Hardware \$50,000 for small to medium.
\$70,000 for medium to medium-large.
Mellon Trust System - \$150,000+.

COMPETITION: SEI Inc.
Shear Development Corporation
National Computer Systems
Comshare Inc.

NAME: Shear Development Corporation

ADDRESS: 75 Federal Street
Suite 614
Boston, MA 02110

ANNUAL REVENUES: \$3.5 million

EMPLOYEES: 40+

SERVICES: Shear has developed and is installing an on-line personal trust system using DEC PDP-II Series minicomputers. The system is completely on-line and in real time using DEC DMS database management system. First installation in 1975 were in medium-small trust departments. The latest installation is going in the Bank of California, a large trust department. Shear has a contract to install two systems in the Chase Manhattan Bank trust department.

EQUIPMENT USED: DEC PDP-II

PROGRAMMING LANG: MUMPS (DMS)

USERS:

Banks	Trust Assets	Accounts
22	\$5 billion	15,000

COSTS: For \$200-300 million trust asset size trust department
\$150,000 software
\$150,000 OEM hardware

COMPETITION: SEI Inc.
Comshare, Inc.
Key Financial System Inc.
National Computer Systems

NAME: Computech Fund Services, Inc.
Subsidiary of First Pennsylvania Bank

ADDRESS: 1819 Peachtree Road NE
Atlanta, GA 30309

ANNUAL REVENUES: \$6-8 million

EMPLOYEES: 100+

SERVICES: Computech offers employee benefit record keeping services. To a smaller extent, Computech provides stock transfer record keeping services.

EQUIPMENT USED: IBM 370

PROGRAMMING LANG: COBOL

USERS:

Banks	Trust Assets	Accounts
15	\$200M - 6B	200 plans
		1,100,000 participants

COSTS: \$4 - 6 participant/year

COMPETITION: Implefacts, Inc.
Comshare Inc.

NAME: CTA Digitax, Inc.
 Division of COPE Systems, Inc.

ADDRESS: 12 Henshaw Street
 Woburn, MA 01801

ANNUAL REVENUES: \$800,000

EMPLOYEES: 25

SERVICES: Offers automated personal trust and estate tax return preparation for both federal and applicable state jurisdictions. Service is on a batch processing basis. Service is also offered on a private label basis.

EQUIPMENT USED: DEC 10

PROGRAMMING LANG: FORTRAN

USERS:

Banks	Tax Returns
200	100,000

COSTS:

Personal Trust	Fed \$5.50
	Fed & State \$8.00
Estate	Fed \$8.00
	Fed & State \$12.00

COMPETITION: Fastax, Inc.
 Computax, Inc.

NAME: Financial Statistics, Inc. (FSI)

ADDRESS: 2001 Bryon Tower
Suite 320
Dallas, TX 75201

ANNUAL REVENUES: \$700,000 - 900,000

EMPLOYEES: 60

SERVICES: FSI offers an employee benefit accounting and administration system (EBAS) as a turnkey mini operation, or as a software package. FSI also offers a series of personal trust related software packages such as cost accounting, investment analysis, and performance measurement for minicomputer utilization or for IBM in-house installation.

EQUIPMENT USED: IBM 370/148
Wang Minicomputers

PROGRAMMING LANG: ANSI - COBOL for IBM 370

USERS:

Banks	Trust Asset Size	Accounts
60	\$100M - 3B	5,000-7,000 plans
		100,000-150,000 participants

COSTS: Not available

COMPETITION: Comshare, Inc.
Implefacts, Inc.

NAME: Implefacts, Inc.
ADDRESS: 1775 Broadway
 New York, NY 10019
ANNUAL REVENUES: \$4-6 million
EMPLOYEES: 200+
SERVICES: Implefacts is the largest services vendor for employee benefit record keeping for fixed contribution plans. The system operates on a remote batch basis. The system is sold for installation in banks as well as used on a services basis. The market for fixed plans is rapidly increasing due to securities fluctuations and more stringent ERISA investment performance requirements.
EQUIPMENT USED: IBM 370/158
PROGRAMMING LANG: COBOL
USERS:

Banks	Companies	Plans	Accounts
20	200	2,000+	1,200,000

COSTS: \$4-6/participant account/year
 \$50,000-100,000/installation
COMPETITION: Bankers Trust.

NAME: Catalatics Inc.

ADDRESS: 11 Salt Creek Drive
Hinsdale, IL 60521

ANNUAL REVENUES: \$4.5 million

EMPLOYEES: 100+

SERVICES: Catalatics targets their products and services at only the very largest trust departments. The company provides processing services, professional consulting services and custom software packages. Concentration is in three areas: (1) Employee benefit participant accounting; (2) Investment analysis and performance; and (3) Master Trust accounting.

EQUIPMENT USED: IBM 3033

PROGRAMMING LANG: COBOL for information management.
FORTRAN for performance measurement.

USERS: 10 top bank trust departments.

COSTS: Negotiated with each client. A combination of software and professional services.
Range \$10-50/account/year.

COMPETITION: Employee participant accounting:
Comshare Inc.
Implefacts, Inc.
Computech Fund Services Inc.
Performance Analysis
A. G. Becker Inc.
Master Trust
Northern Trust Company

APPENDIX A: DEFINITIONS

APPENDIX A: DEFINITIONS

- ERISA

Employment Retirement Income Services Administration. A U.S. federal regulatory body set up by an act of congress to oversee retirement plans.

- AAGR

The average annual growth rate. The AAGR is a compounded growth rate over a time period in years, expressed as an average in terms of percent (%).

- DTC

Depository Trust Company. A corporation set up by the banks involved to vault stocks and bonds, and record their legal transfer. DTC's have come about to lessen the back office burden of physical transfer of paper certificates by banks and other financial organizations.

- ETA

Estates, Trusts, and Agencies: the designation in Canadian Trust Companies for the trust versus savings and mortgage side of the business. Estates, trusts and agencies correspond to U.S. personal trust departments in commercial banks.

- Employee Benefit Account

A retirement (U.S.), pension (Canada), or profit sharing account held by a trust department (company). The trust department (company) handles the funds for the account under their personal trust system. Accounting for each employee participating in the plan is handled by special processing.

- Employee Benefit Participant Allocation

At least once a year a determination needs to be made as to the value of each participants' retirement or profit share. The allocation is both fund type and actuarial related and requires special processing considerations.

- Personal Trust Account

The most widespread form of account held by bank trust departments (companies). The account consists of funds (cash, stocks, bonds, real estate) which the trust officer administers according to a living or testamentary trust agreement. Personal trust systems are built around handling the great majority (80%) of all possible type of personal trust transactions through automation.

- Estate Account

A trust account in the process of being probated. The trust officer acts as executor until probate is completed (usually 2-5 years), after which the assets are disbursed, or more frequently the assets become part of a personal trust administered by the trust officer.

- Personal Agency Account

In this type of account the trust officer acts as agent for some other trust manager (frequently an attorney). The assets are held by the trust department (company) and actions are taken as advised by the trust manager.

- Corporate Agency Account

This type of account covers such things as school bond issues and corporate indentures, whereby the trust officer is the paying, holding, or collecting agent for the corporate organization.

- Soft Dollars

A practice whereby an agreement is made between the trust officer and a stock broker that for a stated value of securities transactions a dollar amount will be spent by the broker for direct research services for the trust department (company). The broker in turn pays for a portion of the personal trust computer services costs which are "investment related."

- Credit for Commercial Balances

U.S. trust departments place cash awaiting investment in demand deposit accounts in the commercial side of the bank. The deposits allow the commercial side to lend money at (at least) the prime interest rate. Even though the cash may be held in the account only a few days, the cash flow is considerable and, on the average, results in bank revenues. The revenues are indirect in relation to the trust department, hence the paper transaction for performance evaluation of trust departments "credits for commercial balances."

- **COMPUTER SERVICES**

These are services provided by vendors which perform data processing functions using vendor computers, or assist users to perform such functions on their own computers.

- **REMOTE COMPUTING SERVICES (RCS)**

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 sub-modes of RCS are:

1. INTERACTIVE (timesharing) is 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.
2. REMOTE BATCH is where the user hands over control of a job to the vendor's computer which schedules job execution according to priorities and resource requirements.
3. DATA BASE is 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 data which are physically transported (as opposed to electronically by telecommunications media) to and from those sites. Data entry and data output services, such as keypunching and COM processing, are also included. Batch services include those expenditures by users which take their data to a vendor site which has a terminal connected to a remote computer used for the actual processing.

- **FACILITIES MANAGEMENT (FM)**

(Also referred to as "Resource Management" or "Systems Management.") The management of all or part of a user's data processing functions under a long-term contract (not less than one year). To qualify as FM, the contractor must

directly plan and control as well as operate the facility provided to the user on-site, through communications lines, or mixed mode. Simply providing resources, even though under a long-term contract and/or for all of a users' processing needs, does not necessarily qualify as FM.

● PROFESSIONAL SERVICES

Management consulting related to EDP, systems consulting, systems design and programming, and other professional services are included in this category. Services can be provided on a basis of: "Time and Materials," whereby the user pays for the time used of an individual on a daily or other fixed rate, or "Fixed Price," where the user pays a fixed fee for a specific task or series of tasks.

● SOFTWARE PRODUCTS

This category is for users' purchases of systems and applications packages for use on in-house computer systems. The figures quoted include 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.

APPENDIX B: QUESTIONNAIRES

TRUST DEPARTMENT EXECUTIVE QUESTIONNAIRE

1. What divisions do you have in your trust department (U.S.)
trust company (Canada)

2. What area within your trust department (U.S.) do you think:
trust company (Canada)

a) Has the most revenue growth potential?

b) Is potentially the most profitable?

c) Will require the most automation in the future?

3. What services/functions do you include in trust accounting and administration?

Pension Trusts (Canada)

Personal Trust

Corporate Trust

Estates

Agencies

Employee Benefits

Master Trust

Other (describe)

4. What is the total number of accounts (employee benefits, personal trust, estate) that you manage?

1976 _____
 1978 _____
 1980 _____

5. What is the number of people in your personal/pension trust or trust accounting department?

	<u>Trust/pension Department</u>	<u>Trust/pension accounting</u>
1978	_____	_____
1980	_____	_____

6. What is the value of assets under management?

1978 _____
 1980 _____

7. Please indicate how your participant accounts are broken out by type of account.

	<u>1978</u> (Number)	<u>Estimated 1980 or Growth Rate</u> (Number) Growth Rate)
Pension/Profit Sharing		
___ Master Trust		
___ Single Company		
___ Individual		
Pure Personal Trust		
Estates		
Personal Agencies		
___ Investment Management		
___ Custodial		
Corporate Agencies		
Other (describe)		

8. Do you offer Master Trust (U.S. only) No

What are its features?

- Response time in reporting
 How important is cash management?
 Performance measurement

1. Portfolios measurement
2. Measurement of managers

- Pooled Funds

1. Index Funds

- Participant Accounting

9. What is the overall attitude to personal/pension trust right now? Is it only done to be a full service offering, or is it regarded as a profit contributor? Is it profitable exclusive of credits for commercial deposits (U.S.). Is it profitable exclusive of Intemediary Services (Canada).

- Full Service

- Separate Profit Contributor

- Profitable Yes No

- Use Credits for commercial deposits (U.S.)

- Exclusive of Intemediary Services (Canada)

Comments:

10. Is it marketed aggressively? If not, why not? Is it because of:

- Competition
 System Restrictions
 Lack of Marketing Capability
 Other (describe)

11. What is your source of data processing support for personal/pension trust?

- In-House
- Outside Service Organization (name)
- Not Automated
- Other (comments)

12. What is your general attitude to using outside data processing services for trust operation?

13. What is the allocated data processing cost for your personal/pension trust activity (dollars per month)?

14. What percent of your total personal/pension trust budget is this data processing cost? How has it grown since 1976? How do you expect it to change in the future?

1978 % _____

Comments:

1976 % _____

Comments:

1980 % _____

Comments:

15. How is your data processing cost arrived at? Does your DP department use a full charge out system or is some other method employed?

- Full Charge
- Allocated Cost
- Other (comments)

16. Does your data processing cost include cost of terminals and data entry personnel?

- Yes
 - Terminals
 - Data Entry Personnel
 - Other
- No

Comments

17. Please describe the software/service used for your main personal/pension trust activity:

Source?

How long has it been used?

What are its strengths?

What are its weaknesses?

Is it on-line for data entry? Or inquiry?

Yes

No

Yes

No

Comments:

Does it provide for real time/interactive update of files?

Yes

No

How important is this feature?

Comments:

Data Base

What data file access method is currently used?

Don't know

Would there be a problem if the trust system used another DBMS?

No

Yes

Comments:

18. (For someone using a service) What do you pay for the service? How do you pay for it (if by soft dollars, how is this handled)?

Charges

Soft Dollars Yes No

Comments:

19. How has your personal /pension trust data processing changed since 1976?

20. What personal /pension trust processing changes do you expect by 1980?

21. How do you handle your vault operations?

- Done by another party
- Nominee name or bulk certificates
- One or multiple vaults
 - One Multiple
- Income reconciliation separated from vault activities
 - No Yes

Comments:

22. What are the key ingredients of a personal/pension trust data processing/recordkeeping service that you would consider buying? For example, how important are features such as: (1=unimportant; 5=important)

	<u>Rating</u>	<u>Remarks</u>
<input type="checkbox"/> Security Movement & Control		
<input type="checkbox"/> Investment Analysis & Performance		
<input type="checkbox"/> Effective Tickler System (U.S.)		
<input type="checkbox"/> Effective Diary System (Canada)		
<input type="checkbox"/> Automated Fee & Cost Accounting		
<input type="checkbox"/> Account Modeling		
<input type="checkbox"/> On-Line		
<input type="checkbox"/> Real Time File Maintenance		
<input type="checkbox"/> Erisa Reporting (U.S.)		
<input type="checkbox"/> Tax Lot Accounting (U.S.)		
<input type="checkbox"/> Capital Gains Accounts (Canada)		
<input type="checkbox"/> Common Funds		
<input type="checkbox"/> Master Trust Accounting		
<input type="checkbox"/> Automated Cash Management		
<input type="checkbox"/> Employee Benefits Accounting		
<input type="checkbox"/> Query Inquiry/Reporting		
<input type="checkbox"/> Tax Return Preparation		
<input type="checkbox"/> Others (describe)		

23. If different from personal trust, on what system are your pension and profit sharing plans processed?

- Same
- Description?

- Source?
- How long using?

Strengths?

Weaknesses?

Do you plan to combine them?

- Yes
- No

Comment:

(For services users) What do you pay for this service?
How do you pay for it (if soft dollar, how is this handled)?

Charges

Soft Dollars Yes No

Comments:

24. In personal/pension trust is there any major software/service used other than personal trust system?

Yes No

Comments:

25. What services would you like either your data processing department or a services vendor to offer your trust department?

Why?

26. What type of organization do you prefer dealing with and why? (rate on a basis of 1 equals least desirable and 5 equals most preferable.)

<u>Organization</u>	<u>Rating</u>	<u>Comment</u>	<u>Example</u>
a. Well Financed Specialty Company			SEI, AFS
b. Bank or Bank Subsidiary			Manufacturers Hanover, Decimus
c. Diversified Computer Services Firm			EDP, ADP, Comshare

27. What advice would you offer to a company providing computer services to trust departments? Please indicate the most important products or services you think should be developed to serve you best.

VENDOR QUESTIONNAIRE

1. What type of services do you provide to trust organizations?

2. What equipment do you use?

3. How is the package coded?

4. What processing modes are available?

5. How is the data updated?
 - Master File approach
 - DBMS

6. Does the system handle all ERISA requirements?

7. How many customers do you have? Assets? Accounts?

<u>USERS</u>	<u>ASSETS MANAGED</u>	<u>ACCOUNTS</u>
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8. How do you charge for the service (soft dollars)?
9. What is the cost of conversion (per account)?
10. How rapidly is your business growing?
- | | 1976 | 1978 | 1980 |
|--|------|------|------|
| | | | |
11. Who orders your service? Who approves it lease/purchase?
12. Do you offer hardware in conjunction with the service?
13. Who are your major competitors?

14. How large do you think your market is?

15. What is your latest offering of a new or extended service?

16. Literature being sent?

Yes

No

