March 24, 1992

### Dear Colleague:

I would like to thank you for the time that you gave to me when I interviewed you regarding your business and your views on the issues and challenges currently facing the banking and finance industry.

As promised, I am sending you a copy of an INPUT *Research Bulletin* which summarizes many of the findings of my study. I hope that you will find it both useful and informative.

I enjoyed talking with you and appreciate the information and opinions which you shared with me. Thank you again for giving me your time and the benefit of your knowledge and experience.

Sincerely,

John D. McGilvray Principal Consultant

Enclosure



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## Market Analysis Program (MAP)

# Industry Sector Markets 1990-1995

Banking and Finance Sector

Forecast Update

1280 Villa Street, Mountain View, CA 94041 (415) 961-3300

# INDUSTRY SECTOR MARKETS 1990-1995

## BANKING AND FINANCE SECTOR

FORECAST UPDATE



1280 Villa Street, Mountain View, California 94041-1194



Published by INPUT 1280 Villa Street Mountain View, CA 94041-1194 U.S.A.

Market Analysis Program (MAP)

Industry Sector Markets, 1990-1995 Banking and Finance Sector—Forecast Update

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## Table of Contents

Ι	Introduction	III-BF-1
	A. Purpose and Methodology	III-BF-1
	1. Purpose	III-BF-1
	2. Methodology	III-BF-1
	B. Industry Structure	III-BF-2
	<ol> <li>Overall Market Structure</li> </ol>	III-BF-2
	2. Industry/Client Boundaries and Product/Service Definitions	III-BF-4
	3. Segment Statistics	III-BF-4
	C. Organization and Contents	III-BF-6
П	Information Services Market	III-BF-7
	A. Overview	III-BF-7
	B. Market Summary	III-BF-9
	C. Delivery Mode Analysis	III-BF-11
	1. Processing Services	III-BF-11
	2. Turnkey Systems	III-BF-12
	<ol><li>Applications Software</li></ol>	III-BF-13
	4. Systems Operations	III-BF-14
	<ol><li>Systems Integration</li></ol>	III-BF-15
	<ol><li>Professional Services</li></ol>	III-BF-16
	7. Network Services	III-BF-17
	D. Leading Vendors	III-BF-17
Appendixes		
	A. Definitions	III-BF-19
	B. Forecast Data Base	III-BF-20

i



## Exhibits

Ι	<ol> <li>Structure of Financial Services Markets</li> <li>Banking and Finance Industry—Employment by Market Segment, 1988</li> <li>Banking and Finance Industry Depository Institutions—Number and Assets, 1988</li> </ol>	III-BF-3 III-BF-5 III-BF-5
II ·	1 Banking and Finance Sector—Status Summary versus 1989	III-BF-8
	<ul> <li>2 Banking and Finance Sector—Information Systems Challenges/Priorities</li> </ul>	III-BF-8
	<ul> <li>Banking and Finance Sector—Information Services Market, 1990-1995</li> </ul>	III-BF-9
	4 Banking and Finance Sector—Information Services Market by Delivery Mode, 1990-1995	III-BF-10
	5 Banking and Finance Sector—Applications Software Market, 1990-1995	III-BF-14
	6 Banking and Finance Sector—Leading Information Services Vendors	III-BF-18
В	1 Banking and Finance Sector—User Expenditure	III-BF-20
	Forecast by Delivery Mode, 1989-1995 2 Banking and Finance Sector—1990 MAP Data Base Reconciliation	III-BF-21

### BANKING AND FINANCE SECTOR, 1990-1995



## Introduction

Α	
Purpose and Methodology	1. Purpose
monouology	This assessment of the banking and finance industry provides an update and review of INPUT's more recent forecasts of user expenditures withir this vertical industry sector. The basic objectives of this Market Analysi. Program industry sector report are to:
	<ul> <li>Identify the business issues and trends that are driving the use of infor- mation services within this sector</li> </ul>
	<ul> <li>Discuss the information services market within the banking and finance sector, including market sizing and the factors driving market demand for each delivery mode</li> </ul>
	2. Methodology
	Most of the data on which this report is based were gathered during 1990 as part of INPUT's ongoing market analysis program. Trends, market size and growth rates are based primarily upon in-depth interviews with banking and finance users, and the IS vendors serving this sector. INPUT maintains ongoing relationships with, and a data base of, all users and vendors that it interviews. Interviewees for the research portion of this report were selected from this data base.
	During the first half of 1989, INPUT conducted in-depth interviews with 500 information services vendors, including nearly all the 250 largest firms. Data obtained from these interviews formed the foundation for the base year user expenditures for 1988. INPUT's methodology this year was to update and refine these numbers, thereby deriving 1989 base year user expenditures through fewer yet more focused interviews with vendors specifically active in each vertical sector, plus interviews with users



	in each vertical sector. Likewise, the forecasts are derived from data obtained from vendor and user interviews plus the author/analyst's extensive background in market research and information services.
	In addition, extensive use was made of INPUT's corporate library lo- cated in Mountain View, California. The resources in this library include several on-line periodical data bases, subscriptions to over 50 computer and general business periodicals, continually updated files on over 2,500 information services vendors, and the most up-to-date U.S. Department of Commerce publications on industry and employment statistics.
	It must be noted that users and vendors may be unable to provide de- tailed expenditure and revenue breakouts by delivery mode. Also, users and vendors often use different categories of industries and industry segments, or view their services as falling into different delivery modes from those used by INPUT. Thus, INPUT must estimate user expendi- tures and vendor revenues by these categories on a best-effort basis. The delivery mode and individual segment forecasts should be viewed as indicators of general patterns and trends rather than as specific, detailed estimates for individual years.
	In addition, when information is provided by vendors as requested, it is often provided under an agreement of confidentiality. Therefore, vendor rankings based on revenue figures should be considered indicative rather than definitive, and any reported revenues should be considered approxi- mations only.
В	
Industry Structure	1. Overall Market Structure
	INPUT divides the financial services arena into two major sectors, based on the SIC (Standard Industrial Classification) Code structure used by the U.S. Department of Commerce. These major sectors, with their primary subdivisions and associated SIC Codes, are shown in Exhibit I-1.

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EXHIBIT I-1



This report treats only the banking and finance sector, subdivided into the four segments shown above. The insurance sector is considered a separate vertical market and is covered by a separate report.

As noted in the exhibit, INPUT has combined a number of miscellaneous services into the category "Other." This reflects the common perception of information services (IS) vendors, who tend to think of the components of the "Other" segment as being separate markets from the other three major segments.

Reflecting the trends in regulation of the commercial bank and thrift segments, in 1987 the Commerce Department restructured the SIC Codes for the financial services area. For example, the current structure groups all commercial banks together and all thrifts, S&Ls and savings banks together, no matter what they are called, by whom they are chartered, or how they are insured. In previous years, all state-chartered mutual savings banks were grouped together as non-federal savings

III-BF-3

institutions, whereas state-chartered stock companies—both savings banks and commercial banks—were combined under the category of state banks.

There are historical statistics for market size at the individual segment level: i.e., banks vs. S&Ls vs. brokerages vs. other. However, it is not possible within the scope of this report to consider more-detailed statistical breakouts of such financial service market areas as mutual funds, etc. These areas will be addressed in qualitative terms only, within their respective market segments.

### 2. Industry/Client Boundaries and Product/Service Definitions

Definitional problems make it difficult to establish precise market boundaries for many financial services. A key question is how one classifies revenues when a vendor provides financial service both to the financial community and to other industries.

Credit card (cardholder) processing is an example of this situation. It is considered a financial service, and many of the customers (as well as the key vendors) are financial institutions. However, there is also a significant amount of card processing done for retail firms (e.g., department stores), and there is little available data on the breakout of this business between categories of clients (financial institutions versus retail firms). However, since many vendors do both financial institution and retail (private label) card processing, their revenues have been divided between these two sectors. The INPUT market forecasts for this processing service have been similarly distributed.

Another example of this industry classification problem is the allocation of revenues for a credit authorization network or service, such as those provided by First Data Resources or First Financial Management: are revenues from merchant authorization transactions properly classified under the merchant's industry, or under banking/finance? In such cases, INPUT has also classified vendor revenues and user expenditure forecasts with the user's industry.

More detailed discussion of the various product/service definitions and boundaries is provided in Chapter IV, Information Services Market.

### 3. Segment Statistics

Although the SIC Code structure was changed in 1987, many government agencies have not yet fully adopted the new structure in presenting statistical information to the public. In addition, since the change is relatively new, all historical comparisons must necessarily be based on the old structure.

The exhibits below provide general measures of the size of the banking and finance industry.

 
 Banking and Finance Industry Employment by Market Segment, 1988

 Market Segment
 Employees

 Banking organizations
 1,738

 Credit agencies other than banks
 898

 Security/commodity brokers
 449

 Sector Total
 3,085

 Source:
 Statistical Abstract of the United States, 1990 (U.S. Dept. of Commerce)

EXHIBIT I-3

EXHIBIT I-2

### Banking and Finance Industry Depository Institutions—Number and Assets, 1988

Market Segment	Number of Institutions	Assets
Commercial banks	13,139	3,130
Thrift institutions	3,441	1,635
Credit Unions	13,878	175
Sector Total	30,358	4,940

Assets in \$ billions

Source: Statistical Abstract of the United States, 1990 (U.S. Dept. of Commerce) Table 799

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This report contains two chapters and two appendixes. The report is organized as follows:
<ul> <li>Chapter I — Introduction — provides an overview of the report, a description of the methodology used, and background statistics on the banking and finance sector.</li> </ul>
<ul> <li>Chapter II — Market Assessment — provides a forecast for informa- tion services in the banking and finance market. Following the overall forecast for the sector, the forecast is analyzed by delivery mode.</li> </ul>
<ul> <li>Appendix A presents industry-specific definitions used throughout the report.</li> </ul>
<ul> <li>Appendix B presents the forecast data base and forecast reconciliation. The forecast data base contains a yearly (1990-1995) forecast of user expenditures by delivery mode for the banking and finance sector. The forecast reconciliation compares this report's forecast with the forecast provided in INPUT's earlier banking and finance report and explains the reasons for any major differences.</li> </ul>

C





## Information Services Market

This chapter discusses the markets for information services in the banking and finance sector.

One of the items discussed is the trade-off between prepackaged solutions, such as processing services, applications software and turnkey systems, versus custom solutions, which involve consulting or internal systems development and systems integration support. Another key issue is the trend toward systems operations, driven by consolidation and the desire to control or reduce data processing budgets.

Section A, Overview, discusses the overall size and growth rate of the banking and finance sector expenditures for information services.

Section C, Delivery Mode Analysis, breaks out the overall data into INPUT's seven standard delivery modes.

### <u>A</u>

### Overview

Exhibit II-1 provides a contrast of the banking and finance industry in early 1991 with that of 1989. While in a number of areas the industry environment is unchanged, there are in fact some measurable and even significant changes that directly impact the industry ability to proceed with investments for improved information systems

In the immediate term the pressure on profitability from recession, slow down in consumer credit growth (real estate and other), and the impacts of insurance costs due to failures is slowing the growth of information systems expenditures.

Exhibit II-2 summarizes the near-term focus of information systems priorities by segment.



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## Banking and Finance Sector Status Summary versus 1989

Unchanged	All	Capital adequacy Deregulation Consolidation Emerging technologies
	Brokerage	Overcapacity Shrinkage of retail segment Automated client interfaces
Changed	All	Recession impacts Magnitude and duration of thrift bailout Profitability pressures on large banks Real estate slowdown

EXHIBIT II-2

### Banking and Finance Sector Information Systems Challenges/Priorities

Segment	Challenges
Banks/Thrifts/ Credit Unions	Improved systems integration Marketing information systems New technologies—imaging and AI
Brokerage	Trading technology Automated client interfaces Back-office cost control Infrastructure systems (market integration)





Exhibit II-4 shows how this growth is distributed by delivery mode.

Two fundamental, conflicting forces are impacting the requirement for information services within the banking and finance industry. On one hand, the industry consolidations and retrenchments reduce the number of institutions that are customers for information services. On the other hand, the increasing pace and complexity of the business, combined with the extra workload involved in institutional consolidations, add to the requirements for supporting these activities.

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It should be remembered that the information systems workload for the banking and finance industry is largely transaction driven, and that business trends and demographics assure a continuing increase in the number of transactions processed by the industry. Also, continuing improvements in technology, combined with continuing pressures to manage costs, provide an environment in which additional information systems investments provide high returns.

In a recent special survey of the impact of the recession on corporate IS budgets (November, 1990), 50% of the banking/finance executives surveyed expected their 1991 IS budgets to grow by more than 10%. Only 1 in 8 expected any reduction, and this was less than 5%. In addition, there appears to be a clear shift in the banking and finance sector

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toward outsourcing systems management activities. This means that the market for information services is likely to grow faster than user IS budgets, as ever-increasing portions of the development and operations functions are turned over to outside vendors.

Consistent with previous years' forecasts, the fastest growing delivery mode is systems integration, at a 28% CAGR. And as in the past, the slowest growing is turnkey systems, at an 8% CAGR.

Transaction processing continues to be the largest delivery mode—it accounted for nearly 30% of user expenditures in 1990. Even though transaction processing is growing slower than the rest of the market, it will still account for more than 25% of user expenditures in 1995. Systems integration, as a new line of business, was the smallest delivery mode in 1990. By 1995, however, it will become nearly as large as the slower-growing turnkey market.

### 1. Processing Services

In previous years, the processing services delivery mode included both transaction processing and systems operations (facilities management). Starting with the 1990 forecasts, systems operations has been defined as a separate delivery mode and the industry-specific processing services market includes only transaction processing. This market is expected to grow at a 12% CAGR over the next five years.

Despite the recent turmoil in the financial services industry, the growth in this market will continue at nearly the same rate as shown in previous years' forecasts. There are several major sources of processing services in this market:

- Small banks, S&Ls, credit unions and brokerage firms typically use processing services rather than handling their own core operations.
- Both small and large organizations use outside vendors for specialty services such as mortgage or credit card processing.
- Standalone and POS-linked credit authorizations, ATM operations, and other electronic retail banking transactions often involve processing services.

INPUT believes that there will continue to be a large number of small, well-run financial institutions in the marketplace. In addition, there continue to be significant numbers of new banks started every year. All these will continue to be users of processing services.

### III-BF-11

С

Delivery Mode Analysis



The last several years have seen a continuing trend toward concentration in the credit card markets, with Citicorp, MNB, and others buying up the card portfolios of other banks. This has put downward pressure on the market for credit card processing services and software, as an everincreasing portion of the bankcard processing was internalized by these large issuers.

However, despite the increasing quality of these card receivables, capital adequacy pressures are making it more difficult for the large bank processors to continue increasing the size of their portfolios. This should create more opportunities for third-party processing services, as growth in card issuance increases at the smaller institutions and slows at the mega-processors.

The growth of electronic transactions will continue at a pace driven largely by demographics, infrastructure, and potential cost saving:

- · Population growth will continue.
- More ATM networks will become linked and newer generations of ATMs will provide enriched functionality.
- ATMs will be found in more locations, including supermarkets, airports, shopping centers, office complexes, etc.
- Point-of-sale (POS) terminals and networks will generate increased numbers of credit and debit (ATM) card transactions.

### 2. Turnkey Systems

Turnkey systems continue to be an attractive option for specialized applications such as mortgage processing, and for the overall operations of small retail banks and thrifts. There are a significant number of systems which have been developed for the IBM AS/400, as well as for IBM-compatible PCs and PC networks.

However, there are several factors constraining the growth of this market:

- Much of the market involves replacements/upgrades of existing systems—many based on earlier IBM S/3x packages or other low-end hardware. Although some institutions shift from processing services to turnkey systems when their volume grows significantly, there is not a significantly growing customer base for new banking industry turnkey systems.
- IBM has recently changed its approach to supporting its VARs/ Business Partners. Where IBM used to sell hardware at a discount to these turnkey vendors, who in turn marked it up and sold it as part of a

 In the case of smaller, PC-based systems, ongoing maintenance and support revenues are often a lower percentage of the initial license fee than with large systems, thus reducing the base of continuing revenue from a given system sale.

The net effect of these constraints is a turnkey market growth projection of an 8% CAGR through 1995.

### 3. Applications Software

For financial institutions large enough to run their own data processing systems, applications software is becoming an increasingly popular investment. Most medium-sized to large banks have a suite of old and non-integrated applications that are becoming increasingly difficult to maintain. In addition, most banks now accept the fact that they cannot create a sustainable competitive advantage based on unique information systems. Therefore, as a means of controlling costs, many of these institutions are reducing their internal staff and replacing their old proprietary applications with new, purchased applications software.

The advent of the PC and local-area networks has allowed the creation of new systems that provide significantly improved functionality in all areas of the banking business—from the back office to teller lines and the platform. In the brokerage area, there are large numbers of new applications packages available to help brokers, traders, and institutional investors manage their activities.

Industry consolidation and reorganization will take some toll on licenses for existing applications software, primarily in the minicomputer and mainframe area. However, these same changes also provide opportunities for upgrading applications software and for procuring additional software with which to integrate existing applications from multiple sources.

As shown in Exhibit II-5, the overall market for applications software is projected to grow at a 12% CAGR through 1995, with PC workstation applications growing approximately 50% faster than mainframe- and mini-based software.



### 4. Systems Operations

This year, systems operations (SO) is being treated as a separate delivery mode. In prior years, it was treated as a part of both processing services and professional services. The overall SO market grew 15% during 1990, and is projected to continue expanding at a 16% CAGR through 1995.

Growth in SO is fueled by several factors:

- IBM's recent aggressive moves into SO have given this option a new legitimacy for organizations that are not in financial trouble.
- For firms looking for ways to cut costs and improve their capital ratios, SO offers an attractive option.
- The RTC (Resolution Trust Corporation) provides a fragmented but rapidly growing market for SO vendors that can manage the operations of RTC-acquired thrifts.

Although the RTC market is not a permanent one, and vendors should be prepared to both gain and lose accounts fairly rapidly as RTC acquires, digests and disposes of many individual institutions, the overall shrinking

EXHIBIT II-5



of the thrift segment will continue over the next several years. In addition, similar market opportunities may be generated within the FDIC as bank failures continue.

Most importantly, banks and other financial institutions are beginning to understand that they cannot gain sustainable competitive advantage through the development of their own proprietary information systems. Therefore, so long as they can get reasonable systems support from a vendor, they are increasingly willing to let that vendor provide and manage the systems while they concentrate on managing financial transactions and providing their customers with improved service.

Alternative delivery modes such as professional services or applications software still require the client to manage the information systems function, as well as to maintain its own computer system and all the associated facility and support costs. When a firm elects to use systems operations services, it is outsourcing a much larger portion of its information systems cost base. The increased leverage and savings from choosing SO is one of the reasons SO is growing faster than most of the alternative delivery modes.

Systematics is an example of a company that has focused on systems operations and a single industry sector—banking—to build a business of over \$200 million in revenue, over 75% of which is derived from systems operations.

### 5. Systems Integration

Systems integration (SI) is projected to continue its 28% annual growth rate for the next five years, reaching nearly \$1.3 billion by 1995. As with SO, one of the key reasons for the rapid growth of this delivery mode is the bundling of hardware and management services along with professional services and software. For a project of a given magnitude, an SI contract captures a larger portion of the cost than alternative service delivery modes. And much of the growth in SI comes at the expense of growth in the other, unbundled delivery modes such as professional services.

Nearly all financial institutions are now largely automated. Today's challenge is to upgrade and integrate old systems to provide greater support for marketing, customer service, and financial reporting/control. In addition, as marginal banks and thrifts fail and are dismembered, the stronger financial institutions are acquiring and must integrate parts of these failed businesses.

Both of these tasks require skills that are often hard to find in the largely maintenance-focussed staffs of the acquiring firms. In addition, the acquiring firms have their hands full with the management and financial



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challenges of handling these acquisitions, and do not wish to take on the additional challenges of systems integration as well. Many more finance industry firms are therefore turning to SI vendors as partners in upgrading of their systems and in their strategy of growth via acquisition. Given the small size of the current SI market (less than \$370 million), there is ample room for growth in this arena for at least the next five years.

### 6. Professional Services

INPUT estimates that the professional services market grew barely 5% during 1990, but will rebound and grow at an 11% CAGR over the next five years.

Despite the current recession, users are not cutting back on their systems development projects to the extent that they have under similar circumstances in the past. And where there is a cutback, it tends to be highly selective; critical projects are often being accelerated at the same time non-critical projects are deferred.

There are several major reasons for cutbacks in professional services expenditures in 1990:

- Failure of firms in the banking, thrift and brokerage industry—including free-spending giants such as Drexel Burnham
- Retrenching of the investment banking businesses of banks and brokerage firms following the end of the 1980s merger boom
- · Cost and profit pressures on large firms throughout the industry

As noted above, INPUT's recent survey (November 1990) of IS spending plans indicates that most firms plan to increase their overall systems budgets, including their budgets for outside services. However, another recent survey of professional services vendors indicated that users are driving much harder bargains than usual, and vendors are giving significant price concessions to retain accounts and maintain market share. Thus, the continuing dependence of users on outside professional services is greater than would be implied by the decline in user expenditures.

Offsetting these negative trends is a rapidly growing demand for support of the RTC. No statistics or policy statements are yet available from the RTC, but based on conversations with vendors in both professional services and systems operations, INPUT believes that at least one-third of the RTC's new support requirements will be provided by professional services firms.

In addition, there are several major new technologies on the horizon that promise large cost savings to users, but will require significant professional services to implement. Among these are imaging systems, artificial intelligence, and new systems development tools such as CASE and relational data base systems.

### 7. Network Services

Network services should continue their rapid 22% annual growth during the next five years.

The major component of network services is the sale and delivery of electronic information. The following factors are driving the growth of this market:

- In the brokerage arena, major vendors such as ADP, Telerate and Quotron are increasing the scope of their services, and new vendors are constantly emerging with specialized data bases and services.
- As more and more-varied services come on line, they will be increasingly used by other types of institutions (banks, thrifts, etc.).
- The increase in digital feeds, combined with the increasing power of workstations and personal computers, makes it more attractive for the individual user to subscribe to a wider variety of services.

The other component, network applications, involves the movement of client data over VANs, EDI networks, and electronic mail systems. Projections for this market have been lowered from the previous estimates due to the following factors:

- Slower than anticipated growth of EDI/EFT services, as the banking industry continues to debate standards and channels for moving money (EFT) versus moving data (EDI).
- Reduction in the anticipated use of traditional VAN services as telecommunications vendors provide more flexible virtual private network offerings, including special reduced tariffs such as AT&T's controversial Tariff 12.

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### Leading Vendors

Exhibit II-6 shows market shares of the leading information services vendors in the banking and finance sector and the primary delivery modes from which they derive their revenues.



### EXHIBIT II-6

Banking and Finance Sector Leading Information Services Vendors								
Vendor	Market Share (Percent)	Proc. Svcs.	Turnkey Sys.	Appl. SW	Sys. Ops.	Sys. Int.	Prof. Svcs.	Network Svcs.
First Fin. Mgmt.	5	*						
ADP	4	*	*					*
CDC	3	*	*					*
Dow Jones	3							*
EDS	2	*			*	*	*	*
First Data Res.	2	*						
GEIS	2	*						*
IBM	2	٠		*		*		*
TRW	2					*	*	*
Andersen	2					*	*	
Quotron	2							*
SAIC	2	*					*	
Systematics	2			*	*			

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No industry-specific definitions have been used in this report.

See the separate volume, *Appendix A: Definition of Terms*, for the general definitions of industry structure and delivery modes used throughout INPUT reports.





## Forecast Data Base

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Forecast Data Base

Exhibit B-1 presents the detailed 1989-1995 forecast for the banking and finance sector.

EXHIBIT B-1

### Banking and Finance Sector User Expenditure Forecast by Delivery Mode, 1989-1995

Delivery Modes	1989 (\$M)	Growth 89-90 (%)	1990 (\$M)	1991 (\$M)	1992 (\$M)	1993 (\$M)	1994 (\$M)	1995 (\$M)	CAGR 90-95 (%)
Sector Total	10,339	11	11,453	12,707	14,271	16,239	18,660	21,722	14
Processing Services - Transaction Processing	2,950 2,950	11 11	3,275 3,275	3,602 3,602	3,998 3,998	4,478 4,478	5,060 5,060	5,718 5,718	12 12
Turnkey Systems	865	9	939	1,008	1,083	1,181	1,289	1,408	8
Applications Software - Mainframe - Minicomputer - Workstation/PC	2,000 900 650 450	8 6 8 11	2,150 950 700 500	2,333 1,017 756 560	2,584 1,108 832 644	2,915 1,230 931 753	3,339 1,390 1,052 897	3,860 1,584 1,200 1,076	12 11 11 17
Systems Operations	1,674	15	1,931	2,213	2,536	2,911	3,342	4,056	16
Systems Integration	289	28	369	463	572	740	978	1,280	28
Professional Services	1,950	5	2,044	2,184	2,396	2,671	3,005	3,381	11
Network Services - Electronic Info Svcs - Network Applications	611 536 75	22 22 26	746 652 94	904 790 114	1,102 965 137	1,342 1,179 164	1,646 1,450 197	2,019 1,783 236	22 22 20



### Forecast Reconciliation

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Exhibit B-2 presents the forecast reconciliation for the banking and finance sector.

### EXHIBIT B-2

### Banking and Finance Sector 1990 MAP Data Base Reconciliation

	1989 Market				1994 Market				80.04	80.04
	1989 Report (Fcst) (\$M)	1990 Report (Actual) (\$M)	Variance from 1989 Report		1989 Report (Ecst)	1990 Report (Fost)	Variance from 1989 Report		CAGR per data	CAGR per data
Delivery Modes			(\$M)	(%)	(\$M)	(\$M)	(\$M)	(%)	(%)	(%)
Total Banking and Finance Sector	10,548	10,339	-209	-2	22,422	18,660	-3,762	-17	16	13
Processing Services - Transaction Processing - Systems Operations (**)	4,395 2,979 1,416	2,950 2,950 	-1,445 -29 -1,416	-33 -1 	8,462 5,488 2,974	5,060 5,060 	-3,402 -428 -2,974	-40 -8 	14 13 16	11 11 -
Turnkey Systems	865	865	0	0	1,395	1,289	-106	-8	10	8
Applications Software	2,069	2,000	-69	-3	4,095	3,339	-756	-18	15	11
Systems Operations (*)	-1,674	1,674	0	0	-3,345	3,342	-3	0	15	15
Systems Integration	320	289	-31	-10	1,332	978	-354	-27	33	28
Professional Services - Other Professional Svcs - Systems Operations (**)	2,273 2,015 258	1,950 1,950 	-323 -65 -258	-14 -3 	5,200 4,829 371	3,005 3,005 	-2,195 -1,824 -371	-42 -38 	18 19 8	9 9 
Network Services	627	611	-16	-3	1,938	1,646	-292	-15	25	22

Note: Systems operations total (\*) from 1989 report is constructed by taking submode data (\*\*) from processing and professional services

> INPUT introduced systems operations as a new delivery mode in the 1990 Market Analysis Program (MAP). It was created by taking the systems operations submode out of both processing services and professional services. No other change has been made to the delivery mode definitions, and the total forecast expenditures for these three delivery modes are identical to the total forecast expenditures of the two original delivery modes before the breakout of systems operations.

Aside from the change in delivery mode totals resulting from this restructuring, the major differences between the 1989 and 1990 forecasts are as follows:

Processing services projected growth after removal of the systems operations submode has been reduced from a 13% to an 11% CAGR, due to the short-term reduction in business activity experienced during 1990 and forecast for 1991 and 1992, combined with a reduction in the number of small retail financial service organizations (banks and thrifts) that tend to use processing services. Offsetting this reduction is a significant increase in the projected use of off-premises ATM transactions at places such as supermarkets, gas stations, and fast food outlets.

Turnkey systems projected growth has been reduced from a 10% to an 8% CAGR, due to an increase in the previously forecast number of turnkey system users that are likely to be absorbed by other financial institutions.

Despite the increased use of applications software products as a replacement for internally developed and maintained systems, the five-year CAGR of this delivery mode has been reduced from 15% to 12% as a reflection of the increased number of financial institutions that are projected to fail and/or be absorbed by other firms.

Systems operations growth projections have been increased slightly, from a CAGR of 15% to 16%, reflecting the increased acceptance of this mode of operations, increased financial pressures on users, and the growing use of systems operations vendors by the RTC to manage the operations of seized thrifts.

Systems integration is both the smallest and fastest growing of the banking and finance sector delivery modes. Nevertheless, continuing cost pressures on the large financial institutions, which constitute the bulk of the systems integration market, have reduced their previously anticipated level of systems development expenditures. The demise of several large institutions such as Drexel Burnham has also cut into the SI market. Offsetting these problems is the increased need for SI services to manage the integrations of systems from the growing number of failing institutions, as well as the integration of complex new technologies such as imaging. The net result is a reduction of the projected SI growth rate from a 33% to a 28% CAGR.

Professional services is the area with the greatest reduction in growth, declining from a previously projected five-year CAGR of 18% to a CAGR of 11%. This reflects a significant cutback in the use of consultants during 1990 and 1991, both as a response to financial pressures and

### BANKING AND FINANCE SECTOR, 1990-1995

ants during 1990 and 1991, both as a response to financial pressures and the demise of large users. It also reflects an increasing shift away from user-managed professional services projects toward vendor-managed systems integration projects.

Network services is also projected to grow more slowly than previously anticipated, largely due to delays in adopting EDI; all of the reduction comes in the network applications area.



## About INPUT

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

Continuous-information advisory services, proprietary research/ consulting, merger/acquisition assistance, and multiclient studies are provided to users and vendors of information systems and services (software, processing services, turnkey systems, systems integration, professional services, communications, systems/software maintenance and support).

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

Formed as a privately held corporation in 1974, INPUT has become a leading international research and consulting firm. Clients include more than 100 of the world's largest and most technically advanced companies.

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