



MARKET FORECAST

French Market for Software
and Services

1994-1999

Market Analysis Programme - Europe

D E C E M B E R 1 9 9 4

French Market for Software and Services 1994-1999

INPUT[®]

Frankfurt • London • New York • Paris • San Francisco • Tokyo • Washington, D.C.

Clients make informed decisions more quickly and economically by using INPUT's services. Since 1974, information technology (IT) users and vendors throughout the world have relied on INPUT for data, research, objective analysis and insightful opinions to prepare their plans, market assessments and business directions, particularly in computer software and services.

Contact us today to learn how your company can use INPUT's knowledge and experience to grow and profit in the revolutionary IT world of the 1990s.

SUBSCRIPTION SERVICES

- Information Services Markets
 - Worldwide and country data
 - Vertical industry analysis
- Business Integration Markets
- Client/Server Applications and Directions
- Client/Server Software
- Outsourcing Markets
- Information Services Vendor Profiles and Analysis
- EDI/Electronic Commerce
- U.S. Federal Government IT Markets
- IT Customer Services Directions (Europe)

SERVICE FEATURES

- Research-based reports on trends, etc. (Over 100 in-depth reports per year)
- Frequent bulletins on events, issues, etc.
- 5-year market forecasts
- Competitive analysis
- Access to experienced consultants
- Immediate answers to questions
- On-site presentations
- Annual conference

DATABASES

- Software and Services Market Forecasts
- Software and Services Vendors
- U.S. Federal Government
 - Procurement Plans (PAR)
 - Forecasts
 - Awards (FAIT)
 - Agency Procurement Requests (APR)

CUSTOM PROJECTS

For Vendors—analyze:

- Market strategies and tactics
- Product/service opportunities
- Customer satisfaction levels
- Competitive positioning
- Acquisition targets

For Buyers—evaluate:

- Specific vendor capabilities
- Outsourcing options
- Systems plans
- Peer position

OTHER SERVICES

Acquisitions/partnerships searches

INPUT WORLDWIDE

Frankfurt

Sudetenstraße 9
D-35428 Langgöns-
Niederkleen
Germany
Tel. +49 (0) 6447-6055
Fax +49 (0) 6447-7327

London

Cornwall House
55-77 High Street
Slough, Berkshire SL1 1DZ
Tel. +44 (0)1753 530444
Fax +44 (0) 1753 577311

New York

400 Frank W. Burr Blvd.
Teaneck, NJ 07666
U.S.A.
Tel. 1 (201) 801-0050
Fax 1 (201) 801-0441

Paris

24, avenue du Recteur
Poincaré
75016 Paris
France
Tel. +33 (1) 46 47 65 65
Fax +33 (1) 46 47 69 50

San Francisco

1881 Landings Drive
Mountain View
CA 94043-0848
U.S.A.
Tel. 1 (415) 961-3300
Fax 1 (415) 961-3966

Tokyo

Saida Building, 4-6,
Kanda Sakuma-cho
Chiyoda-ku, Tokyo 101
Japan
Tel. +81 3 3864-0531
Fax +81 3 3864-4114

Washington, D.C.

1953 Gallows Road
Suite 560
Vienna, VA 22182
U.S.A.
Tel. 1 (703) 847-6870
Fax 1 (703) 847-6872

Abstract

This report provides a detailed analysis of the Computer Software and Services market in France.

The computer software and services market is defined by INPUT as comprising eight major sectors, processing services, turnkey systems, applications software products, system software products, professional services, network services, systems operations and systems integration.

The addition of the equipment services sector defines a market referred to as information services.

The report provides analyses and forecasts of the French market by vertical industry and cross-industry sectors.

The vertical industry sectors identified comprise, discrete manufacturing, process manufacturing, transportation, utilities, telecommunications, retail distribution, wholesale distribution, banking and finance, insurance, healthcare, education, local government, central government, and business services.

The cross-industry sectors identified comprise, accounting, education and training, engineering and scientific, human resources, office systems and planning & analysis.

Estimates of sector market growth are given for the years 1993 and 1994 together with annual size estimates for each year up to 1999.

Companion reports provide an identical analysis for Germany, the United Kingdom and Italy. Additionally a complete analysis of the European market by individual country market is also available.

INPUT also publishes detailed reports on the US market for information services and a complete review of the world-wide market.

Research by
INPUT
Cornwall House
55-77 High Street
Slough, Berkshire SL1 1DZ

Published by
INPUT
1881 Landings Drive
Mountain View, CA 94043-0848
United States of America

**Market Analysis Programme –
Europe**

***French Market for Software and
Services, 1994-1999***

Copyright © 1994 by INPUT. All rights reserved.
Printed in the United States of America. No part
of the publication may be reproduced or
distributed in any form, or by any means, or
stored in a database or retrieval system, without
the prior written permission of the publisher.

The information provided in this report shall be
used only by the employees of and within the
current corporate structure of INPUT's clients,
and will not be disclosed to any other
organisation or person including parent,
subsidiary or affiliated organisation without prior
written consent of INPUT.

INPUT exercises its best efforts in preparation of
the information provided in this report and
believes the information contained herein to be
accurate. However, INPUT shall have no liability
for any loss or expense that may result from
incompleteness or inaccuracy of the information
provided.

Table of Contents

I	Introduction	I-1
A	Scope of the Report	I-1
	1. Information Services Delivery Modes	I-2
	2. Industry Sectors	I-3
	3. Cross-Industry Sectors	I-4
	4. Generic Sectors	I-4
B	Methodology	I-5
	1. Sources	I-5
	2. Market Sizing	I-5
	3. Market Forecasts	I-8
C	Report Structure	I-9
D	Related INPUT Research Programmes and Reports	I-9
	1. European Market Sector Reports	I-9
	2. US Reports	I-10
	3. Worldwide Report	I-10

II	Executive Overview	II-1
A	French Market Overview	II-1
B	French Forecast — DM 40 Million Market 1999	II-4
C	Vertical Industry Markets	II-9

A	Information Services Industry Forecast Database, 1994-1999	A-1
A	Forecast Database in Local Currency (DM Millions)	A-1
B	Sector Summary in Local Currency	A-3
C	Industry Sectors in Local Currency	A-4
D	Cross-Industry Sectors in Local Currency	A-12
E	Forecast Database in US Dollars	A-15
F	Sector Summary in US Dollars	A-17
G	Industry Sectors in US Dollars	A-18
H	Cross-Industry Sectors in US Dollars	A-26
I	Forecast Database in ECUs	A-29
J	Sector Summary in ECUs	A-31
K	Industry Sectors in ECUs	A-32
L	Cross-Industry Sectors in ECUs	A-40
M	Information Services Forecast Reconciliation in Local Currency	A-43

B	Economic Assumptions	B-1
A	European Exchange Rates	B-2
B	European Inflation Rates	B-3

C	Definition of Terms	C-1
A	Introduction	C-1
B	Overall Definitions and Analytical Framework	C-1
	1. Information Services	C-1
	2. Market Forecasts/User Expenditure	C-3
	3. Delivery Modes	C-3
	4. Market Sectors	C-4
	5. Trading Communities	C-4
	6. Outsourcing	C-5
C	Delivery Modes and Submodes	C-7
	1. Software Products	C-7
	2. Turnkey Systems	C-11
	3. Processing Services	C-14
	4. Systems Operations	C-15
	5. Systems Integration (SI)	C-16
	6. Professional Services	C-19
	7. Network Services	C-21
D	Computer Equipment	C-23
E	Sector Definitions	C-25
	1. Industry Sector Definitions	C-25
	2. Cross-Industry Sector Definitions	C-26
	3. Delivery Mode Reporting by Sector	C-34

Exhibits

I

1	Delivery Mode versus Market Sector Forecast Content	I-3
2	Base Year Market Sizing	I-6
3	Country Market Forecasts	I-8

II

1	French Software and Services 1994-1999	II-2
2	Total IT Spending — France 1994-1999 Forecast Growth Rates by Budget Category	II-3
3	Largest Software and Services Country Markets	II-4
4	Delivery Mode Analysis Information Services Market — France, 1994-1999	II-5
5	Vertical Industry Analysis Software and Services Market — France, 1994-1999	II-7
6	Cross Industry Sector, Software and Services Market — France, 1994-1999	II-8
7	Discrete Manufacturing Sector, Software and Services Market — France, 1994-1999	II-9
8	Process Manufacturing Sector, Software and Services Market — France, 1994-1999	II-10
9	Transportation Sector, Software and Services Market — France, 1994-1999	II-11
10	Utilities Sector, Software and Services Market — France, 1994-1999	II-12
11	Telecommunications Sector, Software and Services Market — France, 1994-1999	II-13
12	Retail Distribution Sector, Software and Services Market — France, 1994-1999	II-14

13	Wholesale Distribution Sector, Software and Services Market — France, 1994-1999	II-15
14	Banking & Finance Sector, Software and Services Market — France, 1994-1999	II-16
15	Insurance Sector, Software and Services Market — France, 1994-1999	II-17
16	Healthcare Sector, Software and Services Market — France, 1994-1999	II-18
17	Education Sector, Software and Services Market — France, 1994-1999	II-19
18	Local Government Sector, Software and Services Market — France, 1994-1999	II-20
19	Central Government Sector, Software and Services Market — France, 1994-1999	II-21
20	Business Services Sector, Software and Services Market — France, 1994-1999	II-22
21	Other Industry Sector, Software and Services Market — France, 1994-1999	II-23

A

1	Top Level IT Expenditure, France	A-1
2	Information Services Market Forecast by Delivery Mode and Submode France, 1994-1999	A-2
3	Information Services Market by Sector Summary, France	A-3
4	Information Services Market by Industry Sectors, France	A-4
5	Industry Sectors, Discrete Manufacturing, France	A-4
6	Industry Sectors, Process Manufacturing, France	A-5
7	Industry Sectors, Transportation, France	A-5
8	Industry Sectors, Utilities, France	A-6
9	Industry Sectors, Telecommunications, France	A-6
10	Industry Sectors, Retail Distribution, France	A-7
11	Industry Sectors, Wholesale Distribution, France	A-7
12	Industry Sectors, Banking & Finance, France	A-8
13	Industry Sectors, Insurance, France	A-8

14	Industry Sectors, Healthcare, France	A-9
15	Industry Sectors, Education, France	A-9
16	Industry Sectors, Local Government, France	A-10
17	Industry Sectors, Central Government, France	A-10
18	Industry Sectors, Business Services, France	A-11
19	Industry Sectors, Other Industries, France	A-11
20	Information Services Market by Cross-Industry, France	A-12
21	Cross-Industry Sectors, Accounting, France	A-12
22	Cross-Industry Sectors, Education & Training, France	A-12
23	Cross-Industry Sectors, Engineering & Scientific, France	A-13
24	Cross-Industry Sectors, Human Resources, France	A-13
25	Cross-Industry Sectors, Office Systems, France	A-13
26	Cross-Industry Sectors, Planning & Analysis, France	A-14
27	Other Cross-Industry, France	A-14
28	Top Level IT Expenditure, France	A-15
29	Information Services Market Forecast by Delivery Mode and Submode France, 1994-1999	A-16
30	Information Services Market by Sector Summary, France	A-17
31	Information Services Market by Industry Sectors, France	A-18
32	Industry Sectors, Discrete Manufacturing, France	A-18
33	Industry Sectors, Process Manufacturing, France	A-19
34	Industry Sectors, Transportation, France	A-19
35	Industry Sectors, Utilities, France	A-20
36	Industry Sectors, Telecommunications, France	A-20
37	Industry Sectors, Retail Distribution, France	A-21
38	Industry Sectors, Wholesale Distribution, France	A-21
39	Industry Sectors, Banking & Finance , France	A-22
40	Industry Sectors, Insurance , France	A-22
41	Industry Sectors, Healthcare, France	A-23
42	Industry Sectors, Education, France	A-23
43	Industry Sectors, Local Government, France	A-24
44	Industry Sectors, Central Government, France	A-24

45	Industry Sectors, Business Services, France	A-25
46	Industry Sectors, Other Industries, France	A-25
47	Information Services Market by Cross-Industry Sectors, France	A-26
27	Cross-Industry Sectors, Accounting, France	A-26
49	Cross-Industry Sectors, Education & Training, France	A-26
50	Cross-Industry Sectors, Engineering & Scientific, France	A-27
51	Cross-Industry Sectors, Human Resources , France	A-27
52	Cross-Industry Sectors, Office Systems, France	A-27
53	Cross-Industry Sectors, Planning & Analysis, France	A-28
54	Other Cross-Industry,France	A-28
55	Top Level IT Expenditure, France	A-29
56	Information Services Market Forecast by Delivery Mode and Submode France, 1994-1999	A-30
57	Information Services Market by Sector Summary, France	A-31
58	Information Services Market by Industry Sectors, France	A-32
59	Industry Sectors, Discrete Manufacturing, France	A-32
60	Industry Sectors, Process Manufacturing, France	A-33
61	Industry Sectors, Transportation, France	A-33
62	Industry Sectors, Utilities, France	A-34
63	Industry Sectors, Telecommunications, France	A-34
64	Industry Sectors, Retail Distribution, France	A-35
65	Industry Sectors, Wholesale Distribution, France	A-35
66	Industry Sectors, Banking & Finance, France	A-36
67	Industry Sectors, Insurance, France	A-36
68	Industry Sectors, Healthcare, France	A-37
69	Industry Sectors, Education, France	A-37
70	Industry Sectors, Local Government, France	A-38
71	Industry Sectors, Central Government, France	A-38
72	Industry Sectors, Business Services, France	A-39
73	Industry Sectors, Other Industries, France	A-39
74	Information Services Market by Cross-Industry Sectors, France	A-40
54	Cross-Industry Sectors, Accounting, France	A-40

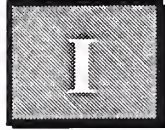
76	Cross-Industry Sectors, Education & Training, France	A-40
77	Cross-Industry Sectors, Engineering & Scientific, France	A-41
78	Cross-Industry Sectors, Human Resources, France	A-41
79	Cross-Industry Sectors, Office Systems, France	A-41
80	Cross-Industry Sectors, Planning & Analysis, France	A-42
81	Other Cross-Industry, France	A-42
82	Forecast Reconciliation, France, 1993-1998	A-43

B

1	US Dollar and ECU Exchange Rates 1994	B-3
2	Inflation Assumptions 1993 and 1994	B-4
3	GDP Growth Rate Assumptions	B-5

C

1	Outsourcing Components INPUT's View	C-6
2	Information Services Industry Structure	C-9
3	Systems Software Products Market Structure	C-10
4	Application Products and Turnkey Systems	C-12
5	The Customisation Spectrum	C-14
6	Processing Services Market Structure	C-14
7	Products/Services in Systems Integration Projects	C-18
8	Professional Services Market Structure	C-20
9	Network Services Market Structure	C-21
10	Industry Sector Definitions	C-27
10	Industry Sector Definitions (Cont'd)	C-28
10	Industry Sector Definitions (Cont'd)	C-29
11	Delivery Mode versus Market Sector Forecast Content	C-36
12	Vendor Revenue to User Expenditure Conversion	C-38



Introduction

This report is produced as part of INPUT's European *IT Intelligence Service* for the computer software and services industry.

Software and services markets continue to attract widespread attention. This report is designed to assist in achieving a consolidated view of the French market.

This report can be read in conjunction with other INPUT reports in order to identify key market and product trends, vendor strategies and opportunities.

The report provides market sizes for 1993 and 1994 with forecasts for each year through 1999.

A

Scope of the Report

This forecast represents an on-going analysis of the software and services market in France.

The report contains an analysis and forecast of the total IT budget, including both internal and external IT-related spending. This is split into:

- Equipment sales — expenditure on hardware products
- Equipment services — expenditure on equipment maintenance and environmental services
- Software products — all expenditure on systems software products and applications software product licences
- Other information services — all expenditure on other services such as professional services, systems integration, systems operations, processing services, network services, turnkey systems, and systems software products and applications software product support services

- Communications — all expenditure on IT-related telecommunications equipment or services
- Facilities — IT budget expenditure on overheads such as space, heating, lighting, furniture, vehicles, etc.
- Staff — direct in-house staff costs including any temporary contract labour.

1. Information Services Delivery Modes

INPUT defines eight delivery modes that are referred to in this report as the *software and services market* and an additional delivery mode, *equipment services* which when included with the other eight, are collectively referred to as the *information services market*. The complete list is as follows:

- Professional services
- Systems integration
- Systems operations
- Processing services
- Network services
- Systems software products
- Applications software products
- Turnkey systems
- Equipment services

Spending on software and services is assessed and forecasted in relation to anticipated changes in the level of overall IT budgets.

The market is additionally analysed by industry sectors, cross-industry sectors and by generic product sectors. Exhibit I-1 indicates the relationship between the delivery mode forecasts and the market sector forecasts.

Exhibit I-1

Delivery Mode versus Market Sector Forecast Content

Delivery Mode	Submode	Market Sectors		
		Industry Sectors	Cross-Industry Sectors	General
Processing Services	Transaction Utility Other	X	X	X X
Turnkey Systems		X	X	
Applications Software Products		X	X	
Systems Operations	Platform Applications	X X		
Systems Integration		X		
Professional Services		X		
Network Services	Network Applications Electronic Information Services	X X		X
Systems Software Products				X
Equipment Services				X

Source: INPUT

2. Industry sectors

The industry sectors:

- Discrete Manufacturing
- Process Manufacturing
- Transportation
- Utilities
- Telecommunications
- Retail Distribution
- Wholesale Distribution
- Banking and Finance

- Insurance
- Healthcare
- Education
- Local Government
- National Government
- Business Services
- Other Industries.

3. Cross-Industry Sectors

INPUT has identified seven cross-industry market sectors. These sectors or markets involve multi-industry applications:

- Accounting
- Education & Training
- Engineering & Scientific
- Human Resources
- Office Systems
- Planning & Analysis
- Other Cross-Industry.

4. Generic Sectors

Certain sectors or sub-sectors are considered independent of any industry or cross-industry influence. These are:

- Equipment services
- System software products
- General utility processing services
- General electronic information services.

The full definition of each sector is given in INPUT's Definition of Terms which is included as Appendix C of this report.

B

Methodology

INPUT's methodology for market analysis and forecasting remains consistent with that used in past years.

Vendors and users are surveyed to determine what is being spent on software and services and to anticipate the likely trends in both the short and long term.

1. Sources

This report is based principally on research activities conducted by INPUT during 1994:

- A vendor research programme of interviews with over one hundred software and services vendors in France
- Further vendor and user interviews in France to determine trends and opinions within specific market sectors
- INPUT's continuous analysis of the delivery modes and vertical industry sectors comprising the information services market.

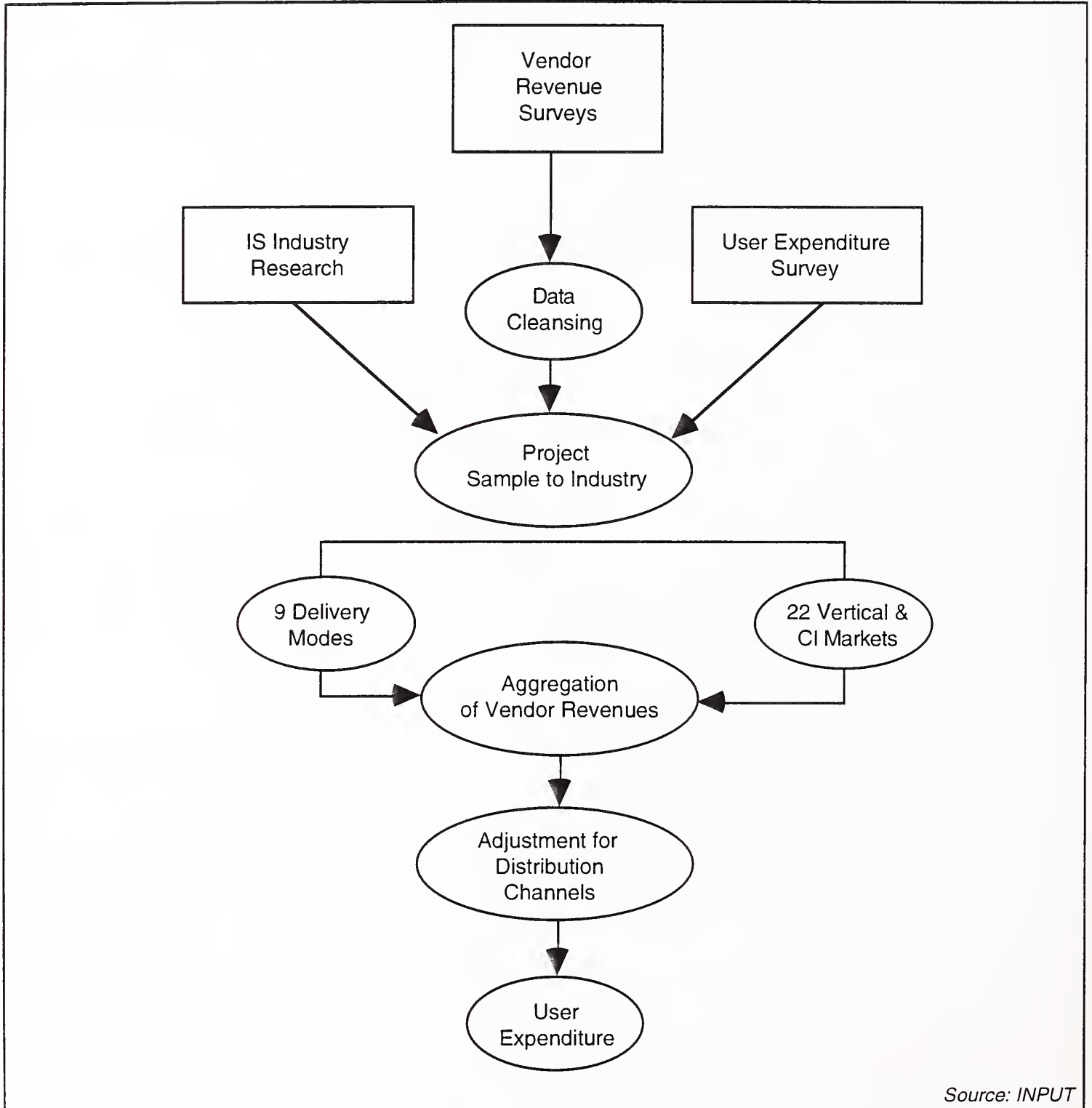
Additionally INPUT's extensive library and data-base of information relating to the software and services industry was used.

2. Market Sizing

The process used to establish the base year market size (total user spending within that year) is shown in Exhibit I-2.

Exhibit I-2

Base Year Market Sizing



Source: INPUT

INPUT determines 'previous-year' software and services revenues for 9 delivery modes and 22 vertical and cross-industry sectors for over a hundred vendors operating in France.

This research process is accomplished through interviews, use of public data such as press articles and annual company reports, and estimates by INPUT consultants.

The industry sector, delivery mode and sub-sector revenues of each vendor are recombined to ensure that there is no double counting or overlap. Only revenues derived from within France are included.

Many vendors publish accounts which do not coincide with the end of the calendar-year. INPUT adjusts business generated by these firms to the calendar year for consistency.

The initial local currency data from the vendors analysed is projected to represent the revenues of the entire country market based on INPUT's view of the contribution to be expected from the remaining minor vendors.

Adjustments are made to eliminate errors due to distribution channel overlap or mark-up and to ensure that captive market information is excluded. Captive markets are those revenues which a vendor receives from within the vendor's parent group of companies.

Demographic data have also been used to validate the market sizes. INPUT uses such sources as the *Panorama of EC Industry* published by the European Commission, to check trends in sector expenditures and employee levels in different industries.

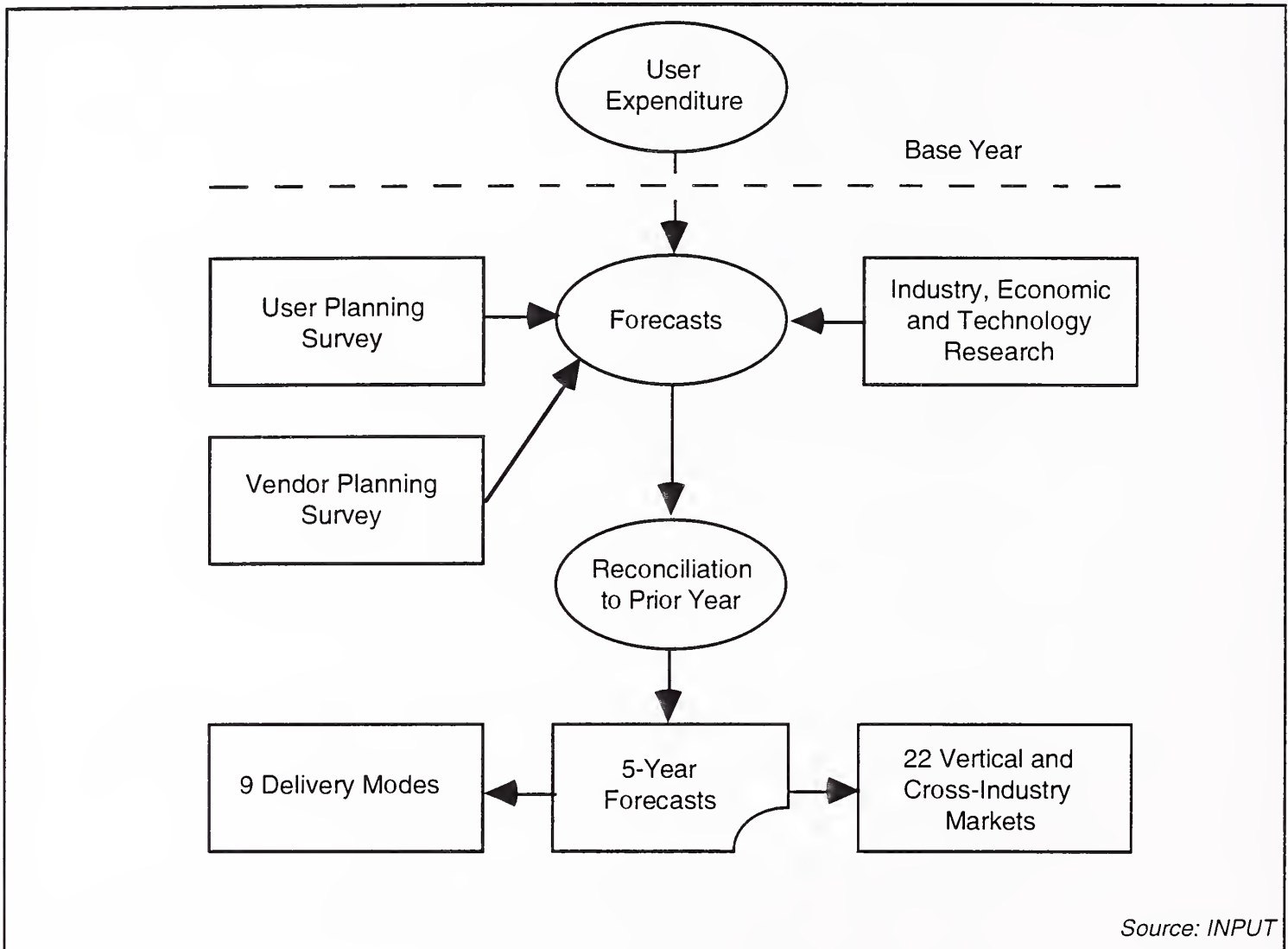
The end result is a base year (in this case 1993) software and services market figure representing user expenditure for each of the market sectors or delivery modes analysed.

3. Market Forecasts

In the forecasting step, shown in Exhibit I-3, INPUT surveys IS (Information Systems) executives and finance directors to determine their projected expenditure levels on IT in general and software and services in particular.

Exhibit I-3

French Market Forecasts



The market model which forms the basis for the forecasts includes a GDP deflator (adjustment for predicted inflation) for France.

Economic growth assumptions for France and for each major industry sector are also factored into the forecasts.

In addition vendor interviews are conducted to establish opinions of the market and views of the key opportunities.

INPUT consultants add their judgement to the resulting projections, testing the results to ensure they are reasonable.

In particular this phase produces consolidated forecasts for the whole of France by consolidating industry forecasts.

C**Report Structure**

The remainder of this report is structured in the following way:

Chapter II is an executive perspective offering a summary of key statistics from the report.

Appendix A contains detailed tables of market data and forecasts for France provided in DM, US dollars and ECUs.

Appendix B lists the economic assumptions used in the compilation of this analysis and forecast including data used by INPUT in consolidating its total European market report.

Appendix C contains INPUT's definition of terms.

D**Related INPUT Research Programmes and Reports**

The following reports contain detailed analysis of each market sector, offering commentary and recommendations for vendors. Further commentary and analysis of market sectors identified in this report may be found in the reports listed below:

1. European Market Sector Reports

- European Market for Software and Services 1994-1999.
- German Market for Software and Services 1994-1999.
- UK Market for Software and Services 1994-1999.
- Italian Market for Software and Services 1994-1999.
- Systems Integration Market Analysis and Forecast, 1994-1999
- Outsourcing Market Analysis and Forecasts 1994-1999
- Software Product Support — European Market Futures, 1994-1999
- Customer Services Market Analysis and Forecasts, 1994-1999
- Industry Sector Forecast Database, 1994-1999

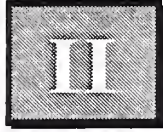
2. US Reports

- US Information Services Annual Report
- Forecast Compendium

- US Professional Services Market
- US Systems Software Product Market
- US Processing Services Market
- US Information Systems Outsourcing Market
- US Applications Solutions Market
- US Network Services Market
- US Equipment Services Market
- US Industry Market Reports
- US Cross Industry Market Reports

3. World-wide Report

- World-wide Market Forecast, 1993-1998



Executive Overview

A

French Market Overview

France continues to be the largest individual country market in Europe for software and services. In 1994 its market being almost 20% larger than that of Germany despite the latter's larger overall economy.

However, this position is expected to be reversed by the end of the century given higher forecast growth for the German market in comparison to that of France.

The software and services industry experienced high growth (20% plus per annum) almost from its inception in the early 1970s right through to the end of the 1980s. Subsequently growth has slowed as a result of general economic recession but more especially through strong deflationary forces in IT markets.

The French economy, like that of Germany, has recovered from its recent recessionary phase more quickly than most economists had forecasted but slower overall growth during the remaining part of the 1990s has now become a continuing feature for software and services markets.

The French software and services market is forecast to grow overall at about 5% during the remaining half of the decade, as is shown in Exhibit II-1.

Exhibit II-1

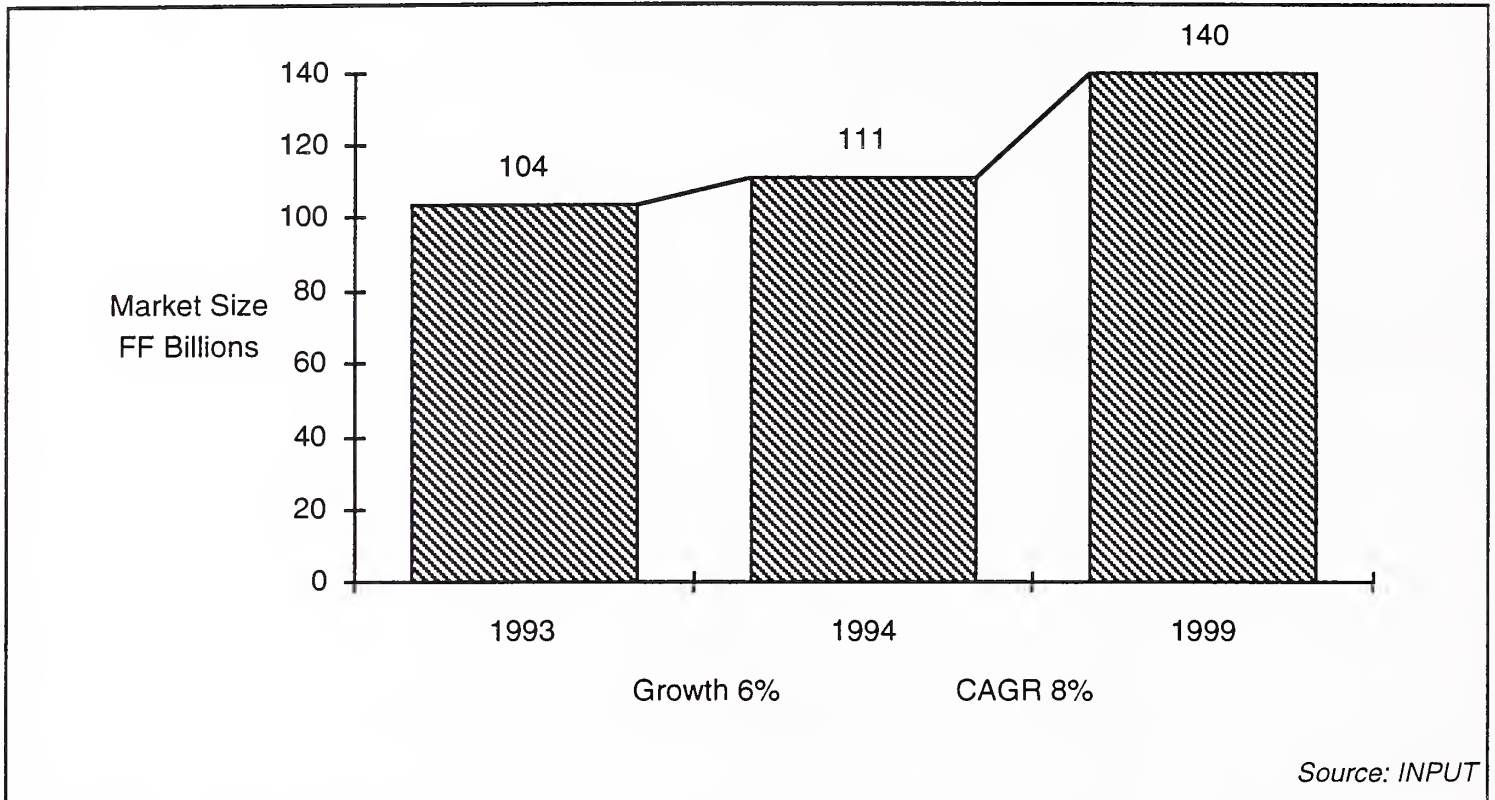
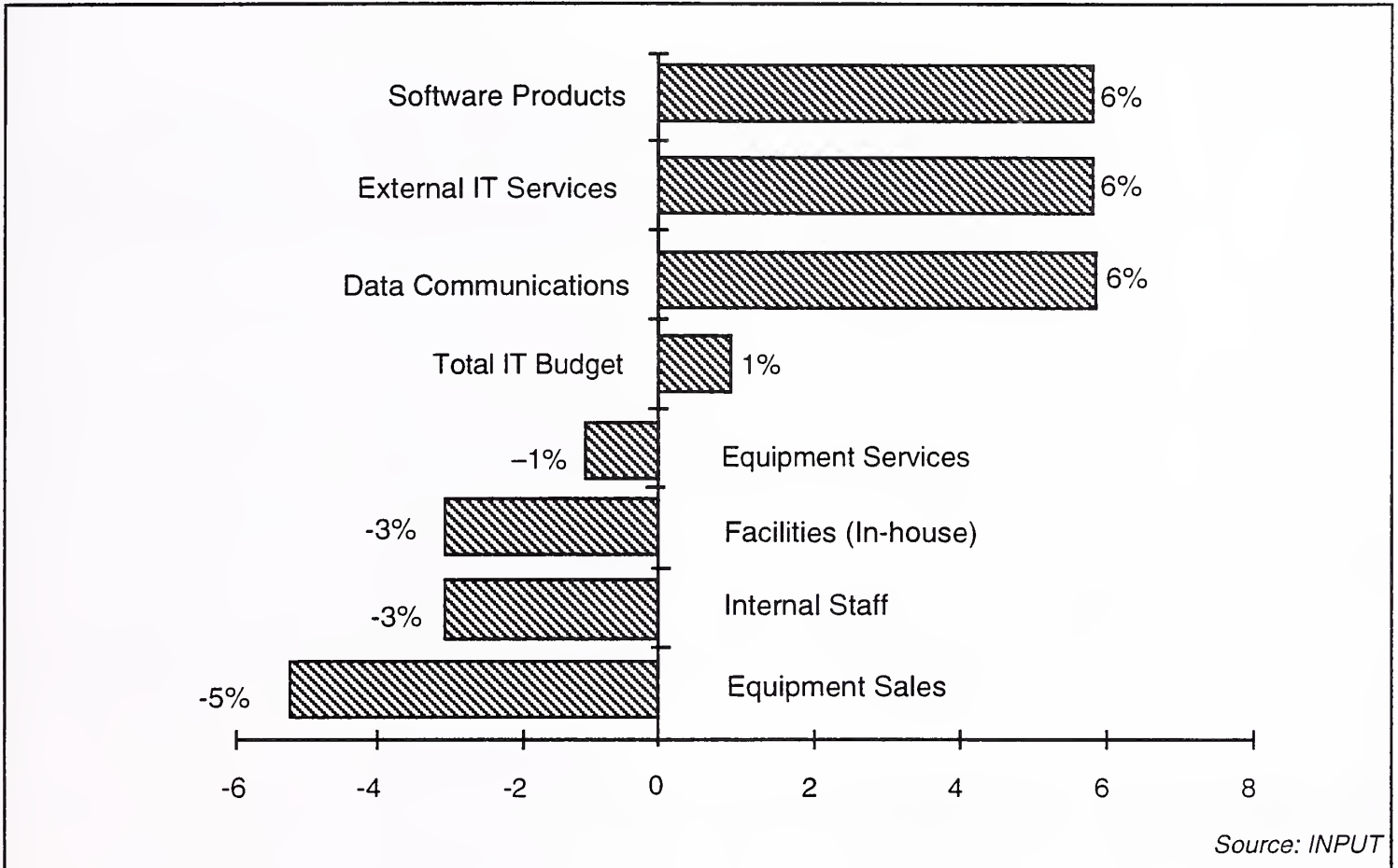
French Software and Services 1993-1999

Exhibit II-2 shows a comparison of the expected growth rates of the major elements of estimated total IT budgets in France.

Exhibit II-2

Total IT Spending — France 1994-1999 Forecast Growth Rates by Budget Category



The general trend to outsource information systems functions remains of increasing importance as the main driver for software and services markets.

It implies that the market opportunity for information services vendors broadens to the entire information systems budget. This includes budgets directly controlled by the internal information systems function as well as budgets under the control of operational departments or business units.

Despite the challenging competitive IT market conditions prevailing in the 1990s, software and services markets still represent significant commercial growth opportunities, particularly when viewed within the context of the lower overall growth expectations for user's total IT expenditure (estimated at 1% per annum through to 1999).

A comparison of the leading individual country markets in the world is shown in Exhibit II-3. This exhibit demonstrates the sheer size of the United States software and services market in comparison to the French and other individual country markets.

Exhibit II-3

Largest Software and Services Country Markets

Country	1994 Market Size (\$B)	1994-1999 CAGR (%)
United States	150	12
Japan	39	9
France	19	6
Germany	16	8
UK	13	9
Italy	7	7

Source: INPUT

B

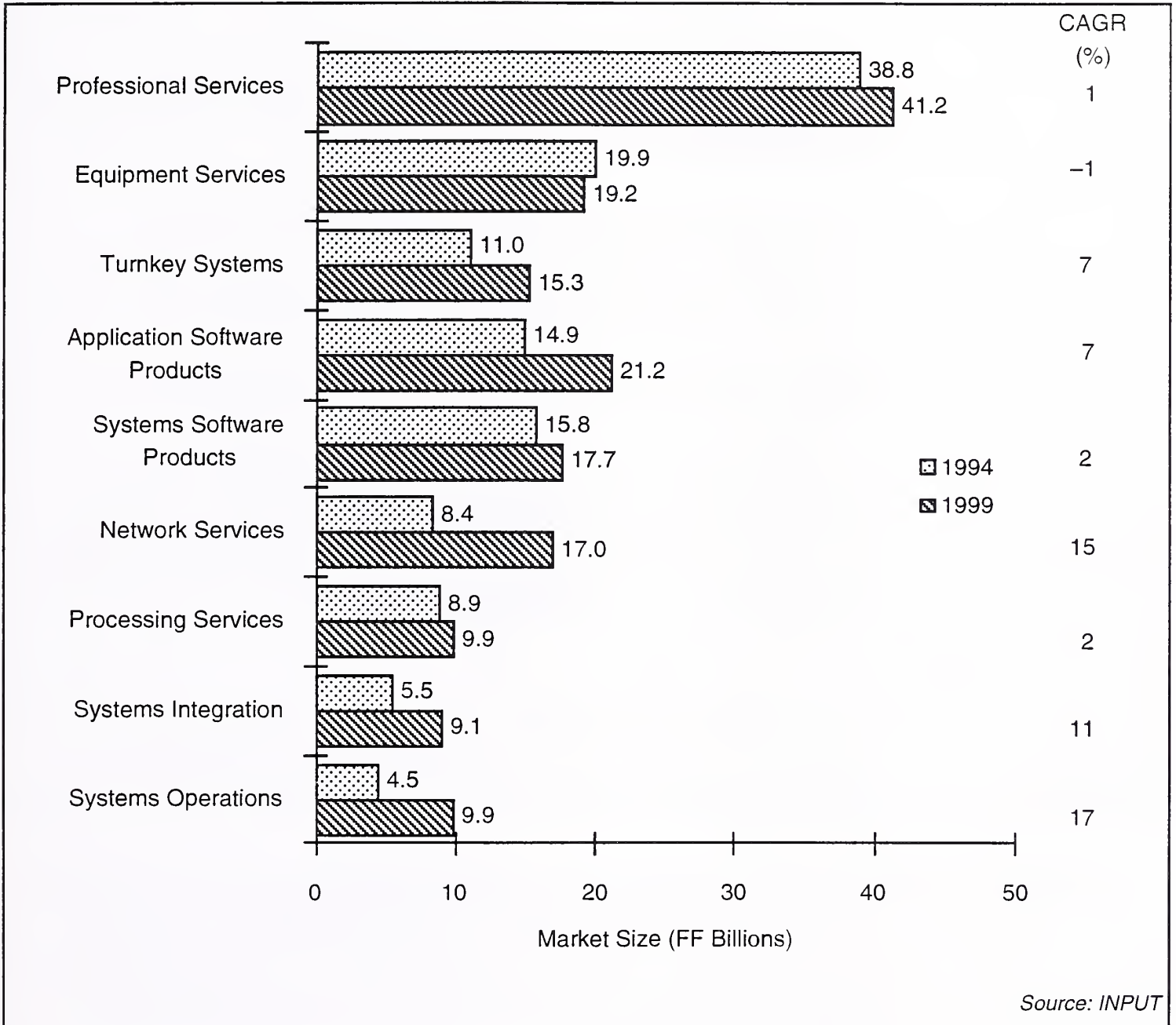
French Forecast — FF140 Billion Market 1999

The French market for software and services grew to FF 108 billion in 1994 and is expected to reach FF 140 billion by 1999.

The overall annual growth rate of 5% predicted for the entire market clearly disguises both the high and the low growth sectors, as can be seen from Exhibit II-4.

Exhibit II-4

**Delivery Mode Analysis Information Services Market
— France, 1994-1999**



The highest growth opportunities lie in the areas of Systems Operations and Network Services.

The growing trend to outsource major portions of the information systems function drives an opportunity for information services vendors to broaden to the entire information systems budget.

That budget includes both expenditure directly controlled by the internal information systems function as well as budgets under the control of operational departments or business units.

The lowest growth sectors are those of:

- Equipment services, where ultra reliable components and open competition have driven down the market, only countered by increasing demand for network communications and desktop support where increasing complexity and critical applications demand higher levels of support
- Professional services, strong growth in IS consulting and the outsourcing of applications management are being countered by dampened demand for custom software development as users shift inexorably to greater reliance on application products
- Systems software, where increases in volume sales are eroded by intense competition
- Processing services, the classic services delivery mode remains marginalised by outsourcing contracts and severe price pressure. Nevertheless there still remain specialised sectors, for example high volume high quality laser printing, that continue to remain attractive business areas.

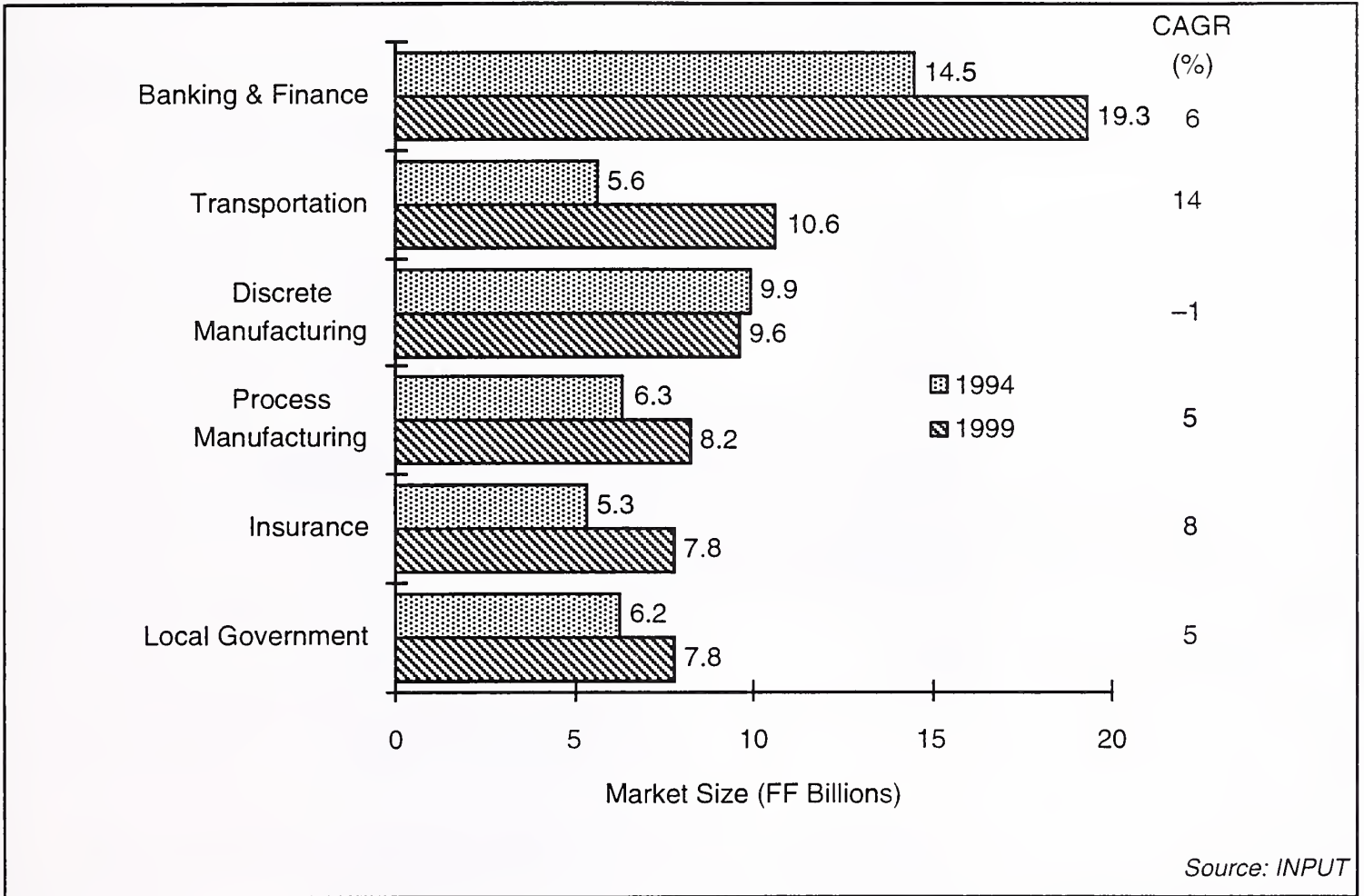
Other important market sectors are:

- Systems integration will grow at significantly above the overall market rate as users pay for the resolution of the complexity of solution building at the implementation phase and not within the product price
- Applications software, which will benefit from the shift away from the increasingly un-economic custom software development approach, but will have its money value growth held back by highly competitive market conditions. The success of SAP's R2/3 range of applications products is testimony to user' increasing appetite for standardised, widely available solutions
- Turnkey systems will also benefit from the user's need for resolution of system complexity within a total standardised package of hardware and software. This will remain attractive for many standardised environments such as hotels and retail outlets.

Exhibit II-5 provides an analysis of the largest vertical industry markets in France.

Exhibit II-5

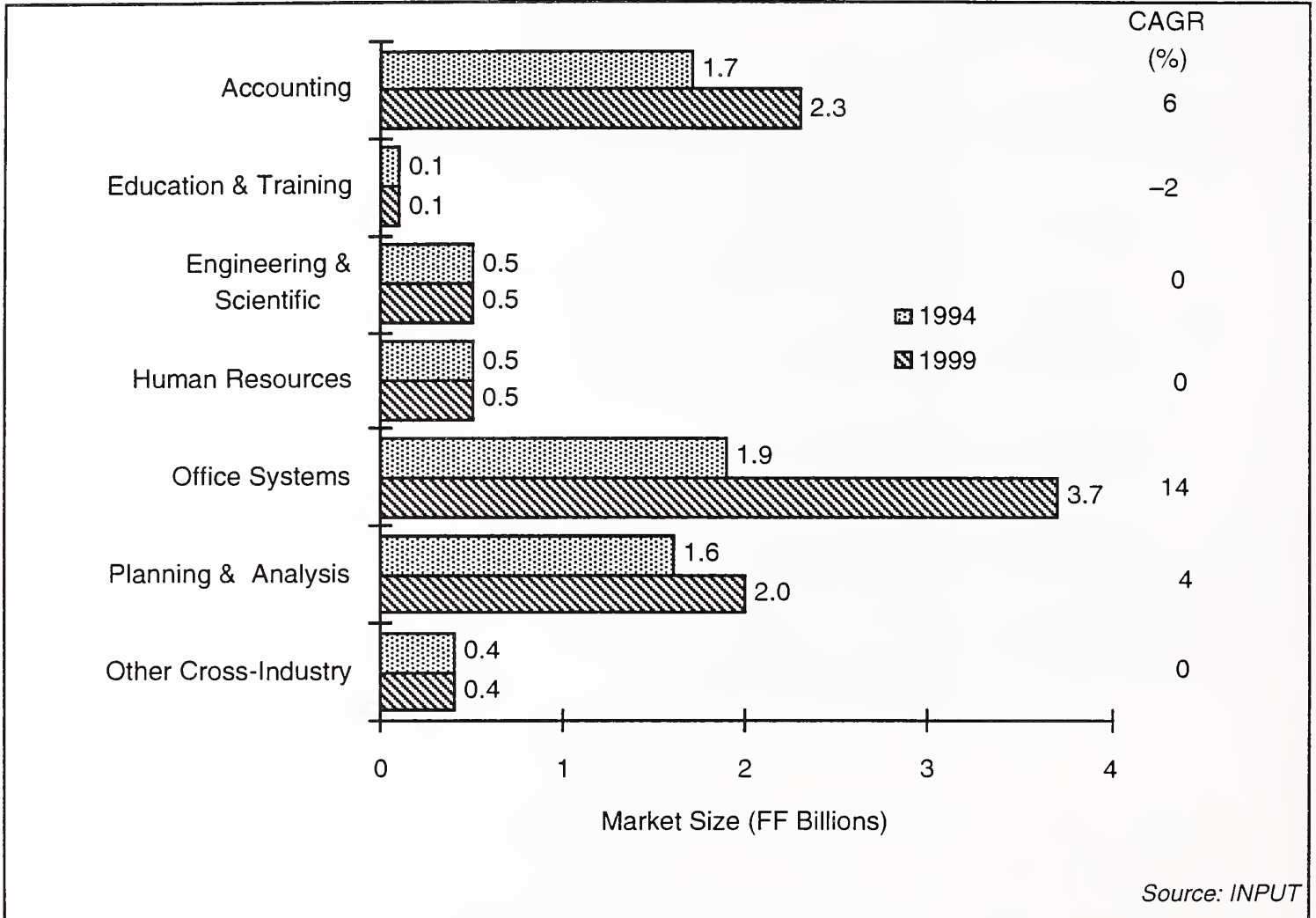
**Vertical Industry Analysis Software and Services Market
— France, 1994-1999**



The analysis of the French cross industry sector market is provided in Exhibit II-6.

Exhibit II-6

**Cross Industry Sector, Software and Services Market
— France, 1994-1999**



C

Vertical Industry Markets

The forecast growth of each vertical industry sector market in France is provided in the following series of exhibits, Exhibits II-7 through II-21.

Exhibit II-7

**Discrete Manufacturing Sector, Software and Services Market
— France, 1994-1999**

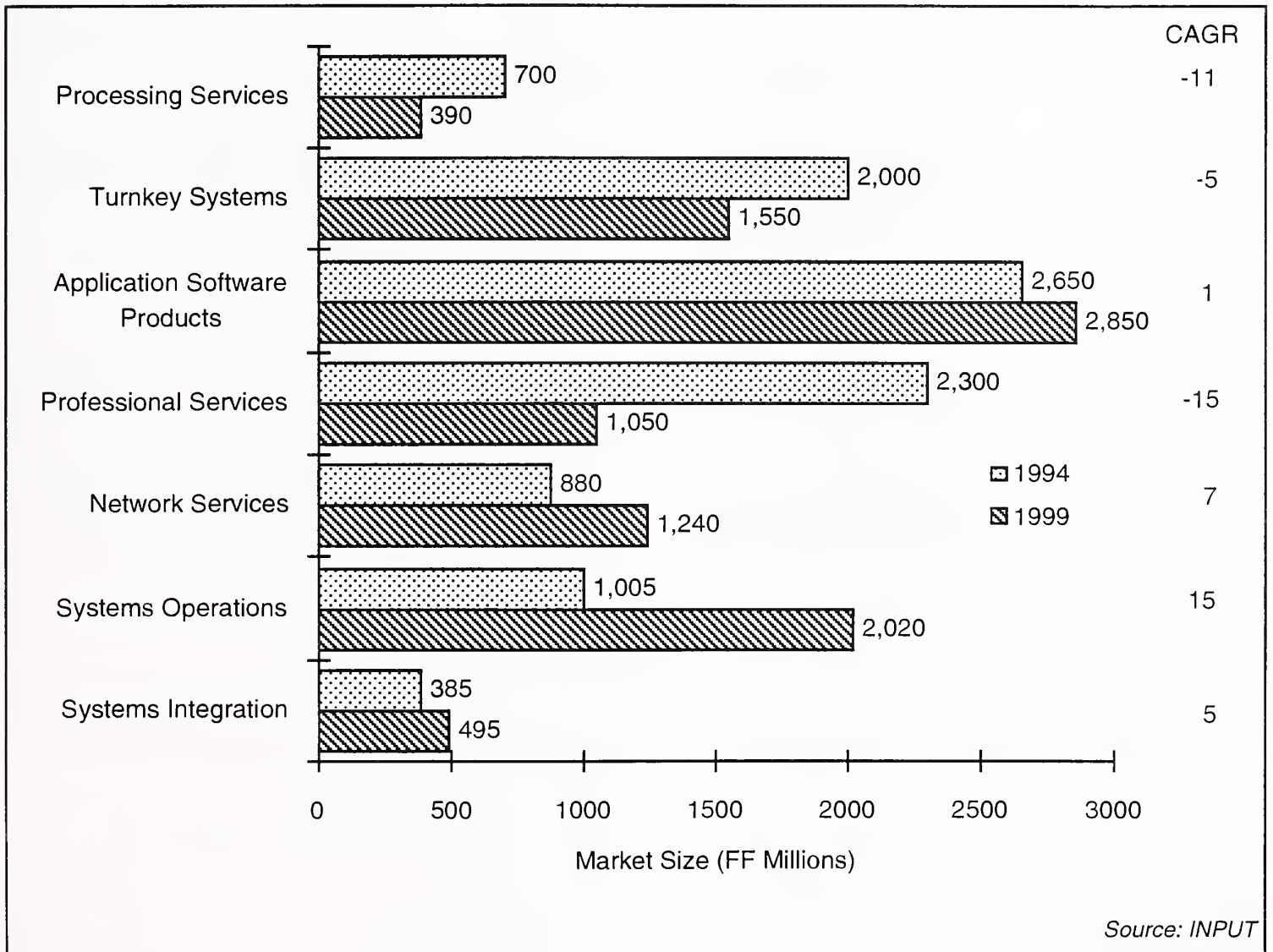


Exhibit II-8

Process Manufacturing Sector, Software and Services Market — France, 1994-1999

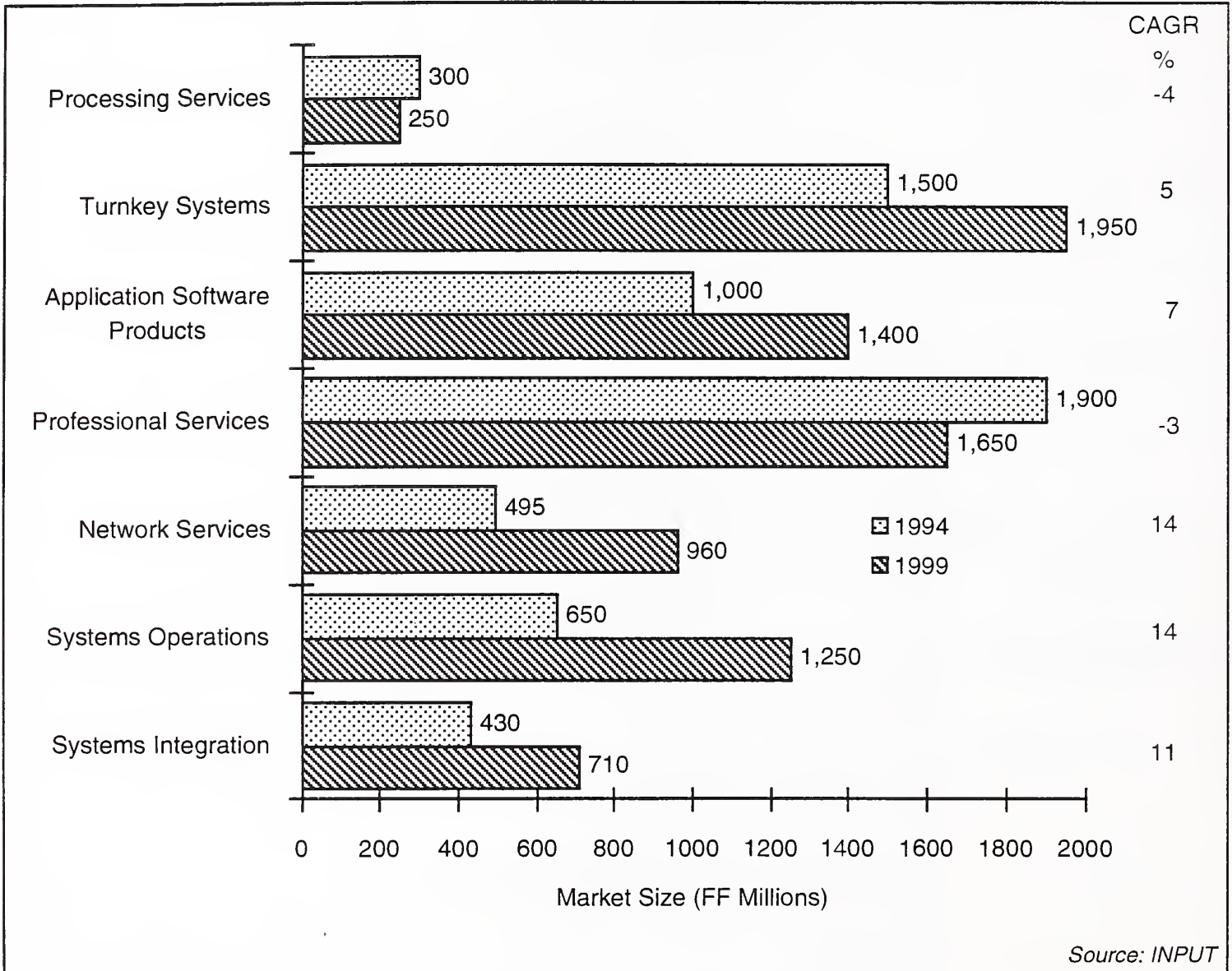


Exhibit II-9

Transportation Sector, Software and Services Market
— France, 1994-1999

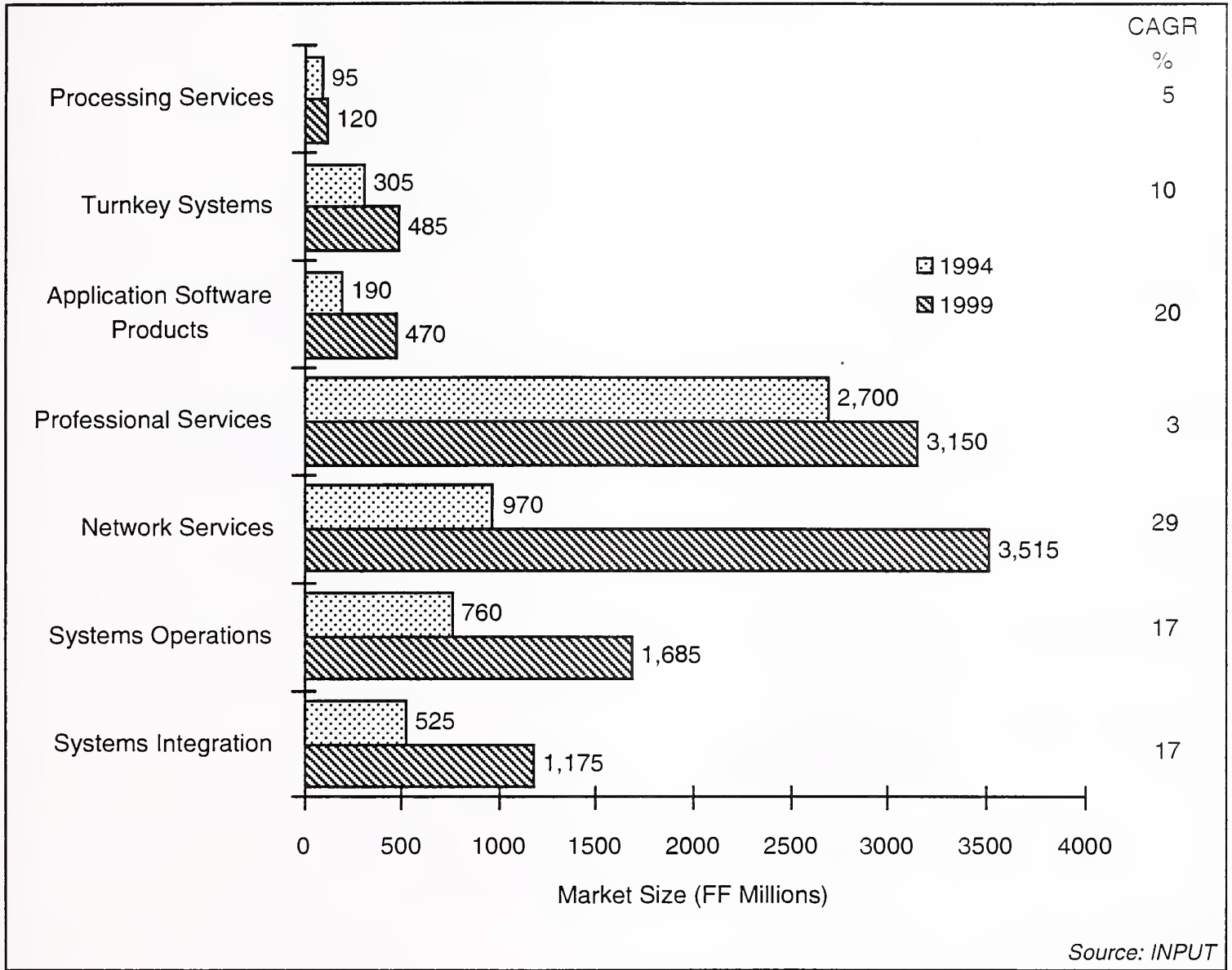


Exhibit II-10

Utilities Sector, Software and Services Market
— France, 1994-1999

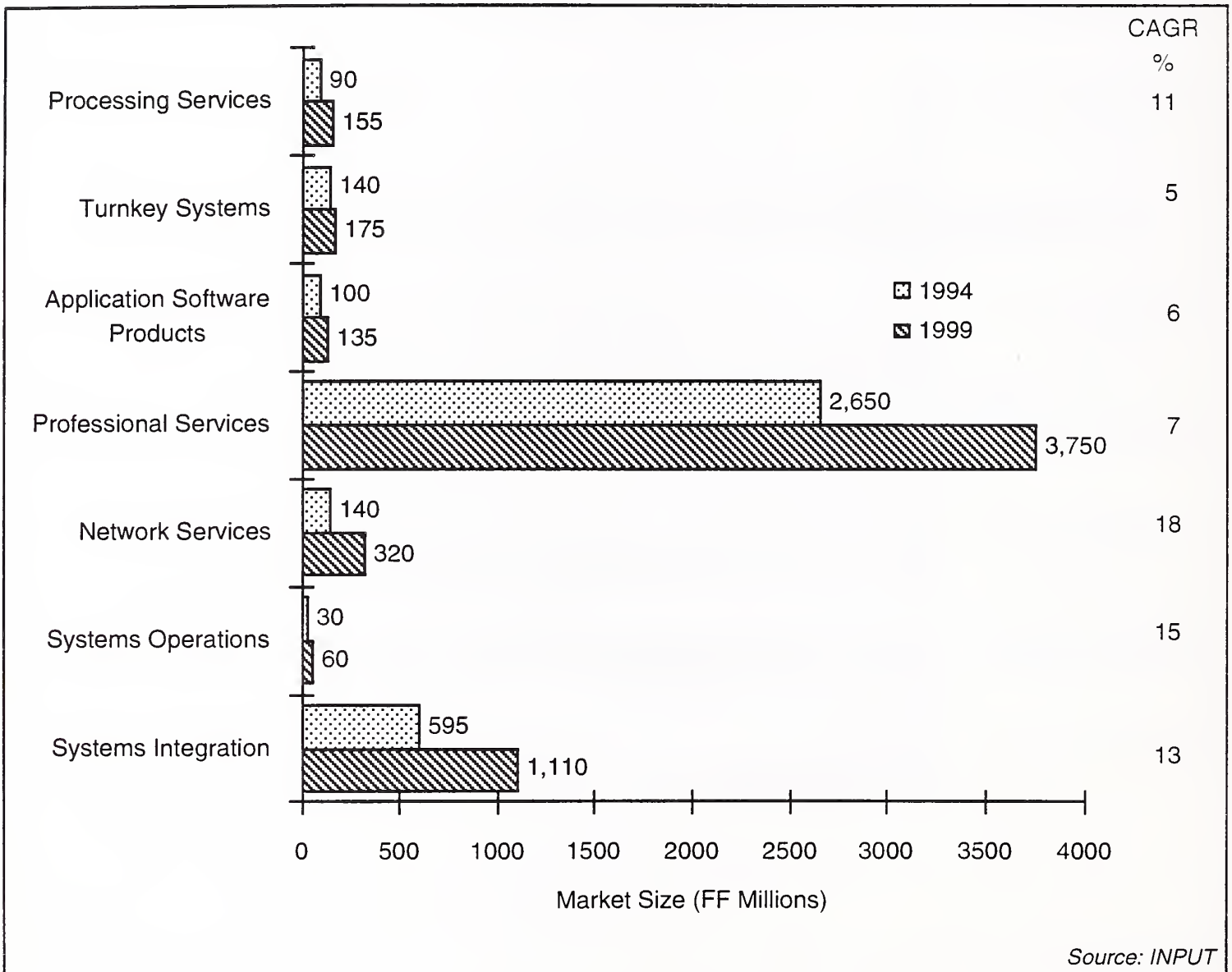


Exhibit II-11

**Telecommunications Sector, Software and Services Market
— France, 1994-1999**

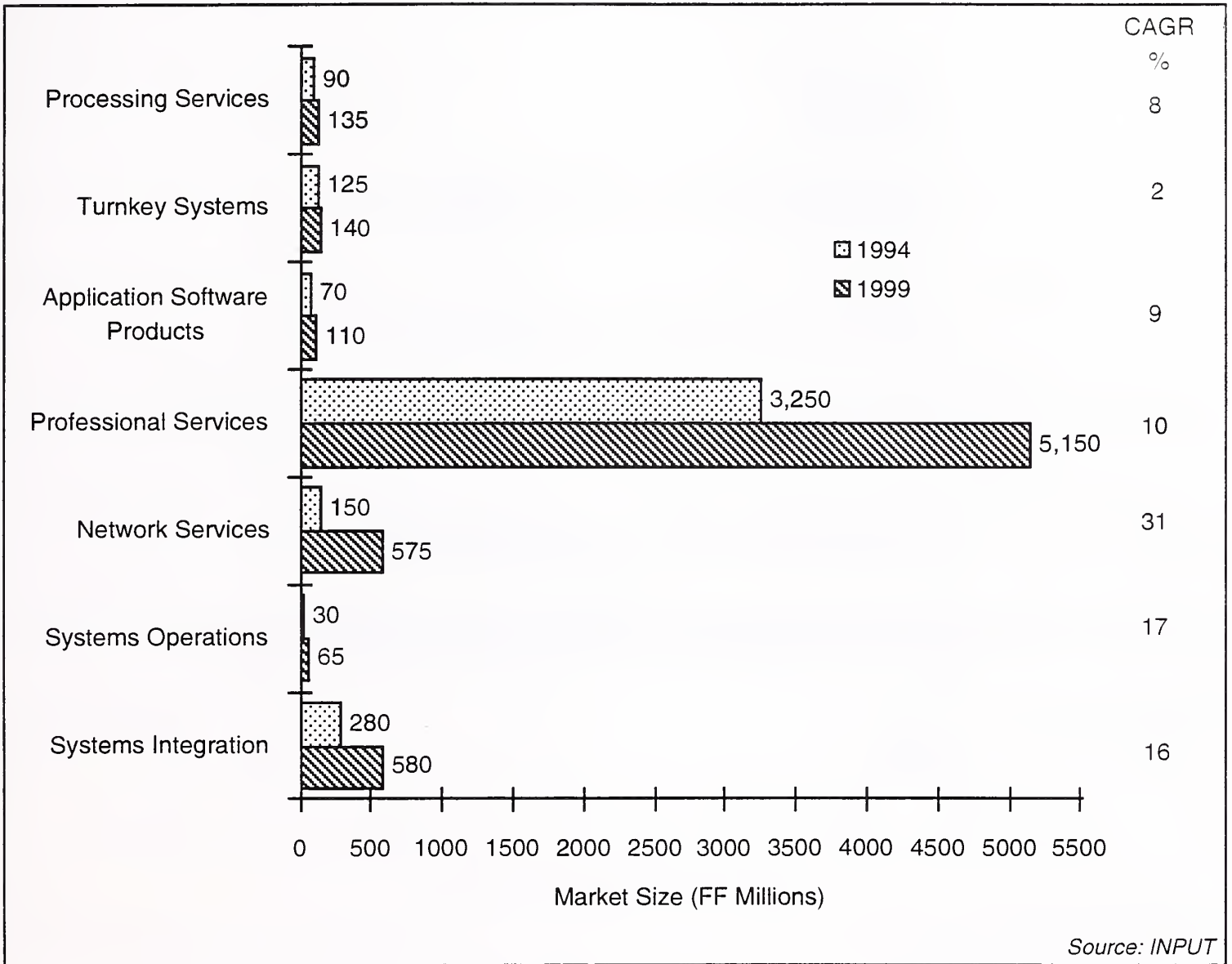


Exhibit II-12

**Retail Distribution Sector,
Software and Services Market — France, 1994-1999**

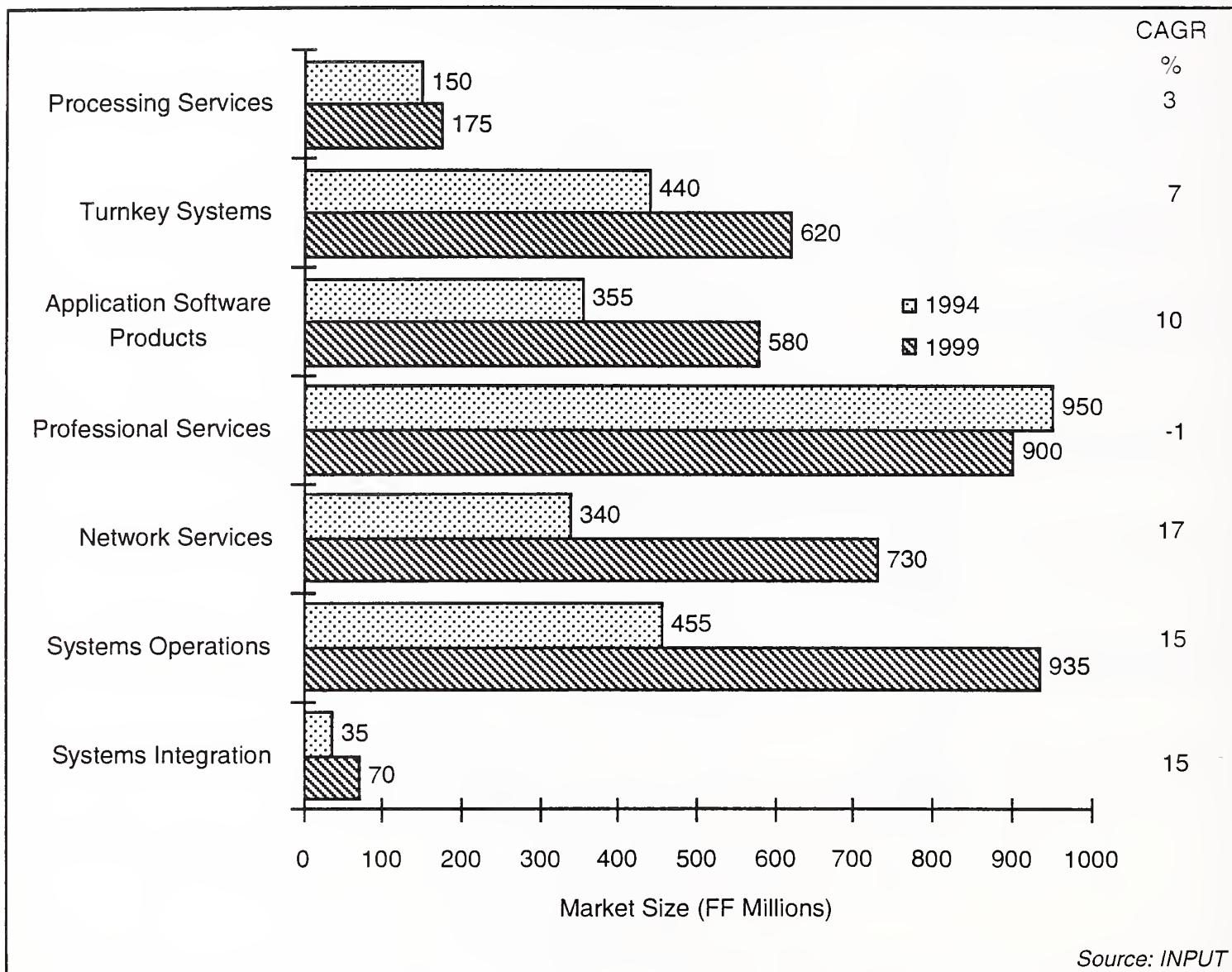


Exhibit II-12

Retail Distribution Sector, Software and Services Market — France, 1994-1999

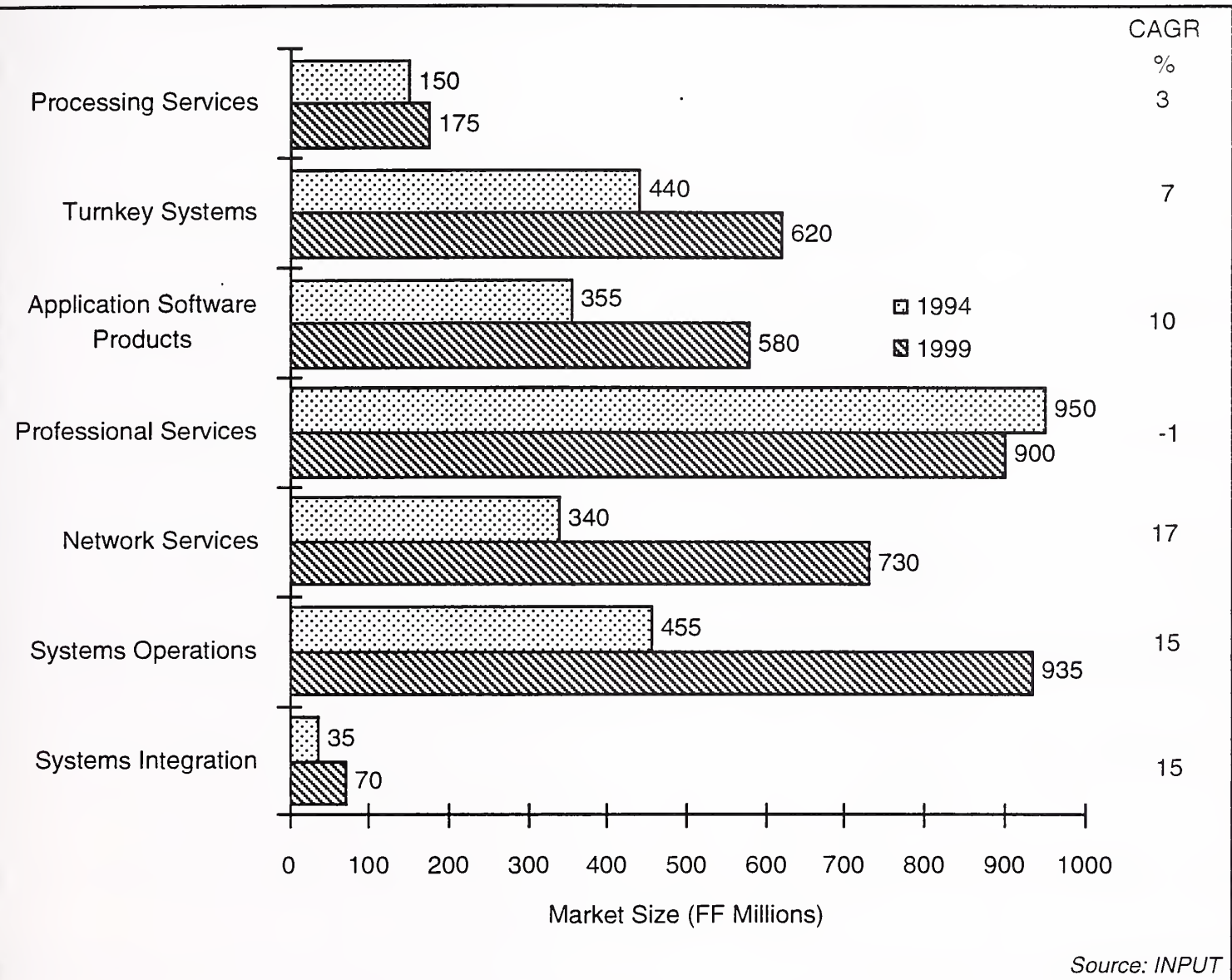


Exhibit II-13

**Wholesale Distribution Sector,
Software and Services Market — France, 1994-1999**

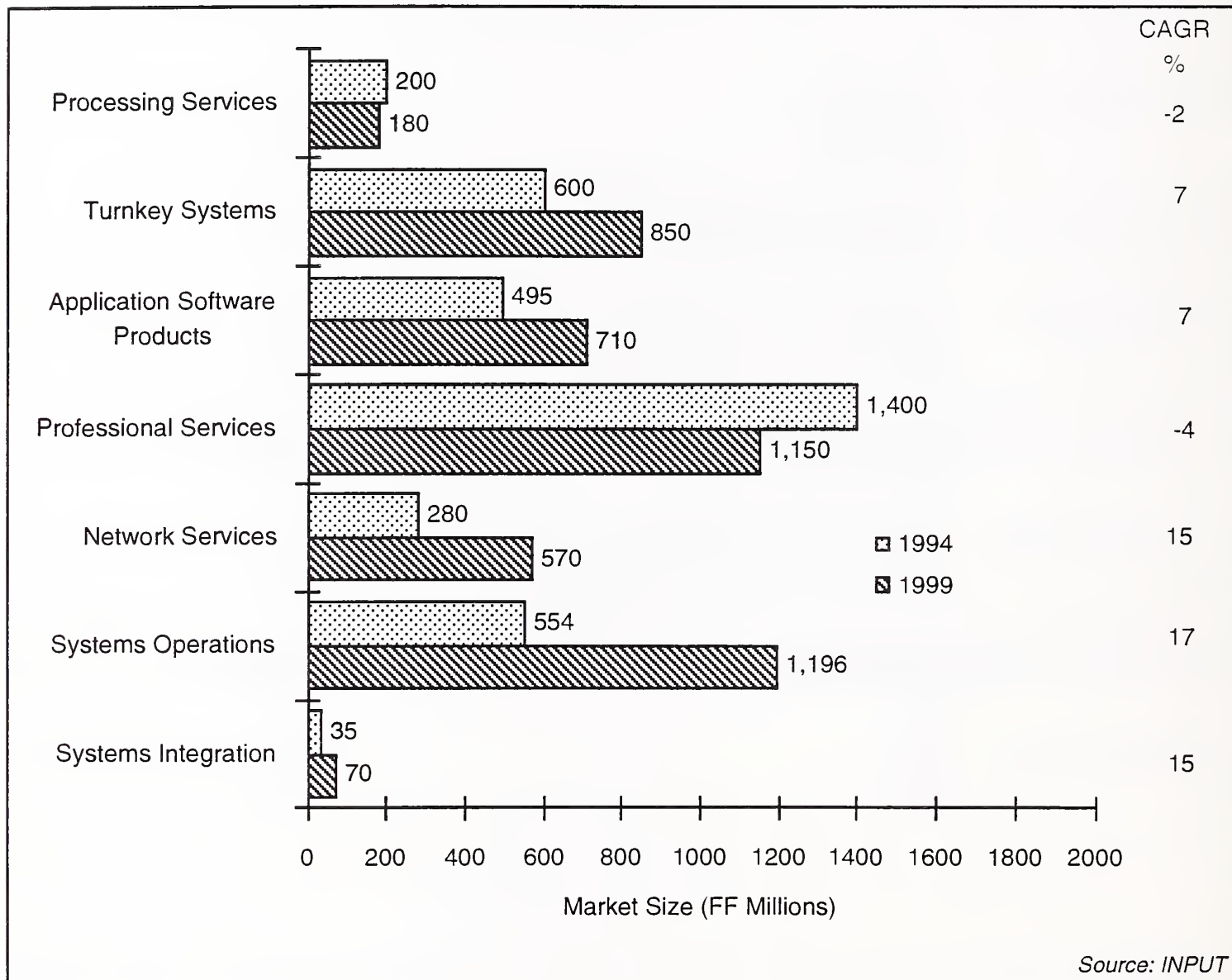


Exhibit II-13

**Wholesale Distribution Sector,
Software and Services Market — France, 1994-1999**

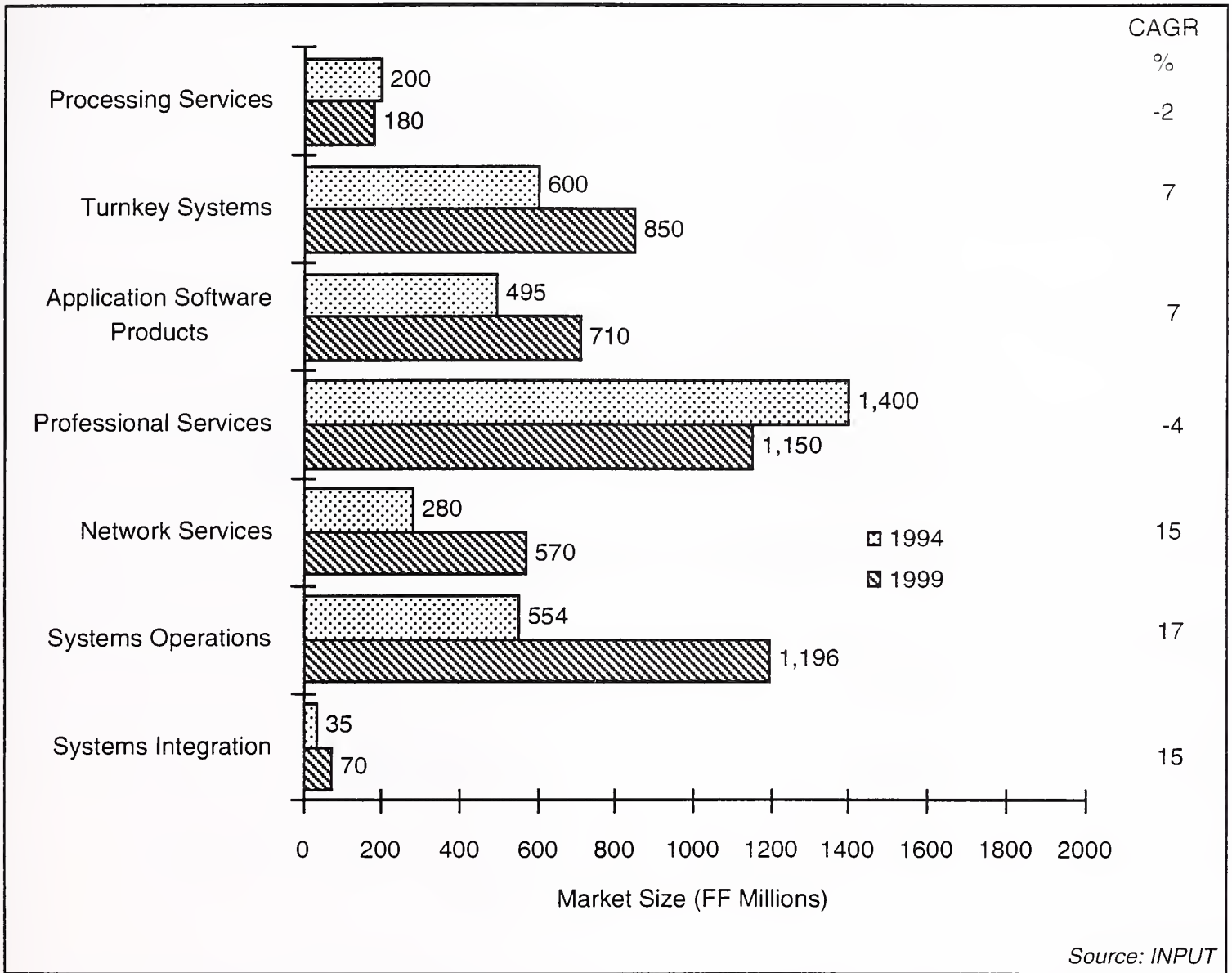


Exhibit II-14

Banking & Finance Sector, Software and Services Market
— France, 1994-1999

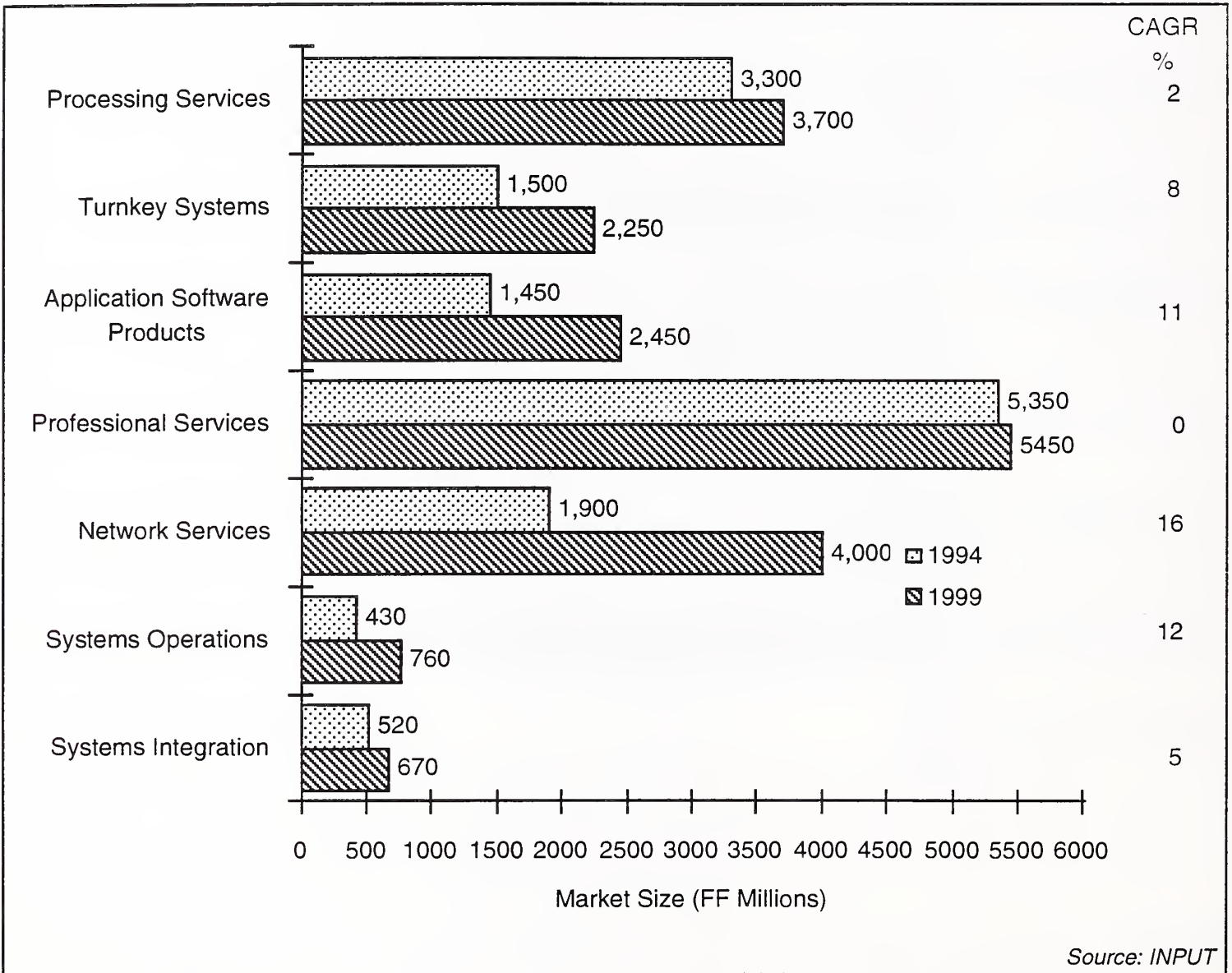


Exhibit II-15

**Insurance Sector,
Software and Services Market — France, 1994-1999**

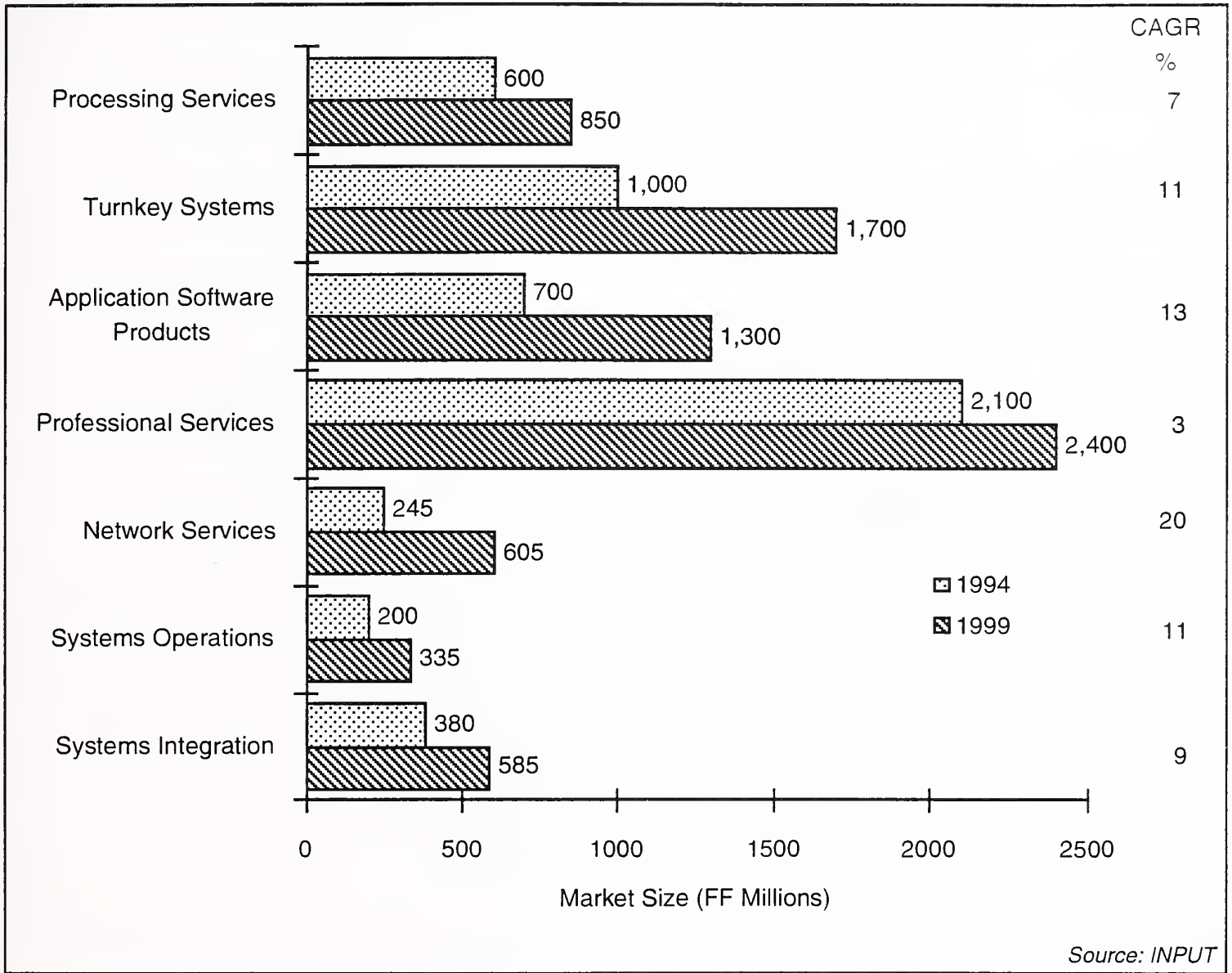


Exhibit II-16

Healthcare Sector, Software and Services Market — France 1994-1999

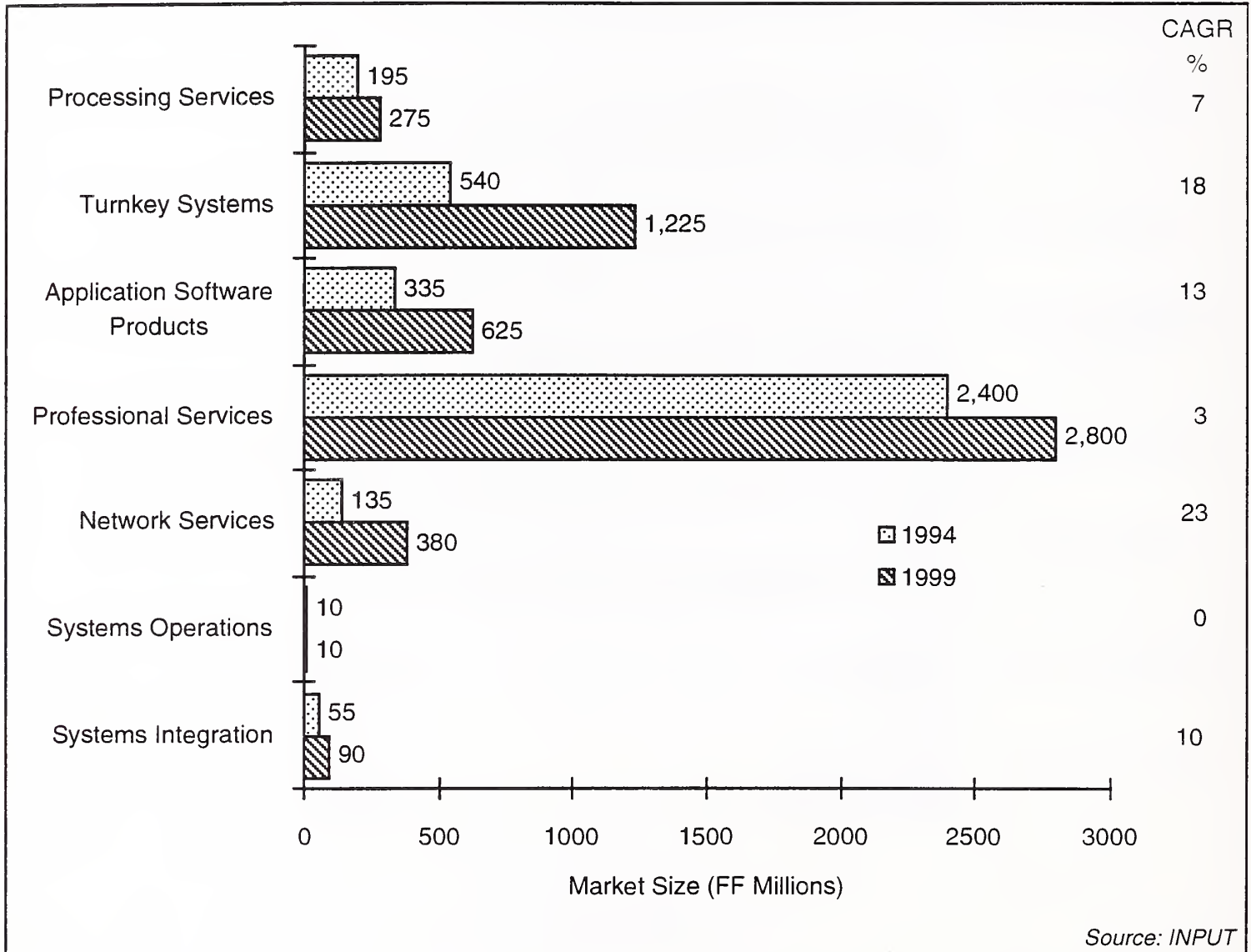


Exhibit II-17

Education Sector, Software and Services Market — France, 1994-1999

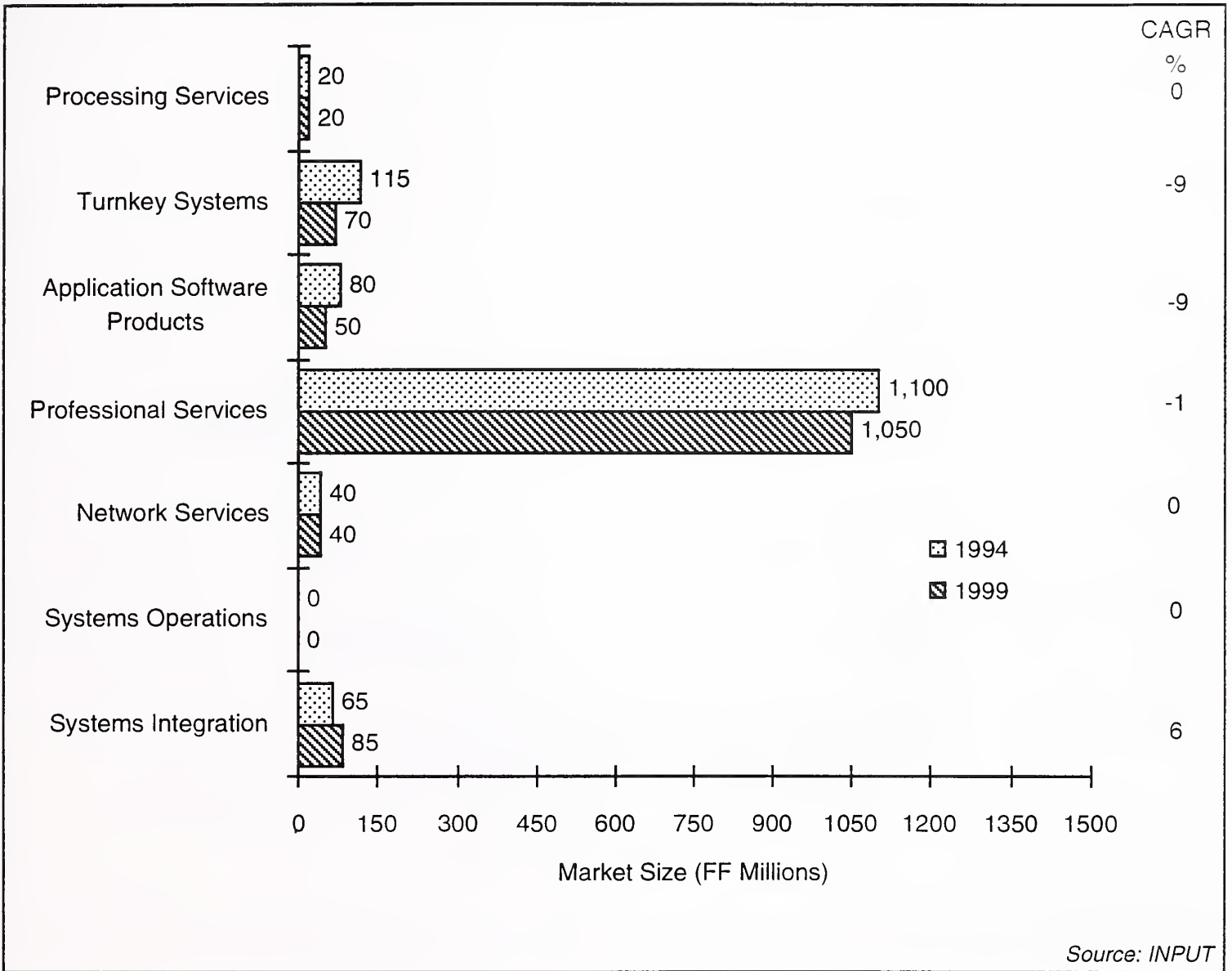


Exhibit II-18

**Local Government Sector,
Software and Services Market — France, 1994-1999**

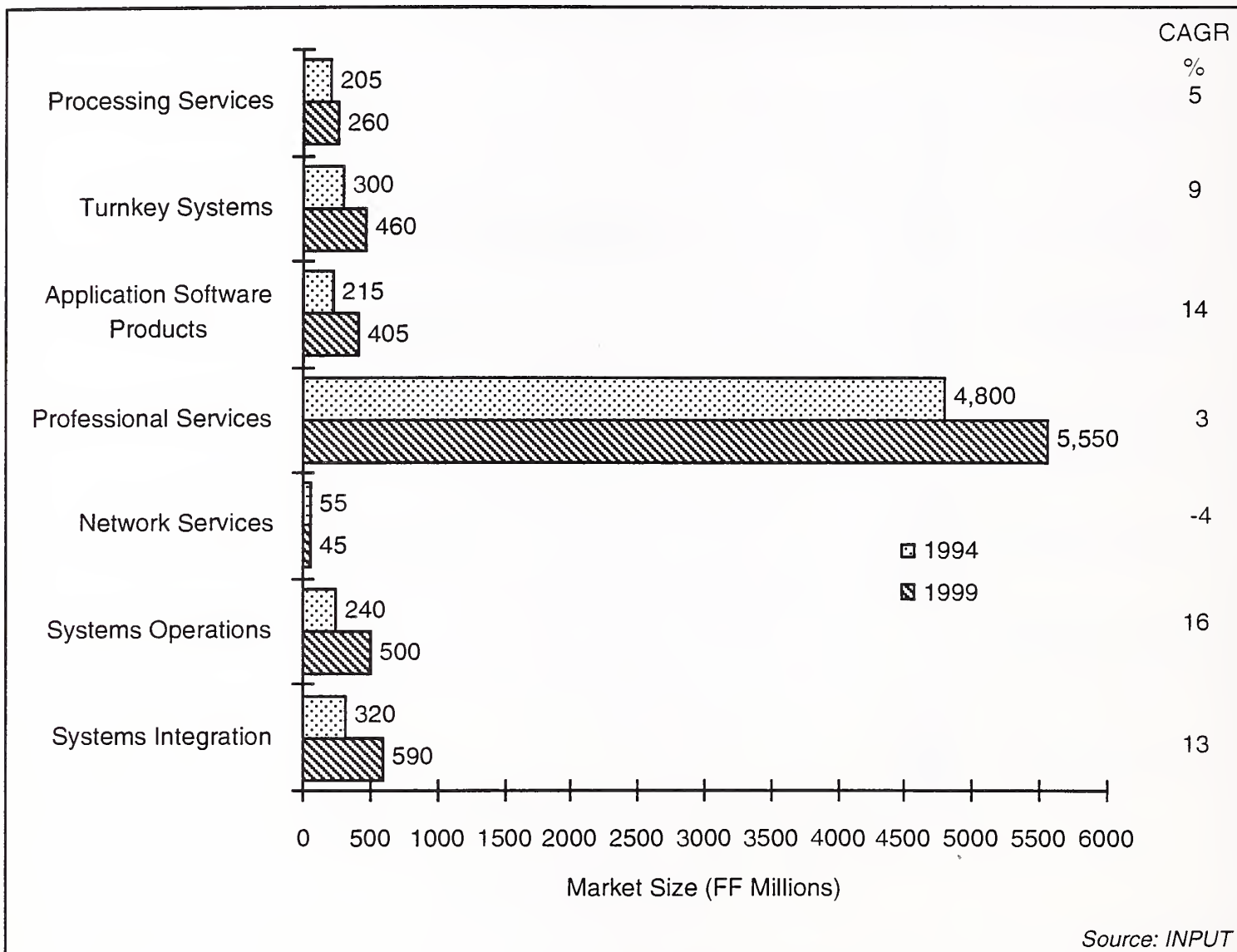


Exhibit II-19

Central Government Sector, Software and Services Market — France, 1994-1999

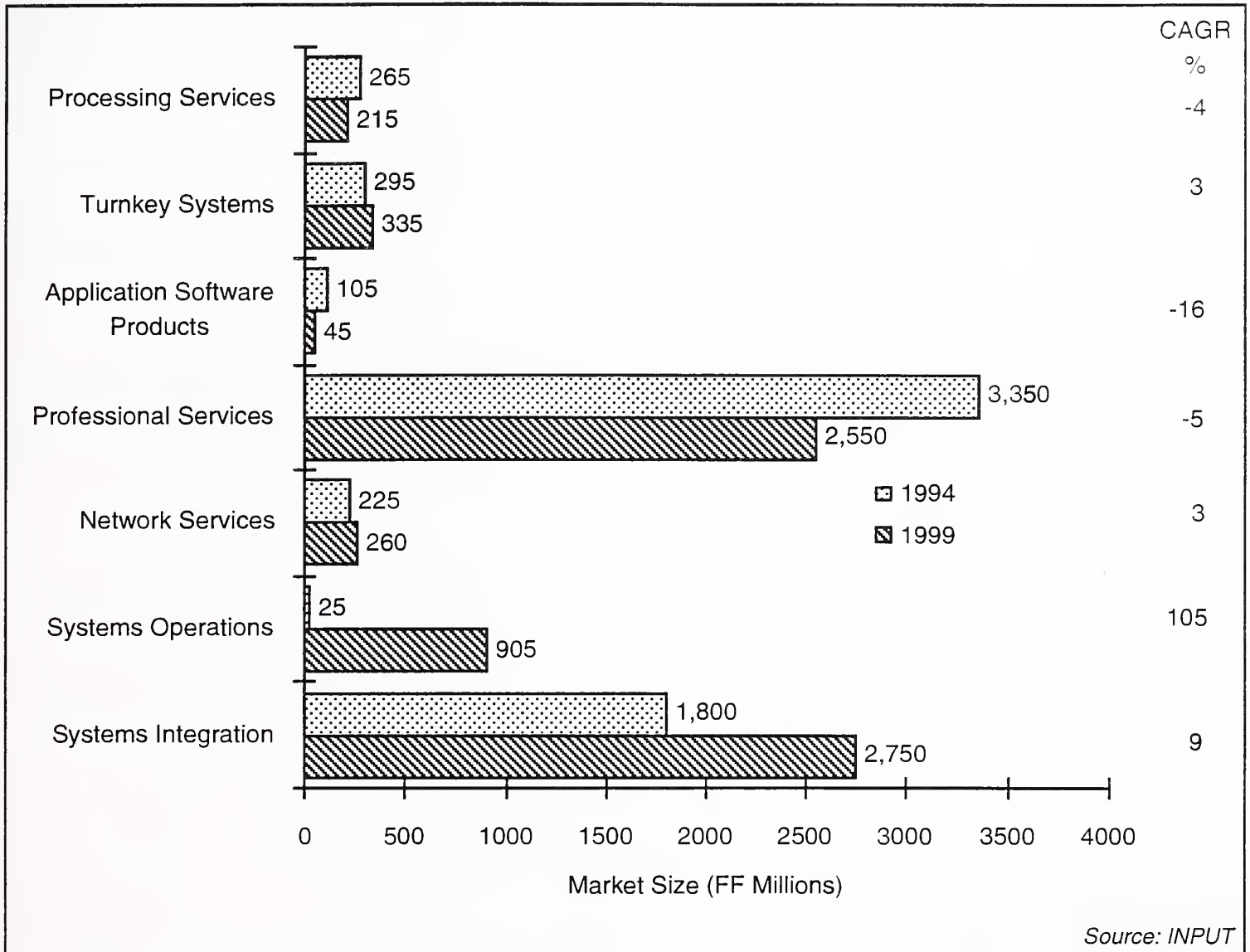


Exhibit II-20

Business Services Sector, Software and Services Market — France, 1994-1999

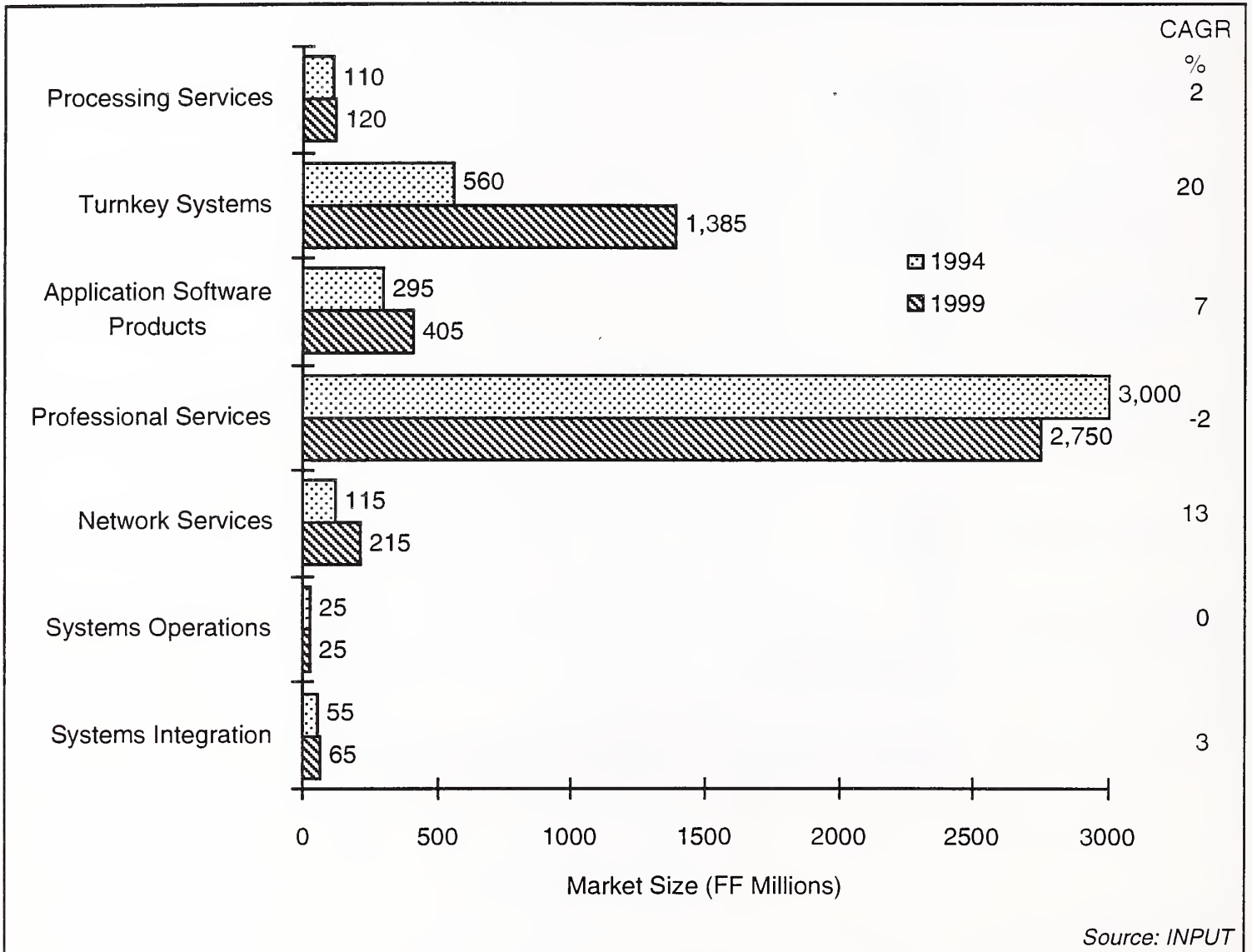
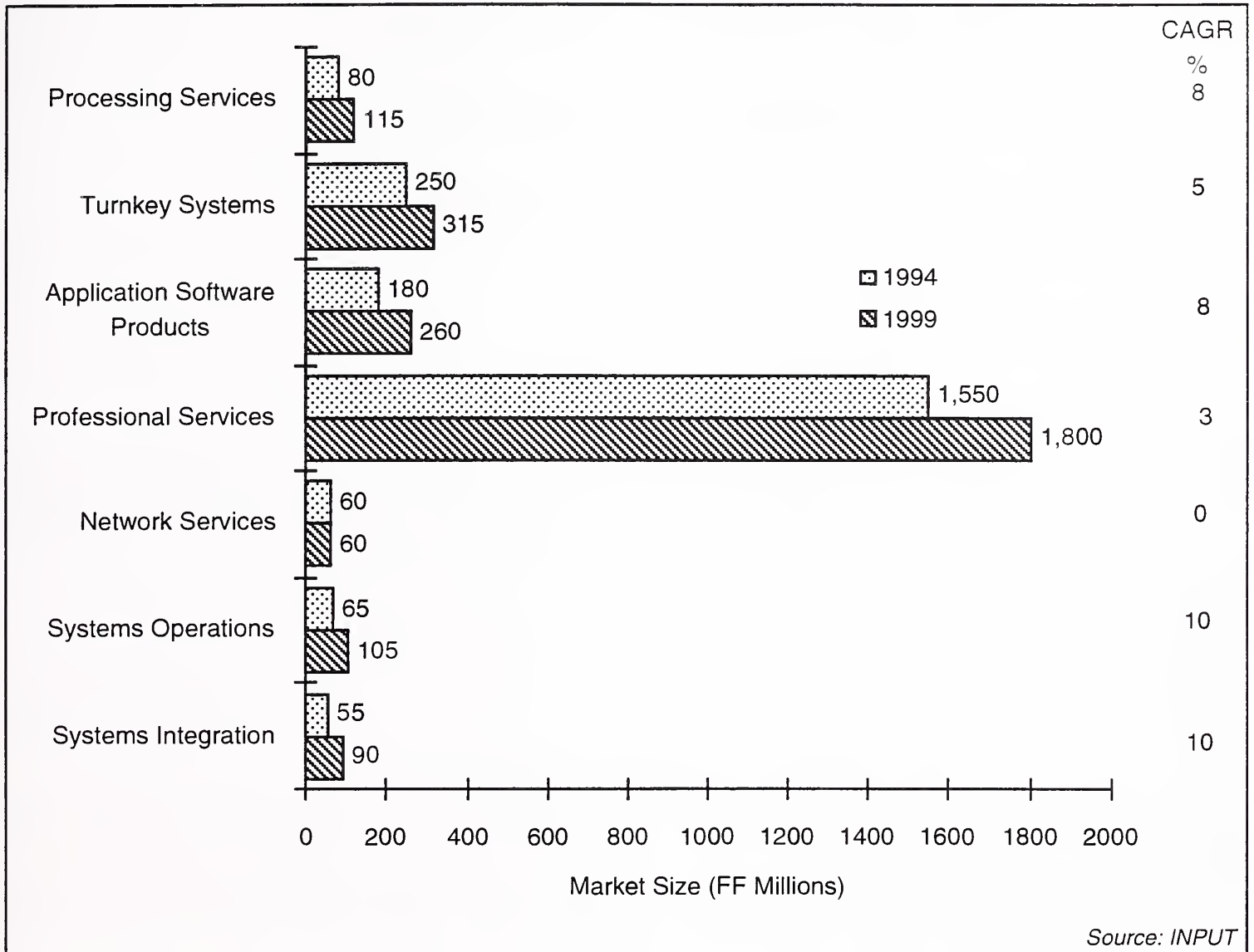
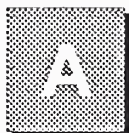


Exhibit II-21

Other Industry Sector, Software and Services Market — France, 1994-1999



Blank



Information Services Industry Forecast Database, 1994-1999 France

A

Forecast Database in Local Currency (FF Millions)

Exhibit A-1

Top Level IT Expenditure, France

Sector	FF Millions								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
<i>Equipment Sales</i>	54,200	-8	49,900	45,700	42,600	40,900	40,000	39,100	-5
<i>Equipment Services</i>	20,600	-3	19,900	19,900	19,900	19,600	19,500	19,200	-1
<i>Software Products</i>	31,200	3	32,000	33,100	34,600	36,700	39,500	42,500	6
<i>Other Information Services</i>	66,400	4	68,800	71,000	74,300	77,700	82,800	90,300	6
<i>Data Communications</i>	19,100	5	20,000	20,900	22,000	23,500	25,100	26,600	6
<i>Facilities/ Administration</i>	34,400	-4	33,100	31,600	30,200	29,300	28,900	28,600	-3
<i>In-house Staff</i>	96,300	-5	91,700	86,500	82,600	79,400	78,300	77,400	-3
IT Budget Total	322,000	-2	315,000	309,000	306,000	307,000	314,000	324,000	1

Exhibit A-2

Information Services Market
Forecast by Delivery Mode and Submode
France, 1994-1999

Delivery Modes	FF Millions								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR(%)
Software and Services Total (ex. Equipment Services)	104,000	4	108,000	111,000	116,000	122,000	131,000	141,000	5
<i>Professional Services</i>	38,200	2	38,800	39,300	39,700	39,900	40,500	41,200	1
- IS Consulting	4,350	10	4,800	5,050	5,350	5,650	6,050	6,450	6
- Education & Training	3,350	8	3,610	3,740	3,870	4,010	4,210	4,410	4
- Custom Software	30,300	-1	30,100	30,200	30,100	29,700	29,600	29,600	0
- Application Management	200	30	260	320	400	500	630	790	25
<i>Systems Integration</i>	5,100	8	5,500	6,000	6,500	7,000	7,600	9,100	11
- Equipment	1,400	4	1,450	1,550	1,650	1,800	1,950	2,050	7
- Application Software	950	5	1,000	1,250	1,550	1,900	2,350	2,850	23
- System Software	400	13	450	480	520	560	610	650	8
- Professional Services	2,250	11	2,500	2,600	2,600	2,550	2,450	3,300	6
- Other	100	20	120	140	165	195	230	270	18
<i>Systems Operations</i>	3,800	18	4,500	5,100	5,900	6,850	8,100	9,850	17
- Platform Operations	1,400	13	1,580	1,610	1,720	1,860	2,050	2,520	10
- Application Operations	2,150	21	2,600	3,080	3,650	4,320	5,180	6,210	19
- Desktop Services	250	30	325	415	530	675	870	1,120	28
<i>Processing Services</i>	8,850	1	8,900	8,800	8,900	9,100	9,500	9,900	2
- Transaction Processing	7,700	-1	7,650	7,500	7,500	7,600	7,900	8,200	1
- Utility Processing	355	0	355	345	340	340	345	350	0
- Other Processing	795	10	875	965	1,050	1,150	1,245	1,340	9
<i>Network Services</i>	7,670	9	8,350	9,320	10,500	12,120	14,300	17,000	15
- Electronic Info Svcs	4,350	8	4,700	5,050	5,400	5,850	6,400	7,000	8
- Network Applications	2,620	7	2,810	3,300	3,980	4,970	6,400	8,310	24
- Network Management	700	20	840	970	1,120	1,300	1,500	1,690	15
<i>System Software Product</i>	15,500	2	15,800	16,000	16,200	16,500	17,100	17,700	2
- Mainframe	6,550	-4	6,300	6,000	5,650	5,250	4,850	4,350	-7
- Minicomputer	5,100	4	5,300	5,400	5,550	5,750	6,100	6,450	4
- Workstation /PC	3,850	9	4,200	4,600	5,000	5,500	6,150	6,900	10
<i>Application Software Product</i>	14,500	3	14,900	15,400	16,350	17,700	19,400	21,150	7
- Mainframe	1,000	-14	860	740	650	580	530	490	-11
- Minicomputer	4,300	1	4,340	4,410	4,650	5,020	5,320	5,460	5
- Workstation /PC	9,200	5	9,700	10,250	11,050	12,100	13,550	15,200	9
<i>Turnkey Systems</i>	10,640	4	11,040	11,450	12,040	12,950	14,060	15,270	7
- Equipment	5,300	2	5,400	5,500	5,650	5,850	6,100	6,350	3
- Application Software	2,450	6	2,600	2,800	3,000	3,350	3,750	4,200	10
- System Software	180	6	190	200	210	220	230	240	5
- Professional Services	2,650	6	2,800	3,000	3,200	3,550	4,000	4,450	10
<i>Equipment Services</i>	20,600	-3	19,900	19,900	19,900	19,600	19,500	19,200	-1
- Equipment Maintenance	13,700	-8	12,600	12,100	11,600	10,800	10,300	9,500	-5
- Environmental Services	6,900	6	7,300	7,800	8,300	8,800	9,200	9,700	6
Grand Total	125,000	2	127,500	131,500	136,000	141,500	150,000	160,500	5
Information Service Market									

B

Sector Summary in Local Currency

Exhibit A-3

Information Services Market by Sector Summary, France

Sector	FF Millions								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
<i>Processing Services</i>	6,300	2	6,400	6,300	6,300	6,400	6,700	7,000	2
<i>Turnkey Systems</i>	9,300	4	9,700	10,100	10,600	11,400	12,400	13,500	7
<i>Application Software Products</i>	7,800	5	8,200	8,600	9,100	9,800	10,800	11,800	8
<i>Professional Services</i>	38,200	2	38,800	39,300	39,700	39,900	40,500	41,200	1
<i>Network Services</i>	5,500	9	6,000	6,800	7,800	9,200	11,100	13,500	18
<i>Systems Operations</i>	3,800	18	4,500	5,100	5,900	6,850	8,100	9,850	17
<i>Systems Integration</i>	5,100	8	5,500	6,000	6,500	7,000	7,600	9,100	11
Industry Sectors Total	76,000	4	79,000	82,000	86,000	90,500	97,000	106,000	6
<i>Transaction Processing</i>	1,420	-12	1,250	1,180	1,190	1,190	1,200	1,210	-1
<i>Turnkey Systems</i>	1,340	0	1,340	1,350	1,440	1,550	1,660	1,770	6
<i>Application Software Products</i>	6,700	0	6,700	6,800	7,250	7,900	8,600	9,350	7
Cross-Industry Sectors Total	9,500	-2	9,300	9,300	9,900	10,600	11,500	12,300	6
<i>Equipment Services</i>	20,600	-3	19,900	19,900	19,900	19,600	19,500	19,200	-1
<i>System Software Products</i>	15,500	2	15,800	16,000	16,200	16,500	17,100	17,700	2
<i>Utility and Other Processing</i>	1,150	7	1,230	1,310	1,390	1,490	1,590	1,690	7
<i>Other Electronic Info Services</i>	2,170	8	2,350	2,520	2,700	2,920	3,200	3,500	8
Generic Sectors Total	39,420	0	39,280	39,730	40,190	40,510	41,390	42,090	1
Total Information Services	124,900	2	127,600	131,050	136,100	141,600	149,900	160,400	0

C

Industry Sectors in Local Currency

Exhibit A-4

Information Services Market by Industry Sectors, France

Sector	FF Millions								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Discrete Manufacturing	10,700	-7	9,900	9,200	9,100	9,000	9,200	9,600	-1
Process Manufacturing	5,950	6	6,300	6,500	6,750	7,100	7,550	8,150	5
Transportation	4,900	13	5,550	6,250	7,100	7,950	9,100	10,600	14
Utilities	3,450	9	3,750	4,050	4,350	4,700	5,150	5,700	9
Telecommunications	3,600	11	4,000	4,400	4,850	5,350	6,000	6,750	11
Retail Distribution	2,550	8	2,750	2,900	3,050	3,300	3,600	4,000	8
Wholesale Distribution	3,350	6	3,550	3,700	3,850	4,100	4,350	4,750	6
Banking & Finance	13,900	4	14,500	14,800	15,400	16,400	17,700	19,300	6
Insurance	4,750	11	5,250	5,650	6,050	6,550	7,100	7,800	8
Healthcare	3,400	7	3,650	3,950	4,200	4,500	4,900	5,400	8
Education	1,380	3	1,420	1,470	1,390	1,330	1,320	1,320	-1
Local Government	5,800	6	6,150	6,400	6,700	7,000	7,350	7,800	5
Central Government	5,900	3	6,050	6,200	6,350	6,300	6,400	7,050	3
Business Services	4,050	2	4,150	4,250	4,350	4,500	4,700	4,950	4
Other Industries	2,250	0	2,250	2,350	2,400	2,500	2,600	2,750	4
Industry Sectors Total	76,000	4	79,000	82,000	86,000	90,500	97,000	106,000	6

Exhibit A-5

Industry Sectors, Discrete Manufacturing, France

Sector	FF Millions								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	7,250	-19	5,900	4,750	4,100	3,650	3,300	2,950	-13
Equipment Services	2,950	-14	2,550	2,300	2,150	1,950	1,800	1,650	-8
Software Products	5,150	-5	4,900	4,600	4,550	4,550	4,600	4,650	-1
Other Information Services	7,050	-9	6,400	5,950	5,850	5,700	5,800	6,150	-1
Data Communications	1,700	0	1,700	1,700	1,800	1,900	2,000	2,100	4
Facilities/ Administration	3,900	-14	3,350	2,850	2,550	2,300	2,100	1,950	-10
In-house Staff	15,000	-13	13,000	11,000	10,000	9,000	8,500	8,000	-9
IT Budget Total	43,000	-12	37,800	33,150	31,000	29,050	28,100	27,450	-6
Processing Services	800	-13	700	580	515	460	425	390	-11
Turnkey Systems	2,200	-9	2,000	1,800	1,700	1,650	1,600	1,550	-5
Application Software Products	2,700	-2	2,650	2,550	2,600	2,650	2,750	2,850	1
Professional Services	2,800	-18	2,300	1,900	1,650	1,400	1,200	1,050	-15
Network Services	895	-2	880	875	935	1,005	1,115	1,240	7
Systems Operations	880	14	1,005	1,110	1,270	1,470	1,720	2,020	15
Systems Integration	390	-1	385	375	390	410	425	495	5
Industry Sectors Total	10,700	-7	9,900	9,200	9,100	9,000	9,200	9,600	-1

Exhibit A-6

Industry Sectors, Process Manufacturing, France

Sector	FF Millions								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	4,550	-8	4,200	3,850	3,550	3,350	3,200	3,050	-6
Equipment Services	1,750	-3	1,700	1,700	1,700	1,650	1,600	1,550	-2
Software Products	2,500	4	2,600	2,700	2,800	2,950	3,100	3,350	5
Other Information Services	4,250	6	4,500	4,650	4,800	5,000	5,300	5,700	5
Data Communications	2,000	2	2,050	2,100	2,150	2,250	2,300	2,350	3
Facilities/ Administration	2,750	-4	2,650	2,500	2,350	2,250	2,200	2,150	-4
In-house Staff	9,000	-4	8,600	8,100	7,700	7,400	7,200	7,000	-4
IT Budget Total	26,800	-2	26,300	25,600	25,050	24,850	24,900	25,150	-1
Processing Services	300	0	300	285	270	260	255	250	-4
Turnkey Systems	1,400	7	1,500	1,550	1,600	1,700	1,800	1,950	5
Application Software Products	950	5	1,000	1,050	1,100	1,200	1,300	1,400	7
Professional Services	1,900	0	1,900	1,850	1,800	1,750	1,700	1,650	-3
Network Services	450	10	495	545	615	700	820	960	14
Systems Operations	560	16	650	750	850	950	1,100	1,250	14
Systems Integration	400	8	430	460	495	540	585	710	11
Industry Sectors Total	5,950	6	6,300	6,500	6,750	7,100	7,550	8,150	5

Exhibit A-7

Industry Sectors, Transportation, France

Sector	FF Millions								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	1,300	-8	1,200	1,100	1,050	950	900	850	-7
Equipment Services	505	5	530	570	610	620	640	645	4
Software Products	650	15	750	850	1,000	1,150	1,300	1,500	15
Other Information Services	4,450	13	5,050	5,650	6,350	7,050	8,100	9,400	13
Data Communications	490	24	610	760	945	1,160	1,415	1,710	23
Facilities/ Administration	1,100	5	1,150	1,150	1,150	1,150	1,150	1,150	0
In-house Staff	2,500	-2	2,450	2,400	2,350	2,250	2,200	2,150	-3
IT Budget Total	10,995	7	11,740	12,480	13,455	14,330	15,705	17,405	8
Processing Services	85	12	95	100	105	110	115	120	5
Turnkey Systems	275	11	305	335	370	400	440	485	10
Application Software Products	155	23	190	230	275	325	390	470	20
Professional Services	2,550	6	2,700	2,850	3,000	3,050	3,100	3,150	3
Network Services	765	27	970	1,240	1,605	2,050	2,685	3,515	29
Systems Operations	620	23	760	900	1,060	1,225	1,435	1,685	17
Systems Integration	450	17	525	605	705	810	925	1,175	17
Industry Sectors Total	4,900	13	5,550	6,250	7,100	7,950	9,100	10,600	14

Exhibit A-8

Industry Sectors, Utilities, France

Sector	FF Millions								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	1,300	4	1,350	1,350	1,400	1,450	1,550	1,650	4
Equipment Services	520	6	550	600	650	700	750	800	8
Software Products	600	8	650	700	800	900	1,050	1,150	12
Other Information Services	3,100	10	3,400	3,700	3,950	4,250	4,650	5,200	9
Data Communications	400	13	450	500	550	650	750	850	14
Facilities/ Administration	1,100	5	1,150	1,200	1,250	1,300	1,400	1,500	5
In-house Staff	2,650	6	2,800	2,950	3,100	3,250	3,500	3,750	6
IT Budget Total	9,670	7	10,350	11,000	11,700	12,500	13,650	14,900	8
Processing Services	80	13	90	100	110	120	135	155	11
Turnkey Systems	135	4	140	145	150	155	165	175	5
Application Software Products	95	5	100	105	110	115	125	135	6
Professional Services	2,450	8	2,650	2,850	3,050	3,250	3,500	3,750	7
Network Services	125	12	140	160	185	220	265	320	18
Systems Operations	25	20	30	35	40	45	50	60	15
Systems Integration	540	10	595	650	720	805	895	1,110	13
Industry Sectors Total	3,450	9	3,750	4,050	4,350	4,700	5,150	5,700	9

Exhibit A-9

Industry Sectors, Telecommunications, France

Sector	FF Millions								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	1,600	9	1,750	1,900	2,100	2,400	2,750	3,150	12
Equipment Services	550	9	600	650	750	800	900	1,000	11
Software Products	500	10	550	600	700	800	900	1,050	14
Other Information Services	3,450	13	3,900	4,300	4,750	5,250	5,950	6,700	11
Data Communications	600	17	700	800	950	1,100	1,300	1,500	16
Facilities/ Administration	950	5	1,000	1,050	1,150	1,250	1,400	1,550	9
In-house Staff	2,700	7	2,900	3,050	3,300	3,600	3,950	4,350	8
IT Budget Total	10,350	10	11,400	12,350	13,700	15,200	17,150	19,300	11
Processing Services	80	13	90	95	100	110	120	135	8
Turnkey Systems	125	0	125	125	125	130	135	140	2
Application Software Products	65	8	70	75	80	90	100	110	9
Professional Services	2,950	10	3,250	3,550	3,900	4,250	4,700	5,150	10
Network Services	120	25	150	190	245	320	430	575	31
Systems Operations	25	20	30	35	40	45	55	65	17
Systems Integration	250	12	280	310	350	400	455	580	16
Industry Sectors Total	3,600	11	4,000	4,400	4,850	5,350	6,000	6,750	11

Exhibit A-10

Industry Sectors, Retail Distribution, France

Sector	FF Millions								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	3,100	-5	2,950	2,750	2,550	2,450	2,400	2,350	-4
Equipment Services	1,150	0	1,150	1,150	1,150	1,150	1,150	1,150	0
Software Products	1,150	4	1,200	1,250	1,300	1,400	1,500	1,600	6
Other Information Services	2,250	9	2,450	2,550	2,700	2,900	3,150	3,500	7
Data Communications	550	9	600	600	600	650	700	750	5
Facilities/ Administration	2,600	-2	2,550	2,450	2,350	2,300	2,300	2,300	-2
In-house Staff	3,700	-5	3,500	3,200	3,000	2,800	2,700	2,600	-6
IT Budget Total	14,500	-1	14,400	13,950	13,650	13,650	13,900	14,250	0
Processing Services	140	7	150	150	150	155	165	175	3
Turnkey Systems	410	7	440	465	490	525	570	620	7
Application Software Products	320	11	355	385	420	465	520	580	10
Professional Services	950	0	950	950	900	900	900	900	-1
Network Services	300	13	340	380	440	510	610	730	17
Systems Operations	380	20	455	520	590	680	795	935	15
Systems Integration	30	17	35	40	45	50	55	70	15
Industry Sectors Total	2,550	8	2,750	2,900	3,050	3,300	3,600	4,000	8

Exhibit A-11

Industry Sectors, Wholesale Distribution, France

Sector	FF Millions								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	3,400	-7	3,150	2,850	2,600	2,450	2,350	2,250	-7
Equipment Services	1,300	-4	1,250	1,250	1,200	1,150	1,150	1,100	-3
Software Products	1,400	4	1,450	1,500	1,550	1,600	1,700	1,750	4
Other Information Services	2,850	5	3,000	3,100	3,200	3,400	3,600	3,950	6
Data Communications	550	0	550	550	550	600	600	600	2
Facilities/ Administration	2,750	-4	2,650	2,500	2,350	2,250	2,200	2,150	-4
In-house Staff	4,350	-3	4,200	3,900	3,700	3,500	3,400	3,300	-5
IT Budget Total	16,600	-2	16,250	15,650	15,150	14,950	15,000	15,100	-1
Processing Services	195	3	200	190	185	180	180	180	-2
Turnkey Systems	550	9	600	650	700	750	800	850	7
Application Software Products	460	8	495	525	555	595	650	710	7
Professional Services	1,400	0	1,400	1,350	1,300	1,250	1,200	1,150	-4
Network Services	250	12	280	310	350	405	480	570	15
Systems Operations	460	20	554	640	733	855	1,009	1,196	17
Systems Integration	30	17	35	40	45	50	55	70	15
Industry Sectors Total	3,350	6	3,550	3,700	3,850	4,100	4,350	4,750	6

Exhibit A-12

Industry Sectors, Banking & Finance, France

Sector	FF Millions								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	12,450	-8	11,400	10,450	9,700	9,350	9,150	8,950	-5
Equipment Services	4,500	-3	4,350	4,400	4,400	4,400	4,450	4,400	0
Software Products	4,600	4	4,800	5,000	5,200	5,500	5,950	6,450	6
Other Information Services	12,550	4	13,050	13,300	13,750	14,600	15,700	17,000	5
Data Communications	5,750	3	5,900	6,100	6,300	6,700	7,100	7,500	5
Facilities/ Administration	7,300	-4	7,000	6,700	6,400	6,300	6,300	6,300	-2
In-house Staff	21,600	-5	20,500	19,500	18,500	18,000	18,000	18,000	-3
IT Budget Total	68,750	-3	67,000	65,450	64,250	64,850	66,650	68,600	0
Processing Services	3,200	3	3,300	3,250	3,250	3,350	3,500	3,700	2
Turnkey Systems	1,400	7	1,500	1,600	1,700	1,850	2,050	2,250	8
Application Software Products	1,350	7	1,450	1,550	1,700	1,900	2,150	2,450	11
Professional Services	5,350	0	5,350	5,350	5,300	5,350	5,400	5,450	0
Network Services	1,730	10	1,900	2,100	2,400	2,800	3,350	4,000	16
Systems Operations	380	13	430	475	520	585	665	760	12
Systems Integration	520	0	520	520	530	550	570	670	5
Industry Sectors Total	13,900	4	14,500	14,800	15,400	16,400	17,700	19,300	6

Exhibit A-13

Industry Sectors, Insurance, France

Sector	FF Millions								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	5,050	0	5,050	5,000	4,900	4,900	4,950	5,000	0
Equipment Services	1,800	3	1,850	1,950	2,000	2,050	2,100	2,100	3
Software Products	2,000	13	2,250	2,450	2,650	2,900	3,200	3,500	9
Other Information Services	3,850	9	4,200	4,500	4,750	5,100	5,500	5,950	7
Data Communications	2,300	9	2,500	2,750	2,950	3,200	3,450	3,700	8
Facilities/ Administration	3,200	3	3,300	3,350	3,350	3,350	3,400	3,450	1
In-house Staff	8,650	3	8,900	9,000	9,000	9,100	9,300	9,500	1
IT Budget Total	26,850	4	28,050	29,000	29,600	30,600	31,900	33,200	3
Processing Services	540	11	600	650	700	750	800	850	7
Turnkey Systems	900	11	1,000	1,100	1,200	1,350	1,500	1,700	11
Application Software Products	600	17	700	800	900	1,000	1,150	1,300	13
Professional Services	1,950	8	2,100	2,200	2,250	2,300	2,350	2,400	3
Network Services	210	17	245	290	340	405	495	605	20
Systems Operations	175	14	200	225	245	270	300	335	11
Systems Integration	355	7	380	405	430	460	490	585	9
Industry Sectors Total	4,750	11	5,250	5,650	6,050	6,550	7,100	7,800	8

Exhibit A-14

Industry Sectors, Healthcare, France

Sector	FF Millions								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	2,350	-2	2,300	2,200	2,150	2,150	2,150	2,150	-1
Equipment Services	950	0	950	1,000	1,050	1,050	1,100	1,100	3
Software Products	1,000	10	1,100	1,200	1,300	1,450	1,600	1,800	10
Other Information Services	3,050	5	3,200	3,450	3,600	3,750	4,050	4,400	7
Data Communications	1,100	9	1,200	1,300	1,400	1,500	1,600	1,700	7
Facilities/ Administration	1,600	0	1,600	1,600	1,600	1,600	1,650	1,700	1
In-house Staff	4,800	0	4,800	4,800	4,800	4,800	4,900	5,000	1
IT Budget Total	14,850	2	15,150	15,550	15,900	16,300	17,050	17,850	3
Processing Services	180	8	195	205	215	230	250	275	7
Turnkey Systems	460	17	540	630	735	865	1,030	1,225	18
Application Software Products	295	14	335	375	420	475	545	625	13
Professional Services	2,300	4	2,400	2,500	2,550	2,600	2,700	2,800	3
Network Services	115	17	135	160	195	240	300	380	23
Systems Operations	10	0	10	10	10	10	10	10	0
Systems Integration	50	10	55	60	65	70	75	90	10
Industry Sectors Total	3,400	7	3,650	3,950	4,200	4,500	4,900	5,400	8

Exhibit A-15

Industry Sectors, Education, France

Sector	FF Millions								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	1,150	-4	1,100	1,050	950	900	850	800	-6
Equipment Services	480	4	500	500	500	500	500	500	0
Software Products	450	0	450	450	450	450	450	450	0
Other Information Services	1,300	8	1,400	1,450	1,400	1,350	1,400	1,400	0
Data Communications	550	9	600	650	650	650	650	650	2
Facilities/ Administration	850	0	850	850	800	750	700	650	-5
In-house Staff	3,050	0	3,050	3,050	2,900	2,750	2,650	2,550	-4
IT Budget Total	7,830	2	7,950	8,000	7,650	7,350	7,200	7,000	-3
Processing Services	20	0	20	20	20	20	20	20	0
Turnkey Systems	120	-4	115	110	95	85	75	70	-9
Application Software Products	85	-6	80	75	65	60	55	50	-9
Professional Services	1,050	5	1,100	1,150	1,100	1,050	1,050	1,050	-1
Network Services	40	0	40	40	40	40	40	40	0
Systems Operations	0	0	0	0	0	0	0	0	0
Systems Integration	60	8	65	70	70	75	75	85	6
Industry Sectors Total	1,380	3	1,420	1,470	1,390	1,330	1,320	1,320	-1

Exhibit A-18

Industry Sectors, Business Services, France

Sector	FF Millions								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	950	-5	900	800	750	700	650	600	-8
Equipment Services	440	-3	425	425	420	405	395	380	-2
Software Products	700	7	750	800	850	900	1,000	1,100	8
Other Information Services	3,500	1	3,550	3,550	3,550	3,600	3,650	3,700	1
Data Communications	405	0	405	405	405	410	415	415	0
Facilities/ Administration	950	-5	900	850	800	750	700	650	-6
In-house Staff	2,250	-4	2,150	2,050	1,950	1,850	1,800	1,750	-4
IT Budget Total	9,195	-1	9,080	8,880	8,725	8,615	8,610	8,595	-1
Processing Services	105	5	110	110	110	110	115	120	2
Turnkey Systems	470	19	560	665	790	945	1,145	1,385	20
Application Software Products	275	7	295	310	325	345	375	405	7
Professional Services	3,000	0	3,000	2,950	2,900	2,850	2,800	2,750	-2
Network Services	105	10	115	125	140	160	185	215	13
Systems Operations	25	0	25	25	25	25	25	25	0
Systems Integration	55	0	55	55	55	55	55	65	3
Industry Sectors Total	4,050	2	4,150	4,250	4,350	4,500	4,700	4,950	4

Exhibit A-19

Industry Sectors, Other Industries, France

Sector	FF Millions								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	2,200	-11	1,950	1,800	1,700	1,650	1,600	1,550	-4
Equipment Services	805	-6	760	780	790	785	795	785	1
Software Products	745	1	750	780	810	840	890	935	5
Other Information Services	2,100	0	2,100	2,200	2,250	2,350	2,450	2,600	4
Data Communications	55	9	60	70	85	100	120	140	18
Facilities/ Administration	95	-5	90	90	90	90	90	90	0
In-house Staff	280	-9	255	240	225	215	210	205	-4
IT Budget Total	6,280	-5	5,965	5,960	5,950	6,030	6,155	6,305	1
Processing Services	75	7	80	85	90	95	105	115	8
Turnkey Systems	250	0	250	260	270	280	295	315	5
Application Software Products	175	3	180	190	205	220	240	260	8
Professional Services	1,550	0	1,550	1,600	1,650	1,700	1,750	1,800	3
Network Services	70	-14	60	60	60	60	60	60	0
Systems Operations	60	8	65	70	75	85	95	105	10
Systems Integration	55	0	55	60	65	70	75	90	10
Industry Sectors Total	2,250	0	2,250	2,350	2,400	2,500	2,600	2,750	4

D

Cross-Industry Sectors in Local Currency

Exhibit A-20

Information Services Market by Cross-Industry Sectors, France

Sector	FF Millions								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Accounting	1,700	0	1,700	1,700	1,800	1,950	2,100	2,250	6
Education & Training	145	-10	130	115	115	115	115	115	-2
Engineering & Scientific	500	0	500	500	500	500	500	500	0
Human Resources	500	0	500	500	500	500	500	500	0
Office Systems	1,850	3	1,900	2,050	2,350	2,750	3,200	3,700	14
Planning & Analysis	1,650	-3	1,600	1,600	1,650	1,750	1,850	1,950	4
Other Cross-Industry	350	0	350	350	350	350	350	350	0
Cross-Industry Sectors Total	9,500	-2	9,300	9,300	9,900	10,600	11,500	12,300	6

Exhibit A-21

Cross-Industry Sectors, Accounting, France

Sector	FF Millions								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Transaction Processing	70	-7	65	60	60	60	60	60	-2
Turnkey Systems	400	0	400	400	450	500	550	600	8
Application Software Products	1,700	0	1,700	1,700	1,800	1,950	2,100	2,250	6
Cross-Industry Sectors Total	2,150	0	2,150	2,150	2,300	2,500	2,700	2,900	6

Exhibit A-22

Cross-Industry Sectors, Education & Training, France

Sector	FF Millions								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Transaction Processing	20	0	20	20	20	20	20	20	0
Turnkey Systems	165	0	165	165	175	185	195	205	4
Application Software Products	145	-10	130	115	115	115	115	115	-2
Cross-Industry Sectors Total	330	-5	315	300	310	320	330	340	2

Exhibit A-23

Cross-Industry Sectors, Engineering & Scientific, France

Sector	FF Millions								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Transaction Processing	65	-8	60	55	55	55	55	55	-2
Turnkey Systems	110	0	110	110	115	125	135	145	6
Application Software Products	500	0	500	500	500	500	500	500	0
Cross-Industry Sectors Total	680	-1	670	670	670	680	690	700	1

Exhibit A-24

Cross-Industry Sectors, Human Resources, France

Sector	FF Millions								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Transaction Processing	850	-12	750	700	700	700	700	700	-1
Turnkey Systems	80	0	80	80	85	90	95	100	5
Application Software Products	500	0	500	500	500	500	500	500	0
Cross-Industry Sectors Total	1,450	-7	1,350	1,300	1,300	1,300	1,300	1,300	-1

Exhibit A-25

Cross-Industry Sectors, Office Systems, France

Sector	FF Millions								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Transaction Processing	20	0	20	20	25	30	35	45	18
Turnkey Systems	130	4	135	140	160	185	215	245	13
Application Software Products	1,850	3	1,900	2,050	2,350	2,750	3,200	3,700	14
Cross-Industry Sectors Total	2,000	2	2,050	2,200	2,550	2,950	3,450	4,000	14

Exhibit A-26

Cross-Industry Sectors, Planning & Analysis, France

Sector	FF Millions								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Transaction Processing	90	-11	80	75	75	75	75	75	-1
Turnkey Systems	50	0	50	50	55	60	65	70	7
Application Software Products	1,650	-3	1,600	1,600	1,650	1,750	1,850	1,950	4
Cross-Industry Sectors Total	1,800	-3	1,750	1,750	1,800	1,900	2,000	2,100	4

Exhibit A-27

Other Cross-Industry, France

Sector	FF Millions								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Transaction Processing	300	-17	250	250	250	250	250	250	0
Turnkey Systems	400	0	400	400	400	400	400	400	0
Application Software Products	350	0	350	350	350	350	350	350	0
Cross-Industry Sectors Total	1,050	-5	1,000	1,000	1,000	1,000	1,000	1,000	0

Information Services Industry

Forecast Database, 1994-1999

France

(US\$ Million)

E

Forecast Database in US Dollars

Exhibit A-28

Top Level IT Expenditure, France

Sector	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	9,200	-8	8,500	7,700	7,200	6,900	6,800	6,600	-5
Equipment Services	3,500	-3	3,400	3,400	3,400	3,300	3,300	3,300	-1
Software Products	5,300	3	5,400	5,600	5,900	6,200	6,700	7,200	6
Other Information Services	11,300	4	11,700	12,000	12,600	13,200	14,000	15,300	6
Data Communications	3,200	5	3,400	3,500	3,700	4,000	4,300	4,500	6
Facilities/ Administration	5,800	-4	5,600	5,400	5,100	5,000	4,900	4,800	-3
In-house Staff	16,300	-5	15,500	14,700	14,000	13,500	13,300	13,100	-3
IT Budget Total	55,000	-2	53,000	52,000	52,000	52,000	53,000	55,000	1

Exhibit A-29

Information Services Market
Forecast by Delivery Mode and Submode
France, 1994-1999

Delivery Modes	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR(%)
Software and Services Total (ex. Equipment Services)	17,600	4	18,300	18,800	19,700	20,700	22,200	23,900	5
Professional Services	6,500	2	6,600	6,700	6,700	6,800	6,900	7,000	1
- IS Consulting	740	10	810	860	910	960	1,030	1,090	6
- Education & Training	570	8	610	630	660	680	710	750	4
- Custom Software	5,100	-1	5,100	5,100	5,100	5,000	5,000	5,000	0
- Application Management	34	30	44	54	68	85	107	134	25
Systems Integration	860	8	930	1,020	1,100	1,190	1,290	1,540	11
- Equipment	237	4	246	263	280	310	330	350	7
- Application Software	161	5	169	212	263	320	400	480	23
- System Software	68	13	76	81	88	95	103	110	8
- Professional Services	380	11	420	440	440	430	420	560	6
- Other	17	20	20	24	28	33	39	46	18
Systems Operations	640	18	760	860	1,000	1,160	1,370	1,670	17
- Platform Operations	237	13	268	273	292	320	350	430	10
- Application Operations	360	21	440	520	620	730	880	1,050	19
- Desktop Services	42	30	55	70	90	114	147	190	28
Processing Services	1,500	1	1,510	1,490	1,510	1,540	1,610	1,680	2
- Transaction Processing	1,310	-1	1,300	1,270	1,270	1,290	1,340	1,390	1
- Utility Processing	60	0	60	58	58	58	58	59	0
- Other Processing	135	10	148	164	178	195	211	227	9
Network Services	1,300	9	1,420	1,580	1,780	2,050	2,420	2,880	15
- Electronic Info Svcs	740	8	800	860	920	990	1,090	1,190	8
- Network Applications	440	7	480	560	680	840	1,090	1,410	24
- Network Management	119	20	142	164	190	220	254	286	15
System Software Product	2,630	2	2,680	2,710	2,750	2,800	2,900	3,000	2
- Mainframe	1,110	-4	1,070	1,020	960	890	820	740	-7
- Minicomputer	860	4	900	920	940	980	1,030	1,090	4
- Workstation /PC	650	9	710	780	850	930	1,040	1,170	10
Application Software Product	2,460	3	2,530	2,610	2,770	3,000	3,300	3,600	7
- Mainframe	169	-14	146	125	110	98	90	83	-11
- Minicomputer	730	1	740	750	790	850	900	930	5
- Workstation /PC	1,560	5	1,640	1,740	1,870	2,050	2,300	2,580	9
Turnkey Systems	1,800	4	1,870	1,940	2,040	2,200	2,380	2,590	7
- Equipment	900	2	920	930	960	990	1,030	1,080	3
- Application Software	420	6	440	480	510	570	640	710	10
- System Software	31	6	32	34	36	37	39	41	5
- Professional Services	450	6	480	510	540	600	680	750	10
Equipment Services	3,500	-3	3,400	3,400	3,400	3,300	3,300	3,300	-1
- Equipment Maintenance	2,320	-8	2,140	2,050	1,970	1,830	1,750	1,610	-5
- Environmental Services	1,170	6	1,240	1,320	1,410	1,490	1,560	1,640	6
Grand Total	21,200	2	21,600	22,300	23,100	24,000	25,400	27,200	5
Information Service Market									

F

Sector Summary in US Dollars

Exhibit A-30

Information Services Market by Sector Summary, France

Sector	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Processing Services	1,068	2	1,085	1,068	1,068	1,085	1,136	1,186	2
Turnkey Systems	1,576	4	1,644	1,712	1,797	1,932	2,102	2,288	7
Application Software Products	1,322	5	1,390	1,458	1,542	1,661	1,831	2,000	8
Professional Services	6,475	2	6,576	6,661	6,729	6,763	6,864	6,983	1
Network Services	932	9	1,017	1,153	1,322	1,559	1,881	2,288	18
Systems Operations	644	18	763	864	1,000	1,161	1,373	1,669	17
Systems Integration	864	8	932	1,017	1,102	1,186	1,288	1,542	11
Industry Sectors Total	12,881	4	13,390	13,898	14,576	15,339	16,441	17,966	6
Transaction Processing	241	-12	212	200	202	202	203	205	-1
Turnkey Systems	227	0	227	229	244	263	281	300	6
Application Software Products	1,136	0	1,136	1,153	1,229	1,339	1,458	1,585	7
Cross-Industry Sectors Total	1,610	-2	1,576	1,576	1,678	1,797	1,949	2,085	6
Equipment Services	3,492	-3	3,373	3,373	3,373	3,322	3,305	3,254	-1
System Software Products	2,627	2	2,678	2,712	2,746	2,797	2,898	3,000	2
Utility and Other Processing	195	7	208	222	236	253	269	286	7
Other Electronic Info Services	368	8	398	427	458	495	542	593	8
Generic Sectors Total	6,681	0	6,658	6,734	6,812	6,866	7,015	7,134	1
Total Information Services	21,169	2	21,627	22,212	23,068	24,000	25,407	27,186	0

G

Industry Sectors in US Dollars

Exhibit A-31

Information Services Market by Industry Sectors, France

Sector	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Discrete Manufacturing	1,814	-7	1,678	1,559	1,542	1,525	1,559	1,627	-1
Process Manufacturing	1,008	6	1,068	1,102	1,144	1,203	1,280	1,381	5
Transportation	831	13	941	1,059	1,203	1,347	1,542	1,797	14
Utilities	585	9	636	686	737	797	873	966	9
Telecommunications	610	11	678	746	822	907	1,017	1,144	11
Retail Distribution	432	8	466	492	517	559	610	678	8
Wholesale Distribution	568	6	602	627	653	695	737	805	6
Banking & Finance	2,356	4	2,458	2,508	2,610	2,780	3,000	3,271	6
Insurance	805	11	890	958	1,025	1,110	1,203	1,322	8
Healthcare	576	7	619	669	712	763	831	915	8
Education	234	3	241	249	236	225	224	224	-1
Local Government	983	6	1,042	1,085	1,136	1,186	1,246	1,322	5
Central Government	1,000	3	1,025	1,051	1,076	1,068	1,085	1,195	3
Business Services	686	2	703	720	737	763	797	839	4
Other Industries	381	0	381	398	407	424	441	466	4
Industry Sectors Total	12,881	4	13,390	13,898	14,576	15,339	16,441	17,966	6

Exhibit A-32

Industry Sectors, Discrete Manufacturing, France

Sector	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	1,229	-19	1,000	805	695	619	559	500	-13
Equipment Services	500	-14	432	390	364	331	305	280	-8
Software Products	873	-5	831	780	771	771	780	788	-1
Other Information Services	1,195	-9	1,085	1,008	992	966	983	1,042	-1
Data Communications	288	0	288	288	305	322	339	356	4
Facilities/ Administration	661	-14	568	483	432	390	356	331	-10
In-house Staff	2,542	-13	2,203	1,864	1,695	1,525	1,441	1,356	-9
IT Budget Total	7,288	-12	6,407	5,619	5,254	4,924	4,763	4,653	-6
Processing Services	136	-13	119	98	87	78	72	66	-11
Turnkey Systems	373	-9	339	305	288	280	271	263	-5
Application Software Products	458	-2	449	432	441	449	466	483	1
Professional Services	475	-18	390	322	280	237	203	178	-15
Network Services	152	-2	149	148	158	170	189	210	7
Systems Operations	149	14	170	188	215	249	292	342	15
Systems Integration	66	-1	65	64	66	69	72	84	5
Industry Sectors Total	1,814	-7	1,678	1,559	1,542	1,525	1,559	1,627	-1

Exhibit A-33

Industry Sectors, Process Manufacturing, France

Sector	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	771	-8	712	653	602	568	542	517	-6
Equipment Services	297	-3	288	288	288	280	271	263	-2
Software Products	424	4	441	458	475	500	525	568	5
Other Information Services	720	6	763	788	814	847	898	966	5
Data Communications	339	2	347	356	364	381	390	398	3
Facilities/ Administration	466	-4	449	424	398	381	373	364	-4
In-house Staff	1,525	-4	1,458	1,373	1,305	1,254	1,220	1,186	-4
IT Budget Total	4,542	-2	4,458	4,339	4,246	4,212	4,220	4,263	-1
Processing Services	51	0	51	48	46	44	43	42	-4
Turnkey Systems	237	7	254	263	271	288	305	331	5
Application Software Products	161	5	169	178	186	203	220	237	7
Professional Services	322	0	322	314	305	297	288	280	-3
Network Services	76	10	84	92	104	119	139	163	14
Systems Operations	95	16	110	127	144	161	186	212	14
Systems Integration	68	8	73	78	84	92	99	120	11
Industry Sectors Total	1,008	6	1,068	1,102	1,144	1,203	1,280	1,381	5

Exhibit A-34

Industry Sectors, Transportation, France

Sector	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	220	-8	203	186	178	161	153	144	-7
Equipment Services	86	5	90	97	103	105	108	109	4
Software Products	110	15	127	144	169	195	220	254	15
Other Information Services	754	13	856	958	1,076	1,195	1,373	1,593	13
Data Communications	83	24	103	129	160	197	240	290	23
Facilities/ Administration	186	5	195	195	195	195	195	195	0
In-house Staff	424	-2	415	407	398	381	373	364	-3
IT Budget Total	1,864	7	1,990	2,115	2,281	2,429	2,662	2,950	8
Processing Services	14	12	16	17	18	19	19	20	5
Turnkey Systems	47	11	52	57	63	68	75	82	10
Application Software Products	26	23	32	39	47	55	66	80	20
Professional Services	432	6	458	483	508	517	525	534	3
Network Services	130	27	164	210	272	347	455	596	29
Systems Operations	105	23	129	153	180	208	243	286	17
Systems Integration	76	17	89	103	119	137	157	199	17
Industry Sectors Total	831	13	941	1,059	1,203	1,347	1,542	1,797	14

Exhibit A-35

Industry Sectors, Utilities, France

Sector	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	220	4	229	229	237	246	263	280	4
Equipment Services	88	6	93	102	110	119	127	136	8
Software Products	102	8	110	119	136	153	178	195	12
Other Information Services	525	10	576	627	669	720	788	881	9
Data Communications	68	13	76	85	93	110	127	144	14
Facilities/ Administration	186	5	195	203	212	220	237	254	5
In-house Staff	449	6	475	500	525	551	593	636	6
IT Budget Total	1,639	7	1,754	1,864	1,983	2,119	2,314	2,525	8
Processing Services	14	13	15	17	19	20	23	26	11
Turnkey Systems	23	4	24	25	25	26	28	30	5
Application Software Products	16	5	17	18	19	19	21	23	6
Professional Services	415	8	449	483	517	551	593	636	7
Network Services	21	12	24	27	31	37	45	54	18
Systems Operations	4	20	5	6	7	8	8	10	15
Systems Integration	92	10	101	110	122	136	152	188	13
Industry Sectors Total	585	9	636	686	737	797	873	966	9

Exhibit A-36

Industry Sectors, Telecommunications, France

Sector	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	271	9	297	322	356	407	466	534	12
Equipment Services	93	9	102	110	127	136	153	169	11
Software Products	85	10	93	102	119	136	153	178	14
Other Information Services	585	13	661	729	805	890	1,008	1,136	11
Data Communications	102	17	119	136	161	186	220	254	16
Facilities/ Administration	161	5	169	178	195	212	237	263	9
In-house Staff	458	7	492	517	559	610	669	737	8
IT Budget Total	1,754	10	1,932	2,093	2,322	2,576	2,907	3,271	11
Processing Services	14	13	15	16	17	19	20	23	8
Turnkey Systems	21	0	21	21	21	22	23	24	2
Application Software Products	11	8	12	13	14	15	17	19	9
Professional Services	500	10	551	602	661	720	797	873	10
Network Services	20	25	25	32	42	54	73	97	31
Systems Operations	4	20	5	6	7	8	9	11	17
Systems Integration	42	12	47	53	59	68	77	98	16
Industry Sectors Total	610	11	678	746	822	907	1,017	1,144	11

Exhibit A-37

Industry Sectors, Retail Distribution, France

Sector	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	525	-5	500	466	432	415	407	398	-4
Equipment Services	195	0	195	195	195	195	195	195	0
Software Products	195	4	203	212	220	237	254	271	6
Other Information Services	381	9	415	432	458	492	534	593	7
Data Communications	93	9	102	102	102	110	119	127	5
Facilities/ Administration	441	-2	432	415	398	390	390	390	-2
In-house Staff	627	-5	593	542	508	475	458	441	-6
IT Budget Total	2,458	-1	2,441	2,364	2,314	2,314	2,356	2,415	0
Processing Services	24	7	25	25	25	26	28	30	3
Turnkey Systems	69	7	75	79	83	89	97	105	7
Application Software Products	54	11	60	65	71	79	88	98	10
Professional Services	161	0	161	161	153	153	153	153	-1
Network Services	51	13	58	64	75	86	103	124	17
Systems Operations	64	20	77	88	100	115	135	158	15
Systems Integration	5	17	6	7	8	8	9	12	15
Industry Sectors Total	432	8	466	492	517	559	610	678	8

Exhibit A-38

Industry Sectors, Wholesale Distribution, France

Sector	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	576	-7	534	483	441	415	398	381	-7
Equipment Services	220	-4	212	212	203	195	195	186	-3
Software Products	237	4	246	254	263	271	288	297	4
Other Information Services	483	5	508	525	542	576	610	669	6
Data Communications	93	0	93	93	93	102	102	102	2
Facilities/ Administration	466	-4	449	424	398	381	373	364	-4
In-house Staff	737	-3	712	661	627	593	576	559	-5
IT Budget Total	2,814	-2	2,754	2,653	2,568	2,534	2,542	2,559	-1
Processing Services	33	3	34	32	31	31	31	31	-2
Turnkey Systems	93	9	102	110	119	127	136	144	7
Application Software Products	78	8	84	89	94	101	110	120	7
Professional Services	237	0	237	229	220	212	203	195	-4
Network Services	42	12	47	53	59	69	81	97	15
Systems Operations	78	20	94	108	124	145	171	203	17
Systems Integration	5	17	6	7	8	8	9	12	15
Industry Sectors Total	568	6	602	627	653	695	737	805	6

Exhibit A-39

Industry Sectors, Banking & Finance, France

Sector	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	2,110	-8	1,932	1,771	1,644	1,585	1,551	1,517	-5
Equipment Services	763	-3	737	746	746	746	754	746	0
Software Products	780	4	814	847	881	932	1,008	1,093	6
Other Information Services	2,127	4	2,212	2,254	2,331	2,475	2,661	2,881	5
Data Communications	975	3	1,000	1,034	1,068	1,136	1,203	1,271	5
Facilities/ Administration	1,237	-4	1,186	1,136	1,085	1,068	1,068	1,068	-2
In-house Staff	3,661	-5	3,475	3,305	3,136	3,051	3,051	3,051	-3
IT Budget Total	11,653	-3	11,356	11,093	10,890	10,992	11,297	11,627	0
Processing Services	542	3	559	551	551	568	593	627	2
Turnkey Systems	237	7	254	271	288	314	347	381	8
Application Software Products	229	7	246	263	288	322	364	415	11
Professional Services	907	0	907	907	898	907	915	924	0
Network Services	293	10	322	356	407	475	568	678	16
Systems Operations	64	13	73	81	88	99	113	129	12
Systems Integration	88	0	88	88	90	93	97	114	5
Industry Sectors Total	2,356	4	2,458	2,508	2,610	2,780	3,000	3,271	6

Exhibit A-40

Industry Sectors, Insurance, France

Sector	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	856	0	856	847	831	831	839	847	0
Equipment Services	305	3	314	331	339	347	356	356	3
Software Products	339	13	381	415	449	492	542	593	9
Other Information Services	653	9	712	763	805	864	932	1,008	7
Data Communications	390	9	424	466	500	542	585	627	8
Facilities/ Administration	542	3	559	568	568	568	576	585	1
In-house Staff	1,466	3	1,508	1,525	1,525	1,542	1,576	1,610	1
IT Budget Total	4,551	4	4,754	4,915	5,017	5,186	5,407	5,627	3
Processing Services	92	11	102	110	119	127	136	144	7
Turnkey Systems	153	11	169	186	203	229	254	288	11
Application Software Products	102	17	119	136	153	169	195	220	13
Professional Services	331	8	356	373	381	390	398	407	3
Network Services	36	17	42	49	58	69	84	103	20
Systems Operations	30	14	34	38	42	46	51	57	11
Systems Integration	60	7	64	69	73	78	83	99	9
Industry Sectors Total	805	11	890	958	1,025	1,110	1,203	1,322	8

Exhibit A-41

Industry Sectors, Healthcare, France

Sector	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	398	-2	390	373	364	364	364	364	-1
Equipment Services	161	0	161	169	178	178	186	186	3
Software Products	169	10	186	203	220	246	271	305	10
Other Information Services	517	5	542	585	610	636	686	746	7
Data Communications	186	9	203	220	237	254	271	288	7
Facilities/ Administration	271	0	271	271	271	271	280	288	1
In-house Staff	814	0	814	814	814	814	831	847	1
IT Budget Total	2,517	2	2,568	2,636	2,695	2,763	2,890	3,025	3
Processing Services	31	8	33	35	36	39	42	47	7
Turnkey Systems	78	17	92	107	125	147	175	208	18
Application Software Products	50	14	57	64	71	81	92	106	13
Professional Services	390	4	407	424	432	441	458	475	3
Network Services	19	17	23	27	33	41	51	64	23
Systems Operations	2	0	2	2	2	2	2	2	0
Systems Integration	8	10	9	10	11	12	13	15	10
Industry Sectors Total	576	7	619	669	712	763	831	915	8

Exhibit A-42

Industry Sectors, Education, France

Sector	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	195	-4	186	178	161	153	144	136	-6
Equipment Services	81	4	85	85	85	85	85	85	0
Software Products	76	0	76	76	76	76	76	76	0
Other Information Services	220	8	237	246	237	229	237	237	0
Data Communications	93	9	102	110	110	110	110	110	2
Facilities/ Administration	144	0	144	144	136	127	119	110	-5
In-house Staff	517	0	517	517	492	466	449	432	-4
IT Budget Total	1,327	2	1,347	1,356	1,297	1,246	1,220	1,186	-3
Processing Services	3	0	3	3	3	3	3	3	0
Turnkey Systems	20	-4	19	19	16	14	13	12	-9
Application Software Products	14	-6	14	13	11	10	9	8	-9
Professional Services	178	5	186	195	186	178	178	178	-1
Network Services	7	0	7	7	7	7	7	7	0
Systems Operations	0	0	0	0	0	0	0	0	0
Systems Integration	10	8	11	12	12	13	13	14	6
Industry Sectors Total	234	3	241	249	236	225	224	224	-1

Exhibit A-43

Industry Sectors, Local Government, France

Sector	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	644	-8	593	542	500	475	458	441	-6
Equipment Services	234	-2	229	229	229	220	220	212	-2
Software Products	203	4	212	220	229	237	263	280	6
Other Information Services	958	6	1,017	1,051	1,093	1,136	1,178	1,237	4
Data Communications	254	3	263	271	280	288	297	305	3
Facilities/ Administration	415	-6	390	364	339	322	305	297	-5
In-house Staff	1,254	-4	1,203	1,136	1,068	1,017	983	949	-5
IT Budget Total	3,963	-1	3,907	3,814	3,737	3,695	3,703	3,720	-1
Processing Services	32	8	35	36	37	39	42	44	5
Turnkey Systems	47	9	51	55	59	64	71	78	9
Application Software Products	32	13	36	41	46	52	59	69	14
Professional Services	780	4	814	839	864	890	915	941	3
Network Services	10	-8	9	8	8	8	8	8	-4
Systems Operations	34	20	41	47	53	62	72	85	16
Systems Integration	49	10	54	59	65	73	81	100	13
Industry Sectors Total	983	6	1,042	1,085	1,136	1,186	1,246	1,322	5

Exhibit A-44

Industry Sectors, Central Government, France

Sector	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	636	-16	534	441	364	297	246	203	-18
Equipment Services	254	-10	229	220	203	178	153	127	-11
Software Products	263	0	263	271	280	280	280	297	2
Other Information Services	873	1	881	890	890	856	847	924	1
Data Communications	195	-4	186	178	169	161	153	144	-5
Facilities/ Administration	475	-9	432	390	347	297	254	220	-13
In-house Staff	1,415	-10	1,271	1,119	983	831	712	610	-14
IT Budget Total	4,110	-8	3,797	3,508	3,237	2,898	2,644	2,525	-8
Processing Services	44	2	45	43	42	40	38	36	-4
Turnkey Systems	47	5	50	53	55	55	56	57	3
Application Software Products	20	-13	18	15	14	11	9	8	-16
Professional Services	568	0	568	559	542	500	466	432	-5
Network Services	37	2	38	39	41	41	42	44	3
Systems Operations	2	108	4	8	18	36	75	153	105
Systems Integration	280	9	305	331	364	381	398	466	9
Industry Sectors Total	1,000	3	1,025	1,051	1,076	1,068	1,085	1,195	3

Exhibit A-45

Industry Sectors, Business Services, France

Sector	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	161	-5	153	136	127	119	110	102	-8
Equipment Services	75	-3	72	72	71	69	67	64	-2
Software Products	119	7	127	136	144	153	169	186	8
Other Information Services	593	1	602	602	602	610	619	627	1
Data Communications	69	0	69	69	69	69	70	70	0
Facilities/ Administration	161	-5	153	144	136	127	119	110	-6
In-house Staff	381	-4	364	347	331	314	305	297	-4
IT Budget Total	1,558	-1	1,539	1,505	1,479	1,460	1,459	1,457	-1
Processing Services	18	5	19	19	19	19	19	20	2
Turnkey Systems	80	19	95	113	134	160	194	235	20
Application Software Products	47	7	50	53	55	58	64	69	7
Professional Services	508	0	508	500	492	483	475	466	-2
Network Services	18	10	19	21	24	27	31	36	13
Systems Operations	4	0	4	4	4	4	4	4	0
Systems Integration	9	0	9	9	9	9	9	11	3
Industry Sectors Total	686	2	703	720	737	763	797	839	4

Exhibit A-46

Industry Sectors, Other Industries, France

Sector	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	373	-11	331	305	288	280	271	263	-4
Equipment Services	136	-6	129	132	134	133	135	133	1
Software Products	126	1	127	132	137	142	151	158	5
Other Information Services	356	0	356	373	381	398	415	441	4
Data Communications	9	9	10	12	14	17	20	24	18
Facilities/ Administration	16	-5	15	15	15	15	15	15	0
In-house Staff	47	-9	43	41	38	36	36	35	-4
IT Budget Total	1,064	-5	1,011	1,010	1,008	1,022	1,043	1,069	1
Processing Services	13	7	14	14	15	16	18	19	8
Turnkey Systems	42	0	42	44	46	47	50	53	5
Application Software Products	30	3	31	32	35	37	41	44	8
Professional Services	263	0	263	271	280	288	297	305	3
Network Services	12	-14	10	10	10	10	10	10	0
Systems Operations	10	8	11	12	13	14	16	18	10
Systems Integration	9	0	9	10	11	12	13	15	10
Industry Sectors Total	381	0	381	398	407	424	441	466	4

H

Cross-Industry Sectors in US Dollars

Exhibit A-47

Information Services Market by Cross-Industry Sectors, France

Sector	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Accounting	288	0	288	288	305	331	356	381	6
Education & Training	25	-10	22	19	19	19	19	19	-2
Engineering & Scientific	85	0	85	85	85	85	85	85	0
Human Resources	85	0	85	85	85	85	85	85	0
Office Systems	314	3	322	347	398	466	542	627	14
Planning & Analysis	280	-3	271	271	280	297	314	331	4
Other Cross-Industry	59	0	59	59	59	59	59	59	0
Cross-Industry Sectors Total	1,610	-2	1,576	1,576	1,678	1,797	1,949	2,085	6

Exhibit A-27

Cross-Industry Sectors, Accounting, France

Sector	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Transaction Processing	12	-7	11	10	10	10	10	10	-2
Turnkey Systems	68	0	68	68	76	85	93	102	8
Application Software Products	288	0	288	288	305	331	356	381	6
Cross-Industry Sectors Total	364	0	364	364	390	424	458	492	6

Exhibit A-49

Cross-Industry Sectors, Education & Training, France

Sector	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Transaction Processing	3	0	3	3	3	3	3	3	0
Turnkey Systems	28	0	28	28	30	31	33	35	4
Application Software Products	25	-10	22	19	19	19	19	19	-2
Cross-Industry Sectors Total	56	-5	53	51	53	54	56	58	2

Exhibit A-50

Cross-Industry Sectors, Engineering & Scientific, France

Sector	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Transaction Processing	11	-8	10	9	9	9	9	9	-2
Turnkey Systems	19	0	19	19	19	21	23	25	6
Application Software Products	85	0	85	85	85	85	85	85	0
Cross-Industry Sectors Total	115	-1	114	114	114	115	117	119	1

Exhibit A-51

Cross-Industry Sectors, Human Resources, France

Sector	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Transaction Processing	144	-12	127	119	119	119	119	119	-1
Turnkey Systems	14	0	14	14	14	15	16	17	5
Application Software Products	85	0	85	85	85	85	85	85	0
Cross-Industry Sectors Total	246	-7	229	220	220	220	220	220	-1

Exhibit A-52

Cross-Industry Sectors, Office Systems, France

Sector	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Transaction Processing	3	0	3	3	4	5	6	8	18
Turnkey Systems	22	4	23	24	27	31	36	42	13
Application Software Products	314	3	322	347	398	466	542	627	14
Cross-Industry Sectors Total	339	2	347	373	432	500	585	678	14

Exhibit A-53

Cross-Industry Sectors, Planning & Analysis, France

Sector	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Transaction Processing	15	-11	14	13	13	13	13	13	-1
Turnkey Systems	8	0	8	8	9	10	11	12	7
Application Software Products	280	-3	271	271	280	297	314	331	4
Cross-Industry Sectors Total	305	-3	297	297	305	322	339	356	4

Exhibit A-54

Other Cross-Industry, France

Sector	US\$ Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Transaction Processing	51	-17	42	42	42	42	42	42	0
Turnkey Systems	68	0	68	68	68	68	68	68	0
Application Software Products	59	0	59	59	59	59	59	59	0
Cross-Industry Sectors Total	178	-5	169	169	169	169	169	169	0

Information Services Industry

Forecast Database, 1994-1999

France

(ECU Million)

I

Forecast Database in ECUs

Exhibit A-55

Top Level IT Expenditure, France

Sector	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	8,200	-8	7,600	6,900	6,500	6,200	6,100	5,900	-5
Equipment Services	3,100	-3	3,000	3,000	3,000	2,970	2,960	2,910	-1
Software Products	4,700	3	4,900	5,000	5,300	5,600	6,000	6,400	6
Other Information Services	10,100	4	10,400	10,800	11,300	11,800	12,600	13,700	6
Data Communications	2,900	5	3,000	3,200	3,300	3,600	3,800	4,000	6
Facilities/ Administration	5,200	-4	5,000	4,800	4,600	4,400	4,400	4,300	-3
In-house Staff	14,600	-5	13,900	13,100	12,500	12,000	11,900	11,700	-3
IT Budget Total	49,000	-2	48,000	47,000	46,000	47,000	48,000	49,000	1

Exhibit A-56

Information Services Market
Forecast by Delivery Mode and Submode
France, 1994-1999

	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR(%)
Software and Services Total (ex. Equipment Services)	15,800	4	16,400	16,800	17,600	18,500	19,900	21,400	5
Professional Services	5,800	2	5,900	6,000	6,000	6,100	6,100	6,300	1
- IS Consulting	660	10	730	770	810	860	920	980	6
- Education & Training	510	8	550	570	590	610	640	670	4
- Custom Software	4,600	-1	4,600	4,600	4,600	4,500	4,500	4,500	0
- Application Management	30	30	39	49	61	76	96	120	25
Systems Integration	770	8	840	910	990	1,060	1,150	1,380	11
- Equipment	212	4	220	235	250	273	296	310	7
- Application Software	144	5	152	190	235	288	360	430	23
- System Software	61	13	68	73	79	85	93	99	8
- Professional Services	340	11	380	400	400	390	370	500	6
- Other	15	20	18	21	25	30	35	41	18
Systems Operations	580	18	680	770	900	1,040	1,230	1,500	17
- Platform Operations	212	13	240	244	261	282	310	380	10
- Application Operations	330	21	400	470	550	660	790	940	19
- Desktop Services	38	30	49	63	80	102	132	170	28
Processing Services	1,340	1	1,350	1,340	1,350	1,380	1,440	1,500	2
- Transaction Processing	1,170	-1	1,160	1,140	1,140	1,150	1,200	1,240	1
- Utility Processing	54	0	54	52	52	52	52	53	0
- Other Processing	121	10	133	146	159	175	189	203	9
Network Services	1,160	9	1,270	1,410	1,590	1,840	2,170	2,580	15
- Electronic Info Svcs	660	8	710	770	820	890	970	1,060	8
- Network Applications	400	7	430	500	600	750	970	1,260	24
- Network Management	106	20	127	147	170	197	228	256	15
System Software Product	2,350	2	2,400	2,430	2,460	2,500	2,600	2,690	2
- Mainframe	990	-4	960	910	860	800	740	660	-7
- Minicomputer	770	4	800	820	840	870	930	980	4
- Workstation /PC	580	9	640	700	760	840	930	1,050	10
Application Software Product	2,200	3	2,260	2,340	2,480	2,690	2,940	3,200	7
- Mainframe	152	-14	131	112	99	88	80	74	-11
- Minicomputer	650	1	660	670	710	760	810	830	5
- Workstation /PC	1,400	5	1,470	1,560	1,680	1,840	2,060	2,310	9
Turnkey Systems	1,620	4	1,680	1,740	1,830	1,970	2,130	2,320	7
- Equipment	800	2	820	840	860	890	930	960	3
- Application Software	370	6	400	430	460	510	570	640	10
- System Software	27	6	29	30	32	33	35	36	5
- Professional Services	400	6	430	460	490	540	610	680	10
Equipment Services	3,100	-3	3,000	3,000	3,000	2,970	2,960	2,910	-1
- Equipment Maintenance	2,080	-8	1,910	1,840	1,760	1,640	1,560	1,440	-5
- Environmental Services	1,050	6	1,110	1,180	1,260	1,340	1,400	1,470	6
Grand Total	19,000	2	19,300	20,000	20,600	21,500	22,800	24,400	5
Information Service Market									

J

Sector Summary in ECUs

Exhibit A-57

Information Services Market by Sector Summary, France

Sector	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Processing Services	956	2	971	956	956	971	1,017	1,062	2
Turnkey Systems	1,411	4	1,472	1,533	1,608	1,730	1,882	2,049	7
Application Software Products	1,184	5	1,244	1,305	1,381	1,487	1,639	1,791	8
Professional Services	5,797	2	5,888	5,964	6,024	6,055	6,146	6,252	1
Network Services	835	9	910	1,032	1,184	1,396	1,684	2,049	18
Systems Operations	577	18	683	774	895	1,039	1,229	1,495	17
Systems Integration	774	8	835	910	986	1,062	1,153	1,381	11
Industry Sectors Total	11,533	4	11,988	12,443	13,050	13,733	14,719	16,085	6
Transaction Processing	215	-12	190	179	181	181	182	184	-1
Turnkey Systems	203	0	203	205	219	235	252	269	6
Application Software Products	1,017	0	1,017	1,032	1,100	1,199	1,305	1,419	7
Cross-Industry Sectors Total	1,442	-2	1,411	1,411	1,502	1,608	1,745	1,866	6
Equipment Services	3,126	-3	3,020	3,020	3,020	2,974	2,959	2,914	-1
System Software Products	2,352	2	2,398	2,428	2,458	2,504	2,595	2,686	2
Utility and Other Processing	175	7	187	199	211	226	241	256	7
Other Electronic Info Services	329	8	357	382	410	443	486	531	8
Generic Sectors Total	5,982	0	5,961	6,029	6,099	6,147	6,281	6,387	1
Total Information Services	18,953	2	19,363	19,886	20,653	21,487	22,747	24,340	0

K

Industry Sectors in ECUs

Exhibit A-58

Information Services Market by Industry Sectors, France

Sector	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Discrete Manufacturing	1,624	-7	1,502	1,396	1,381	1,366	1,396	1,457	-1
Process Manufacturing	903	6	956	986	1,024	1,077	1,146	1,237	5
Transportation	744	13	842	948	1,077	1,206	1,381	1,608	14
Utilities	524	9	569	615	660	713	781	865	9
Telecommunications	546	11	607	668	736	812	910	1,024	11
Retail Distribution	387	8	417	440	463	501	546	607	8
Wholesale Distribution	508	6	539	561	584	622	660	721	6
Banking & Finance	2,109	4	2,200	2,246	2,337	2,489	2,686	2,929	6
Insurance	721	11	797	857	918	994	1,077	1,184	8
Healthcare	516	7	554	599	637	683	744	819	8
Education	209	3	215	223	211	202	200	200	-1
Local Government	880	6	933	971	1,017	1,062	1,115	1,184	5
Central Government	895	3	918	941	964	956	971	1,070	3
Business Services	615	2	630	645	660	683	713	751	4
Other Industries	341	0	341	357	364	379	395	417	4
Industry Sectors Total	11,533	4	11,988	12,443	13,050	13,733	14,719	16,085	6

Exhibit A-59

Industry Sectors, Discrete Manufacturing, France

Sector	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	1,100	-19	895	721	622	554	501	448	-13
Equipment Services	448	-14	387	349	326	296	273	250	-8
Software Products	781	-5	744	698	690	690	698	706	-1
Other Information Services	1,070	-9	971	903	888	865	880	933	-1
Data Communications	258	0	258	258	273	288	303	319	4
Facilities/ Administration	592	-14	508	432	387	349	319	296	-10
In-house Staff	2,276	-13	1,973	1,669	1,517	1,366	1,290	1,214	-9
IT Budget Total	6,525	-12	5,736	5,030	4,704	4,408	4,264	4,165	-6
Processing Services	121	-13	106	88	78	70	64	59	-11
Turnkey Systems	334	-9	303	273	258	250	243	235	-5
Application Software Products	410	-2	402	387	395	402	417	432	1
Professional Services	425	-18	349	288	250	212	182	159	-15
Network Services	136	-2	134	133	142	153	169	188	7
Systems Operations	134	14	153	168	193	223	261	307	15
Systems Integration	59	-1	58	57	59	62	64	75	5
Industry Sectors Total	1,624	-7	1,502	1,396	1,381	1,366	1,396	1,457	-1

Exhibit A-60

Industry Sectors, Process Manufacturing, France

Sector	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	690	-8	637	584	539	508	486	463	-6
Equipment Services	266	-3	258	258	258	250	243	235	-2
Software Products	379	4	395	410	425	448	470	508	5
Other Information Services	645	6	683	706	728	759	804	865	5
Data Communications	303	2	311	319	326	341	349	357	3
Facilities/ Administration	417	-4	402	379	357	341	334	326	-4
In-house Staff	1,366	-4	1,305	1,229	1,168	1,123	1,093	1,062	-4
IT Budget Total	4,067	-2	3,991	3,885	3,801	3,771	3,778	3,816	-1
Processing Services	46	0	46	43	41	39	39	38	-4
Turnkey Systems	212	7	228	235	243	258	273	296	5
Application Software Products	144	5	152	159	167	182	197	212	7
Professional Services	288	0	288	281	273	266	258	250	-3
Network Services	68	10	75	83	93	106	124	146	14
Systems Operations	85	16	99	114	129	144	167	190	14
Systems Integration	61	8	65	70	75	82	89	108	11
Industry Sectors Total	903	6	956	986	1,024	1,077	1,146	1,237	5

Exhibit A-61

Industry Sectors, Transportation, France

Sector	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	197	-8	182	167	159	144	137	129	-7
Equipment Services	77	5	80	86	93	94	97	98	4
Software Products	99	15	114	129	152	175	197	228	15
Other Information Services	675	13	766	857	964	1,070	1,229	1,426	13
Data Communications	74	24	93	115	143	176	215	259	23
Facilities/ Administration	167	5	175	175	175	175	175	175	0
In-house Staff	379	-2	372	364	357	341	334	326	-3
IT Budget Total	1,668	7	1,781	1,894	2,042	2,175	2,383	2,641	8
Processing Services	13	12	14	15	16	17	17	18	5
Turnkey Systems	42	11	46	51	56	61	67	74	10
Application Software Products	24	23	29	35	42	49	59	71	20
Professional Services	387	6	410	432	455	463	470	478	3
Network Services	116	27	147	188	244	311	407	533	29
Systems Operations	94	23	115	137	161	186	218	256	17
Systems Integration	68	17	80	92	107	123	140	178	17
Industry Sectors Total	744	13	842	948	1,077	1,206	1,381	1,608	14

Exhibit A-62

Industry Sectors, Utilities, France

Sector	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	197	4	205	205	212	220	235	250	4
Equipment Services	79	6	83	91	99	106	114	121	8
Software Products	91	8	99	106	121	137	159	175	12
Other Information Services	470	10	516	561	599	645	706	789	9
Data Communications	61	13	68	76	83	99	114	129	14
Facilities/ Administration	167	5	175	182	190	197	212	228	5
In-house Staff	402	6	425	448	470	493	531	569	6
IT Budget Total	1,467	7	1,571	1,669	1,775	1,897	2,071	2,261	8
Processing Services	12	13	14	15	17	18	20	24	11
Turnkey Systems	20	4	21	22	23	24	25	27	5
Application Software Products	14	5	15	16	17	17	19	20	6
Professional Services	372	8	402	432	463	493	531	569	7
Network Services	19	12	21	24	28	33	40	49	18
Systems Operations	4	20	5	5	6	7	8	9	15
Systems Integration	82	10	90	99	109	122	136	168	13
Industry Sectors Total	524	9	569	615	660	713	781	865	9

Exhibit A-63

Industry Sectors, Telecommunications, France

Sector	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	243	9	266	288	319	364	417	478	12
Equipment Services	83	9	91	99	114	121	137	152	11
Software Products	76	10	83	91	106	121	137	159	14
Other Information Services	524	13	592	653	721	797	903	1,017	11
Data Communications	91	17	106	121	144	167	197	228	16
Facilities/ Administration	144	5	152	159	175	190	212	235	9
In-house Staff	410	7	440	463	501	546	599	660	8
IT Budget Total	1,571	10	1,730	1,874	2,079	2,307	2,602	2,929	11
Processing Services	12	13	14	14	15	17	18	20	8
Turnkey Systems	19	0	19	19	19	20	20	21	2
Application Software Products	10	8	11	11	12	14	15	17	9
Professional Services	448	10	493	539	592	645	713	781	10
Network Services	18	25	23	29	37	49	65	87	31
Systems Operations	4	20	5	5	6	7	8	10	17
Systems Integration	38	12	42	47	53	61	69	88	16
Industry Sectors Total	546	11	607	668	736	812	910	1,024	11

Exhibit A-64

Industry Sectors, Retail Distribution, France

Sector	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	470	-5	448	417	387	372	364	357	-4
Equipment Services	175	0	175	175	175	175	175	175	0
Software Products	175	4	182	190	197	212	228	243	6
Other Information Services	341	9	372	387	410	440	478	531	7
Data Communications	83	9	91	91	91	99	106	114	5
Facilities/ Administration	395	-2	387	372	357	349	349	349	-2
In-house Staff	561	-5	531	486	455	425	410	395	-6
IT Budget Total	2,200	-1	2,185	2,117	2,071	2,071	2,109	2,162	0
Processing Services	21	7	23	23	23	24	25	27	3
Turnkey Systems	62	7	67	71	74	80	86	94	7
Application Software Products	49	11	54	58	64	71	79	88	10
Professional Services	144	0	144	144	137	137	137	137	-1
Network Services	46	13	52	58	67	77	93	111	17
Systems Operations	58	20	69	79	90	103	121	142	15
Systems Integration	5	17	5	6	7	8	8	11	15
Industry Sectors Total	387	8	417	440	463	501	546	607	8

Exhibit A-65

Industry Sectors, Wholesale Distribution, France

Sector	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	516	-7	478	432	395	372	357	341	-7
Equipment Services	197	-4	190	190	182	175	175	167	-3
Software Products	212	4	220	228	235	243	258	266	4
Other Information Services	432	5	455	470	486	516	546	599	6
Data Communications	83	0	83	83	83	91	91	91	2
Facilities/ Administration	417	-4	402	379	357	341	334	326	-4
In-house Staff	660	-3	637	592	561	531	516	501	-5
IT Budget Total	2,519	-2	2,466	2,375	2,299	2,269	2,276	2,291	-1
Processing Services	30	3	30	29	28	27	27	27	-2
Turnkey Systems	83	9	91	99	106	114	121	129	7
Application Software Products	70	8	75	80	84	90	99	108	7
Professional Services	212	0	212	205	197	190	182	175	-4
Network Services	38	12	42	47	53	61	73	86	15
Systems Operations	70	20	84	97	111	130	153	181	17
Systems Integration	5	17	5	6	7	8	8	11	15
Industry Sectors Total	508	6	539	561	584	622	660	721	6

Exhibit A-66

Industry Sectors, Banking & Finance, France

Sector	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	1,889	-8	1,730	1,586	1,472	1,419	1,388	1,358	-5
Equipment Services	683	-3	660	668	668	668	675	668	0
Software Products	698	4	728	759	789	835	903	979	6
Other Information Services	1,904	4	1,980	2,018	2,086	2,215	2,382	2,580	5
Data Communications	873	3	895	926	956	1,017	1,077	1,138	5
Facilities/ Administration	1,108	-4	1,062	1,017	971	956	956	956	-2
In-house Staff	3,278	-5	3,111	2,959	2,807	2,731	2,731	2,731	-3
IT Budget Total	10,432	-3	10,167	9,932	9,750	9,841	10,114	10,410	0
Processing Services	486	3	501	493	493	508	531	561	2
Turnkey Systems	212	7	228	243	258	281	311	341	8
Application Software Products	205	7	220	235	258	288	326	372	11
Professional Services	812	0	812	812	804	812	819	827	0
Network Services	263	10	288	319	364	425	508	607	16
Systems Operations	58	13	65	72	79	89	101	115	12
Systems Integration	79	0	79	79	80	83	86	102	5
Industry Sectors Total	2,109	4	2,200	2,246	2,337	2,489	2,686	2,929	6

Exhibit A-67

Industry Sectors, Insurance, France

Sector	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	766	0	766	759	744	744	751	759	0
Equipment Services	273	3	281	296	303	311	319	319	3
Software Products	303	13	341	372	402	440	486	531	9
Other Information Services	584	9	637	683	721	774	835	903	7
Data Communications	349	9	379	417	448	486	524	561	8
Facilities/ Administration	486	3	501	508	508	508	516	524	1
In-house Staff	1,313	3	1,351	1,366	1,366	1,381	1,411	1,442	1
IT Budget Total	4,074	4	4,256	4,401	4,492	4,643	4,841	5,038	3
Processing Services	82	11	91	99	106	114	121	129	7
Turnkey Systems	137	11	152	167	182	205	228	258	11
Application Software Products	91	17	106	121	137	152	175	197	13
Professional Services	296	8	319	334	341	349	357	364	3
Network Services	32	17	37	44	52	61	75	92	20
Systems Operations	27	14	30	34	37	41	46	51	11
Systems Integration	54	7	58	61	65	70	74	89	9
Industry Sectors Total	721	11	797	857	918	994	1,077	1,184	8

Exhibit A-68

Industry Sectors, Healthcare, France

Sector	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	357	-2	349	334	326	326	326	326	-1
Equipment Services	144	0	144	152	159	159	167	167	3
Software Products	152	10	167	182	197	220	243	273	10
Other Information Services	463	5	486	524	546	569	615	668	7
Data Communications	167	9	182	197	212	228	243	258	7
Facilities/ Administration	243	0	243	243	243	243	250	258	1
In-house Staff	728	0	728	728	728	728	744	759	1
IT Budget Total	2,253	2	2,299	2,360	2,413	2,473	2,587	2,709	3
Processing Services	27	8	30	31	33	35	38	42	7
Turnkey Systems	70	17	82	96	112	131	156	186	18
Application Software Products	45	14	51	57	64	72	83	95	13
Professional Services	349	4	364	379	387	395	410	425	3
Network Services	17	17	20	24	30	36	46	58	23
Systems Operations	2	0	2	2	2	2	2	2	0
Systems Integration	8	10	8	9	10	11	11	14	10
Industry Sectors Total	516	7	554	599	637	683	744	819	8

Exhibit A-69

Industry Sectors, Education, France

Sector	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	175	-4	167	159	144	137	129	121	-6
Equipment Services	73	4	76	76	76	76	76	76	0
Software Products	68	0	68	68	68	68	68	68	0
Other Information Services	197	8	212	220	212	205	212	212	0
Data Communications	83	9	91	99	99	99	99	99	2
Facilities/ Administration	129	0	129	129	121	114	106	99	-5
In-house Staff	463	0	463	463	440	417	402	387	-4
IT Budget Total	1,188	2	1,206	1,214	1,161	1,115	1,093	1,062	-3
Processing Services	3	0	3	3	3	3	3	3	0
Turnkey Systems	18	-4	17	17	14	13	11	11	-9
Application Software Products	13	-6	12	11	10	9	8	8	-9
Professional Services	159	5	167	175	167	159	159	159	-1
Network Services	6	0	6	6	6	6	6	6	0
Systems Operations	0	0	0	0	0	0	0	0	0
Systems Integration	9	8	10	11	11	11	11	13	6
Industry Sectors Total	209	3	215	223	211	202	200	200	-1

Exhibit A-70

Industry Sectors, Local Government, France

Sector	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	577	-8	531	486	448	425	410	395	-6
Equipment Services	209	-2	205	205	205	197	197	190	-2
Software Products	182	4	190	197	205	212	235	250	6
Other Information Services	857	6	910	941	979	1,017	1,055	1,108	4
Data Communications	228	3	235	243	250	258	266	273	3
Facilities/ Administration	372	-6	349	326	303	288	273	266	-5
In-house Staff	1,123	-4	1,077	1,017	956	910	880	850	-5
IT Budget Total	3,548	-1	3,498	3,414	3,346	3,308	3,316	3,331	-1
Processing Services	29	8	31	32	33	35	37	39	5
Turnkey Systems	42	9	46	49	53	58	64	70	9
Application Software Products	29	13	33	36	41	46	53	61	14
Professional Services	698	4	728	751	774	797	819	842	3
Network Services	9	-8	8	8	7	7	7	7	-4
Systems Operations	30	20	36	42	48	55	64	76	16
Systems Integration	44	10	49	53	58	65	72	90	13
Industry Sectors Total	880	6	933	971	1,017	1,062	1,115	1,184	5

Exhibit A-71

Industry Sectors, Central Government, France

Sector	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	569	-16	478	395	326	266	220	182	-18
Equipment Services	228	-10	205	197	182	159	137	114	-11
Software Products	235	0	235	243	250	250	250	266	2
Other Information Services	781	1	789	797	797	766	759	827	1
Data Communications	175	-4	167	159	152	144	137	129	-5
Facilities/ Administration	425	-9	387	349	311	266	228	197	-13
In-house Staff	1,267	-10	1,138	1,002	880	744	637	546	-14
IT Budget Total	3,680	-8	3,399	3,141	2,898	2,595	2,367	2,261	-8
Processing Services	39	2	40	39	38	36	34	33	-4
Turnkey Systems	42	5	45	47	49	49	50	51	3
Application Software Products	18	-13	16	14	12	10	8	7	-16
Professional Services	508	0	508	501	486	448	417	387	-5
Network Services	33	2	34	35	36	36	38	39	3
Systems Operations	2	108	4	8	16	33	67	137	105
Systems Integration	250	9	273	296	326	341	357	417	9
Industry Sectors Total	895	3	918	941	964	956	971	1,070	3

Exhibit A-72

Industry Sectors, Business Services, France

Sector	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	144	-5	137	121	114	106	99	91	-8
Equipment Services	67	-3	64	64	64	61	60	58	-2
Software Products	106	7	114	121	129	137	152	167	8
Other Information Services	531	1	539	539	539	546	554	561	1
Data Communications	61	0	61	61	61	62	63	63	0
Facilities/ Administration	144	-5	137	129	121	114	106	99	-6
In-house Staff	341	-4	326	311	296	281	273	266	-4
IT Budget Total	1,395	-1	1,378	1,347	1,324	1,307	1,307	1,304	-1
Processing Services	16	5	17	17	17	17	17	18	2
Turnkey Systems	71	19	85	101	120	143	174	210	20
Application Software Products	42	7	45	47	49	52	57	61	7
Professional Services	455	0	455	448	440	432	425	417	-2
Network Services	16	10	17	19	21	24	28	33	13
Systems Operations	4	0	4	4	4	4	4	4	0
Systems Integration	8	0	8	8	8	8	8	10	3
Industry Sectors Total	615	2	630	645	660	683	713	751	4

Exhibit A-73

Industry Sectors, Other Industries, France

Sector	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Equipment Sales	334	-11	296	273	258	250	243	235	-4
Equipment Services	122	-6	115	118	120	119	121	119	1
Software Products	113	1	114	118	123	127	135	142	5
Other Information Services	319	0	319	334	341	357	372	395	4
Data Communications	8	9	9	11	13	15	18	21	18
Facilities/ Administration	14	-5	14	14	14	14	14	14	0
In-house Staff	42	-9	39	36	34	33	32	31	-4
IT Budget Total	953	-5	905	904	903	915	934	957	1
Processing Services	11	7	12	13	14	14	16	17	8
Turnkey Systems	38	0	38	39	41	42	45	48	5
Application Software Products	27	3	27	29	31	33	36	39	8
Professional Services	235	0	235	243	250	258	266	273	3
Network Services	11	-14	9	9	9	9	9	9	0
Systems Operations	9	8	10	11	11	13	14	16	10
Systems Integration	8	0	8	9	10	11	11	14	10
Industry Sectors Total	341	0	341	357	364	379	395	417	4

L

Cross-Industry Sectors in ECUs

Exhibit A-74

Information Services Market by Cross-Industry Sectors, France

Sector	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Accounting	258	0	258	258	273	296	319	341	6
Education & Training	22	-10	20	17	17	17	17	17	-2
Engineering & Scientific	76	0	76	76	76	76	76	76	0
Human Resources	76	0	76	76	76	76	76	76	0
Office Systems	281	3	288	311	357	417	486	561	14
Planning & Analysis	250	-3	243	243	250	266	281	296	4
Other Cross-Industry	53	0	53	53	53	53	53	53	0
Cross-Industry Sectors Total	1,442	-2	1,411	1,411	1,502	1,608	1,745	1,866	6

Exhibit A-54

Cross-Industry Sectors, Accounting, France

Sector	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Transaction Processing	11	-7	10	9	9	9	9	9	-2
Turnkey Systems	61	0	61	61	68	76	83	91	8
Application Software Products	258	0	258	258	273	296	319	341	6
Cross-Industry Sectors Total	326	0	326	326	349	379	410	440	6

Exhibit A-76

Cross-Industry Sectors, Education & Training, France

Sector	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Transaction Processing	3	0	3	3	3	3	3	3	0
Turnkey Systems	25	0	25	25	27	28	30	31	4
Application Software Products	22	-10	20	17	17	17	17	17	-2
Cross-Industry Sectors Total	50	-5	48	46	47	49	50	52	2

Exhibit A-77

Cross-Industry Sectors, Engineering & Scientific, France

Sector	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Transaction Processing	10	-8	9	8	8	8	8	8	-2
Turnkey Systems	17	0	17	17	17	19	20	22	6
Application Software Products	76	0	76	76	76	76	76	76	0
Cross-Industry Sectors Total	103	-1	102	102	102	103	105	106	1

Exhibit A-78

Cross-Industry Sectors, Human Resources, France

Sector	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Transaction Processing	129	-12	114	106	106	106	106	106	-1
Turnkey Systems	12	0	12	12	13	14	14	15	5
Application Software Products	76	0	76	76	76	76	76	76	0
Cross-Industry Sectors Total	220	-7	205	197	197	197	197	197	-1

Exhibit A-79

Cross-Industry Sectors, Office Systems, France

Sector	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Transaction Processing	3	0	3	3	4	5	5	7	18
Turnkey Systems	20	4	20	21	24	28	33	37	13
Application Software Products	281	3	288	311	357	417	486	561	14
Cross-Industry Sectors Total	303	2	311	334	387	448	524	607	14

Exhibit A-80

Cross-Industry Sectors, Planning & Analysis, France

Sector	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Transaction Processing	14	-11	12	11	11	11	11	11	-1
Turnkey Systems	8	0	8	8	8	9	10	11	7
Application Software Products	250	-3	243	243	250	266	281	296	4
Cross-Industry Sectors Total	273	-3	266	266	273	288	303	319	4

Exhibit A-81

Other Cross-Industry, France

Sector	ECU Million								
	1993	93-94 (%)	1994	1995	1996	1997	1998	1999	94-99 CAGR (%)
Transaction Processing	46	-17	38	38	38	38	38	38	0
Turnkey Systems	61	0	61	61	61	61	61	61	0
Application Software Products	53	0	53	53	53	53	53	53	0
Cross-Industry Sectors Total	159	-5	152	152	152	152	152	152	0

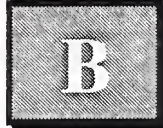
M

Information Services Forecast Reconciliation in Local Currency

Exhibit A-82

Forecast Reconciliation, France, 1993-1998

Delivery Mode	1993 Market		1993-1994		1998 Market		1993-1994		1993	1994
	1993	1994	Variance		1993	1994	Variance		Report	Report
	Report (Fcst)	Report (Act)	Amount	(%)	Report (Fcst)	Report (Fcst)	Amount	(%)	(Fcst)	(Fcst)
Software and Services Total (ex Equipment Services)	105,000	104,000	-1,000	-1	147,000	131,000	-16,000	-11	7	5
<i>Professional Services</i>	38,300	38,200	-100	0	42,600	40,500	-2,100	-5	2	1
- IS Consulting	4,350	4,350	0	0	6,050	6,050	0	0	7	7
- Education & Training	3,350	3,350	0	0	4,230	4,210	-20	0	5	5
- Custom Software	30,400	30,300	-100	0	31,400	29,600	-1,800	-6	1	0
- Application Management	200	200	0	0	950	630	-320	-34	37	26
<i>Systems Integration</i>	5,600	5,100	-500	-9	14,500	7,600	-6,900	-48	21	8
- Equipment	1,450	1,400	-50	-3	3,150	1,950	-1,200	-38	17	7
- Application Software	1,000	950	-50	-5	5,200	2,350	-2,850	-55	39	20
- System Software	450	400	-50	-11	1,000	610	-390	-39	17	9
- Professional Services	2,600	2,250	-350	-13	4,700	2,450	-2,250	-48	13	2
- Other	100	100	0	0	440	230	-210	-48	34	18
<i>Systems Operations</i>	3,300	3,800	500	15	7,900	8,100	200	3	19	16
- Platform Operations	1,750	1,400	-350	-20	4,010	2,050	-1,960	-49	18	8
- Application Operations	1,350	2,150	800	59	3,200	5,180	1,980	62	19	19
- Desktop Services	200	250	50	25	690	870	180	26	28	28
<i>Processing Services</i>	9,000	8,850	-150	-2	9,950	9,500	-450	-5	2	1
- Transaction Processing	7,850	7,700	-150	-2	8,300	7,900	-400	-5	1	1
- Utility Processing	355	355	0	0	355	345	-10	-3	0	-1
- Other Processing	795	795	0	0	1,305	1,245	-60	-5	10	9
<i>Network Services</i>	7,720	7,670	-50	-1	17,580	14,300	-3,280	-19	18	13
- Electronic Info Svcs	4,350	4,350	0	0	6,650	6,400	-250	-4	9	8
- Network Applications	2,670	2,620	-50	-2	9,130	6,400	-2,730	-30	28	20
- Network Management	700	700	0	0	1,800	1,500	-300	-17	21	16
<i>System Software</i>	16,000	15,500	-500	-3	20,300	17,100	-3,200	-16	5	2
- Mainframe	6,800	6,550	-250	-4	5,600	4,850	-750	-13	-4	-6
- Minicomputer	5,150	5,100	-50	-1	5,900	6,100	200	3	3	4
- Workstation/PC	4,050	3,850	-200	-5	8,800	6,150	-2,650	-30	17	10
<i>Application Software</i>	14,700	14,500	-200	-1	19,900	19,400	-500	-3	6	6
- Mainframe	1,000	1,000	0	0	600	530	-70	-12	-10	-12
- Minicomputer	4,300	4,300	0	0	3,950	5,320	1,370	35	-2	4
- Workstation/PC	9,400	9,200	-200	-2	15,350	13,550	-1,800	-12	10	8
<i>Turnkey Systems</i>	10,740	10,640	-100	-1	14,560	14,060	-500	-3	6	6
- Equipment	5,500	5,300	-200	-4	6,600	6,100	-500	-8	4	3
- Application Software	2,400	2,450	50	2	3,750	3,750	0	0	9	9
- System Software	180	180	0	0	240	230	-10	-4	6	5
- Professional Services	2,600	2,650	50	2	4,000	4,000	0	0	9	9
<i>Equipment Services</i>	21,600	20,600	-1,000	-5	21,900	19,500	-2,400	-11	0	-1
- Equipment Maintenance	14,700	13,700	-1,000	-7	13,100	10,300	-2,800	-21	-2	-6
- Environmental Services	6,900	6,900	0	0	8,800	9,200	400	5	5	6
Grand Total	127,000	125,000	-2,000	-2	169,000	150,000	-19,000	-11	6	4
Information Services										



Economic Assumptions

A

European Exchange Rates

The following table, Exhibit B-1, shows the standard exchange rates used throughout the 1994 programme to consolidate country market data for overall European forecasts and vendor market shares.

Exhibit B-1

US Dollar and ECU Exchange Rates 1994

Country	Currency	US Dollar	ECU
Europe	\$	1	1.266
France	FF	5.90	6.59
Germany	DM	1.74	1.94
United Kingdom	PS	0.676	0.753
Italy	Lira (K)	1.71	1.90
Sweden	Sek	8.34	9.32
Denmark	DK	6.79	7.56
Norway	NK	7.52	8.39
Finland	FM	5.79	6.35
Netherlands	Dfl	1.94	2.17
Belgium	BF	36.15	40.41
Switzerland	SF	1.39	1.65
Austria	Sch	12.19	13.82
Spain	Ptas	142.92	159.30
Ireland	IP	0.71	0.791
Portugal	Esc	176.7	197.10
Greece	Dra	249.35	280.00

*Source: Financial Times January 1994***B****European Inflation Rates**

Exhibit B-2 shows the average five-year inflation assumptions for each reported country and the changes from those used in reports produced in the previous year. All INPUT forecasts include the effects of inflation as well as natural market growth rates. For consistency, the same inflation rates are used throughout all the different market sector research and analysis during a calendar year, unless specified otherwise.

Exhibit B-2

Inflation Assumptions 1993 and 1994

Country	Assumption 1993-1998	Assumption 1994-1999	Change
France	2.3	1.9	-0.4
Germany	4.0	2.9	-1.1
United Kingdom	2.0	3.0	1.0
Italy	3.8	3.2	-0.6
Sweden	2.3	2.0	-0.3
Denmark	1.6	2.6	1.0
Norway	2.2	1.5	-0.7
Finland	0.2	2.0	1.8
Netherlands	1.9	2.0	0.1
Belgium	3.0	2.2	-0.8
Switzerland	2.3	1.7	-0.6
Austria	3.8	2.8	-1.0
Spain	4.5	3.4	-1.1
Portugal	5.8	4.8	-1.0
Greece	13.2	11.2	-2.0
Ireland	2.7	3.3	0.6
Eastern Europe	-	-	-
European Average	3.1	2.8	-0.3

Source: OECD December 1993

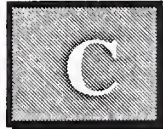
The economic growth measurements and predictions from the OECD, referred to in the text for each country, are listed in Exhibit B-3.

Exhibit B-3

GDP Growth Rate Assumptions;

Country	1992 (%)	1993 (%)	1994 (%) Forecast	1995 (%) Forecast
Austria	1.6	-0.3	1.8	2.7
Belgium	1.4	-1.3	1.5	2.6
Denmark	1.2	1.2	4.0	3.5
Finland	-3.8	-2.6	1.9	4.7
France	1.2	-0.9	1.8	2.9
Germany	2.1	-1.3	1.8	2.6
Greece	0.9	-0.1	1.0	1.6
Ireland	4.9	2.3	4.1	4.5
Italy	0.7	-0.7	1.5	2.6
Netherlands	1.4	0.2	1.4	2.8
Norway	3.4	2.2	4.3	2.9
Portugal	1.1	-0.5	1.2	2.3
Spain	0.8	-1.0	1.2	2.7
Sweden	-1.9	-2.1	2.7	2.9
Switzerland	-0.1	-0.6	1.5	2.5
United Kingdom	-0.6	1.9	2.8	3.2
EC	1.0	-0.4	1.9	2.8

Source: OECD 1994



Definition of Terms

A

Introduction

INPUT's *Definition of Terms* provides the framework for all of INPUT's market analyses and forecasts of the information services industry. The structure is defined in Exhibit C-1.

One of the strengths of INPUT's market analysis services is the consistency of the underlying market sizing and forecast data. Each year INPUT reviews its industry structure and makes changes if they are required. When changes are made they are carefully documented and the new definitions and forecasts reconciled to the prior definitions and forecasts. INPUT clients have the benefit of being able to track market forecast data from year to year against a proven and consistent foundation of definitions.

B

Overall Definitions and Analytical Framework

1. Information Services

Information Services are computer/telecommunications-related products and services that are oriented toward the development or use of information systems. Information services typically involve one or more of the following:

- Use of vendor-provided computer processing services to develop or run applications or provide services such as disaster recovery or data entry (called *Processing Services*)
- A combination of computer equipment, packaged software and associated support services which will meet an application systems need (called *Turnkey Systems*)
- Packaged software products, including systems software or applications software products (called *Software Products*)

- People services that support users in developing and operating their own information systems (called *Professional Services*)
- The combination of products (software and equipment) and services where the vendor assumes total responsibility for the development of a custom integrated solution to an information systems need (called *Systems Integration*)
- Services that provide operation and management of all or a significant part of a user's information systems functions under a long-term contract (called *Systems Operations*)
- Services that support the delivery of information in electronic form — typically network-oriented services such as value-added networks, electronic mail and document interchange (called *Network Applications*)
- Services that support the access and use of public and proprietary information such as on-line databases and news services (called *Electronic Information Services*)
- Services that support the operation of computer and digital communication equipment (called *Equipment Services*).

In general, the market for information services does not involve providing equipment to users. The exception is where the equipment is part of an overall service offering such as a turnkey system, a systems operations contract or a systems integration project.

The information services market also excludes pure data transport services (i.e., data or voice communications circuits). However, where information transport is associated with a network-based service (e.g., electronic data interchange services), or cannot be feasibly separated from other bundled services (e.g., some systems operations contracts), the transport costs are included as part of the services market.

The analytical framework of the information services industry consists of the following interacting factors: overall and industry-specific business environment (trends, events and issues); technology environment; user information system requirements; size and structure of information services markets; vendors and their products, services and revenues; distribution channels; and competitive issues.

2. Market Forecasts/User Expenditures

All information services market forecasts are estimates of *User Expenditures* for information services. When questions arise about the proper place to count these expenditures, INPUT addresses them from the user's viewpoint: expenditures are categorised according to what users perceive they are buying.

By focusing on user expenditures, INPUT avoids two problems which are related to the distribution channels for various categories of services:

- Double-counting, which can occur by estimating total vendor revenues when there is significant reselling within the industry (e.g., software sales to turnkey vendors for repackaging and resale to end users)
- Missed counting, which can occur when sales to end users go through indirect channels such as mail order retailers.

Captive Information Services User Expenditures are expenditures for products and services provided by a vendor that is part of the same parent corporation as the user. These expenditures are not included in INPUT forecasts.

Noncaptive Information Services User Expenditures are expenditures that go to vendors that have a different parent corporation than the user. It is these expenditures which constitute the information services market analysed by INPUT and that are included in INPUT forecasts.

3. Delivery Modes

Delivery Modes are defined as specific products and services that satisfy a given user need. While *Market Sectors* specify *who* the buyer is, *Delivery Modes* specify *what* the user is buying.

Of the nine delivery modes defined by INPUT, six are considered primary products or services:

- Processing Services
- Network Services
- Professional Services
- Applications Software Products

- Systems Software Products
- Equipment Services.

The remaining three delivery modes represent combinations of these products and services, combined with equipment, management and/or other services:

- Turnkey Systems
- Systems Operations
- Systems Integration.

Section C describes the delivery modes and their structure in more detail.

4. Market Sectors

Market Sectors or markets are groupings or categories of the buyers of information services. There are three types of user markets:

- *Vertical Industry* markets, such as Banking, Transportation, Utilities, etc. These are called “industry-specific” markets.
- *Functional Application* markets, such as Human Resources, Accounting, etc. These are called “cross-industry” markets.
- *Other* markets, which are neither industry- nor application-specific, such as the market for systems software products and much of the on-line database market.

Specific market sectors used by INPUT are defined in Section E, below.

5. Trading Communities

Information technology is playing a major role in re-engineering, not just companies but the value chain or *Trading Communities* in which these companies operate. This reengineering is resulting in electronic commerce emerging where interorganisational electronic systems facilitate the business processes of the trading community.

- A trading community is the group or organisations — commercial and noncommercial — involved in producing goods or services
- Electronic commerce and trading communities are addressed in INPUT's EDI and Electronic Commerce Program.

6. Outsourcing

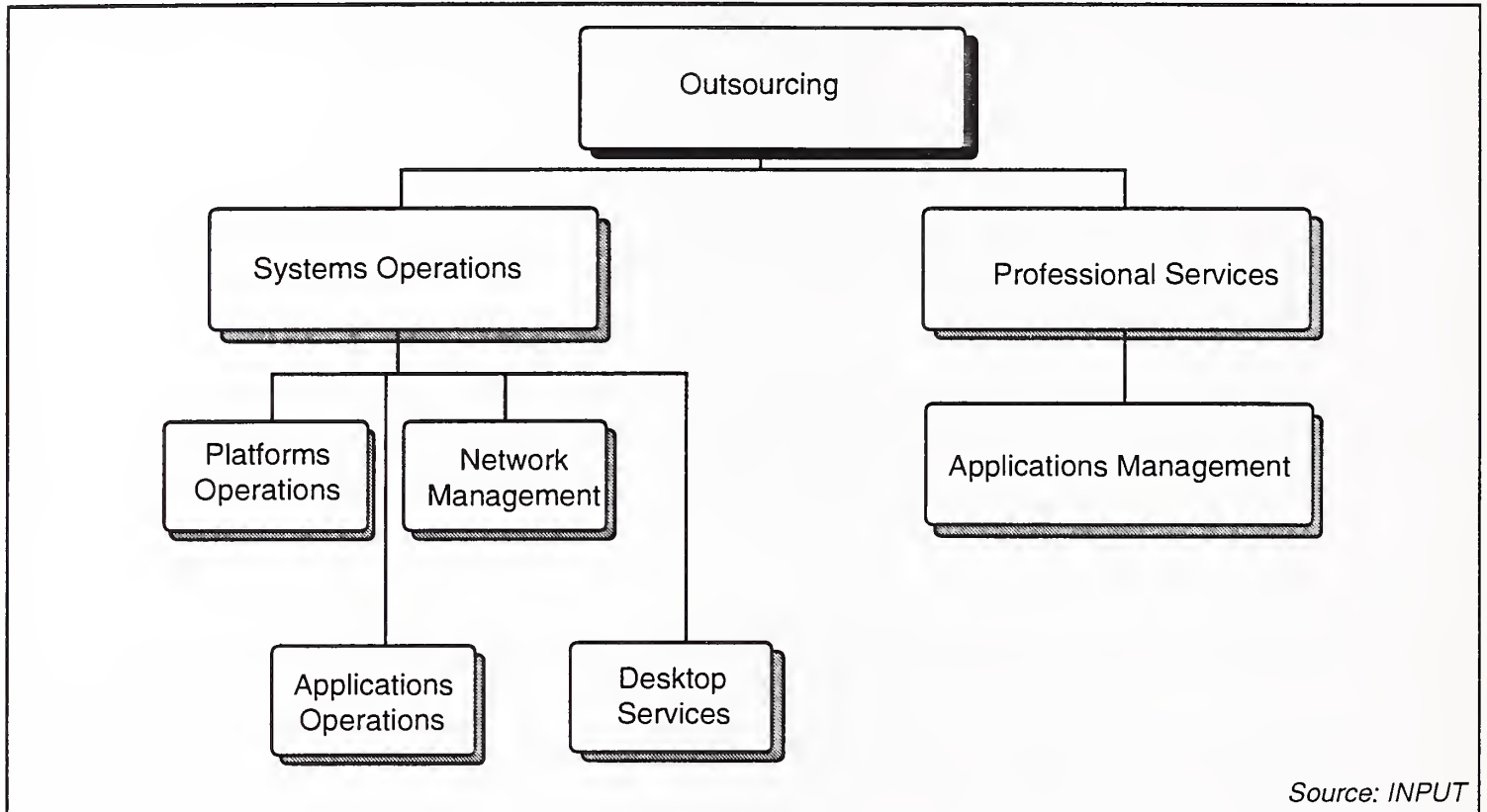
Over the past few years a major change has occurred in the way clients are buying some information services. The shift has been labelled *outsourcing*.

INPUT views outsourcing as a change in the form of the client/vendor relationship. Under an outsourcing relationship, all or a major portion of the information systems function is contracted to a vendor in a long-term relationship. The vendor is responsible for the performance of the function.

INPUT considers the following submodes to be outsourcing-type relationships and in aggregate to represent the outsourcing market. See Exhibit C-1. Complete definitions are provided in Section C of this document. INPUT provides these forecasts as part of the corresponding delivery modes.

- *Platform Systems Operations* — The vendor is responsible for managing and operating the client's computer systems.
- *Applications System Operations* — The vendor is responsible for developing and/or maintaining a client's applications as well as operating the computer systems.
- *Network Management* — The vendor assumes full responsibility for operating and managing the client's data communications systems. This may also include the voice communications of the client.

Exhibit C-1

Outsourcing Components INPUT's View

- *Applications Management/Maintenance* — The professional services vendor has full responsibility for developing and/or maintaining some or all of the applications systems that a client uses to support business operations. The services are provided on a long-term contractual basis.
- *Desktop Services* — The vendor assumes responsibility for the deployment, maintenance and connectivity between the personal computers and/or intelligent workstations in the client organisation. The services may also include performing the help-desk function. The services are provided on a long-term contractual basis.

C**Delivery Modes and Submodes**

Exhibit C-2 provides the overall structure of the information services industry as defined and used by INPUT. This section of *Definition of Terms* provides definitions for each of the delivery modes and their submodes or components.

1. Software Products

INPUT divides the software products market into two delivery modes: systems software and applications software.

The two delivery modes have many similarities. Both involve purchases of software packages for in-house computer systems. Included are both lease and purchase expenditures, as well as expenditures for work performed by the vendor to implement or maintain the package at the user's sites. Vendor-provided training or support in operation and use of the package, if part of the software pricing, is also included here.

Expenditures for work performed by organisations other than the package vendor are counted in the professional services delivery mode. Fees for work related to education, consulting, and/or custom modification of software products are also counted as professional services, provided such fees are charged separately from the price of the software product itself.

a. Systems Software Products

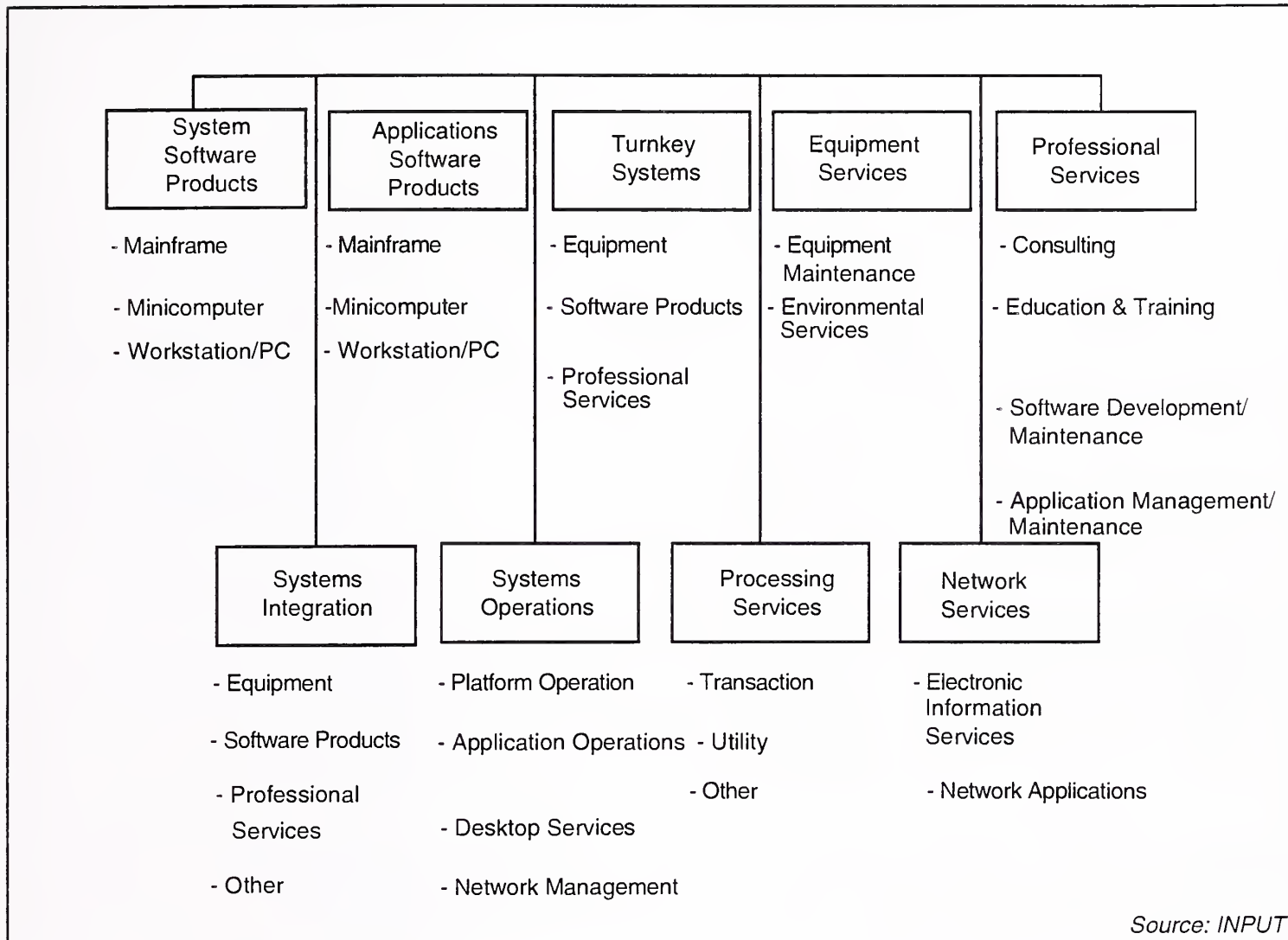
Systems software products enable the computer/communications system to perform basic machine-oriented or user interface functions. INPUT divides systems software products into three submodes. See Exhibit C-3.

- *Systems Control Products* — Software programs that manage computer system resources and control the execution of programs. These products include operating systems, emulators, network control, library control, windowing, access control and spoolers.

- *Operations Management Tools* — Software programs used by operations personnel to manage the computer system and/or network resources and personnel more effectively. Included are performance measurement, job accounting, computer operation scheduling, disk management utilities and capacity management.
- *Applications Development Tools* — Software programs used to prepare applications for execution by assisting in designing, programming, testing, and related functions. Included are traditional programming languages, 4GLs, data dictionaries, database management systems, report writers, project control systems, CASE systems and other development productivity aids.

Exhibit C-2

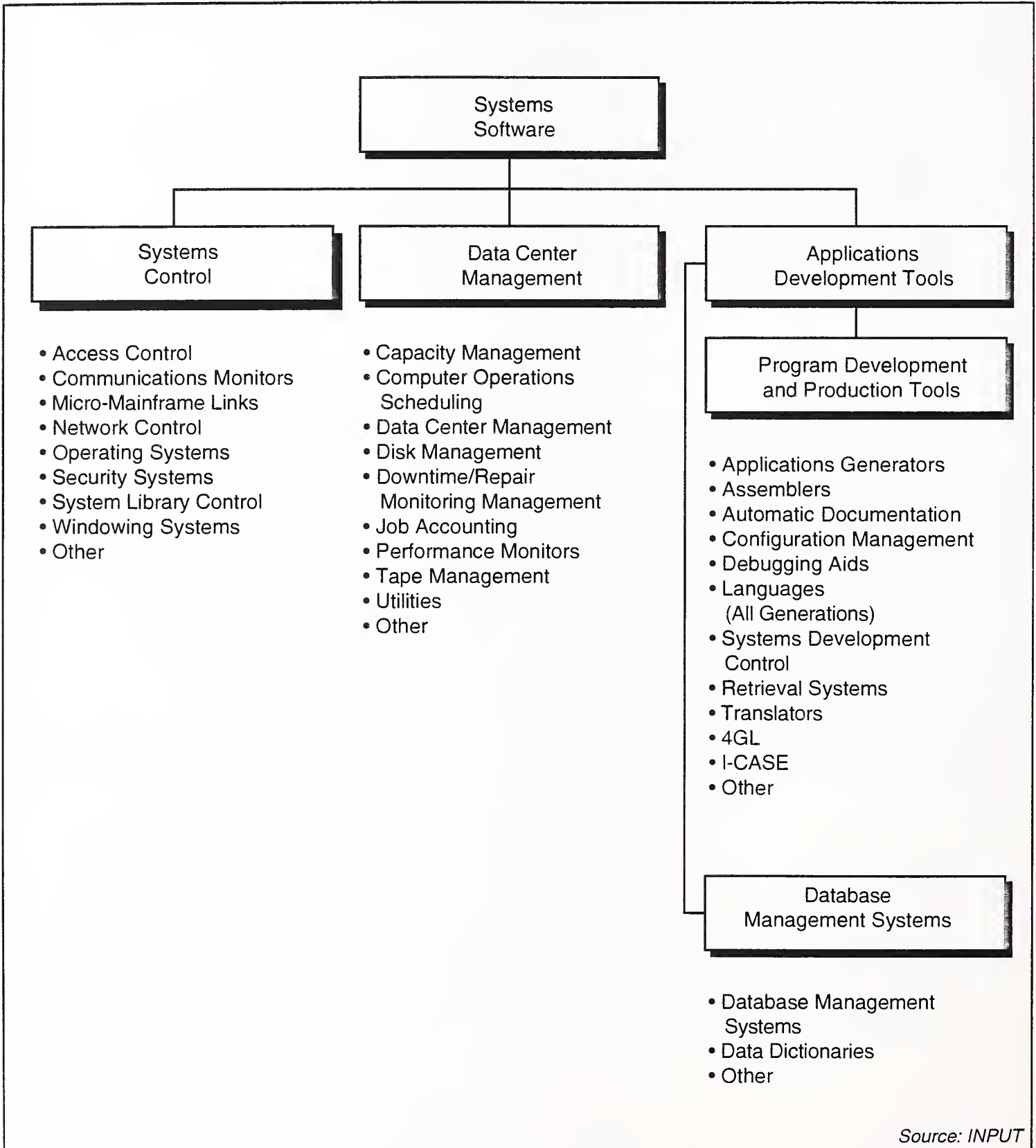
Information Services Industry Structure



Source: INPUT

Exhibit C-3

Systems Software Products Market Structure



INPUT also forecasts the systems software products delivery mode by platform level: mainframe, minicomputer and workstation/PC.

b. Applications Software Products

Applications software products enable a user or group of users to support an operational or administrative process within an organisation. Examples include accounts payable, order entry, project management and office systems. INPUT categorises applications software products into two groups of market sectors. (See Exhibit C-4)

- *Industry Applications Software Products* — Software products that perform functions related to fulfilling business or organisational needs unique to a specific industry (vertical) market and sold to that market only. Examples include demand deposit accounting, MRPII, medical record keeping, automobile dealer parts inventory, etc.
- *Cross-Industry Applications Software Products* — Software products that perform a specific function that is applicable to a wide range of industry sectors. Examples include payroll and human resource systems, accounting systems, word processing and graphics systems, spreadsheets, etc.

INPUT also forecasts the applications software products delivery mode by platform level: mainframe, minicomputer and workstation/PC.

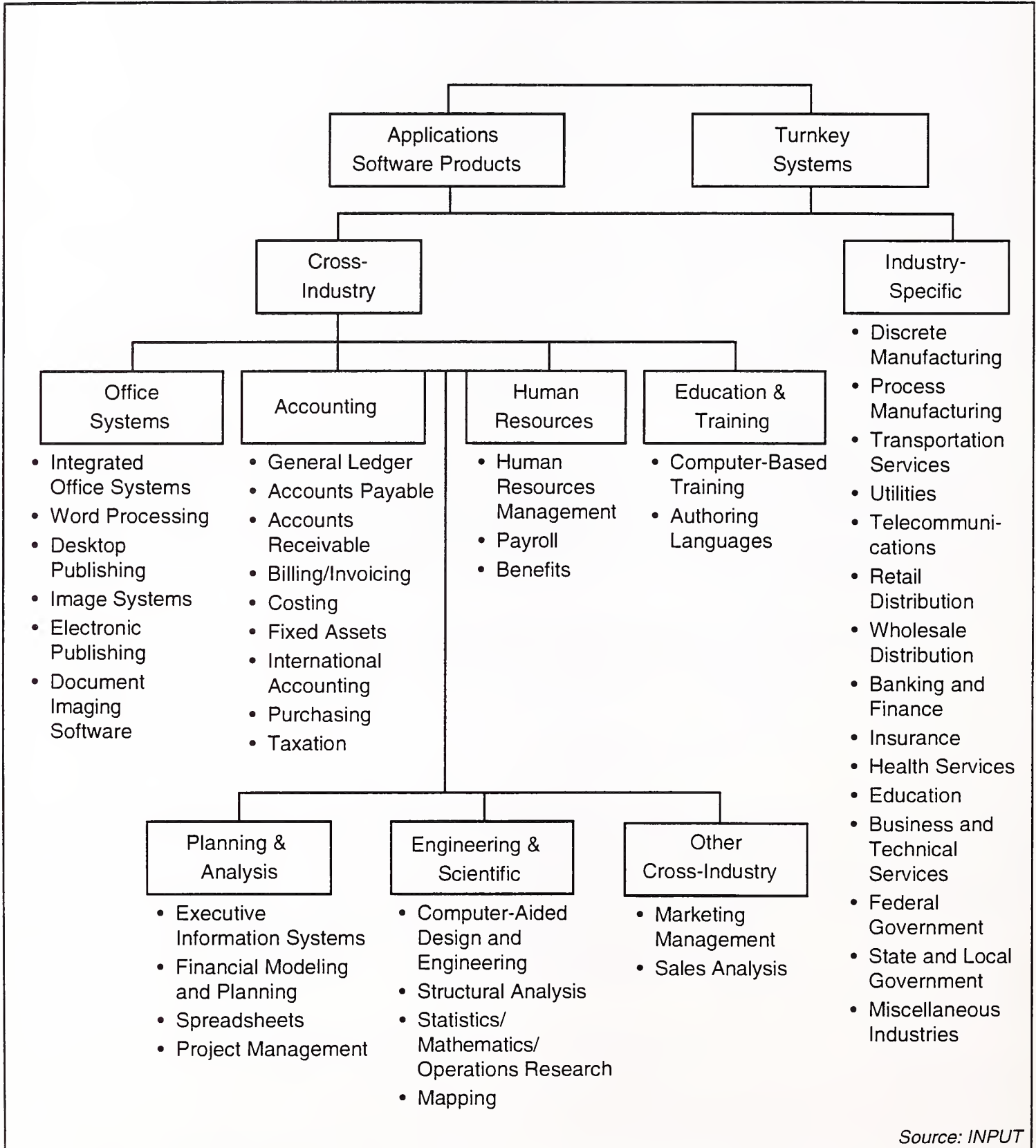
2. Turnkey Systems

A turnkey system is an integration of equipment (CPU, peripherals, etc.), systems software, and packaged applications software into a single product developed to meet a specific set of user requirements. Value added by the turnkey system vendor is primarily in the software and professional services provided. INPUT categorises turnkey systems into two groups of market sectors as it does for applications software products. (See Exhibit C-4)

Most CAD/CAM systems and many small business systems are turnkey systems. Turnkey systems utilise standard computers and do not include specialised hardware such as word processors, cash registers, process control systems or embedded computer systems for military applications.

Exhibit C-4

Application Products and Turnkey Systems



Source: INPUT

Computer manufacturers (e.g., IBM or DEC) that combine software with their own general-purpose hardware are not classified by INPUT as turnkey vendors. Their software revenues are included in the appropriate software category.

Most turnkey systems are sold through channels known as value-added resellers.

- *Value-Added Reseller (VAR)*: A VAR adds value to computer hardware and/or software and then resells it to an end user. The major value added is usually applications software for a vertical or cross-industry market, but also includes many of the other components of a turnkey systems solution, such as professional services, software support, and applications upgrades.

Turnkey systems have three components:

- Equipment — computer hardware supplied as part of the turnkey system
- Software products — pre-packaged systems and applications software products
- Professional services — services to install or customise the system or train the user, provided as part of the turnkey system sale.

Exhibit C-5 contrasts turnkey systems with systems integration. Turnkey systems are based on available software products that a vendor may modify to a modest degree.

Exhibit C-5

The Customisation Spectrum

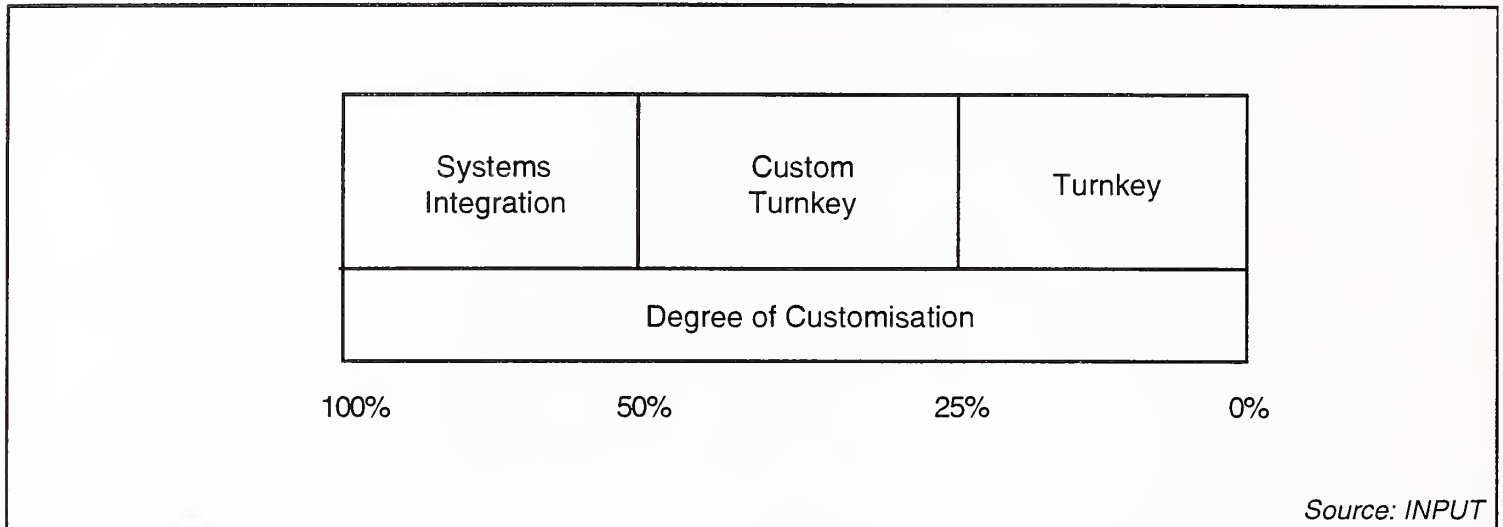
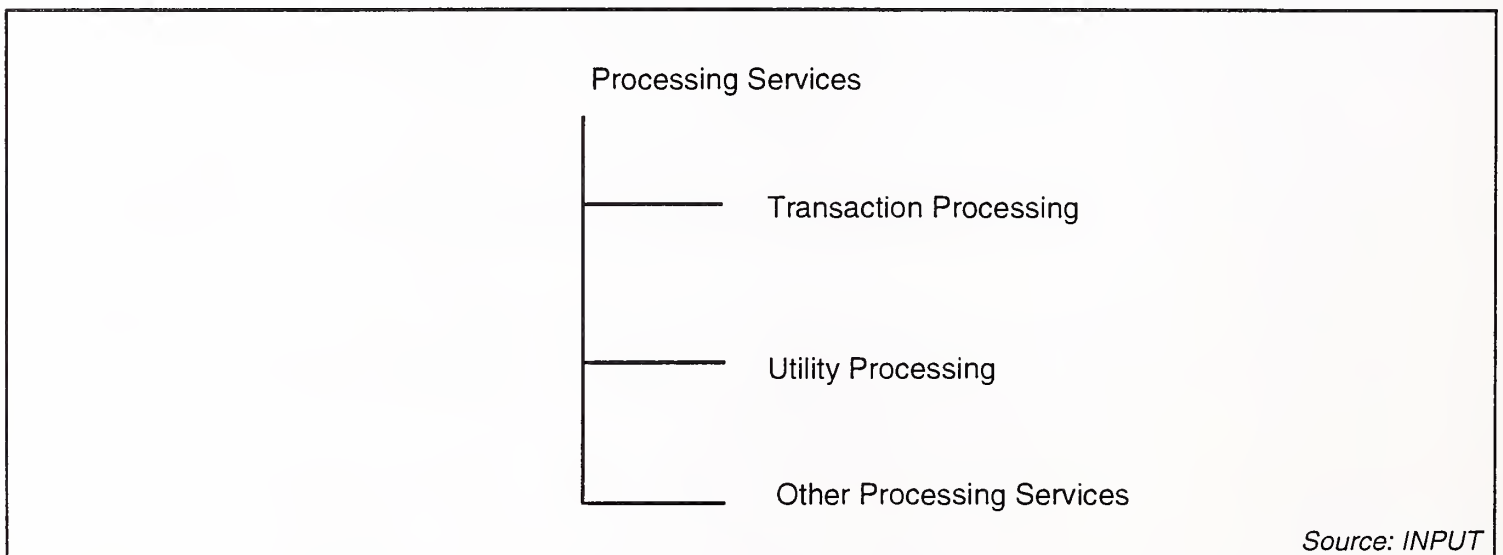


Exhibit C-6

Processing Services Market Structure



3. Processing Services

This delivery mode includes three submodes: transaction processing, utility processing, and “other” processing services. (See Exhibit C-6)

- *Transaction Processing* — Client uses vendor-provided information systems — including hardware, software and/or data networks — at the vendor site or customer site to process specific applications and update client databases. The application software is typically provided by the vendor.
- *Utility Processing* — Vendor provides basic software tools (language compilers, assemblers, DBMSs, graphics packages, mathematical models, scientific library routines, etc.), enabling clients to develop and/or operate their own programs or process data on the vendor's system.
- *Other Processing Services* — Vendor provides service — usually at the vendor site — such as scanning and other data entry services, laser printing, computer output microfilm (COM), CD preparation and other data output services, backup and disaster recovery, etc.

4. Systems Operations

Systems operations as a delivery mode was introduced in the 1990 Market Analysis and Systems Operations programs. Previously called Facilities Management, this delivery mode was created by taking the Systems Operations submode out of both Processing Services and Professional Services. For 1992 the submodes have been defined as follows.

Systems operations involves the operation and management of all or a significant part of the client's information systems functions under a long-term contract. These services can be provided in either of four distinct submodes where the difference is whether the support of applications, as well as data center operations, is included.

- *Platform systems operations* — The vendor manages and operates the computer systems, to perform the client's business functions, without taking responsibility for the client's application systems.
- *Applications systems operations* — The vendor manages and operates the computer systems to perform the client's business functions, and is also responsible for maintaining, or developing and maintaining, the client's application systems.

- *Network Management* — The vendor assumes responsibility for operating and managing the client's data communications systems. This may also include the voice communications of the client. A network management outsourcing contract may include only the management services or the full costs of the communications services and equipment plus the management services.
- *Desktop Services* — The vendor assumes responsibility for the deployment, maintenance and connectivity among the personal computers and/or workstations in the client organisation. The services may also include performing the help-desk function. Equipment as well as services can be part of a desktop services outsourcing contract.

Note: This type of client service can also be provided through traditional professional services where the contractual criteria of outsourcing are not present.

Systems operations vendors now provide a wide variety of services in support of existing information systems. The vendor can plan, control, provide, operate, maintain and manage any or all components of the client's information systems environment (equipment, networks, applications systems), either at the client's site or the vendor's site.

Note: In the federal government market, systems operation services are also defined by equipment ownership with the terms "COCO" (Contractor-Owned, Contractor-Operated), and "GOCO" (Government-Owned, Contractor-Operated).

5. Systems Integration (SI)

Systems integration is a vendor service that provides a complete solution to an information system, networking or automation development requirement through the custom selection and implementation of a variety of information system products and services. A systems integrator is responsible for the overall management of a systems integration contract and is the single point of contact and responsibility to the buyer for the delivery of the specified system function, on schedule and at the contracted price. (Refer to Exhibit C-7)

The components of a systems integration project are the following:

- *Equipment* — information processing and communications equipment required to build the systems solution. This component may include custom as well as off-the-shelf equipment to meet the unique needs of the project. The systems integration equipment category excludes turnkey systems by definition
- *Software products* — pre-packaged applications and systems software products
- *Professional services* — the value-added component that adapts the equipment and develops, assembles, or modifies the software and hardware to meet the system's requirements. It includes all of the professional services activities required to develop, implement, and if included in the contract, operate an information system, including consulting, program/project management, design and integration, software development, education and training, documentation, and systems operations and maintenance
- *Other services* — most systems integration contracts include other services and product expenditures that are not classified elsewhere. This category includes miscellaneous items such as engineering services, automation equipment, computer supplies, business support services and supplies, and other items required for a smooth development effort.

Exhibit C-7

Products/Services in Systems Integration Projects

<i>Equipment</i>
<ul style="list-style-type: none"> • Information systems • Communications
<i>Software Products</i>
<ul style="list-style-type: none"> • Systems software • Applications software
<i>Professional Services</i>
<ul style="list-style-type: none"> • Consulting <ul style="list-style-type: none"> - Feasibility and trade-off studies - Selection of equipment, network and software • Program/project management • Design/integration <ul style="list-style-type: none"> - Systems design - Installation of equipment, network, and software - Demonstration and testing • Software development <ul style="list-style-type: none"> - Modification of software packages - Modification of existing software - Custom development of software • Education/training and documentation • Systems operations/maintenance
<i>Other Miscellaneous Products/Services</i>
<ul style="list-style-type: none"> • Site preparation • Data processing supplies • Processing/network services • Data/voice communication services

Source: INPUT

6. Professional Services

This category includes four submodes: consulting, education and training, software development and applications management.

Exhibit C-8 provides additional detail.

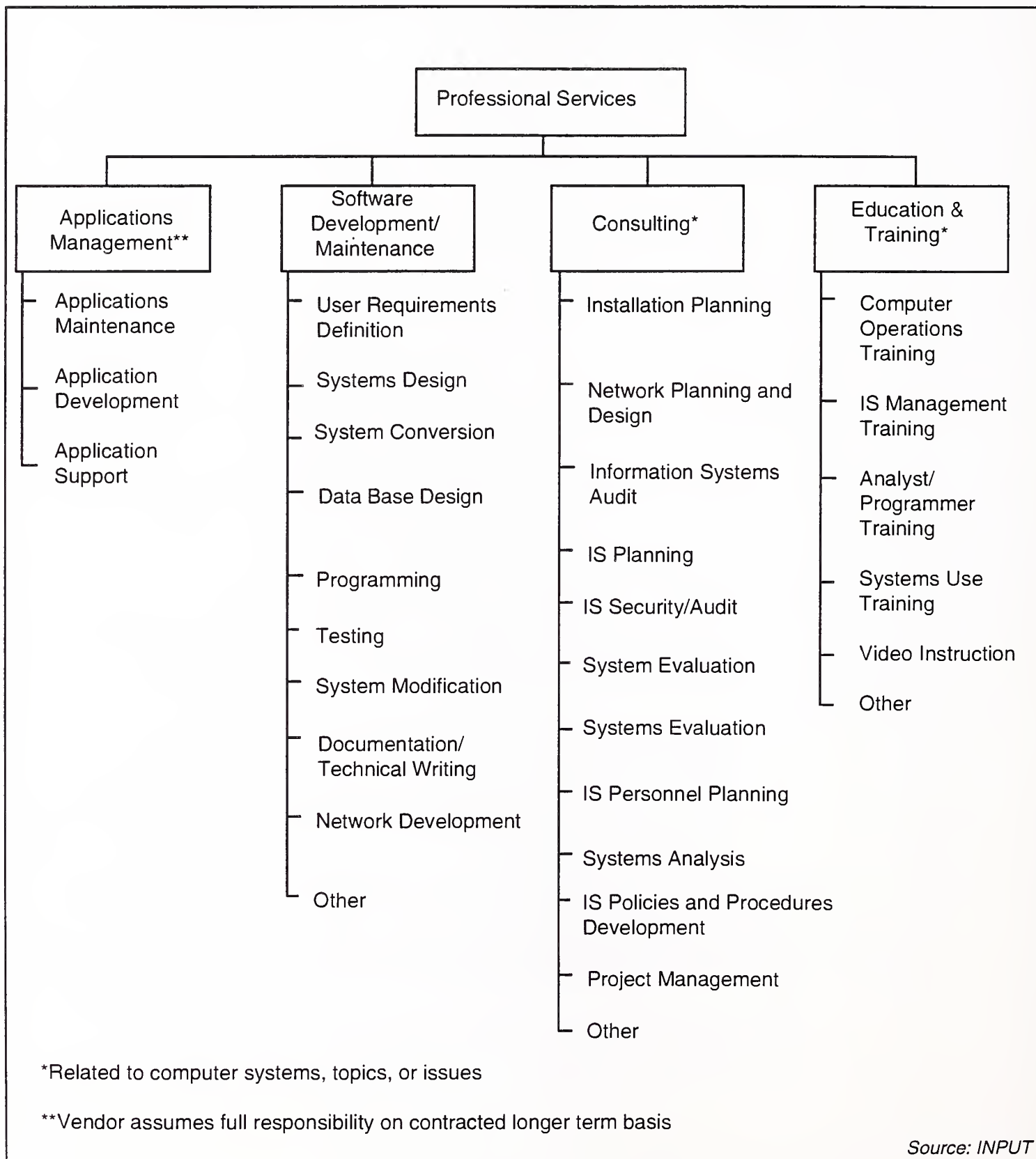
- *Consulting:* Services include management consulting (related to information systems), information systems reengineering, information systems consulting, feasibility analysis and cost-effectiveness studies and project management assistance. Services may be related to any aspect of the information system, including equipment, software, networks and systems operations.
- *Education and Training:* Services that provide training and education or the development of training materials related to information systems and services for the information systems professional and the user, including computer-aided instruction, computer-based education and vendor instruction of user personnel in operations, design, programming, and documentation. Education and training provided by school systems is not included. General education and training products are included as a cross-industry market sector.
- *Software Development:* Services include user requirements definition, systems design, contract programming, documentation, and implementation of software performed on a custom basis. Conversion and maintenance services are also included.
- *Applications Management:* The vendor has full responsibility for maintaining and upgrading some or all of the application systems that a client uses to support business operations and may develop and implement new application systems for the client.

An applications management contract differs from traditional software development in the form of the client/vendor relationship. Under traditional software development services the relationship is project based. Under applications management it is time and function based.

These services may be provided in combination or separately from platform systems operations.

Exhibit C-8

Professional Services Market Structure

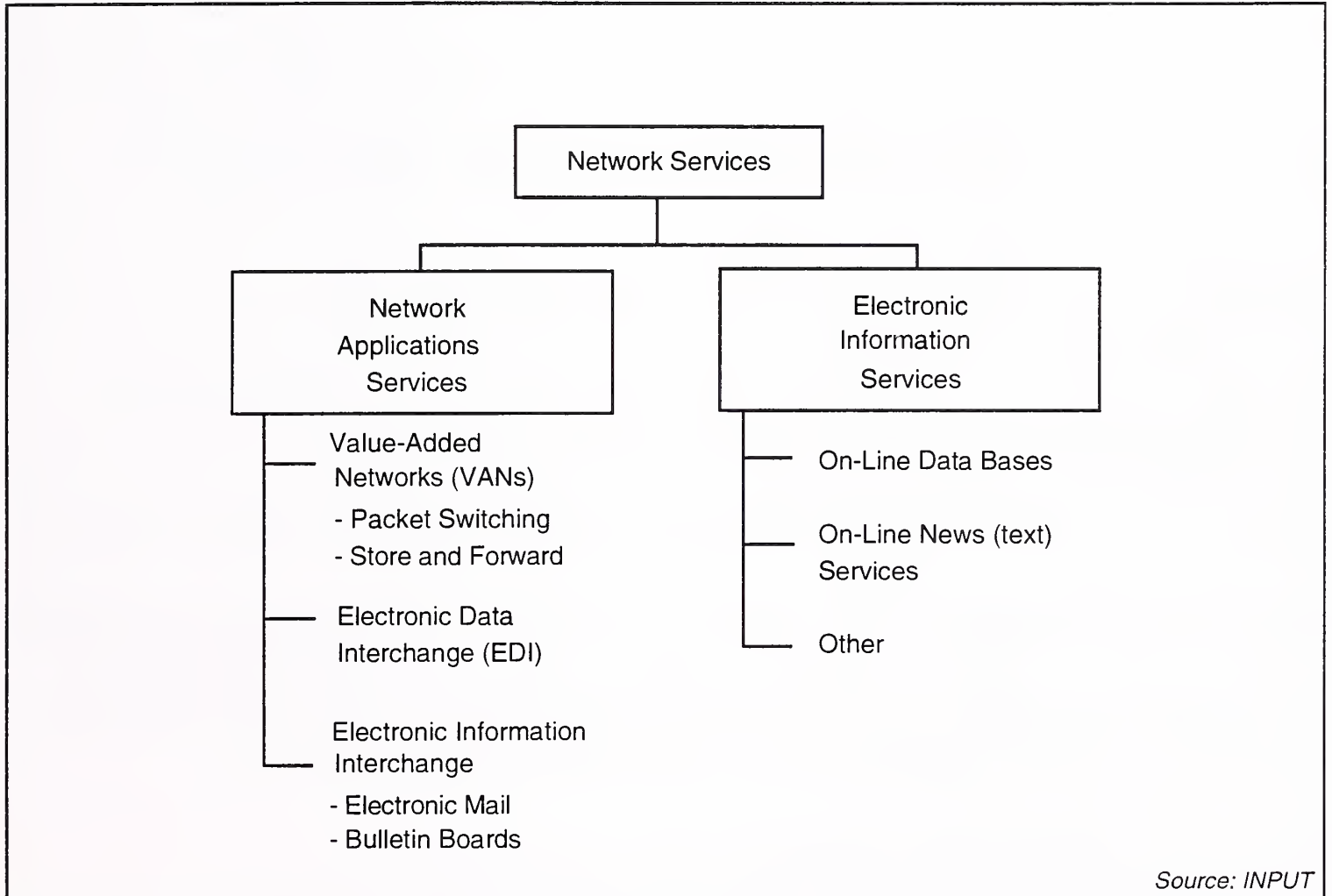


7. Network Services

Network services are a variety of telecommunications-based functions and operations. Network service includes two submodes, as shown in Exhibit C-9.

Exhibit C-9

Network Services Market Structure



a. Electronic Information Services

Electronic information services are databases that provide specific information via terminal – or computer-based inquiry, including items such as stock prices, legal precedents, economic indicators, periodical literature, medical diagnosis, airline schedules, automobile valuations, etc. The terminals used may be computers themselves, such as communications servers or personal computers.

Users inquire into and extract information from the databases. They may load extracted data into their own computer systems; the vendor does not provide data processing or manipulation capability as part of the electronic information service and users cannot update the vendor's databases. However, the vendor may offer other services (network applications or processing services) that do offer processing or manipulation capability.

The two kinds of electronic information services are:

- *On-line Databases* — Structured, primarily numerical data on economic and demographic trends, financial instruments, companies, products, materials, etc
- Unstructured, primarily textual information on people, companies, events, etc. These are often news services.

While electronic information services have traditionally been delivered via networks, there is a growing trend toward the use of CD ROM optical disks to support or supplant on-line services, and these optical disk-based systems are included in the definition of this delivery mode.

b. Network Applications

Value-Added Network Services (VAN Services) — VAN services are enhanced transport services which involve adding such functions as automatic error detection and correction, protocol conversion, and store-and-forward message switching to the provision of basic network circuits.

While VAN services were originally provided only by specialised VAN carriers (Tymnet, Telenet, etc.), today these services are also offered by traditional common carriers (AT&T, Sprint, etc.). Meanwhile, the VAN carriers have also branched into the traditional common carriers' markets and are offering unenhanced basic network circuits as well.

Electronic Data Interchange (EDI) — Application-to-application electronic exchange of business data between trade partners or facilitators using a telecommunications network.

Electronic Information Interchange — The transmission of messages across an electronic network managed by a services vendor, including electronic mail, voice mail, voice messaging and access to Telex, TWX, and other messaging services. This also includes bulletin board services.

8. Equipment Services

The equipment services delivery mode includes two submodes. Both deal with the support and maintenance of computer equipment:

Equipment Maintenance — Services provided to repair, diagnose problems and provide preventive maintenance both on-site and off-site for computer equipment. The costs of parts, media and other supplies are excluded. These services are typically provided on a contract basis

Environmental Services — Composed of equipment and data center related special services such as cabling, air conditioning and power supply, equipment relocation and similar services.

D

Computer Equipment

These definitions have been included to provide the basis for market segmentation in the software products markets.

- *Computer Equipment* — Includes all computer and telecommunications equipment that can be separately acquired with or without installation by the vendor and not acquired as part of an integrated system. Unless otherwise noted in an INPUT forecast, computer equipment is only included where it is part of the purchase of services or software products (e.g., turnkey systems and systems integration).
- *Peripherals* — Includes all input, output, communications, and storage devices (other than main memory) that can be channel connected to a processor, and generally cannot be included in other categories such as terminals.

- *Input Devices* — Includes keyboards, numeric pads, card readers, light pens and track balls, tape readers, position and motion sensors, and analogue-to-digital converters.
- *Output Devices* — Includes printers, CRTs, projection television screens, micro graphics processors, digital graphics, and plotters.
- *Communication Devices* — Includes modem, encryption equipment, special interfaces, and error control.
- *Storage Devices* — Includes magnetic tape (reel, cartridge, and cassette), floppy and hard disks, solid state (integrated circuits), and bubble and optical memories.
- *Computer Systems* — Includes all processors from personal computers to supercomputers. Computer systems may require type- or model-unique operating software to be functional, but this category excludes applications software and peripheral devices and processors or CPUs not provided as part of an integrated (turnkey) system.
- *Personal computers* — Smaller computers using 8-, 16-, or 32-bit computer technology. Generally designed to sit on a desktop and are portable for individual use. Price generally less than \$5,000.
- *Workstations* — High-performance, desktop, single-user computers often employing Reduced Instruction Set Computing (RISC). Workstations provide integrated, high-speed, local network-based services such as database access, file storage and back-up, remote communications, and peripheral support. These products usually cost from \$5,000 to \$15,000.
- *Minicomputer or midsize computers* — Minicomputers are generally priced from \$15,000 to \$350,000. Many of the emerging client/server computers are in this category.
- *Mainframe or large computers* — Traditional mainframe and supercomputers costing more than \$350,000.
- *Client/server computing* — Client/server is an architecture that assembles applications software and databases, systems software, and computer and networking equipment into a usable form for the purpose of leveraging information technology investments.

Broadly defined, it can include any kind of server, such as file servers and network servers, that are accessed by any kind of client, including a non intelligent terminal. INPUT has elected to use the narrower and newer definition, by which application and data processing is shared between a client and a server. It is through the act of sharing that the greatest benefit is derived in terms of leveraging information technology investments. It is also the cause of the greatest change for vendors and users.

E

Sector Definitions

1. Industry Sector Definitions

INPUT structures the information services market into industry sectors such as process manufacturing, insurance, transportation, etc. The definitions of these sectors are based on the 1987 revision of the Standard Industrial Classification (SIC) code system. The specific industries (and their SIC codes) included under these industry sectors are detailed in Exhibit C-10.

INPUT includes all delivery modes except systems software products and equipment services in industry market sectors. See Exhibit C-9 and section E-3 (Delivery Mode Reporting by Sector).

Note: SIC code 88 is Personal Households. INPUT does not currently analyse or forecast information services in this market sector.

2. Cross-Industry Sector Definitions

INPUT has identified seven cross-industry market sectors. These sectors or markets involve multi-industry applications such as human resource systems, accounting systems, etc.

- In order to be included in an industry sector, the service or product delivered must be specific to that sector only. If a service or product is used in more than one industry sector, it is counted as cross-industry.
- INPUT only includes the turnkey systems, applications software products, and transaction processing services in the cross-industry sectors.

Exhibit C-10

Industry Sector Definitions

Industry Sector	SIC Code	Description
Discrete Manufacturing	23xx	Apparel and other finished products
	25xx	Furniture and fixtures
	27xx	Printing, publishing and allied industries
	31xx	Leather and leather products
	34xx	Fabricated metal products, except machinery and transportation equipment
	35xx	Industrial and commercial machinery and computer equipment
	36xx	Electronic and other electrical equipment and components, except computer equipment
	37xx	Transportation equipment
	38xx	Instruments; photo/med/optical goods; watches/clocks
	39xx	Miscellaneous manufacturing industry
Process Manufacturing	10xx	Metal mining
	12xx	Coal mining
	13xx	Oil and gas extraction
	14xx	Mining/quarrying nonmetallic minerals
	20xx	Food and kindred products
	21xx	Tobacco products
	22xx	Textile mill products
	24xx	Lumber and wood products, except furniture
	26xx	Paper and allied products
	28xx	Chemicals and allied products
	29xx	Petroleum refining and related industries
	30xx	Rubber and miscellaneous plastic products
	32xx	Stone, clay, glass and concrete products
33xx	Primary metal industries	
Transportation Services	40xx	Railroad transport
	41xx	Public transit/transport
	42xx	Motor freight transport/warehousing
	43xx	U.S. Postal Service
	44xx	Water transportation
	45xx	Air transportation (including airline reservation services in 4512)
	46xx	Pipelines, except natural gas
	47xx	Transportation services (including 472x, arrangement of passenger transportation)

Exhibit C-10 (Cont'd)

Industry Sector Definitions (Cont'd)

Industry Sector	SIC Code	Description
Telecommunications	48xx	Communications
Utilities	49xx	Electric, gas and sanitary services
Retail Distribution	52xx 53xx 54xx 55xx 56xx 57xx 58xx 59xx	Building materials General merchandise stores Food stores Automotive dealers, gas stations Apparel and accessory stores Home furniture, furnishings and accessory stores Eating and drinking places Miscellaneous retail
Wholesale Distribution	50xx 51xx	Wholesale trade - durable goods Wholesale trade - nondurable goods
Banking and Finance	60xx 61xx 62xx 67xx	Depository institutions Nondepository credit institutions Security and commodity brokers, dealers, exchanges and services Holding and other investment offices
Insurance	63xx 64xx	Insurance carriers Insurance agents, brokers and services
Health Services	80xx	Health services
Education	82xx	Educational services

Exhibit C-10 (Cont'd)

Industry Sector Definitions (Cont'd)

Industry Sector	SIC Code	Description
Business Services	65xx	Real estate
	70xx	Hotels, rooming houses, camps, and other lodging places
	72xx	Personal services
	73xx	Business services (except hotel reservation services in 7389)
	7389x	Hotel reservation services
	75xx	Automotive repair, services and parking
	76xx	Miscellaneous repair services
	78xx	Motion pictures
	79xx	Amusement and recreation services
	81xx	Legal services
	83xx	Social services
	84xx	Museums, art galleries, and botanical/zoological gardens
	86xx	Membership organizations
	87xx	Engineering, accounting, research, management, and related services
	89xx	Miscellaneous services
Federal Government	9xxx	
State and Local Government	9xxx	
Miscellaneous Industries	01xx	Agricultural production - crops
	02xx	Agricultural production - livestock/animals
	07xx	Agricultural services
	08xx	Forestry
	09xx	Fishing, hunting and trapping
	15xx	Building construction - general contractors, operative builders
	16xx	Heavy construction - contractors
	17xx	Construction - special trade contractors

Source: INPUT

The seven cross-industry markets are:

Accounting — consists of applications software products and information services that serve such functions as:

- General ledger
- Financial management
- Accounts payable
- Accounts receivable
- Billing/invoicing
- Fixed assets
- International accounting
- Purchasing
- Taxation
- Financial consolidation

Excluded are accounting products and services directed to a specific industry, such as tax processing services for CPAs and accountants within the business services industry sector.

Human Resources — consists of application solutions purchased by multiple industry sectors to serve the functions of human resources management and payroll. Examples of specific applications within these two major functions are:

- Employee relations
- Benefits administration
- Government compliance
- Manpower planning
- Compensation administration
- Applicant tracking
- Position control
- Payroll processing.

Education and Training — consists of education and training for information systems professionals and users of information systems delivered as a software product, turnkey system or through processing services. The market for computer-based training tools for the training of any employee on any subject is also included.

Office Systems consists of the following six categories:

Integrated Office Systems (IOSs) — IOSs integrate the applications that perform common office tasks. Typically these tasks include the following core applications, all of which are accessed from the same terminal, microcomputer or workstation:

- Electronic mail
- Decision support systems
- Time management
- Filing systems.

IOSs enable office workers to utilise applications that are resident on a number of hosts or servers, thus creating a corporate communication environment through integrating line-of-business software with personal software productivity tools. IOSs capitalise on the cross-platform architectures of major vendors. Major hardware vendors such as IBM, Data General, Digital, Hewlett-Packard and NCR all offer IOSs.

Work flow and groupware products are also included within the IOS definition.

Word Processing — Word processing is the most common microcomputer application and is a basic application within the office systems sector. Word processing addresses several levels of functionality, from the production of simple correspondence to large document generation where many people within different departments have input.

Desktop Publishing (DTP) — Desktop publishing refers to the page-design software programs that allow small and mid-sized organisations to publish printed documents (brochures, catalogues, newsletters, reports, etc.) from the desktop. The primary functions of DPT software include the manipulation of the following functions:

- Layout and design of columns
- Text manipulation (font type)
- Graphic manipulation
- Print Control (colour type, paper type).

Electronic Publishing — Electronic publishing includes composition, printing, and editing software for documents containing multiple typefaces and graphics including charts, diagrams, computer-aided design (CAD) drawings, line art, and photographs. Electronic publishing products may also have different data formats such as text, graphs, images, voice and video.

The fundamental difference between electronic publishing and desktop publishing is that electronic publishing encompasses a method of document management and control from a single point regardless of how many authors/locations work on a document. Desktop publishing (DTP) on the other hand, is considered a personal productivity tool and is generally a lower-end product residing on a personal computer.

Graphics — Graphics packages that are used for presentations or freehand drawings and/or are ancillary to desktop publishing are part of office systems. Thus, the graphics component of office systems sector includes the following elements:

Presentation graphics represent the bulk of office systems graphics. Most presentations involve a combination of graphs and text. They are used to communicate a series of messages to an audience rather than to analyse data.

Paint and line art drawing programs are used for illustrations while page layout programs are used to integrate text and graphics.

Electronic form programs allow users to create and print forms in-house. Some applications work with OCR scanners allowing users to scan pictures and logos directly on the forms.

Document Imaging Software — The software that allows users to manipulate (store, retrieve, print) images that have been scanned from paper documents. The applications that imaging software generates include: full text retrieval, document management, and database management. Document imaging software is a component of an imaging system. Hardware components of imaging systems include: scanners, image servers, workstations, optical drives, printers, and storage devices.

Engineering and Scientific encompasses the following applications:

- Computer-aided design and engineering (CAD and CAE)
 - Structural analysis
 - Statistics/mathematics/operations research
 - Mapping/GIS.
- Computer-aided manufacturing (CAM) or CAD that is integrated with CAM is excluded from the cross-industry sector as it is specific to the manufacturing industries. CAD or CAE that is dedicated to integrated circuit design is also excluded because it is specific to the semiconductor industry.

Planning and Analysis consists of software products and information services in four application areas:

- Executive Information Systems (EIS)
- Financial modelling or planning systems
- Spreadsheets
- Project management.

Other encompasses marketing/sales and electronic publishing application solutions.

- Sales and marketing includes:
 - Sales analysis
 - Marketing management
 - Demographic market planning models.

3. Delivery Mode Reporting by Sector

This section describes how the delivery mode forecasts relate to the market sector forecasts. Exhibit C-11 summarises the relationships.

- *Processing services* — The transaction processing services submode is forecasted for each industry and cross-industry market sector. The utility and other processing services submodes are forecasted in total for the general market sector.
- *Turnkey systems* — Turnkey systems is forecasted for the 15 industry and 7 cross-industry sectors. Each component of turnkey systems is forecasted in each sector.
- *Applications software products* — The applications software products delivery mode is forecasted for the 15 industry and 7 cross-industry sectors. In addition, each forecast is broken down by platform level: mainframe, minicomputer and workstation/PC.
- *Systems operations* — Each of the systems operations submodes is forecasted for each of the 15 industry sectors.
- *Systems integration* — Systems integration and each of the components of systems integration are forecasted for each of the 15 industry sectors.
- *Professional services* — Professional services and each of the submodes is forecasted for each of the 15 industry sectors.
- *Network services* — The network applications submode of network services forecasted for each of the 15 industry sectors.

Industry and cross-industry electronic information services are forecast in relevant market sectors. The remainder of electronic information services is forecasted in total for the general market sector.

- *Systems software products* — Systems software products and its submodes are forecasted in total for the general market sector. Each submode forecast is broken down by platform level: mainframe, minicomputer and workstation/PC.
- *Equipment services* — Equipment services and its submodes are forecasted in total in the general market sectors.

Exhibit C-11

Delivery Mode versus Market Sector Forecast Content

Delivery Mode	Submode	Market Sectors		
		Industry Sectors	Cross-Industry Sectors	General
Processing Services	Transaction	X	X	
	Utility			X
	Other			X
Turnkey Systems		X	X	
Applications Software Products		X	X	
Systems Operations	Platform	X		
	Applications	X		
Systems Integration		X		
Professional Services		X		
Network Services	Network Applications	X		
	Electronic Information	X		
	Services			X
Systems Software Products				X
Equipment Services				X

Source: INPUT

F**Vendor Revenue and User Expenditure Conversion**

The size of the information services market may be viewed from two perspectives: vendor (producer) revenues and user expenditures. INPUT defines and forecasts the information services market in terms of user expenditures. User expenditures reflect the markup in producer sales when a product such as software is delivered through indirect distribution channels (such as original equipment manufacturers (OEMs), retailers and distributors). The focus on user expenditure also eliminates the double counting of revenues that would occur if sales were tabulated for both producer (e.g., Lotus) and distributor (e.g., ComputerLand).

For most delivery modes, vendor revenues and user expenditures are fairly close. However, there are some areas of significant difference. Many microcomputer software products, for example, are marketed through distribution channels. To capture the value added through these distribution channels, adjustment factors are used to convert estimated information services vendor revenues to user expenditures.

For some delivery modes, including software products, systems integration and turnkey systems, there is a significant volume of intra-industry sales. For example, systems integrators purchase software and subcontract the services of other professional services vendors. Turnkey vendors incorporate purchased software into the systems they sell to users.

To account for such intra-industry transactions, INPUT uses conversion ratios to derive the estimate of end-user expenditures.

Exhibit C-12 summarises the net effect of the various ratios used by INPUT to convert vendor revenues to user expenditure (market size) figures for each delivery mode.

Exhibit C-12

Vendor Revenue to User Expenditure Conversion

Delivery Mode	Vendor Revenue Multiplier
Applications Software Products	1.18
Systems Software Products	1.10
Systems Operations	0.95
Systems Integration	0.95
Professional Services	0.99
Network Services	0.99
Processing Services	0.99
Turnkey Systems	0.95
Equipment Services	0.99

Source: INPUT

