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MARKET FORECAST

U.S. Professional Services
Market

1993-1998

U.S. Market Analysis Program

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Paris
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Poincaré
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France
Tel. +33 (1) 46 47 65 65
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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 analyzes the impact of industry's drive for improved product quality and customer service as well as surging use of client/server technologies on the U.S. professional services market. Data includes market forecasts, vendor ranking, and rankings of the factors affecting users and vendors, including factors that affect vendor selection and billing rates in the market. Market growth estimates are also provided for 15 industry sectors.

The professional services market is segmented into four submodes or segments: consulting, software development, application management and education and training. Each submode is analyzed and forecasted separately, and the use of professional services is also forecasted by industry.

This report presents the issues, trends and key events affecting the professional services market and identifies new and emerging strategies and opportunities. The report contains 58 pages and 44 exhibits.

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U.S. Professional Services Market, 1993-1998

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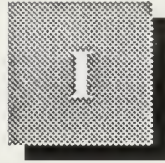
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Overview

A

Introduction

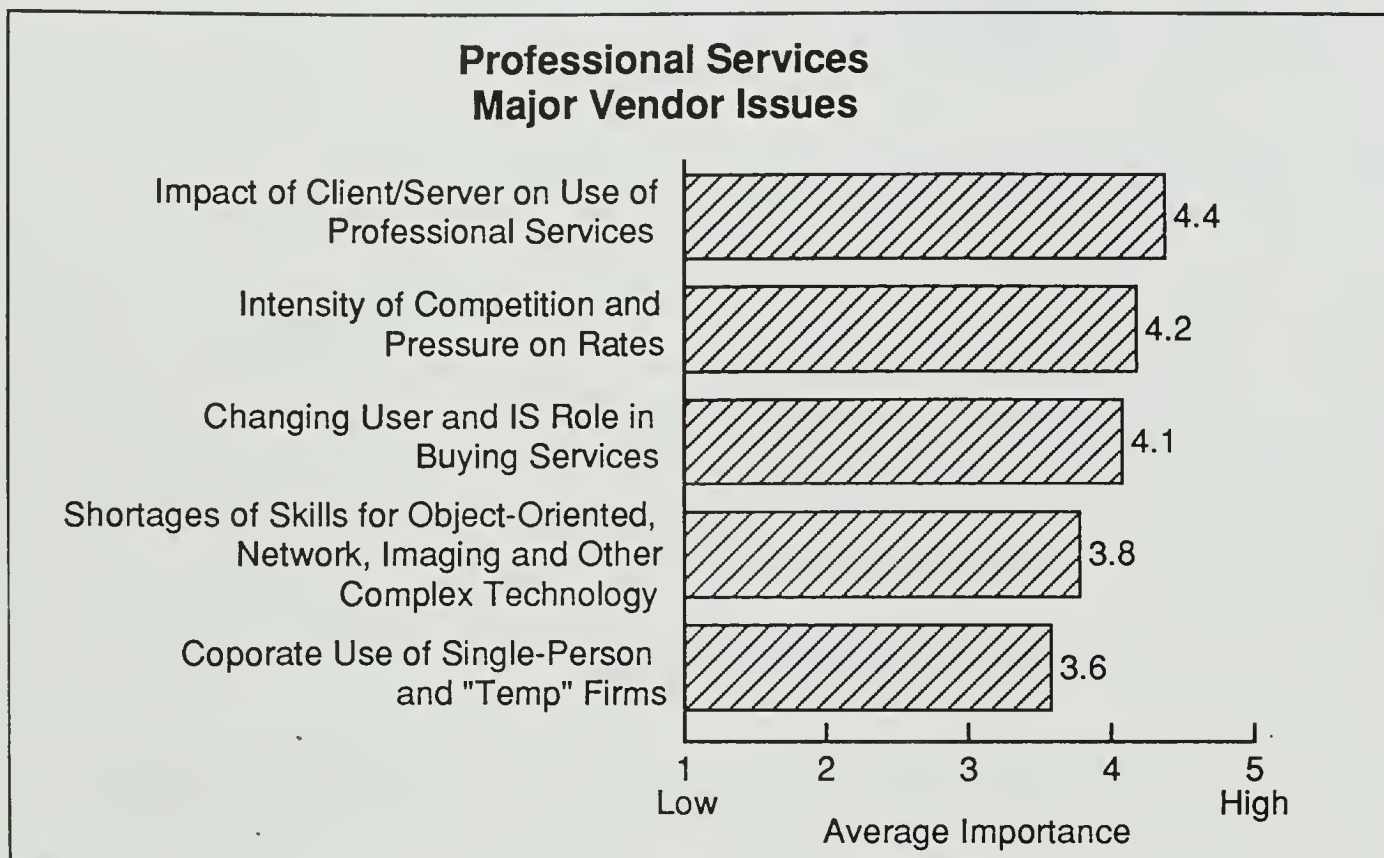
1. Purpose and Methodology

As indicated by Exhibit I-1, many professional services firms report that actions must be taken to respond to:

- The impact of client/server (C/S) use. Users are looking for vendors that have knowledge of workstation development tools such as Easel and PowerBuilder and of major C/S issues such as direct access to corporate data bases and three-tiered solutions for the use of corporate data
- The intensity and new forms of competition, including pricing strategies and techniques of eliminating competitors from project consideration
- The changing role of users, including user initiation of BPR (business process re-engineering) or other management planning that can have a large-scale impact on the use of IT
- Shortages of higher level technical skills needed to address more complex client/server, imaging and network projects

Vendors report that these issues and their responses to them are having a significant impact on marketing efforts, products and services offered, revenues and earnings. This report will address these issues and the responses of vendors through an analysis of the business and technological factors driving or inhibiting user expenditures.

EXHIBIT I-1



This report is part of a series of market analysis reports written each year by INPUT on the key segments (delivery modes) of the U.S. information services industry, which are described in the report, *INPUT Definition of Terms 1993*.

The methodology utilized in this report includes obtaining ideas and observations from interviewing and extensive, ongoing consulting in the information services industry. These ideas have been tested and additional information has been obtained from a survey of over 2,000 users and 400 vendors. The data that was obtained has been used in this report to:

- Develop five-year forecasts, an assessment of market drivers, analysis of competitive trends, and identification of leading vendors
- Assess trends and events within U.S. business, the U.S. information services industry, and the professional services delivery mode to provide a comprehensive foundation for understanding this market sector and for anticipating future directions

2. Report Organization

This introductory chapter of the report is devoted to describing the purpose of the report and its organization as well as indicating the general business and other trends that are having major impacts on the professional services market.

Chapter II analyzes the needs, technological factors and key issues and trends that are driving or inhibiting user expenditures for professional services.

Chapter III provides a five-year forecast for the growth of professional services and its submodes as well as analyses of the growth of these services by a number of parameters, including business functions. This report contains the most recent assessment of professional services expenditures for 1992, 1993 and the five-year forecast period through 1998.

Chapter IV lists the major players and their market shares and describes competitive positioning.

Chapter V indicates the major classes of vendors offering professional services and compares their performance.

Chapter VI lists findings and conclusions and makes recommendations based on this study.

B

General Business Trends

1. Impact on Professional Services

The general business trends that are of importance for this study are indicated in Exhibit I-2.

- The major trend having an impact on the use of professional services is the low rate of growth of the economy and related economic uncertainty, which will hold the growth of professional services to a rate of 9% in 1993. With little business expansion there is less demand for modification and upgrading of application systems.
- The compound annual growth rate (CAGR) should pick up to 10% by 1994, as the recovery strengthens.

Impact of General Business Trends

EXHIBIT I-2

Trend	Average Impact Reported by Business Users*
Low Rate of Growth	4.1
Increasing Global and Local Competition	4.0
Greater Dependence on Technology	3.9
Restructuring and/or Re-engineering	3.7
Increasing Costs (including taxes)	3.5

*Rating where 5 = high and 1 = low.

Three of the trends noted in Exhibit I-2 can have very positive impacts on the use of professional services.

- Increasing global and local competition. This has driven many companies, and particularly manufacturers, to improve the quality of their products or services as well as the quality of their customer service and ordering systems through the use of professional and other information services. This trend has also stimulated improvement in accounting and financial systems in order to analyze production costs and pricing more accurately.
- Greater dependence on technology. This has included the expanding use of information technology (IT) such as client/server technology, imaging, and new network capabilities, and greater use of automation in manufacturing, distribution and other processes.
- Restructuring and re-engineering, including BPR (business process re-engineering). Steps taken to implement BPR often include the use of information services. Professional services are being used for this purpose, although large systems integration firms are receiving the lion's share of work from this trend, at the expense of more narrowly focused professional services firms. Professional services companies must adopt more proactive methods of gaining business from the use of BPR.

2. Selective Recovery

There are also negative trends, shown in Exhibit I-2. A low rate of growth and increasing costs are inhibiting user expenditures for information and professional services. These negative trends as well as the positive ones

just discussed are having various effects on different vertical markets and their use of professional services, as shown in Exhibit I-3.

- Process manufacturing shows a rebound from the dip in 1991, due to the drive to improve product and service quality and the improvement of application systems in process manufacturing. Discrete manufacturing does not show a similar bounce because the demand for machinery, cars and planes was low during the first part of the year.
- The dip that occurred in the banking and finance market during the end of the last decade has also been overcome.
- Conditions differ in other industries. Expenditures for professional services in the wholesale and retail distribution markets have stopped falling, but have not recovered, and expenditures in insurance continue to fall.

EXHIBIT I-3

Changes in Professional Services Growth Rates in Selected Vertical Markets

Selected Vertical Markets	1989-1990	1990-1991	1992-1993
Discrete Manufacturing	11	7	7
Process Manufacturing	13	7	12
Retail Distribution	12	6	7
Wholesale Distribution	12	7	7
Banking and Finance	5	7	5
Insurance	13	7	5
Total	10	6	9

The selective recovery that has marked the economy during the last few years is having more of an effect on the use of professional services in some industries than others, and should be considered in planning. The use of professional services in various industries is also being affected concurrently by other trends, including the increases in restructuring, re-engineering and downsizing.

3. Business Restructuring/Re-engineering

A number of users report that drives to reduce costs, improve the quality of goods and services and/or achieve corporate objectives or values has led to the realization that restructuring or re-engineering of business processes must take place first. The idea of re-engineering processes has achieved such popularity that a business book on the subject (*Re-engineering the Corporation*) became one of the best-selling books in the U.S. in the summer of 1993, and the U.S. government began talking about re-engineering its operations by September.

- Some consultants, such as McKinsey, Bain and others, feel that BPR is nothing more than the intensive business systems consulting that they have always carried out. It has just become more recognized as a need.
- Other consultants, including the authors of the book mentioned above, feel BPR has been evolving and must be studied before use because most companies and vendors talking about it are not using the technique correctly.

In addition to the actions outlined above, users and vendors report interest in BPR has also emerged from the growing use of client/server technology and imaging because the use of these technologies can bring about the need to make changes in existing processes. The rising interest in BPR emerging from the use of technology and from planning about restructuring has been like a chain reaction in some organizations, as shown in Exhibit I-4.

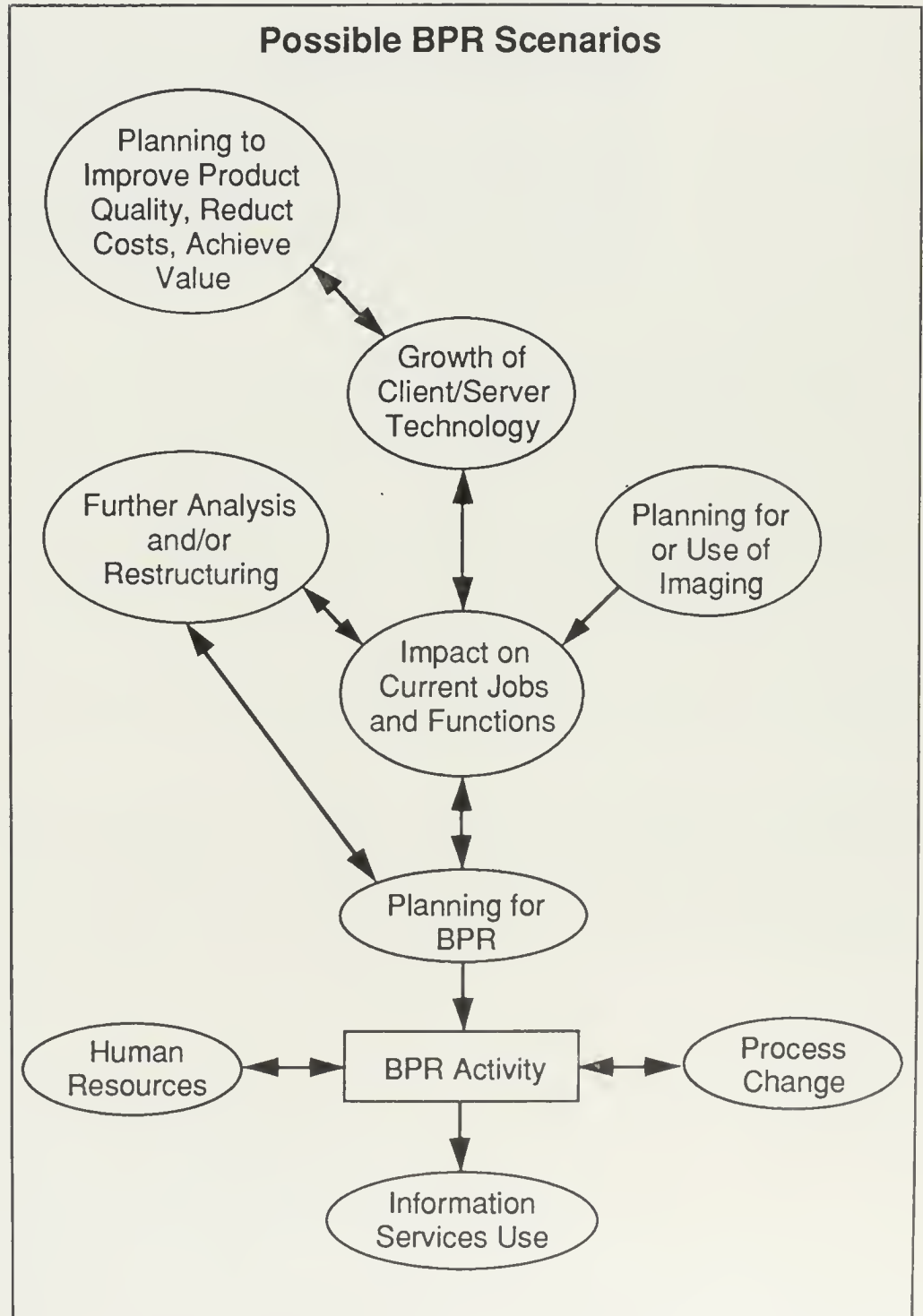
BPR has quickly become a major concern and opportunity for management consulting and SI vendors.

- Management consultants such as McKinsey and Bain are using their past experience to meet the surge of interest in BPR arising in U.S. corporations. Big 6 and SI firms have also responded to the need for BPR consulting.
- The use of BPR consulting is also leading to a number of large IT projects, and major SI vendors, including Andersen Consulting, EDS and CSC are increasing revenues from the implementation of these projects.

BPR is having a considerable impact on many companies, particularly larger ones, and the result is a significant amount of work for information services vendors. The steps taking place before the use of IT include strategic consulting, analysis of operating process strategy, change management and technology strategy.

- Because these steps involve intense activity within a company, there may be less consideration of IT alternatives than would be the case in normal bidding situations.
- The consultant or SI vendor carrying out the BPR activities may easily become the implementation vendor, or may be influential in determining who will carry out the project.

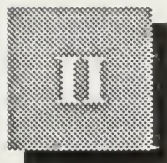
EXHIBIT I-4



There is also an assumption that implementation will be done by an SI vendor, although many larger professional services vendors, particularly those with SI capabilities, could handle implementation activities. Vendors interested in projects that result from BPR will have to gain more acquaintance with the technique and possibly seek alliances to obtain work.

4. Other Trends

In addition to the technological and business trends discussed, other trends affecting the use of professional services discussed in this study include downsizing, the use of workstation software products in professional services jobs, how important open systems are in obtaining professional services work, and the use of consulting and education and training to not only gain revenue, but to gain development assignments or develop longer range relationships. Another trend to be discussed is the pressure on rates and available work resulting from the use of one-person or "temp" firms.



Professional Services Environment

A

User Needs and Technological Factors

1. User Needs

The major user consideration driving the use of professional services continues to be the need for companies to improve the quality of their business, as shown in Exhibit II-1. This includes the quality of products and services as well as the quality of service for customers.

- Users in manufacturing, banking, distribution and other industries report they have had systems upgraded or developed to keep track of customer problems or information about customers that will enable service to be improved.
- A recent study on a portion of the utility market revealed that over half of the users interviewed were upgrading their customer service capability.

In order to stimulate more business, users are also interested in installing and improving sales support systems. One large chemical manufacturer reported the use of a professional services vendor with a reputation in sales support to make changes to portions of office administration systems involved with sales activities and to develop a system to improve planning for and follow-up on sales activities.

EXHIBIT II-1

User Needs and Issues

Needs/Issues	Average Importance
Improvement of customer service and product quality	4.2
Improvement of sales support	4.1
Improved connectivity: within and among organizations	3.9
The segmentation of application systems and data between user and IS systems	3.9
Re-engineering/restructuring business	3.8
Reducing and/or outsourcing functions	3.4

Other user issues of significance include improving connectivity internally and externally with customers and suppliers, the segmentation of applications and data among users and central systems, re-engineering and outsourcing or reducing functions.

- Connectivity continues to be an issue as the expansion and connection of LANs within businesses grows rapidly and linkage with suppliers and customers grows to meet distribution, manufacturing, banking and other needs. Users and IS are asking how much capacity must be built into networks and whether some pathways or access to data should be limited.
- The growth of connectivity and the flow of data is also leading to other issues. Users and IS are asking if planning should take place to segment data and application systems between users or if cooperative systems should be implemented. Steps are also being considered or taken to develop redundant data storage capabilities that can serve end-user needs.
- The issues discussed above, and other business considerations, are leading to the emergence of re-engineering and, specifically, BPR as a user issue, as discussed in the introductory chapter.

2. Technological Factors

End users are also increasingly affected by more complex technology, as noted in the general business trends mentioned in Exhibit I-3. The specific technological factors that are reported to be having the greatest impact on end users are shown in Exhibit II-2.

- Client/server technology, complex network considerations, open system use and object-oriented technology are all reported as issues by users in relation to both downsizing projects and activities involved with the development of new client/server-based systems.
- The use or consideration of imaging systems is also rising in importance due to the opportunity to improve processing and lower costs, according to respondents. Improvements in technology—including software to manage image use—have also been reported that enhance the cost attractiveness and usefulness of these systems.
- Interest in multimedia is also rising, although most respondents do not report more than trial use.

EXHIBIT II-2

Major Technological Factors

Factor	Average Impact
Client/server expansion	4.5
Network expansion and complexity	4.2
Open system considerations	4.2
Object-oriented technology	3.7
Imaging systems	3.6
Multimedia	3.0
Use of small portable and "Newton" type products	2.3

3. Impact of Client/Server Technology

The high level of activity in client/server use illustrated in Exhibit II-3 indicates the level of interest respondents have in moving work to this technology or developing new systems for it.

- A recent industry study by INPUT found that over 80% of a group of users planning new applications were planning to use client/server technology for implementation.
- There is also a high level of interest in obtaining software tools, aid and training for client/server technology, which provides opportunities for professional services and other vendors.
- Research by INPUT indicates that most expenditures for professional services will shift from mainframe to client/server platforms by 1998, as shown in Exhibit II-4.
- In addition to taking work from mainframe and midrange computers, C/S work will begin to orient much of the application work that is still done on larger computers, as illustrated in Exhibit II-5. For instance, a mainframe or midrange computer system handling a purchasing system might produce reorder information for a C/S system run by users.

Segmentation of applications or cooperative processing is also reported to be a means for end users to improve productivity through the use of client/server systems.

EXHIBIT II-3

Impact of Client/Server Technology

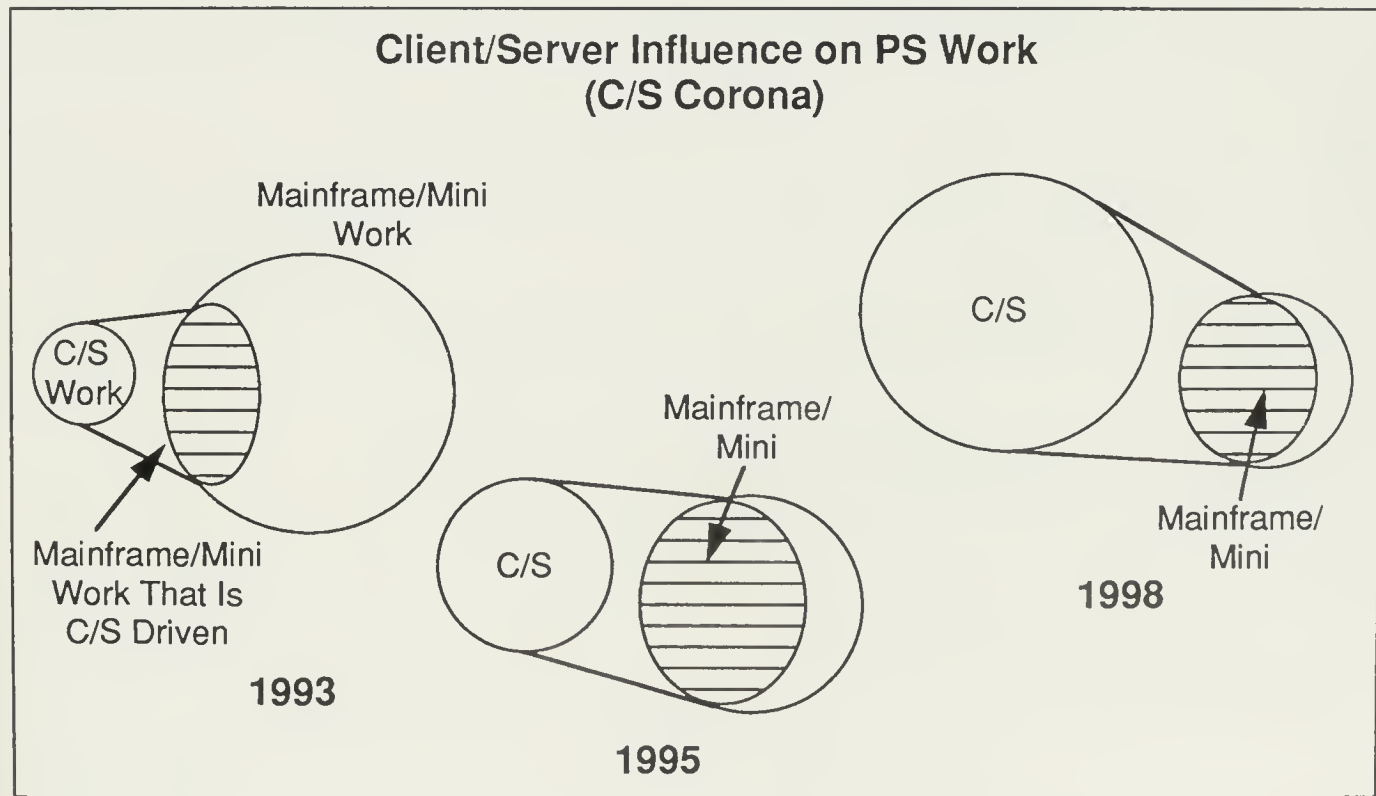
Impact of Technology on End Users	Average Importance to End Users
Downsizing or moving work to client/server platforms	4.6
Developing and modifying applications for client/servers	4.2
Obtaining client/server tools	3.8
Addressing network problems regarding client/server use	3.7
Seeking further training for client/server technology	3.7
Seeking technical aid with client/server use	3.6

EXHIBIT II-4

PS Expenditures by Target Platforms, 1992-1998

Platform	1992 (Percent)	1998 (Percent)
Mainframe	52	15
Client/server, workstation/PC	25	60
Midrange	21	15
Standalone open systems	2	10
Total	100	100

EXHIBIT II-5



B**Key Issues and Trends****1. Driving Forces**

It is not surprising that vendors report that the driving force with the highest impact on their work is the use of client/server technology, as shown in Exhibit II-6. Users are using or considering the use of this technology to downsize functions as well as to meet new needs.

- A number of small professional services firms report that they have developed expertise in one or more client/server applications or tools to meet market demands. New tools have started to appear that enable applications to be developed more rapidly for C/S, including PowerBuilder and FourGen.
- Major professional services/SI firms such as Andersen Consulting have developed specialized training and support capabilities for C/S.

EXHIBIT II-6

**Professional Services
Driving Forces**

Force	Average Impact on Vendor
Growing use of C/S by end users	4.2
Need for improvement in quality of products and customer service	4.0
Need to improve sales effectiveness	3.9
Connectivity needs of users - Intracompany - Intercompany	3.9
Interest in re-engineering	3.6
Interest in imaging	3.3
Growing interest in application management	3.2
Open systems	3.0

Vendors also report that user interest in improving product and customer service quality, sales effectiveness and connectivity are major driving forces.

Re-engineering and the use of BPR are increasing in importance as a driving force because many users—not only the larger firms that initiate BPR consulting work—are engaging in steps or planning to restructure or “re-engineer” activities before initiating professional services jobs. Also, larger vendors such as EDS, Andersen, Deloitte & Touche and Price Waterhouse are suggesting to users that the use of new technology such as imaging or C/S should be preceded by the consideration of re-engineering.

Growing interest in continuing support by vendors—as in application management arrangements—is growing, although contracts of this type are not numerous. The profile of a representative contract for this service is shown in Exhibit II-7.

EXHIBIT II-7

Profile of a Representative Application Management Contract

- Value \$2 million over three years
- Covers all commercial applications
- COBOL predominant language

Open systems is still felt to be a driving force, particularly with increasing connectivity and the possibility of moving applications to different platforms, segmenting applications or using cooperative processing. However, open systems is not as weighty a factor as it has been in the past. It is currently one of a number of related issues.

In addition to the forces driving actions of professional services vendors, the factors favoring the selection of certain of these vendors by users should be considered. As indicated in Exhibit II-8, these factors are led by the ability to provide help with C/S activities.

- The ability to market to end users and to work with both end users and IS are also highlighted as factors that influence the selection of vendors. These factors also pay testimony to the increased importance of end users and the fact that they are learning to work separately as well as with IS departments on projects.

- Another factor that influences selection is the ability of vendors to promote an image of value. Users are interested in the question of value (applications that have fewer problems, are easy to use and can be upgraded), but even some of them state that the values a vendor offers have to be pointed out and emphasized. Unless an image of value is established, selection may only be made on price and past accomplishments.

EXHIBIT II-8

Factors Favoring the Selection of Vendors

Factor	Average Importance to Users
Availability of client/server skills	4.4
Ability to market to end users	4.2
Availability of client/server high-level training	4.1
Projecting an image of value	3.9
Ability to work with IS and users	3.7

2. Inhibiting Forces

As indicated in Exhibit II-9, factors that can inhibit the use of vendors in an assignment are led by the weak condition of the economy at present, and tight budgets within organizations.

- This situation has made the consideration of cost reduction and alternate sources more important. Users or IS may opt to make agreements with ex-employees or temporary personnel to do piecemeal work to meet needs rather than engage a vendor to do a more complete job.
- Internal consulting organizations may be called upon rather than vendors for the same reason, even if they do not possess needed skills.

Shortages of critical technical skills may inhibit the use of external vendors to a greater extent than some firms realize. The vendors may not be prepared to provide aid or answer questions about the C/S tools and other software products to which end users have become committed.

EXHIBIT II-9

PS Market Growth Inhibitors

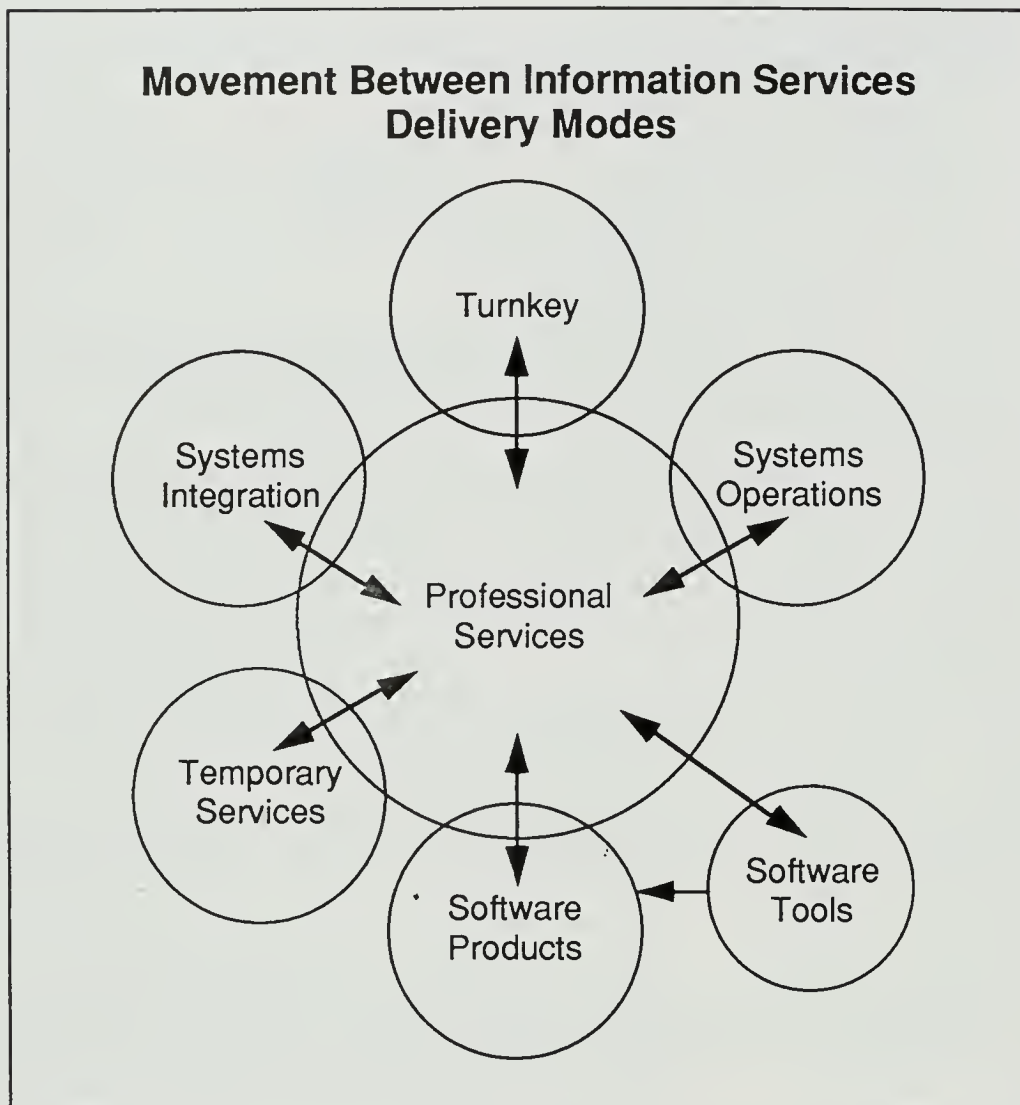
Inhibitor	Average Impact on Users
Weak economic recovery	4.1
Tight budgets	4.0
Competition from other types of vendors	3.8
Shortages of critical technical skills	3.7
Use of ex-employees, single contractors and temps	3.6
Internal consulting organizations	3.0

Professional services vendors can also find that other types of vendors are inhibiting their growth.

- SI and SO vendors may use available resources to bid for professional services jobs at companies for which they are doing work.
- Software and turnkey vendors may take on jobs to modify software products and even hire temporary personnel to do some of the work.

Because professional services skills are used in other information services delivery modes, vendors in those modes find it easy to move into professional services work, as shown in Exhibit II-10, when business is tight or an opportunity appears.

EXHIBIT II-10



3. Billing Rate Issues

- Competition from other modes is one of the factors putting pressure on professional services billing rates, as illustrated in Exhibit II-11.
- Competition from major SI and Big 6 vendors also puts pressure on rates because many users are willing to pay more for these firms based on their names, but expect to pay other vendors less.

Systems personnel who have been released by large companies, as well as temporary personnel, also put pressure on rates by providing services at low prices.

The greatest pressure on billing rates comes, however, from the media focus on “easy” C/S solutions, and the expectation that the use of new C/S technology will involve low-cost means of addressing problems.

EXHIBIT II-11

Factors Having an Impact on Billing Rates

Factor	Average Impact
Media focus on "easy C/S solutions"	4.2
Cutbacks of senior personnel who can contract for services	4.1
Using "temporary services firms" for high-level IS skills	3.9
Low-cost expectations for modifications needed to meet requirements	3.8
Trade-off—users will pay more to Big 6 or SI vendors and expect to pay others less	3.8
Competition from other delivery modes	3.5

C**Vendor Competition****1. Project Work**

The type of work that professional services firms are obtaining most frequently is helping with C/S and downsizing projects, as shown in Exhibit II-12. Several of the other categories of work also address or include C/S activities.

- The work that ranks second, network development, is led by work with LANs and interconnection between mainframes or minis and C/S systems.
- The development of systems (generally small systems) for C/S platforms is also recognized as a development objective. This development is expected to grow in the future as users seek more customized solutions. Object-oriented techniques and other tools will be used to rapidly generate many of these solutions, but systems steps to identify objectives and perform trade-offs, and to implement, document and train users will also be needed.

EXHIBIT II-12

Type of Work Sought from PS Vendors

Type of Work	Average User Interest
Aid with C/S and downsizing	4.1
Network consulting, development	3.9
Application upgrading, enhancing	3.8
Other technical aid	3.7
Development of C/S-based applications	3.3
Project management	2.9

Application upgrading and modification will continue to be a major type of undertaking for professional services firms, as shown in Exhibit II-12, and it will involve traditional mainframe projects, as well as many new C/S applications.

- Some vendors will obtain contracts from users to provide ongoing support of application systems, according to respondents.
- This type of ongoing activity (contracts longer than one year) is being classified as application management by INPUT, and will be reported as a submode of professional services separate from systems development.

When professional services vendors are engaged, users expect them to have a broad level of capabilities available for projects, or be able to supply contract service personnel with needed skills, from specific C/S tools to network and data management knowledge, as Exhibit II-13 indicates.

- Technical strength (in software products and network capabilities as well as in IT architecture) has become slightly more important than industry and application knowledge to users as a result of the growth of C/S systems and need for C/S support. Knowledge of open systems can also be important for this reason.
- A lack of some critical capability can result in devaluation of a potential supplier. Consequently, some professional services providers will obtain people with needed skills from other professional services or temporary firms.

EXHIBIT II-13

What Is Expected from Professional Services Vendors

Expectation	Average Response
Broad source of technical aid	4.6
Application/industry knowledge	4.5
Systems integration strengths	4.3
Source of contract personnel	4.2
Quality professional services work	4.1
Project management strengths	3.9
Open systems capability	3.6
Knowledge of CASE	3.5

Vendors are generally expected to also have systems integration strengths and project management capabilities, even if they are not SI vendors. Users are more conscious and demanding about projects than they have been in the past. For this reason, quality work is much more important than it has been, and vendors must control the results—and the process—more closely.

Familiarity with the use of CASE tools and techniques is also being sought by some organizations, although a number are concentrating on the use of object-oriented techniques and other development tools by themselves as more suited to current C/S needs.

- The use of CASE tools and techniques, including logical data and process models and repositories, as well as bridges between vendor products, will become more important in C/S use as applications for that platform become more complex.
- Vendors who plan to be major factors in the use of CASE on C/S platforms need to have a fully developed strategy now, because the use of C/S is growing rapidly and opportunities could suddenly begin to increase.

Most of the problems encountered with professional services vendors are reported to be similar to those of the past, as shown in Exhibit II-14. The time of implementation, costs and misunderstanding of requirements continue to bother some users, although more users feel they are more in charge of development because of the use of C/S systems.

EXHIBIT II-14

Problems Encountered by Clients of PS Vendors

Situation	Average Response
Costs exceeded estimates	3.4
Project time exceeded estimates	3.2
Problems in coordinating tasks	3.2
Problems in user education	2.9
Documentation problems	2.7

2. Selection Criteria

The major criteria for selecting vendors, reported in Exhibit II-15, have not changed greatly from the past, except for one new factor now recognized as extremely important: the image of a vendor in relation to the proposed solution.

- This shift has almost replaced the acceptability of the solution to users with the acceptability of the vendor to users.
- Some of the major vendors of professional services have prepared presentations and demonstrations that are aimed at convincing users and executive management that they are best able to achieve benefits and have the best knowledge of the application and specific technology to be used.

EXHIBIT II-15

Major Criteria for Evaluating Project Bids

Selection Criteria	Average Response
Image of vendor in relation to the solution	4.1
Pricing	4.1
Acceptability of solution to users	4.0
Industry/application understanding	3.9
Technical skills of vendor	3.9
Proposal quality	3.7
Experience of vendor in industry	3.2
Reputation	3.1
Size/stability	3.0
Project management skills	2.9
Contacts/relations	2.1

3. Increasing Role of End Users

As a result of the greater involvement of users, the approach to application solutions more frequently involves the use of C/S technology. The impact of user participation is having a significant impact on the choice of technology and the direction of development projects, as shown in Exhibit II-16.

- Users are not only exerting more influence on the choice of vendors, but they are running systems and participating in or driving business activities, including the use of BPR, that will have large-scale impacts on the use of IT.
- Users will also play a strong role in providing more revenue opportunities for professional services vendors.

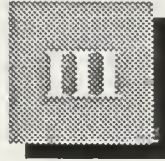
EXHIBIT II-16

Growing Impact of End Users

Impact	Average Response of Users*
End users decide or strongly influence choice of professional services vendor	4.3
Users have major role in planning projects	4.2
Users are influencing choice of IS technology	3.9
Users fund their own IS installations	3.4

*Where 5 = strongly agree; 1 = no agreement.

As C/S use grows, there will be more demand to customize applications software products and to develop application systems and subsystems for C/S installations. This need is already providing opportunities for professional services vendors to offer economic solutions. Several vendors report that C/S work will provide major revenue opportunities in the future.



Market Forecast

A

Market Overview

As Exhibit III-1 indicates, the performance of the professional services market in 1992 and 1993 has been slightly below INPUT forecasts, mainly due to the lackluster economic recovery. The recovery has also had selective benefits, favoring some industries and regions more than others.

- The actual expenditures of \$19.3 billion in 1992 are 1% less than the forecast made in 1992.
- The forecast for 1993 being made at this time is \$20.9 billion, 2% below the last forecast for 1993, made in 1992.
- The forecast for growth in user expenditures made for 1993-1998 is 10%—identical to the five-year forecast made in 1992.

EXHIBIT III-1

Professional Services Market Overview (\$ Billions)

<u>1992 Outlook</u>			<u>1993 Outlook</u>	
1992 Forecast – 19.5	versus		1992 Actual – 19.3	
1993 Forecast – 21.4	versus		1993 Forecast – 20.9	
1992-1997 Forecast Growth Rate – 10% (CAGR)	versus		1993-1998 Forecast Growth Rate – 10% (CAGR)	

INPUT analyzes the use of professional services and the other information services modes by examining expenditures in 15 industry sectors and seven cross-industry sectors where services are delivered, as described in Appendix A.

An analysis of the performance of vendors is used to further investigate and confirm the expenditures of users. A wide range of firms are involved in the professional services business, and many of the vendors with the largest amounts of revenues from professional services, such as IBM and EDS, are chiefly involved with other products or services.

The user expenditures that INPUT classifies as professional services are activities devoted to the support of the use of information technology, including:

- Consulting
- Education and training
- Software development
- Application management

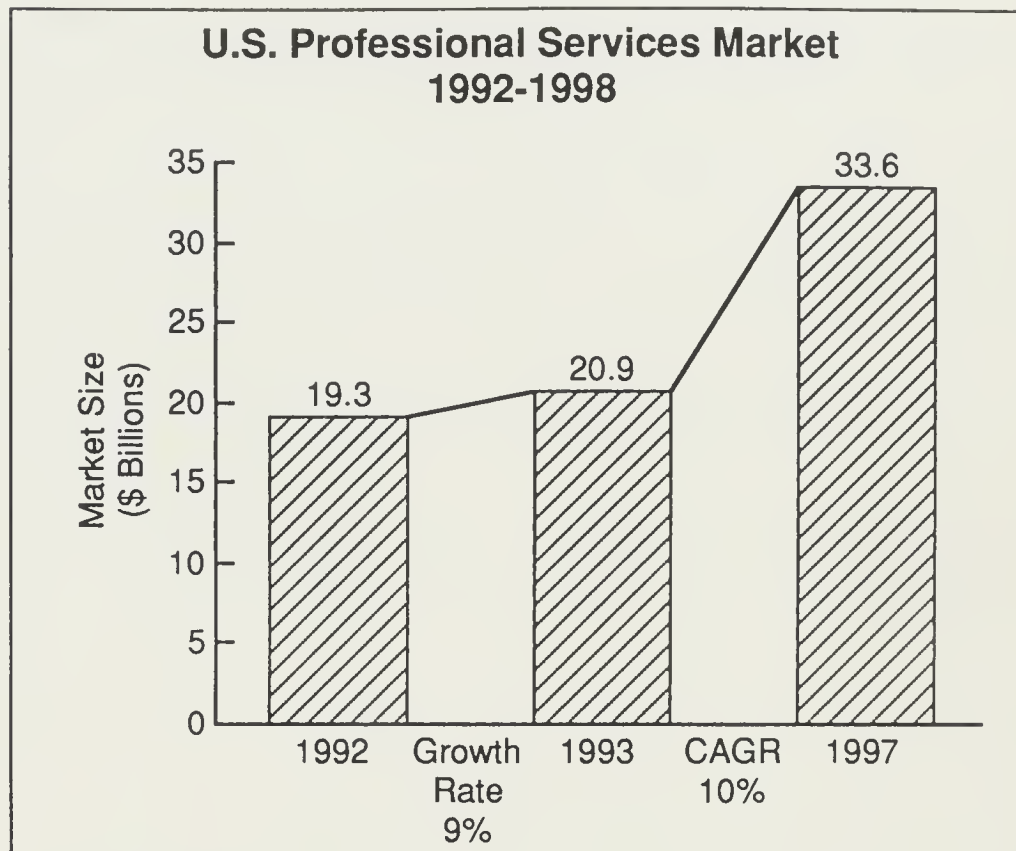
Boundaries cannot easily be placed around the professional services business. Companies in other industries such as Chubb Insurance and American Airlines (which owns AMRIS) can and do set up subsidiaries to offer professional services training, consulting, or design and programming. Professional services firms such as CSC can start to offer management consulting or turnkey systems delivery.

B

Market Forecast and Analysis

The annual growth rate for professional services expenditures has been hovering between 9% and 10% in 1992 and 1993 because of the slow recovery, and should stabilize at 10% for the five-year period between 1993 and 1998, as illustrated in Exhibit III-2.

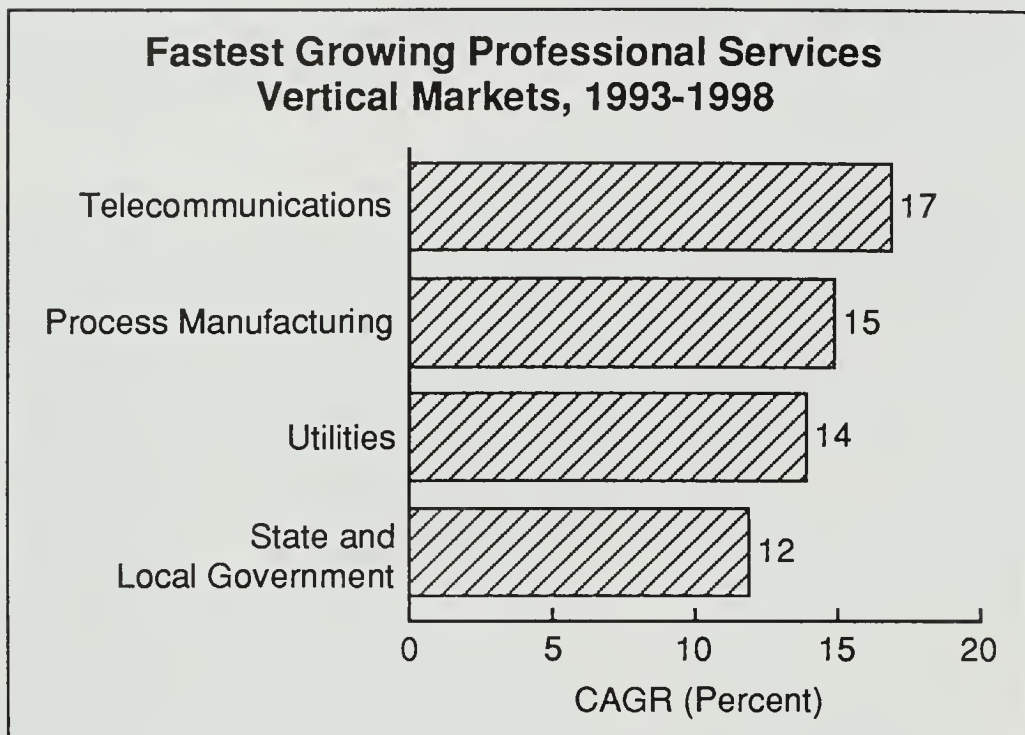
EXHIBIT III-2



The detailed forecast of all vertical markets between 1993 and 1998 can be found in Appendix A. Forecasts of the fastest growing vertical markets during that period are shown in Exhibit III-3.

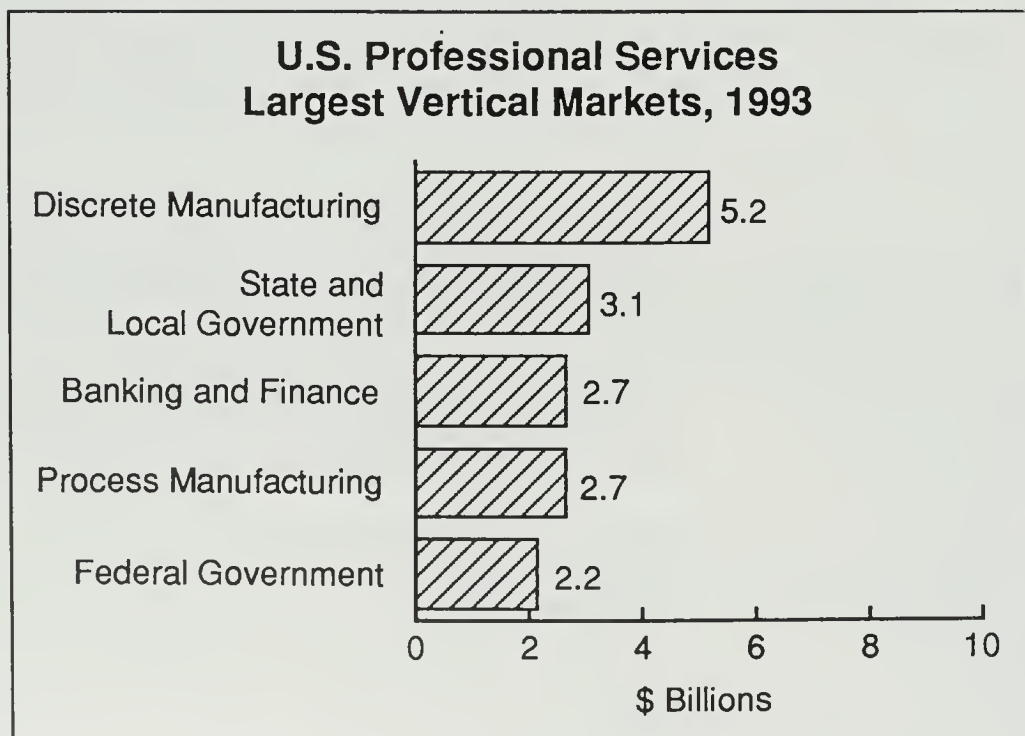
- Telecommunications will lead in compound annual growth rate, due to the continuing expansion of business and personal communications requirements, and the demand for upgraded and new communications systems that is now being generated.
- Growth in process manufacturing will be stimulated by the introduction of application systems more tailored to the process business, as well as the demand for improvements in product quality and customer service.
- The state and local government market is growing at a relatively fast rate because of continuing demand for more public services, although its growth rate is not as high as forecast earlier, due to current constraints on funding. However, it has become the second largest market, and is spurred by this sector's dependence on outside consulting for much of its work.

EXHIBIT III-3



The largest vertical markets are identified in Exhibit III-4.

EXHIBIT III-4



An analysis of professional services expenditures by functional area, shown in Exhibit III-5, reveals some changes between 1991 and 1992. There is a 1% larger percentage of expenditures in logistics/distribution and IS/telecommunications, and a 1% smaller expenditure in manufacturing/business operations and accounting/administration.

- Expenditures in logistics/distribution have been driven by business needs to be more responsive to clients, as well as desires to control costs in these functions more effectively.

EXHIBIT III-5

Professional Services Expenditures by Functional Area, 1992

Functional Area	Expenditures (\$ Billions)	Percent of Market Total
Manufacturing/business operations	5.3	27
Accounting/administration/office operations	4.1	21
IS/telecommunications	3.5	18
Logistics/distribution	2.9	15
Research and development	1.4	7
Sales and marketing	1.4	7
Human resources	0.4	2
Other	0.4	2
Total	19.3	100

C

Forecast by Market Segment

1. Software Development and Application Management Submodes

The total user expenditures for software development and application management in 1992 were \$11.8 billion.

- Software development revenue accounts for \$11.3 billion of this, making this segment the largest of the four professional services submodes.

- As shown in Exhibit III-6, software development is expected to grow 7% in 1993 to \$12.1 billion, and will increase at a CAGR of 9% through 1998, when user expenditures will reach \$18.2 billion.

EXHIBIT III-6

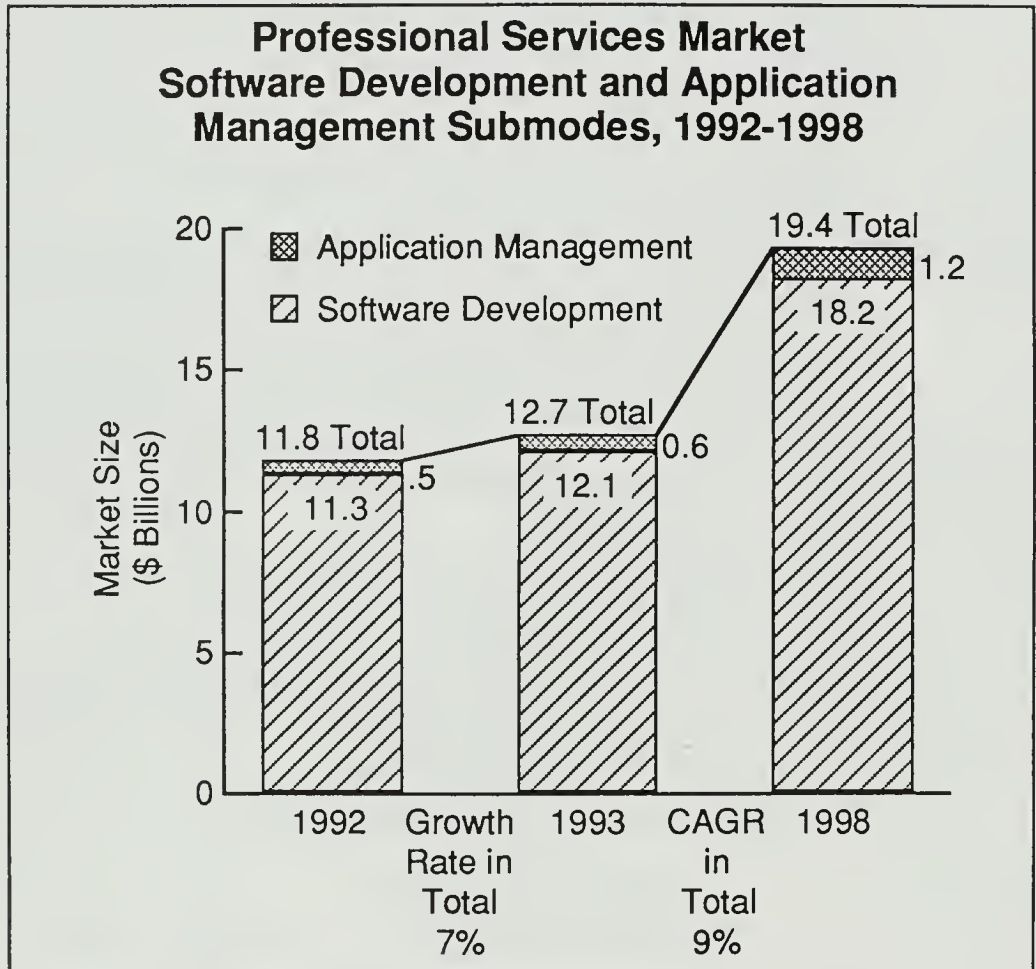


Exhibit III-6 also shows that application management will grow at a 20% rate in 1993, from \$0.5 to \$0.6 billion, and between 1993 and 1998 at a rate of 15%, reaching \$1.2 billion in 1998.

The following services are included in INPUT's definition of software development and application management.

- User requirements definition
- Systems design
- Data base design
- Programming
- Testing
- System modification and maintenance
- Documentation/technical writing
- System conversion
- Network development
- Other services

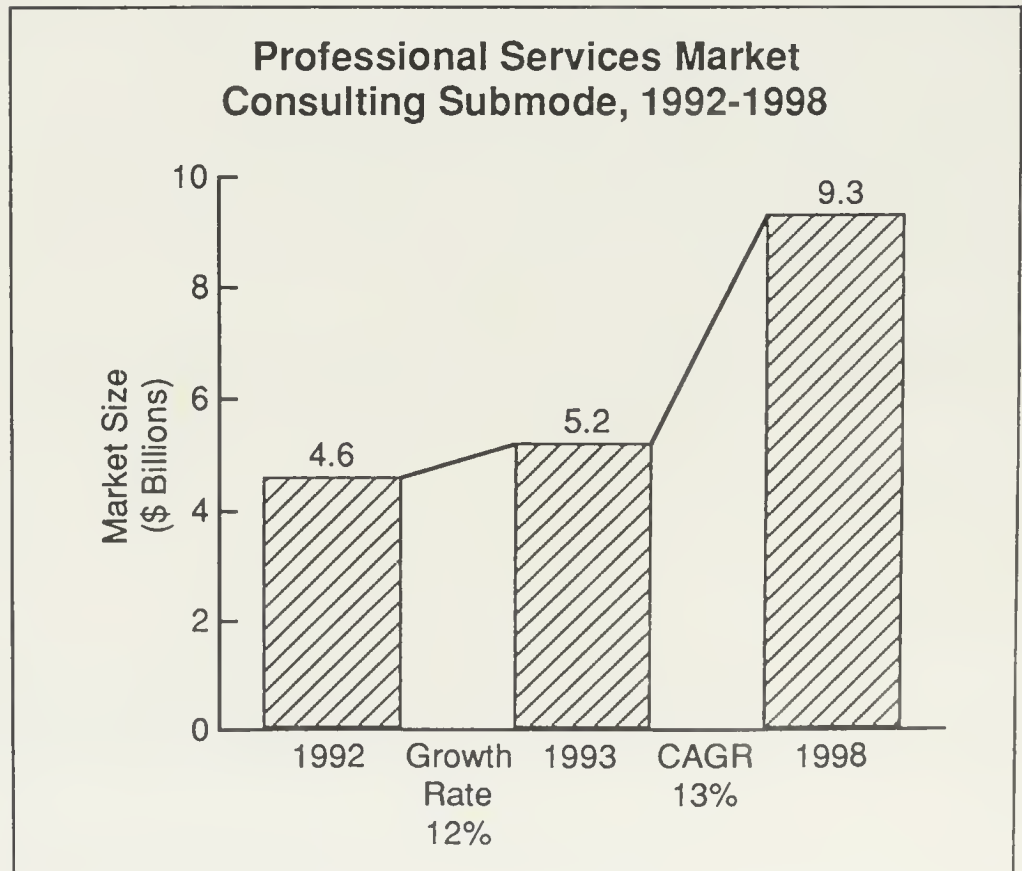
In general, software development work is driven to make application systems more responsive to business needs, to utilize new technologies in hardware and telecommunications, and to take advantage of new generations of software products. If the work is done on a specified application in accordance with a contract for over one year, in which the vendor will initiate tasks as required by users, the work would be referred to as application management.

2. Consulting Submode

User expenditures for consulting services in 1992 were \$4.6 billion. They are forecast to grow 11% in 1993 to \$5.2 billion, as indicated in Exhibit III-7.

- Consulting will increase at a CAGR of 13% between 1993 and 1998 and reach \$9.3 billion in user expenditures in 1998.
- In addition to the growth of IT consulting services, many professional services and SI vendors are experiencing a growth of management consulting services. Part of this growth comes from the sale of BPR consulting by firms such as Andersen Consulting, CSC, EDS, Unisys and IBM.

EXHIBIT III-7



The BPR business is of interest not only for the large fees that it generates but also because it will often lead to large SI or professional services projects.

The consulting segment of professional services includes the following types of work:

- Software installation planning
- Information systems audit
- Personnel planning
- Policies and procedures development
- Network planning and design
- Information systems strategic planning
- Systems analysis
- Other

The revenues for the components of current consulting services were distributed as shown in Exhibit III-8. This exhibit addresses the interests and future directions of large vendors, as well as the consulting business of mid-sized and small vendors who have started to increase business in this submode because of its attractive growth and profit margins.

EXHIBIT III-8

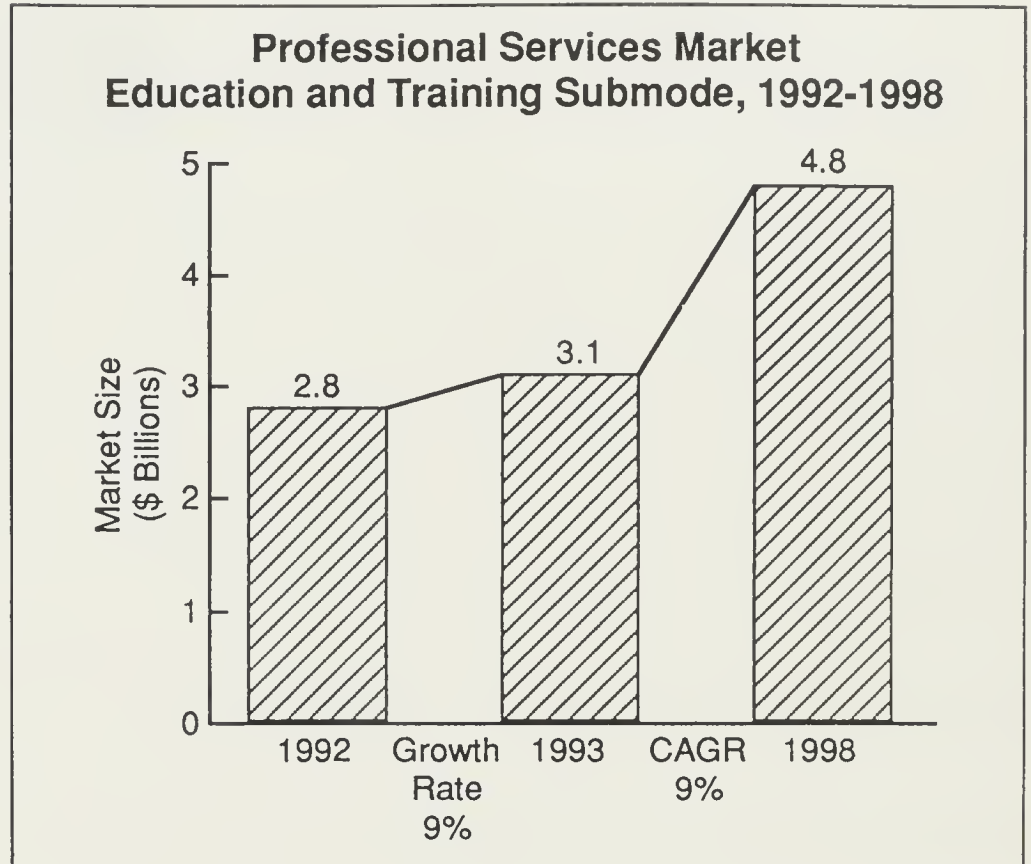
Components of Professional Services Consulting, 1992

Component	Proportion (Percent)
Planning and auditing	10
Systems analysis	22
Network planning, design and implementation	13
Project management, procedure development, and other	55

3. Education and Training Submode

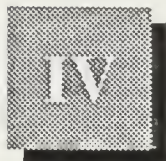
External education and training reached a level of \$2.8 billion in 1992, as shown in Exhibit III-9, and will grow to a level of \$3.1 billion in 1993. Funds spent for internal training are not reflected in the figures.

EXHIBIT III-9



- The growth of education and training has been stimulated by the introduction of client/server technology. Companies such as Andersen Consulting and EDS have strengthened training in this area in order to deliver trained resources against the rapidly growing number of C/S project opportunities.
- However, interest in C/S has also led to the introduction of many low-cost training options and diluted training, dollars previously devoted to mainframe software products.

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Competitive Analysis

A

Major Players and Market Shares

The major vendors of professional services in the U.S. are identified in Exhibit IV-1.

- Fewer than 35% of the firms listed in Exhibit IV-1 are devoted chiefly to professional services.
- Computer manufacturers, including IBM, DEC, Unisys, AT&T and HP, stand out as a group among the leading providers of professional services.
- The top 25 firms include Andersen Consulting and four other members of the Big Six, including Ernst & Young, Coopers & Lybrand, KPMG and Deloitte and Touche. The remaining member of the Big Six, Price Waterhouse, concentrates a greater percentage of its business on systems integration (SI) and software products.

IBM, CSC, EDS and Andersen led the list of professional services vendors during 1990 and 1991. Unisys and DEC moved up into the third and fourth positions during 1992.

- The average revenue of the first six firms grew at a rate about 20% higher than other firms in the top 25 during 1992.
- Although these six firms are the leading vendors of professional services, they all gain greater amounts of user expenditures from SI and/or outsourcing operations.

EXHIBIT IV-1

Major U.S. Professional Services Vendors, 1992

Rank	Vendor	Professional Services Revenues (\$ Millions)
1	IBM	645
2	CSC	625
3	EDS	560
4	Unisys	440
5	DEC	410
6	Andersen Consulting	375
7	Logicon	274
8	PRC	242
9	Hewlett-Packard	235
10	ATT	225
11	CTG	219
12	NYNEX/AGS	208
13	Ernst & Young	198
14	CGA	180
15	A.D. Little	160
16	Coopers & Lybrand	155
17	BDM International	147
18	McKinsey	137
19	Grumman	125
20	Analyst International	124
21	Martin Marietta	120
22	NETG	115
23	Deloitte & Touche	103
24	Computer Horizons	102
25	Keane	99
26	KPMG	98

Many other firms that are major providers of professional services also provide SI and outsourcing services, as shown in Exhibit IV-2.

EXHIBIT IV-2

1992 Revenues of Large U.S. Multimode Vendors

Selected Vendors	\$ Millions		
	Professional Services Revenue	SI Revenue	SO Revenue
IBM	645	1,950	510
CSC	625	595	625
EDS	560	860	1,600
Unisys	440	700	75
DEC	410	770	150
Andersen Consulting	375	785	140
Logicon	274	—	—
CTG	219	48	9
NYNEX/AGS	208	153	—
PRC	242	272	65
MMDS	120	390	165
Grumman	125	207	25
SAIC	75	545	50
AMS	49	212	50

B**Competitive Positioning**

- Larger providers of professional services among the top 25 are more likely to be interested in obtaining large, complex SI or outsourcing (systems operations) jobs, or even management consulting projects such as BPR, than in seeking out professional services work because those broader assignments could have higher billing rates and might entail more work.
- Smaller providers among the top 25, such as Keane and Analysts International, are more likely to have a greater percentage of their resources devoted to obtaining professional services work, including the supply of contract programming services.

- Still smaller firms, such as Trecom or Comtex, devote most of their attention to obtaining contract services work.

The larger vendors obtain many of their professional services assignments from clients to whom they are selling or have sold other products or services, including IT equipment, SI or SO services, or software products. The larger vendors also obtain professional services work from prospects who feel that certain needs are critical or require the highest quality.

- The image of quality enables these vendors to charge a premium price for services as well as to be selected for critical jobs.
- Smaller professional services vendors must attempt to establish a comparable image of quality in order to avoid being judged solely on price and past assignments. Successful completion of jobs and testimonials from satisfied clients are very useful in this strategy.

Some vendors do not analyze the factors that are important in establishing an image of quality, and thus fail to put together presentations on capabilities and demonstrations that larger firms have used successfully.

Most vendors of professional services concentrate on obtaining business from a set of vertical markets. One market that a number of the top vendors have concentrated on in the past is the federal government. This has become a serious issue to many vendors because government work is decreasing in many areas.

- Vendors such as BDM, PRC, Martin Marietta and GTE (Centel) currently depend on the federal government to a much greater extent than do other top vendors.
- EDS, IBM, and CSC have been major vendors in the federal market as well as the nonfederal market, and are in a better position to re-allocate their resources into the commercial world.

Markets that are of much greater interest today, due to their size and/or growth rate, include banking/finance, manufacturing, telecommunications and state and local government. The top six vendors have business in all or most of these vertical markets.

C

Competition by Segments

The leading vendors in each of the three market submodes are identified in the exhibits that follow.

There is a general correlation between the leading vendors for 1992 in the software development (including application management) submode, listed in Exhibit IV-3, and vendors that were among the leaders in the total sector, shown in Exhibit IV-1.

EXHIBIT IV-3

Major U.S. Professional Services Vendors Combined Software Development and Application Development Submodes, 1992

Rank	Vendor	Estimated Vendor Revenue (\$ Millions)
1	CSC	370
2	IBM	365
3	EDS	316
4	Unisys	251
5	Andersen Consulting	221
6	DEC	200
7	Hewlett-Packard	165
8	Logicon	162
9	ATT	161
10	CTG	156
11	NYNEX/AGS	152
12	Ernst & Young	135

1. Software Development

- Leading professional services vendors tend to have a substantial base of services in software development, except McKinsey, A.D. Little or Booz Allen, which specialize in consulting, or ALI, which specializes in education and training.
- Vendors such as DEC, CTG and AT&T show greater relative strength in this submode than in professional services overall, based on their historical patterns of work. CSC and others have taken steps to change their historical pattern and increase strength in consulting versus development, in order to develop a stronger relation with clients and generate more business.

2. Consulting Services

Some vendors that were not among the leading vendors of professional services are shown as leaders in the consulting services submode, as indicated in Exhibit IV-4.

EXHIBIT IV-4

Major U.S. Professional Services Vendors Consulting Submode, 1992

Rank	Vendor	Estimated Vendor Revenue (\$ Millions)
1	IBM	175
2	CSC	154
3	EDS	151
4	McKinsey	132
5	Booz Allen	130
6	DEC	125
7	Unisys	109
8	A.D. Little	95
9	Andersen Consulting	88
10	PRC	80

- McKinsey and Booz Allen concentrate on offering both management consulting services and information services consulting. They both have been involved in the initial phases of professional services and systems integration projects where they perform high-level information technology and systems planning tasks.
- Both McKinsey and Booz Allen have expanded into the other submodes of professional services to a limited extent, where their continued participation or overview would be of assistance to clients.

Consulting services are being marketed more vigorously by some professional services firms.

- Consulting is growing at a faster rate than software development or education and training.
- Consulting tends to have a higher profit margin than other professional services.

- Consulting often provides the opportunity to develop a foothold for follow-on services and to form a strong sales position (assuming the consulting assignment has gone well).

DEC, IBM, CSC and other vendors have strengthened their ability to offer these services during the last few years. Newer companies such as TSC have used consulting services as a means of making a successful entry into the information services business as well.

Some vendors, particularly members of the Big Six, are able to effectively utilize their consulting skills during the sales process. They may incorporate their skills together with demonstrations or presentations in ways that steer prospects or clients toward the use of their capabilities without going through a full bidding process.

3. Education and Training

The education and training submode includes firms that specialize in this mode, such as NETG and SRA/Crwth, as shown in Exhibit IV-5.

- A number of computer manufacturers are also in top revenue positions, due to the need for training in relation to new technology and systems software as well as systems development activities.
- Training capabilities are also used by major professional services/SI vendors such as EDS and Andersen as a sales strategy. Andersen Consulting uses its introductory courses in C/S as a means of gaining leads and promoting its philosophy for doing this work.

EXHIBIT IV-5

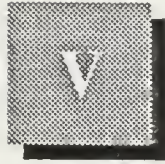
Major U.S. Professional Services Vendors Education and Training Submode, 1992

Rank	Vendor	Estimated Vendor Revenue (\$ Millions)
1	IBM	105 *
2	CSC	101
3	NETG	95
4	EDS	93
5	DEC	85
6	Unisys	80
7	Andersen Consulting	66
8	SRA/Crwth	58
9	Logicon	52
10	ATT	45

* Does not include captive revenue

The vendor revenues that have been shown in the last three exhibits do not reflect the total amount of their activity in these types of tasks, since many firms are performing the same services in systems integration projects and software development and training in turnkey systems work.

- These other activities are not included in the professional services totals because they are components of other delivery modes.
- There are professional services tasks such as software maintenance and training, performed by equipment services and SO vendors, that are categorized in the professional services sector.



Analysis of Public Vendor Performance

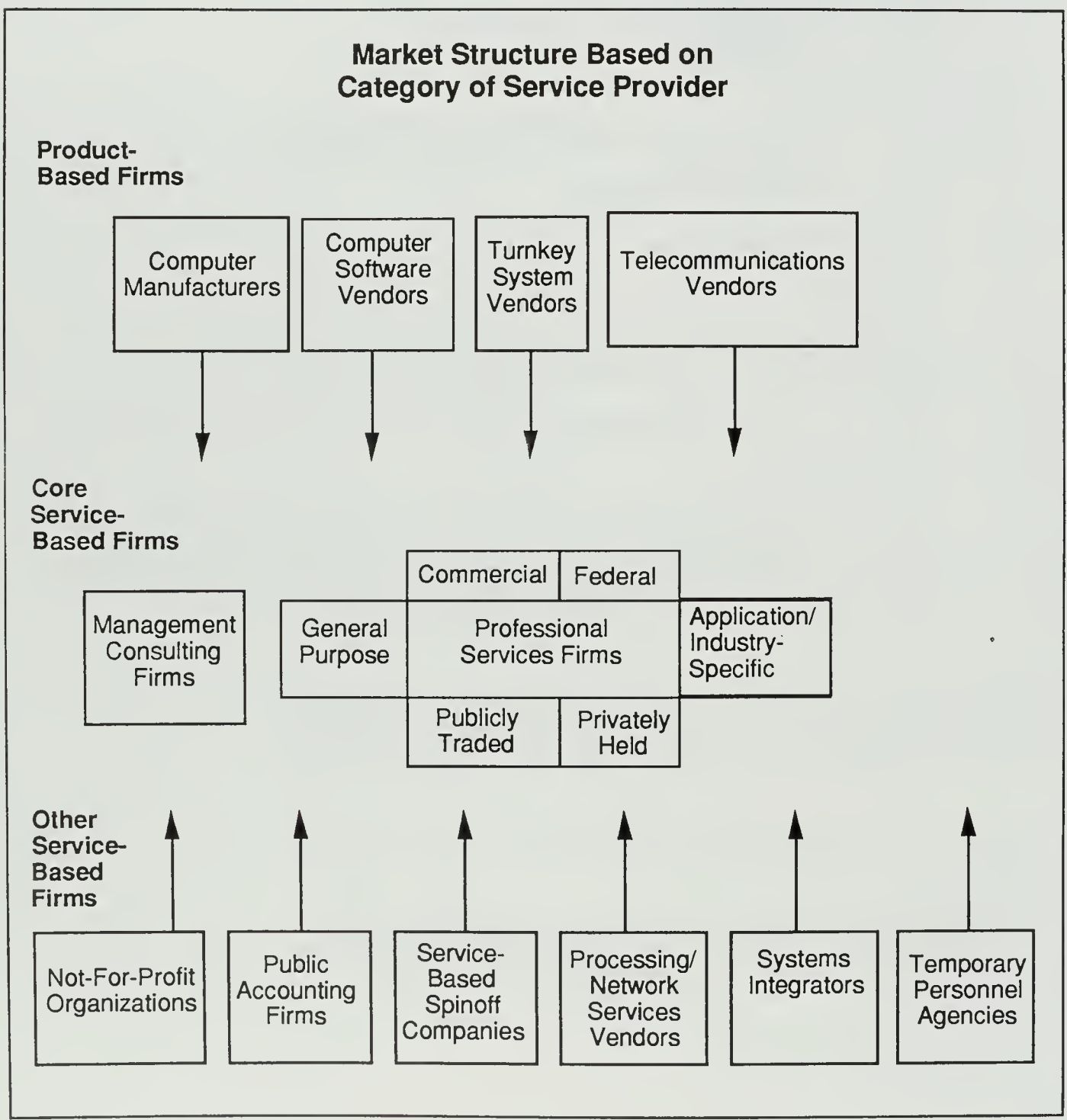
A

Structure and Performance of the Professional Services Market

Professional services are offered by a variety of types of firms, as shown in Exhibit V-1.

- Some of the larger and more successful vendors in the market are vendors of products and services in allied IT industries, such as computer manufacturing and systems integration. Some other vendors come from industries such as public accounting and manufacturing.

EXHIBIT V-1



The average performance of a group of public vendors that offers professional services, shown in Exhibit V-2, indicates that the ratio of net income to sales is low, although there are a number of large vendors that have reported high rates of return for these services.

- The gross margin of the group is not high, indicating that there is relatively little opportunity to reduce costs and prices.
- The net assets to sales ratio also suggests that the group does not have significant resources to draw on when there are drops in revenue.

EXHIBIT V-2

Public Professional Services Companies 1992 Ratio Analysis

Revenue/Employee (\$ Millions)	83,200
Sales, G&A/Sales Expense	15.9%
Gross Margin	24.6%
Net Income/Sales	3.5%
Net Assets/Sales	6.0%

B

Performance by Type of Public Vendor

The performance of professional services as a business and the emphasis upon professional services differ markedly among the categories shown in Exhibit V-1. For some of these categories, professional services work is much more profitable than others.

- The large computing equipment manufacturers are realigning for increasing proportions of revenues from professional services and their ratio of net income to sales can be in the 6% to 10% range, making professional services attractive compared to the shrinking net return on computer hardware. This business, as well as SI and SO, are also attractive to manufacturers because they help to leverage hardware and software products.
- The large vendors of SI and SO such as EDS, CSC, Andersen and the rest of the Big Six, also have high professional services revenue, but their net profit returns are higher (12% to 20% in general). These vendors exploit an image of quality solutions and knowledge of business problems to gain higher returns.

Public vendors who have significant revenues or the majority of their revenues from professional services include CTG, Computer Horizons, Keane, and Analysts International.

- The revenue levels from professional services of these firms place them among the top 25 vendors, as shown in Exhibit IV-1, but they are below the levels of the largest computer manufacturers and SI vendors.

EXHIBIT V-3

Selected Vendors That Offer Some Percentage of Professional Services: 1992 Data

Company Name	Net Sales + Employees (\$ Millions)	Percent				
		SG&A Expendi- tures + Sales	R&D + Sales	Gross Margin	Net Income + Net Sales	Net Income + Total Assets
American Management Systems, Inc.	103,920	38.5	N/A	47.3	5.7	11.5
Analysts International Corp.	62,588	23.2	N/A	29.6	4.1	14.1
Bolt Beranek & Newman Inc.	122,855	27.3	13.1	43.1	3.0	4.8
Brandon Systems Corp.	N/A	31.3	N/A	39.7	5.8	12.4
CACI International Inc.	64,164	39.5	N/A	46.7	3.0	7.5
Comptek Research Inc.	103,843	11.9	N/A	16.4	2.5	5.3
Computer Data Systems Inc.	N/A	12.5	N/A	18.0	2.5	6.1
Computer Horizons Corp.	72,281	22.2	N/A	27.4	2.0	4.8
Computer Task Group Inc.	75,669	9.3	N/A	12.8	1.9	4.1
Continuum Co. Inc.	116,596	21.8	N/A	32.4	6.9	7.1
CSC	79,749	8.8	N/A	18.7	3.2	5.0
Dynamics Research Corp.	86,275	11.5	N/A	17.7	3.9	8.2
Intermetrics Inc.	104,310	22.1	1.3	29.0	3.9	8.9
Keane Inc.	72,046	26.6	N/A	37.5	6.3	12.7
Logicon Inc.	88,315	11.9	N/A	17.7	4.5	11.9
Scientific Software Intercomp	127,616	26.7	3.7	36.9	4.7	3.2
Softech Inc.	114,205	N/A	19.3	20.5	0.9	1.9
Systems & Computer Technology	68,839	31.8	N/A	28.9	N/A	N/A
Technalysis Corp.	70,904	26.4	N/A	35.6	6.3	13.6

Some vendors have taken advantage of new technology or requirements in industry niches to grow professional and other services rapidly and successfully, as Symix has done in make-to-order and repetitive manufacturing, and Comtex in EFT and trading systems in banking.

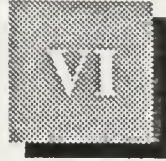
- Having work in an industry niche has also been of advantage to Continuum (insurance) and possibly to Keane, which has a higher net return than other large professional services firms shown in Exhibit V-3. Keane has a business segment that offers software products and professional services for the health industry.
- A few software products firms such as Oracle and System Software Associates are successful with a combination of software products and professional services. These firms have managed to identify themselves with current industry solutions and to leverage their product strength into the services sector.

A general conclusion about performance in the professional services market is that small firms can find a foothold in the market based on a technical specialty and/or knowledge of an industry niche.

- But these small firms also reported that though specialties and niches are necessary to continue growth, they are no guarantee of success.
- The issue is how to maintain growth and avoid competing mainly on price for professional services as a firm advances in size in this market and encounters larger competitors.

The conclusion that many of these firms have reached is that it is more important today to be identified with solutions that have current appeal, such as client/server installations in banking, than to advertise a generic list of professional services capabilities.

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Conclusions and Recommendations

A

Conclusions for the Professional Services Market

Although recovery has been weak, current business conditions are creating selective opportunities for professional services firms in process manufacturing, telecommunications, banking, state governments and niches of other industries.

- Large systems integrators and outsourcers are engaging in intense research to target industries, niches or even specific firms that can offer substantial opportunities (in their own SI/SO specialties or in professional services), as noted in Exhibit VI-1.
- These large vendors have also developed strong presentations that emphasize the benefits they can achieve, their ability to introduce new technology and techniques, and reasons why their methods are more reliable and suitable for solving problems.

EXHIBIT VI-1

Conclusions—Professional Services Market

- Large systems integrators and outsourcers are targeting bigger prospects/deals.
- Pressure on midsized and small firms will intensify.
- Specialties or niches may be the path to growth or a trap.
- Alliances or mergers can be valuable, but benefits may be elusive.
- Professional services vendors must create an image of value as well as capabilities to gain profitable business.
- Technology will create new opportunities for professional services vendors.

SI and management consulting firms associated with IT work are also launching consulting initiatives such as the current drive to BPR that can lead to substantial projects that large SI firms have the only or best opportunity to win.

The need to create an image through presentation of capabilities is crucial in competing for many other projects. Professional services vendors will find that they are forced into competition based on price if they cannot demonstrate expertise in technology and/or industry/application knowledge of interest to prospects. Examples of companies demonstrating this expertise are:

- Cambridge Technology has used a prototyping and rapid development capability to gain attention and work.
- IMI has introduced a development capability called SASM that has been successful in promoting the firm as well as gaining assignments.
- Comtex and DataArchitect have used their in-depth knowledge of banking applications to gain significant professional services work.

It is equally important for small vendors to gain niches of expertise. Excel Partners has done this by developing contract service expertise in client/server tools and application products, and the Cobre Group has achieved a position in automated application planning for manufacturing systems.

- Some vendors may find that their areas of expertise suffer from industry conditions or changes in the use of technology, as Continuum has found in insurance and several firms have found in ventures associated with CASE. There is no assurance that today's strength will apply in tomorrow's market.
- Vendors may also find that alliances or mergers with firms that have technical or industry expertise, such as SAP in manufacturing, do not always guarantee success. Nor have alliances with major hardware vendors brought consistently good results.
- Vendors may find, too, that they gain insufficient recognition for their expertise to command higher rates or be considered for better assignments. As discussed in Chapter V, there are firms of a moderate size, among the top 25 or 35 professional services firms, that are forced to compete primarily on the basis of price.

Pressures on the rates charged by professional services firms are also created by ideas generated in industry publications which report that use of C/S is resulting in lower development costs. Such pressures have also been applied by the increase in one-person and temporary-position firms. In addition, large SI firms have applied methods of lowering rates in order to gain contracts such as using temporary people with low rates or doing work off shore.

For midsized and small firms, competing principally with price increases the risk that jobs will be done at a loss. Also, developments such as factory-like methods of software development, object-oriented technology or the use of foreign resources will cause more jobs to be bid at low rates in the future.

The large SI and other vendors who command high prices for professional services and other work have not only carefully developed capabilities that have significant current appeal (as Andersen Consulting and EDS have done in C/S projects, imaging applications, BPR work, and knowledge of improvements in process manufacturing and other markets), they have also developed an image of value through carefully developed presentations and demonstrations.

Mid-sized and smaller vendors must develop similar expertise and specialties to survive, and a means of engendering an image of value in order to prosper.

The possession of focused expertise is also needed to uncover and take advantage of opportunities. For instance, the surge in use of C/S technology is leading to increasing demand from users for customization and modification of existing systems for C/S architectures, and development of many new ones.

- This type of work will constitute a growing opportunity for professional services vendors. (New firms with tools such as FourGen or access to personnel with C/S skills are already emerging.)
- The vendors who obtain a worthwhile share of the developing market will have built technical expertise as well as the ability to project an image of the value they can bring to those assignments.

B

Recommendations

The chief recommendation, as indicated in Exhibit VI-2, is *not* to offer professional services, to avoid being classified as solely a professional services vendor.

- Have a recognized combination of SI, SO, professional services and possibly other IT work that will offer more opportunities to gain work and can help create more of an image of value that can support higher rates.
- Don't promote yourself as strictly a professional services firm even if that is all or most of what you offer. Promote your consulting ability, knowledge of recent technology, understanding of industry niches or, most important, how your capabilities can improve the productivity and bottom line of your clients.

Recommendations to Vendors

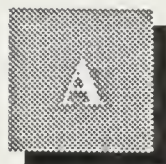
- Don't offer professional services alone
- Create an image of value
- Focus on client/server
- Anticipate opportunities emerging from the use of new technology
- Perform more market research

The offerings, advertising and promotion of a vendor must create an image of value, not only to win jobs or gain higher rates for work, but to eliminate price competition by making prospects feel that vendors who deliver value are preferred.

The use of C/S technology must be closely tracked because a high and increasing percentage of system projects will utilize C/S.

- Most non-C/S systems will involve interconnection or interaction with C/S systems, according to respondents.
- Users are going to be demanding that more work be done on C/S applications.

More research must be carried out on the market in order to identify opportunities in industry niches and emerging technology and techniques that can generate business.



Data Base Forecast and Reconciliation

A Professional Services Market Forecast by Delivery Mode

In the 1992 report, the forecast of the 1992 professional services industry amounted to \$19,505 million. The actual 1992 professional services industry size was \$19,287 million. (See Exhibit A-1.)

EXHIBIT A-1

Professional Services User Expenditure Forecast by Delivery Mode, 1992-1998 (\$ Millions)

Delivery Modes	1992 (\$M)	Growth 92-93 (%)	1993 (\$M)	1994 (\$M)	1995 (\$M)	1996 (\$M)	1997 (\$M)	1998 (\$M)	CAGR 93-98 (%)
Professional Services Sector Total	19,287	9	20,930	22,951	25,207	27,649	30,414	33,542	10
Consulting	4,649	11	5,154	5,785	6,515	7,325	8,248	9,297	13
Education & Training	2,838	10	3,113	3,403	3,679	4,024	4,388	4,816	9
Software Development	11,800	7	12,663	13,764	15,013	16,300	17,778	19,429	9

The five-year growth rate did not change, remaining at 10%, reflecting the following trends:

- The resumption of economic growth in the forecast period after a period of slower growth during 1992 and 1993.

- A growing use of professional services by users involved with client/server technology.

The figures for application management and software development are separated and discussed in Chapter III of the report.

B

Reconciliation by Delivery Mode

The data discussed in this section can be found in Exhibit A-2.

EXHIBIT A-2

Professional Services 1992 MAP Data Base Reconciliation by Delivery Mode (\$ Millions)

Delivery Modes	1992 Market				1997 Market				92-97 CAGR per data '92 Rpt (%)	92-97 CAGR per data '93 Rpt (%)
	1992 Report (Fcst) (\$M)	1993 Report (Actual) (\$M)	Variance from 1992 Report		1992 Report (Fcst) (\$M)	1993 Report (Fcst) (\$M)	Variance from 1992 Report			
			(\$M)	(%)			(\$M)	(%)		
ServicesTotal Professional	19,505	19,287	-218	-1	31,216	30,414	-802	-3	10	10
Consulting	4,706	4,649	-57	-1	8,598	8,248	-350	-4	13	12
Software Development	11,929	11,800	-129	-1	17,805	17,778	-27	0	8	9
Education/Training	2,870	2,838	-32	-1	4,813	4,388	-425	-9	11	9

1. Consulting

In 1992, INPUT forecast the size of the 1992 consulting submode at \$4,706 million. The actual figure was \$4,649 million.

The five-year forecast growth rate through 1998 for consulting will increase to 13%, due to the increased use of consulting to support re-engineering and other business planning.

2. Education and Training

In 1992, the education and training submode was forecast to have user expenditures of \$2,870 million. The actual figure was \$2,838 million.

The five-year forecast for education and training shows this mode reaching a level of \$4,816 million in 1998. Greater training of users will be offset somewhat by less training related to mainframe usage.

3. Software Development and Application Management

The actual figure for this category in 1992 amounted to \$11,800 million, slightly below the forecast figure of \$11,829 million.

- The five-year forecast figure for the category shows an increase in the growth rate to 9% based on increasing demand from C/S users.
- The software development and application management modes are split and discussed separately in Chapter III. Software development remains the largest mode of professional services.

C

Forecast and Reconciliation by Industry Sector

1. Reported Industry Sector Expenditures in 1992

Exhibit A-3 contains the forecast by industry sector for the planning period.

EXHIBIT A-3

**Professional Services User Expenditure Forecast
by Market Sector, 1992-1998
(\$ Millions)**

Market Sectors	1992 (\$M)	Growth 92-93 (%)	1993 (\$M)	1994 (\$M)	1995 (\$M)	1996 (\$M)	1997 (\$M)	1998 (\$M)	CAGR 93-98 (%)
Total All Sectors	19,287	9	20,930	22,956	26,207	27,641	30,414	33,642	10
Banking and Finance	2,379	13	2,682	2,910	3,125	3,355	3,616	3,900	8
Business Services	326	7	350	376	408	441	477	517	8
Discrete Manufacturing	4,822	7	5,178	5,571	5,983	6,434	6,929	7,508	8
Education	90	9	98	110	121	135	148	162	11
Federal Government	2,128	1	2,155	2,212	2,355	2,509	2,681	2,847	6
Health Services	291	8	314	347	381	413	449	490	9
Insurance	1,569	5	1,643	1,833	1,980	2,093	2,245	2,417	8
Miscellaneous	132	10	145	157	170	185	200	220	9
Process Manufacturing	2,370	17	2,662	3,042	3,491	3,998	4,583	5,260	15
Retail Distribution	238	7	255	275	295	316	340	365	7
State and Local Government	2,840	9	3,070	3,427	3,825	4,271	4,770	5,328	12
Telecommunications	1,200	13	1,350	1,565	1,831	2,132	2,485	2,899	17
Transportation	250	7	266	286	308	329	350	370	7
Utilities	274	31	359	411	468	530	603	681	14
Wholesale Distribution	378	7	403	434	466	500	538	578	7

The professional services expenditures for 1992 and the forecast for the five-year planning period are shown by industry in Exhibit A-3. The differences between INPUT's 1992 forecast of the size of each industry sector in professional services and actual figures for 1992 are shown in Exhibit A-4.

EXHIBIT A-4

**Professional Services
1992 Data Base Reconciliation by Industry
(\$ Millions)**

Market Sectors	1992 Market				1997 Market				92-97 CAGR per data '92 Rpt (%)	92-97 CAGR per data '93 Rpt (%)
	1992 Report (Fcst) (\$M)	1993 Report (Actual) (\$M)	Variance from 1992 Report		1992 Report (Fcst) (\$M)	1993 Report (Fcst) (\$M)	Variance from 1992 Report			
			(\$M)	(%)			(\$M)	(%)		
Vertical Industry Markets	19,505	19,287	-218	-1	31,216	30,414	-802	-3	10	10
Discrete Mfg.	4,879	4,822	-57	-1	7,676	6,929	-747	-10	9	8
Process Mfg.	2,405	2,320	-22	-1	3,820	4,583	763	20	10	14
Transportation	252	250	-2	-1	355	350	-5	-1	7	7
Utilities	270	274	4	1	388	603	215	55	9	17
Telecommunications	1,210	1,200	-10	-1	2,485	2,485	0	0	15	16
Retail Distribution	238	238	0	0	340	340	0	0	7	7
Wholesale Distr.	380	378	-2	-1	542	538	-4	-1	7	7
Banking & Finance	2,397	2,379	-18	-1	3,465	3,616	161	4	8	9
Insurance	1,592	1,569	-23	-1	2,287	2,245	-42	-2	8	8
Health	295	291	-4	-1	460	449	-11	-2	9	9
Education	89	90	1	1	146	148	2	1	10	10
Business Services	326	326	0	0	465	477	12	3	7	8
Federal Government	2,098	2,128	30	1	3,040	2,681	-359	-12	8	5
State & Local Govt.	2,942	2,840	-102	-3	5,556	4,770	-786	-14	14	11
Misc. Industries	132	132	0	0	191	200	9	5	8	9

2. Industry Sector Forecasts

There were no differences between forecast expenditures and actual results for 1992 larger than 1%, except for the state and local government market. In that market, funding problems limited growth.

Forecast growth rates for three of the 15 industry sectors—discrete manufacturing, the federal government, and state and local government—decreased for the five-year planning period.

In discrete manufacturing, anticipated weakness in large manufactured goods, including cars and planes, is expected to drive growth down, affecting the use of professional and other information services.

The federal market will suffer heavily from cutbacks that will have an impact on professional services expenditures over the next five years. Shortage of funding will prevent state and local government expenditures from reaching anticipated targets, although growth in this market will make it one of the best opportunities for vendors.

