U.S. Systems Integration and Outsourcing Markets

1992-1997

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1992-1997

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Introduction

This report is part of a series of market analysis reports written each year by INPUT on the key sectors (delivery modes) of the United States Information Services Market. The delivery modes analyzed during 1992 are as follows:

1. Applications software products
2. Turnkey systems
3. Processing services
4. Systems software products
5. Network services
6. Professional services
7. Equipment services
8. Systems integration
9. Outsourcing

The first seven delivery modes are covered in reports included as part of INPUT's Market Analysis Program, a planning service for information services vendors. The last two delivery modes are covered in market analysis reports included in INPUT's Systems Integration and Outsourcing Information Systems Programs.

A

Purpose and Organization of the Report

1. Purpose

This report, *U.S. Systems Integration and Outsourcing Markets, 1992-1997,* provides a summary of the systems integration and outsourcing sectors of the U.S. information services market. The report summarizes the trends and events within these sectors to provide the reader with a comprehensive foundation for understanding these markets and anticipating future directions.

For a complete analysis of these two market sectors, see the following reports:

- *Systems Integration Trends and Forecast, 1992-1997*
- *Information Systems Outsourcing Market Opportunities, 1992-1997*

2. Report Organization

This report is organized as follows:

- Chapter II, Systems Integration, summarizes the market outlook for systems integration.

- Chapter III, Information Systems Outsourcing, summarizes the market outlook for outsourcing.

- Chapter IV, Summary, provides a brief comparison with six other market sectors (delivery modes) analyzed by INPUT within the U.S. Information Services Industry.

- Appendix A, Forecast Data Base, summarizes the forecast for these market sectors and reconciles the current forecast with the 1991-1996 forecast.

B

Scope and Methodology

This report addresses the U.S. information services market for the systems integration and outsourcing sectors. It includes user expenditures that are noncaptive (generally available to vendors). Many large organizations have portions of their information services requirements satisfied by internal divisions. The resulting expenditure is not available for competitive bid by the general vendor community and is not included in INPUT's projections.

1. Information Service Industry Structure

Exhibit I-1 defines the structure of the information services industry as used by INPUT in its market analysis and forecasts. The market consists of nine delivery modes, each of which contains a number of submodes.

EXHIBIT I-1

Information Services Industry Structure—1992

Systems Software Products	Applications Software Products	Turnkey Systems	Equipment Services	Professional Services	Systems Integration	Systems Operations	Processing Services	Network Services
-Mainframe	-Mainframe	-Equipment	-Equipment Maintenance	-Consulting	-Equipment	-Platform Operations	-Transaction	-Electronic Information Services
-Minicomputer	-Minicomputer	-Software Products	-Environmental Services	-Education & Training	-Software Products	-Applications Operations	-Utility	-Network Applications
-Workstation/ PC	-Workstation/ PC	-Professional Services		-Software Development/ Maintenance	-Professional Services	-Desktop Services	-Other	
				-Application Management/ Maintenance	-Other	-Network Management		
						-Applications Management		

- INPUT develops a five-year forecast for each of the submodes listed.

- The following delivery modes are forecasted on a vertical industry and cross-industry basis: applications software products, turnkey systems, processing services, professional services, systems integration, and systems operations, now called outsourcing.

- The systems software products and network services delivery modes are forecasted for the U.S. market as a whole.

- Equipment services is covered in a separate report.

For a more complete discussion of INPUT's information services industry structure and terminology, please refer to INPUT's *Definition of Terms*.

2. Systems Integration Definition

INPUT's definition of systems integration is shown in Exhibit 1-2. This definition is used for the report as well as for the 1992 Systems Integration Program.

INPUT's definition emphasizes the provision of a complete solution to complex requirements and the custom selection and implementation of products and services.

EXHIBIT I-2

SI Market Definition

- Business offering

- Complete solution to complex requirements for

  - Information systems

  - Networks

  - Automation

- Custom selection and implementation of products and services
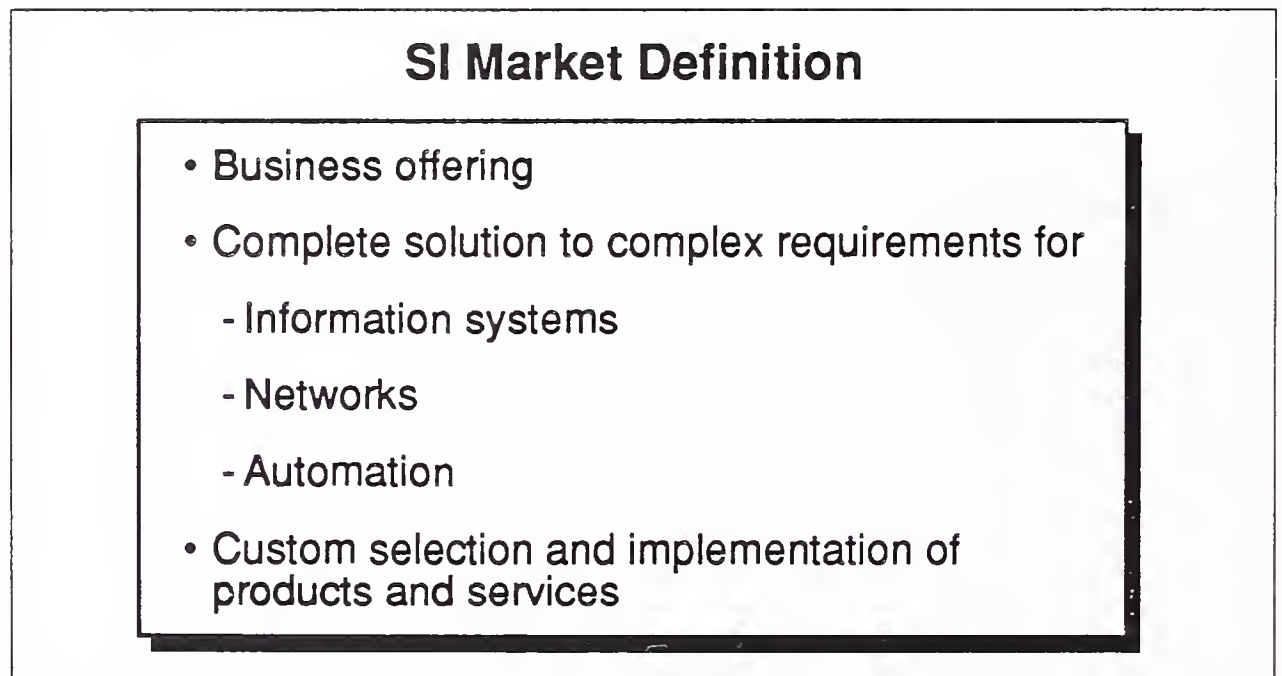
Typically, a systems integrator has program management responsibility, which is overall management for delivery of the end product. Program management usually includes systems design and development and provision of all equipment, software, and communications. The integrator also coordinates teaming arrangements with outside suppliers for engineering/ data processing/personnel resources, and the documentation/training/post-implementation support required by the client.

3. Information Systems Outsourcing

Outsourcing has become synonymous in much of the current literature with systems operations. INPUT defines outsourcing as the *contracting of all or a major part of an information systems process to an external vendor on a long-term basis.* The vendor takes responsibility for the performance of the process. Outsourcing is a method of acquiring a vendor to provide for existing operations, not a delivery mode. Within this framework, systems operations in its two forms, platform and applications operations, represents the major portion of the outsourcing market. It can include a variety of elements, as illustrated in Exhibit I-3. The client that chooses to procure only one of the elements is still outsourcing to the vendor.

All the types of outsourcing agreements represent functions or processes that are performed, rather than projects that are accomplished. INPUT identifies four types of outsourcing which are further subdivided as shown in Exhibit I-3. The intent is not to confuse the market watchers by adding categories but rather to clarify what is happening in the market by looking at each component as it develops and evolves at a different growth rate.

EXHIBIT I-3

Outsourcing Definitions
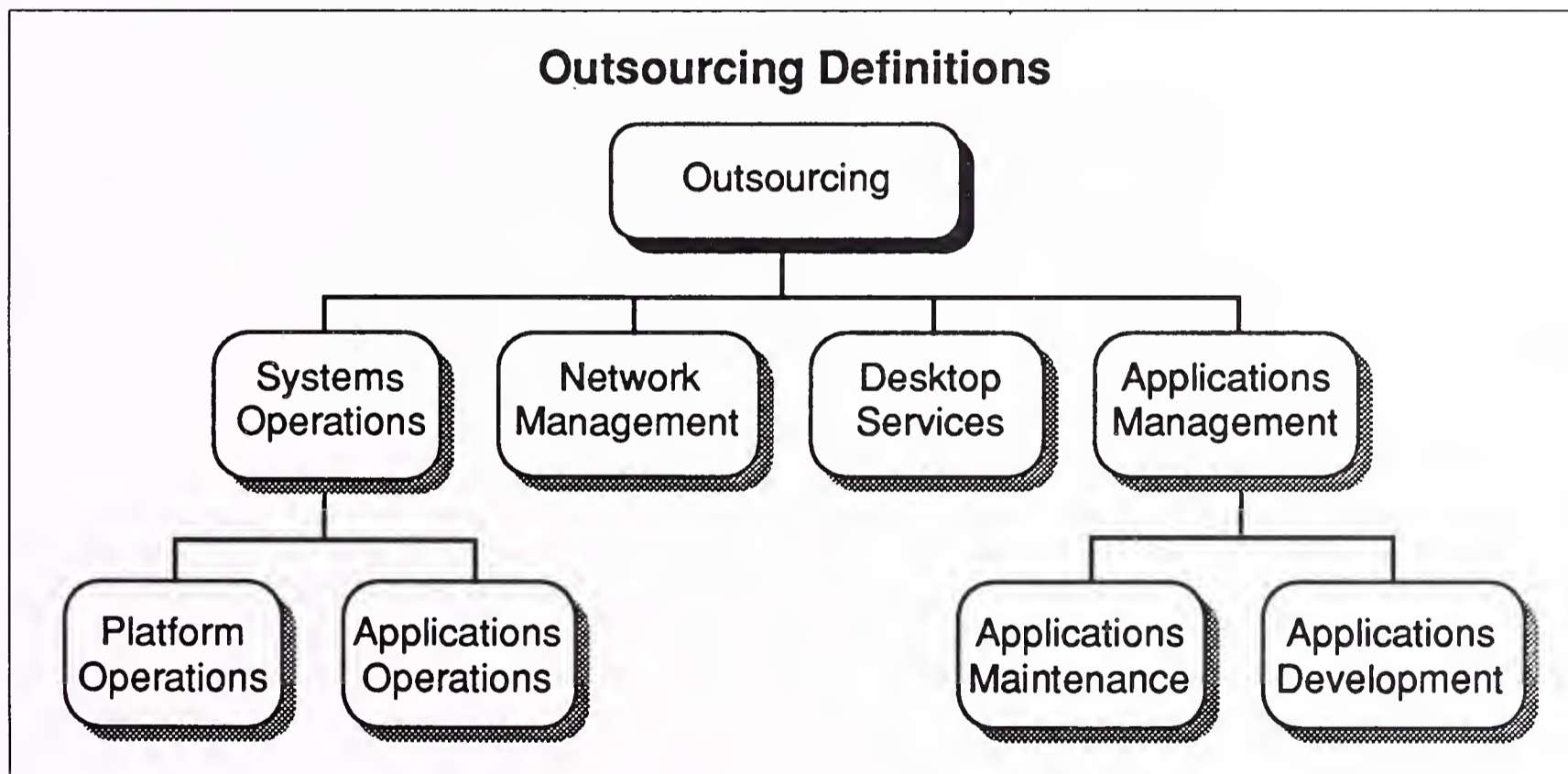
Systems operations still represents the largest portion of the outsourcing market, but it must be subdivided into platform and applications to identify and track the changing patterns. The trend is accelerating to turn over more responsibility to the vendor, namely the growth and feeding of the applications software in the organization, as well as the processing.

Network management and desktop services are two new outsourcing arrangements that have been spawned by the many downsizing initiatives that are appearing in all industries. It is fine to empower the user with more processing capacity and more control over application software, but connectivity and user assistance then become more difficult the manage. Outsourcing vendors are well positioned to respond to these new market demands.

Applications management consists of applications maintenance and application development. There is evidence that this outsourcing arrangement is beginning to emerge in the market. In this instance, there is no related processing as in applications operations, but the responsibility for the applications software is turned over to a vendor.

C

Economic Assumptions

Forecast numbers are presented in current dollars (i.e., 1997 market sizes are in 1997 dollars).   In developing the five-year forecast, INPUT has incorporated the following economic assumptions regarding the outlooks for the total U.S. economy.

As shown in Exhibit I-4, real GDP growth is currently projected to be improving in 1992 to 2.4%, then range from 3.0% to 2.2% over the next five years. In addition, the inflation rate, as measured by the GDP Deflator, is expected to increase modestly from an annual rate of 2.9% in 1992 to 3.6% in 1997.

EXHIBIT I-4

GDP and Inflation Growth Rate Assumptions, 1991-1997

Overall	1991A	1992E	1993E	1994E	1995E	1996E	1997E	Avg. 91-96%	Avg. 92-97%
Nominal GDP	3.4	5.3	6.2	6.7	6.1	6.1	5.9	6.1	6.2
GDP Deflator	3.0	2.9	3.2	3.6	3.7	3.6	3.6	3.4	3.5
Real GDP	0.4	2.4	3.0	3.0	2.3	2.4	2.2	2.6	2.6

Source: Blue Chip Economic Indicators

D

Related INPUT Reports

For a complete view of the outsourcing and related information services market, readers are encouraged to review the following related INPUT reports:

Systems Operations—Growth for the 1990s (1989)

U.S. Systems Operations/Outsourcing Market, 1991-1996 (1991)

Systems Operations Management Issues and Practices (1990)

Network Operations Management (1990)

Systems Operations Buyer Issues and Alternatives (1991)

Systems Management Priorities and Directions (1991)

Systems Operations Vendor Analysis, 1991

Case Studies in Downsizing (1992)

Methods of Approaching IS Outsourcing (1992)

Outsourcing Network Management and Operations (1992)

Strategic Assessment of the IS Outsourcing Revolution (1992)

Outsourcing Desktop Services (1992)

Interaction of Downsizing with Outsourcing (1992)

Systems Integration related INPUT reports of possible interest to the reader include the following:

U.S. Processing Services Market, 1992-1997

U.S. Applications Software Products and Turnkey Systems Markets, 1992-1997

U.S. Systems Software Products Market, 1992-1997

U.S. Professional Services Market, 1992-1997

U.S. Information Services Industry Sector Reports, 1992-1997 (15 reports on all major industry sections; e.g. insurance)

Information Services Opportunities Cross-Industry Markets, 1992-1997 (7 reports on information services markets that serve all vertical industry sectors; e.g. accounting)

Methods for Successful Systems Integration

Network Integration—A Growing Market

Systems Integration Trends and Forecast, 1992-1997

Systems Operations Management Issues and Practices

Electronic Image Processing, 1990-1995

Federal Systems Integration Market, 1992-1997

Systems Integration Market Western Europe, 1991-1996

Systems Integration Competitive Analysis

Systems Integration Technology Trends
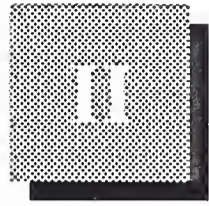
Systems Integration

A
Major Buyer Issues

The current sluggish business and economic environment is the primary issue facing potential buyers of system integration services. In this condition of uncertainty, some buyers are delaying the start of large SI programs, while others are looking to a modular approach with a faster payback. The slow economy has increased the competitive pressure for most companies. These pressures are forcing companies to focus on their core businesses. Nonstrategic functions like systems integration and systems operations are being contracted out to vendors. Many companies are turning to technology to gain a competitive advantage by reducing costs, providing superior service, expediting product development, and improving quality and productivity. These new solutions are becoming increasingly complex as they change traditional business processes and serve new organizational structures requiring around-the-clock and around-the-world operations. Exhibit II-1 synopsizes the major 1992 buyer issues.

EXHIBIT II-1

Major Buyer Issues—1992

- The economy

- Core business focus

- Competitive demands

- Increasingly complex solutions

- New technology applications

- Unavailable skills

As INPUT studies information systems budgets, it has become apparent that an increasing amount of information systems expenditures are no longer controlled by internal information systems organizations. This is because user organizations are, in many cases, becoming the buyers of solutions, and they control the budgets for them. The decision to use an outside vendor to provide system integration services has become more of a business issue and less of an information technology issue.

Many of the solutions that users seek include new technologies such as artificial intelligence, image processing, and a variety of advanced tele-communications alternatives such as LANs, WANs, and MANs. Systems integrators with good track records provide an attractive alternative to internal information systems organizations that often lack adequate re-sources and skills to meet new user requirements. Some internal organiza-tions also lack applications knowledge and experience in new technologies to develop solutions in-house.

B

Market Forecast, 1992-1997

During 1990, the domestic economy slowed and domestic industries spent $533 billion for plant and equipment, an increase of 5.0% over 1989. This was less than one half of the 1988-to-1989 increase of 11%. In 1991, investment in plant and equipment was $528 billion, a decrease of 1%. The forecast for 1992 is $551 billion. Although industry will continue to invest in new capital equipment, INPUT believes that the recession will slow down the number of new commercial SI (CSI) programs that are started in 1992. The slow economy, increased transfer payments, lower tax revenue, and budget deficits are also having a negative impact on the growth of federal SI (FSI) programs.

Actions by the industry to solve the business problems it faced increased expenditures for commercial systems integration to $4.6 billion in 1991, despite predictions of a lower 1991 GDP. INPUT forecasts that a still cautious industry will selectively invest in new and expanded information systems in the near term, and that total expenditures for vendor-provided CSI solutions will reach $13.1 billion in 1997. This sum represents a CAGR of 19%, the same as predicted last year. Narrowing margins and reluctance to invest in new information systems solutions, and much less use of outside vendors to implement them, are expected to continue to hinder demand for systems integration. Exhibit II-2 provides the forecast for both the commercial and federal markets.

When considering the overall commercial systems integration market, several points are of particular note:

- The recession, overall economic lethargy, and financial difficulties in specific industries (manufacturing and banking/finance in particular), have contributed to slow growth of the systems integration market over the past year.

- The length of programs has become shorter. Organizations indicate a need for short-term payback from new systems. This has contributed to the definition of programs that are smaller, requiring less time to implement, and resulting in shorter term paybacks.

- With smaller program sizes, program values have also declined. Organizations indicate that they are spending half as much on new programs as they were two to three years ago. The reduced spending reflects both keen competition for capital and the need for shorter term investment benefits.

- Vendors themselves are also helping clients reduce the expenditures for SI. That hardware prices will continue to decline is axiomatic. Less apparent are the dramatic improvements being made in vendor productivity because of CASE (computer-aided software engineering) tools, program management tools, reusable software, legacy system re-engineering, network and application software, and the general SI learning curve. Competition among vendors is also helping to control client expenditures. These cost avoidances are being somewhat offset by increasingly complex systems requiring the latest technological improvements and substantially higher networking content.

The net result of shifts in project size, project value, and the impact of technological and economic pressures has been to bring the forecast for the systems integration market more in line with the slower overall growth of the information services industry, at least in the short term.

In the longer term, INPUT expects the systems integration market to rebound and outpace the overall market, but significant changes should not be expected until economic confidence has been restored and companies are more disposed to make additional investments.

The growth in demand is focused in a few vertical industries, and is not uniformly spread across those facing increasing competition.

EXHIBIT II-2

Systems Integration Market Forecast
Commercial versus Federal

CAGR
(Percent)

Commercial — 5.4 ... 13.1 ... 19

Federal — 3.7 ... 6.4 ... 12

☒ 1992
☑ 1997

0   5   10   15

Market Size ($ Billions)
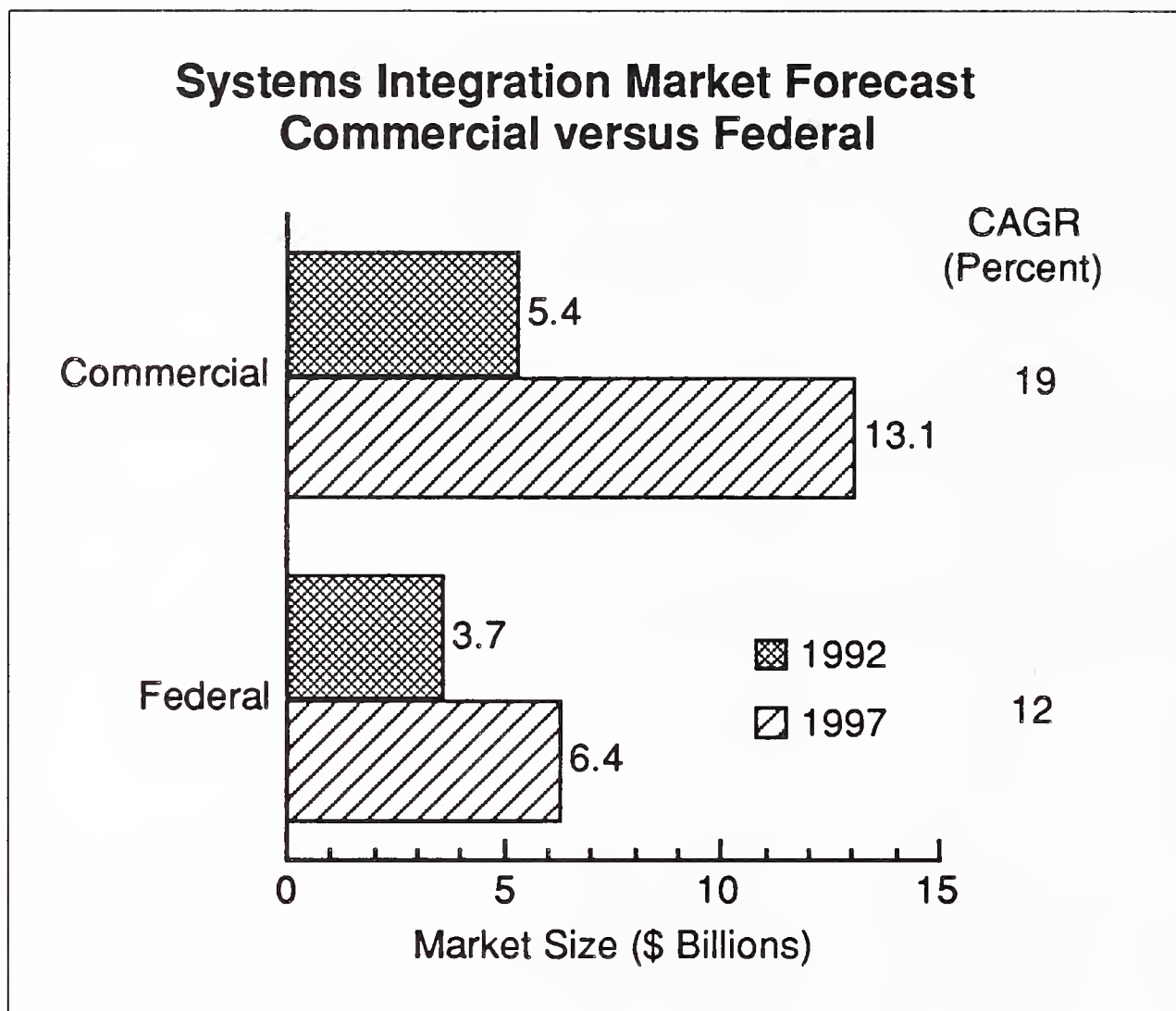
There are several important points to note about the five-year forecast for the commercial and federal systems integration markets:

• The commercial market is expected to experience a somewhat shallow growth rate (12% to 13%) over the next one, perhaps two, years. Although interest rates have dropped, availability of capital remains limited, and there are numerous conflicting priorities.

• The commercial market is expected to rebound in the latter years of the forecast period, assuming that the economy picks up. Organizations note that there are numerous committed projects that need to be funded.

• Although the federal systems integration market is affected by the economy to some extent, the major shifts in government emphasis is having a greater impact. The demise of the USSR and critical domestic problems have combined to force a shift in spending and therefore in programmatic emphasis. In the near term, the result is a slowing of growth of FSI opportunities, but in the mid-to-long term, more new SI programs will be initiated.

C

SI Project Composition

SI expenditures can be broken into four basic components: computing and telecommunications equipment, professional services, systems and applications software, and other ancillary expenditures. The distribution of these expenditures in 1992 and 1997 is shown in Exhibit II-3.

EXHIBIT II-3

CSI Project Composition—1992

Equipment — 36

Professional Services — 53

Packaged Software — 8

Other Services — 3

Percent of Project Cost
(0, 20, 40, 60, 80, 100)
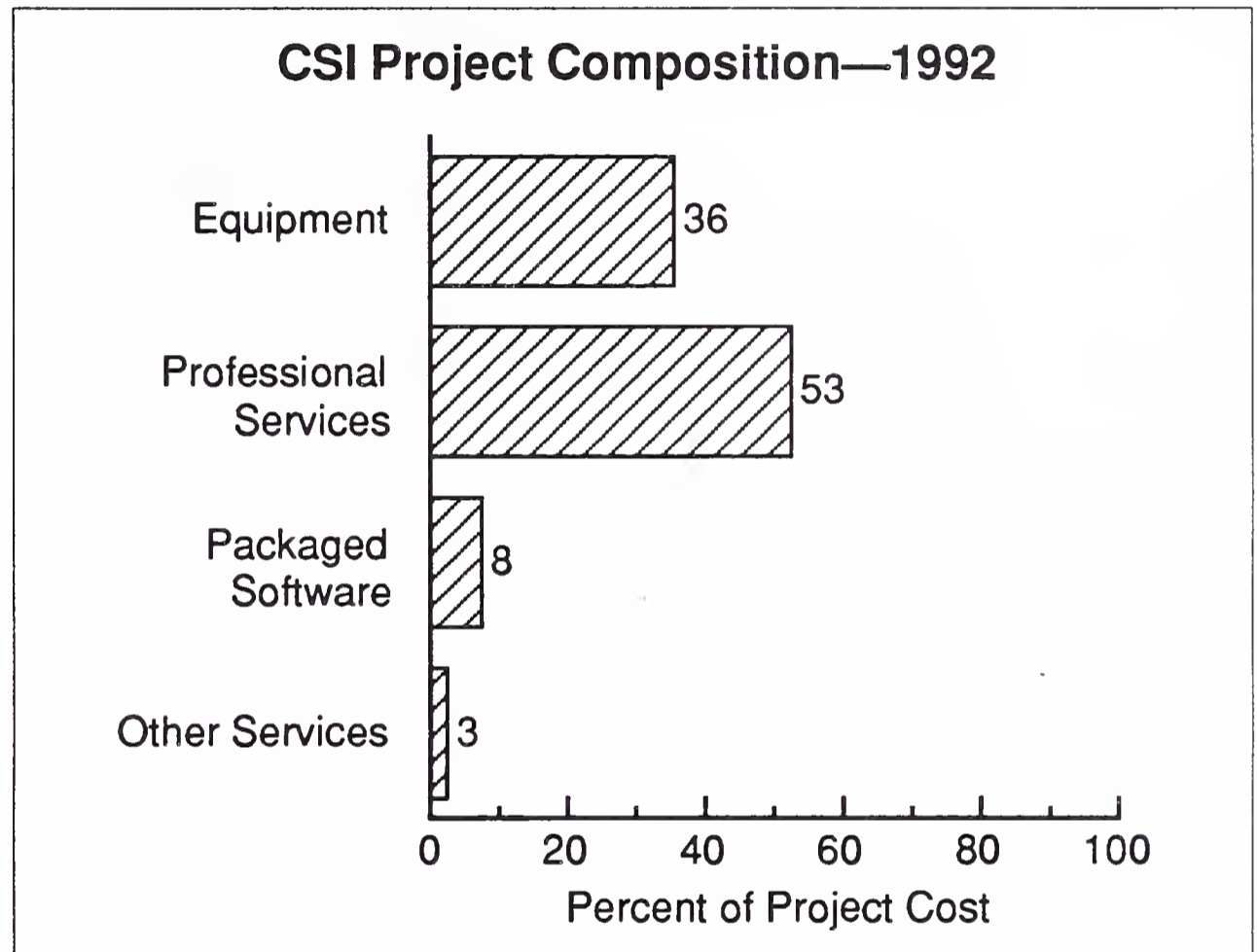
Earlier forecasts projected that expenditures for equipment would decline as a percent of the total, and they have, but the decline appears to have bottomed out and has actually increased. Analysis of hardware expenditures indicates that price declines are more offset by increases in the acquisition of client/server equipment and networks that integrate the process of delivering information throughout the organization.

Organizations in nearly all industries note a need to better understand the relationship between integrated systems and integrated business operations. This need results in greater expenditures for consulting and design/integration.

All of the major SI vendors have recognized the need to include business process re-engineering or business process change analysis as part of their SI engagement offering. This service has become so important that it is now often separated from the SI program and treated as a consulting engagement.

As shown in Exhibit II-4, FSI has a project composition more heavily weighted toward equipment. This is a result of federal programs usually involving large amounts of data, higher geographical dispersion, and the most advanced technologies. Since government procurements involve very detailed specifications, vendors are able to concisely structure the professional services component of their bids. Professional service labor rates are very competitive in the government market.

EXHIBIT II-4

FSI Project Composition—1992

Category	Percent of Project Cost
Equipment	47
Professional Services	44
Packaged Software	6
Other Services	3

Percent of Project Cost
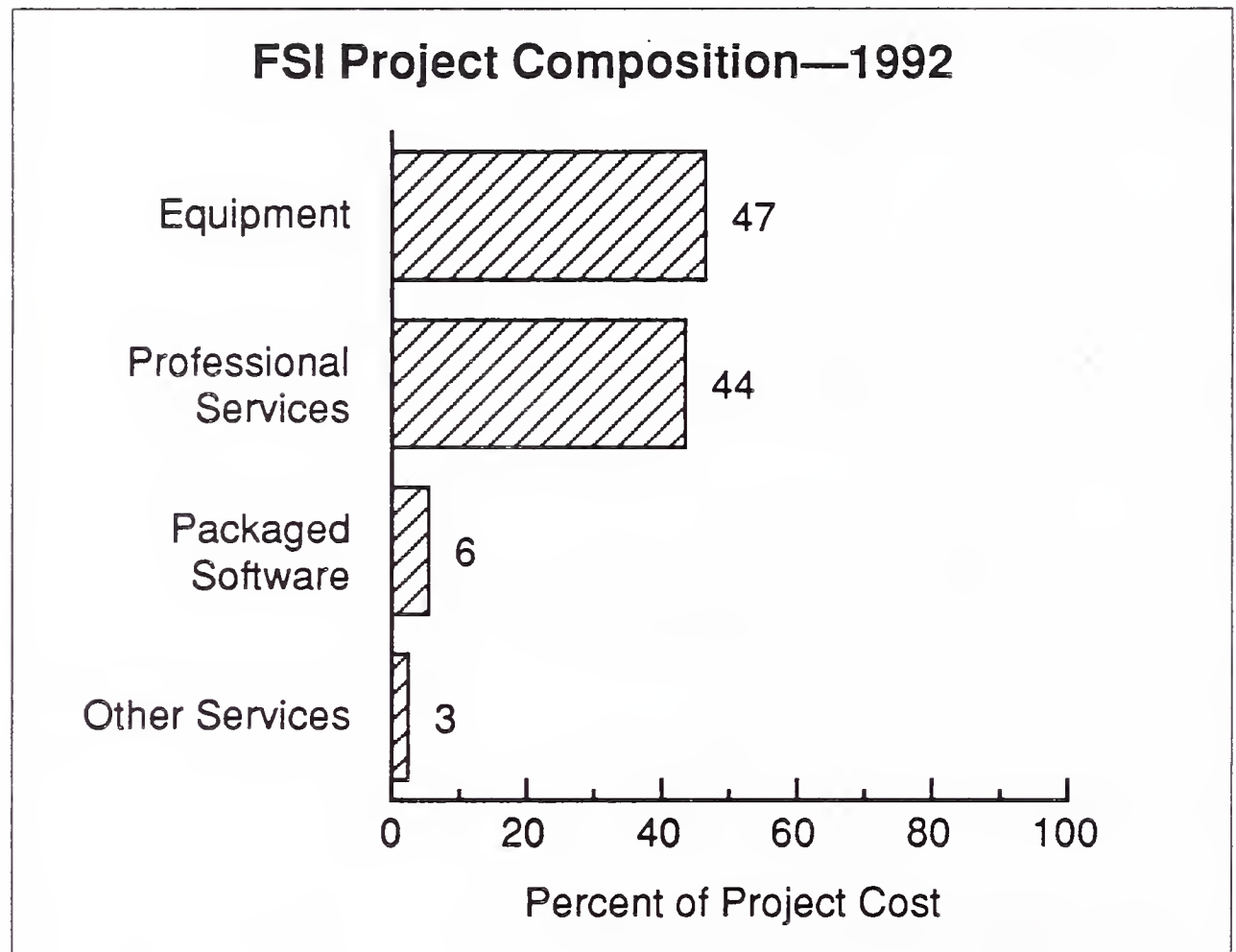
D

Forecast by Industry Sector

Discrete manufacturing was the largest market for systems integration in 1991, and it will continue to be throughout the forecast period. Key business functions continue to be streamlining and integrating the entire product design development, logistics, manufacturing, and distribution processes. This is a massive undertaking for most companies, but it is essential to retain competitiveness and market share.

As shown in Exhibit II-5, state and local government will be the second largest CSI market over the forecast period. These organizations have many of the same problems as the federal government, and provide integrators with an opportunity to replicate a solution over a sizable number of governments.

EXHIBIT II-5

Forecast by Industry Sector

CAGR (Percent)

Discrete Manufacturing
1.5
3.5
21

State and Local Government
0.9
2.5
21

Banking and Finance
0.5
1.5
21

⊠ 1992
⬚ 1997

Utilities
0.6
1
12

0 1 2 3 4 5

Market Size ($ Billions)

Note: CAGRs calculated on pre-rounded values
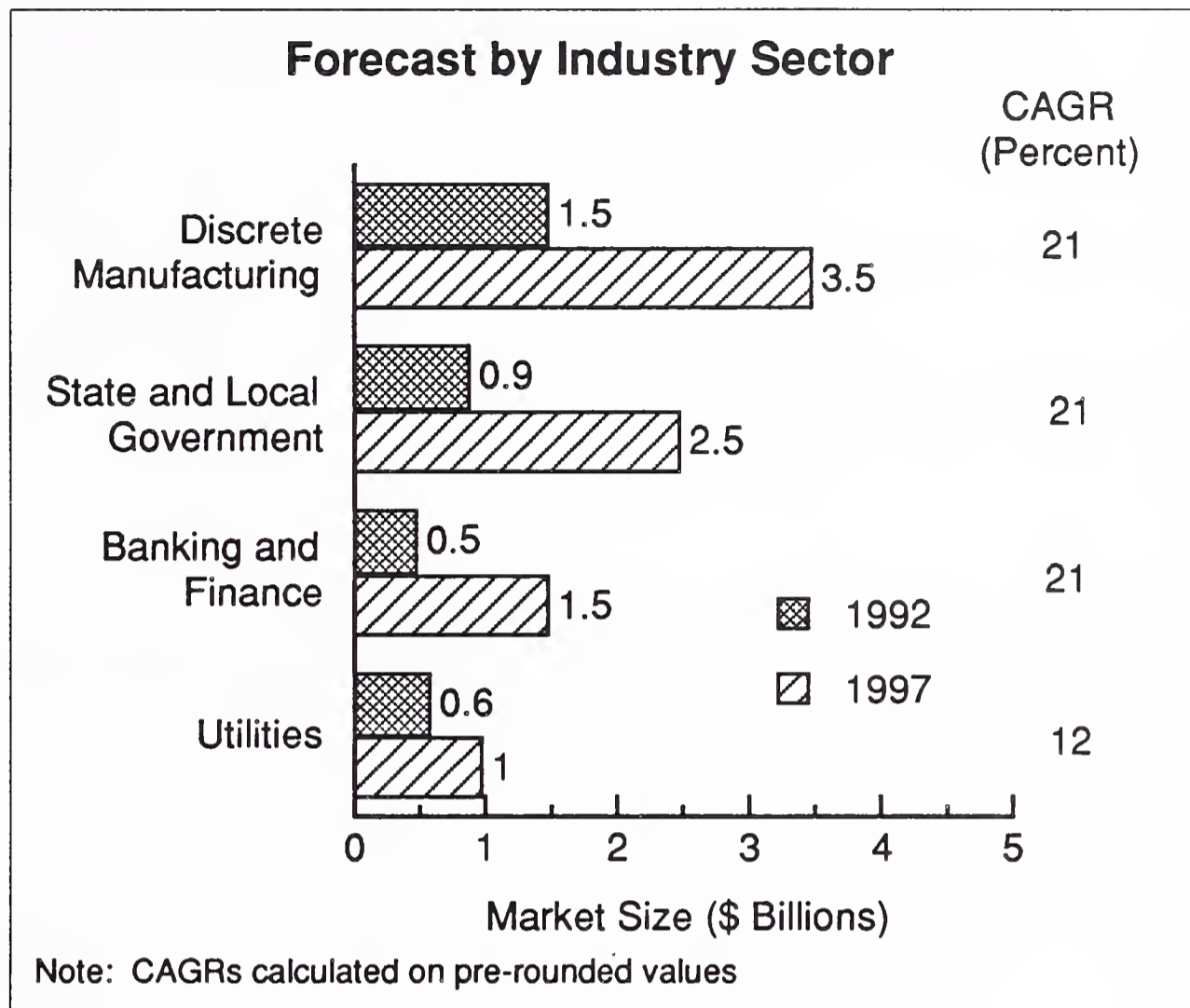
The third largest CSI market is utilities. This industry has a special set of applications, generation plants, and network management systems that provide opportunities for a number of industry-focused vendors. Although its growth rate is relatively slow (a CAGR of 12%), it will continue to provide opportunities over the five-year forecast period, but it will slip from third to fourth in size by 1997.

The fourth largest CSI market in 1991 was banking and finance, and it will be third largest in 1997. This sector will continue to recover from the impacts of deregulation, the thrift crises, and lower volumes in the brokerage community. There will still be a need for integration of a number of individual services into systems that include all of a customer's activities with the institution.

E

Vendor Goals and Objectives

Most of the vendor goals and objectives identified in Exhibit II-6 are market driven. Systems integration is a very high-level distribution channel for the complete range of information and telecommunications products and services. It provides or limits product access to the largest users in U.S. industry. Vendors who do not have access to this channel fear that they will lose market share and control of their existing custom-

ers. Many vendors have established SI divisions. The purpose of these divisions is to provide access to this distribution channel.

EXHIBIT II-6

Vendor Goals and Objectives

- Long-term account relationship
- Decentralized services
- Full-service image and offerings
- Industry knowledge and skills
- Market coverage
- Proprietary products and methodologies
- Market participation

The information industry has evolved from a product to a services orientation and from an environment where the customer was totally responsible for implementation to one where vendors are assuming responsibility. Customers are seeking one-stop shopping and vendors are striving to add additional products and services to become full-service providers. User organizations are clearly looking outside for a single point of responsibility.

Product and service providers are adding front-end consulting and back-end operations management. Some are seeking to achieve these goals by building from within or by making acquisitions. Others look to alliances to provide this full-service image.

For the most part these services need to be located physically close to the customer. Many vendors have abandoned centralized SI organizations, and moved SI resources into their field organizations. SI engagements are becoming oriented to the clients' site structure rather than the vendor's organization.

Vendors recognize the importance of understanding the client's business, particularly in an environment where long-term relationships are important. To achieve this goal, vendors are making significant investments in industry architectures and solutions, hiring industry experts, and establishing alliances with consulting firms or professional services firms that already have industry expertise.

The larger vendors that already have product industry coverage have improved their SI vertical industry coverage to protect their existing customer relationships. Smaller vendors are honing niche skills and gaining market coverage through alliances with larger vendors.

Vendors are building and marketing proprietary products and methodologies. Solid methodologies for business analysis, requirements analysis, systems design, program management, change management, and integration and implementation improve the odds for program success and reduce the risk of catastrophic failure. These methodologies also build a record of success that can be used for reference selling. Framework products continue to be developed that can be tailored to satisfy a client's specific business needs.

Finally, a growing number of secondary vendors are seeking participation in the market. Many have products that were previously sold as standalone systems but are now candidates for integration into larger solutions. These products include basic computing equipment as well as robots, warehouse storage and retrieval systems, on-board computers, and a variety of communications products. Other vendors seeking SI participation include companies that have developed solutions internally and want to market these skills to others in their industry.

F

Vendor Market Share, 1991

Exhibit II-7 shows market shares of the top five vendors in 1991.

IBM was the leader in both the commercial and government industry sectors of systems integration in 1991. IBM has increased its focus on the SI market with the formation of its Applications Systems line of business. This organization goes beyond systems integration and is focused on providing a full range of solutions, from packaged applications software through large, tailored integrated solutions. During 1990, IBM moved its tactical commercial SI resources from its former Systems Integration Division directly into the field marketing organization, closer to the customer.

During 1991, IBM's field organizations have restructured to better address the requirements of the SI marketplace. Also in 1991, IBM formed Integrated Systems Solutions Corp. (ISSC). Though primarily focused on outsourcing of systems management opportunities, it will also address some SI programs. IBM's Federal Sector Division will deliver FSI services.

Andersen Consulting, little known in the information services industry just a few years ago, continues to demonstrate dramatic growth in the SI market. Ranked third in 1989, Andersen moved to second place in 1991, based almost entirely on commercial SI revenues where it is now the revenue leader.

For the 1991 market share ranking, INPUT imputed additional equipment expenditures to Andersen Consulting. This represents equipment expenditures as part of an SI program but not directly purchased from Andersen. Because of Andersen's business and accounting practices this is necessary to equitably compare user expenditures and market share. Andersen has followed a long-term strategy that focuses on its clients' entire business processes. It starts with business consulting to assist in client management of change in organizational and business processes, flows into implementation, and in some cases continues with a long-term systems operations contract. Andersen is vertical industry-oriented and has skills, technology and/or demonstration centers, and software products to address most industries.

EXHIBIT II-7

Vendor Market Share, 1991

Vendor	Revenue ($ Millions)	Percent
IBM	1,750	17
Andersen Consulting	787[1][3]	8
EDS	770[2]	8
Digital	565	6
Computer Sciences Corp.	478	5

1. Includes INPUT's estimate of equipment content
2. Non-GM business only
3. Adjusted to calendar year 1991

EDS is a leading processing services/SI vendor, second in SI revenues to IBM in the federal sector, and third overall. One of its strengths is its familiarity with vertical markets based on its experience in remote data processing and/or systems operations (facilities management) in most industry sectors.

EDS also benefits from the manufacturing industry and telecommunications experience of its parent (GM). Systems integration is an excellent vehicle for EDS to protect existing systems operations customers and

develop new ones. Strong program management and risk management practices have made EDS an aggressive competitor.

Computer Sciences Corporation (CSC) made its SI mark in the government sector (both state and federal), employing its extensive experience as a full-service vendor to win contracts. This firm is third in the federal sector and a frequent competitor of EDS. CSC also has broad commercial SI experience and is increasing this business through an aggressive acquisition program.

Digital's ranking has jumped significantly over the past few years, resulting in Digital replacing Unisys in the top five vendor ranking. Over the past year, Digital has made significant strides in unifying its systems integration line of business. An estimated 90% of Digital's revenues are from the commercial market. A significant portion of that is from the manufacturing sector, where Digital has established a strong foothold based on its equipment business.

Not all of the leading SI vendors have increased their SI business quickly enough to keep pace with the growing market. Therefore, they have lost a small amount of market share. There are several factors that have contributed to this result. One is that it is very difficult for a company to manage a business in excess of one-half a billion dollars and have it grow in excess of 16% CAGR. The market leaders are addressing this by creating suborganizations with separate market segment responsibilities. A more difficult issue for the market leaders is the success being enjoyed by newer entrants and industry- or application-focused niche companies. INPUT now counts 39 companies with SI business in excess of $50 million in 1991.

INPUT believes that it is unlikely that any two of the larger vendors will formally merge. The largest vendors will selectively make investments in niche companies, form various types of alliances and strategic partnerships, and acquire products and companies. The equipment vendors in the SI market are likely to separate into spin-off companies defined by their SI activities. This is necessary to break the stigma of a tie to the parent company's equipment solution. Bull/Integris, Control Data Corporation (CDC)/Ceridian, and IBM/ISSC are examples of this direction.

G

Recommendations

Systems integration is one of the services that clients seek as they continue to use a broad range of information services delivery mode alternatives. Clients want services that range from front-end consulting, through SI, to systems operations. INPUT believes that commercial businesses and public sector organizations will continue to choose vendors that can offer

the full range of these services, even if the specific program does not involve all of those vendor capabilities. Equally important is the notion that once a vendor is selected to do the front-end consulting, it is in a favored position to win the systems integration and even systems operations contracts. Vendors should strive to present this full-service image, as indicated in Exhibit II-8.

EXHIBIT II-8

Recommendations

- Present full-service image

- Leverage unique capabilities and products

- Establish strategic partnerships (alliances)

- Manage risk

- Develop industry-focused market strategies
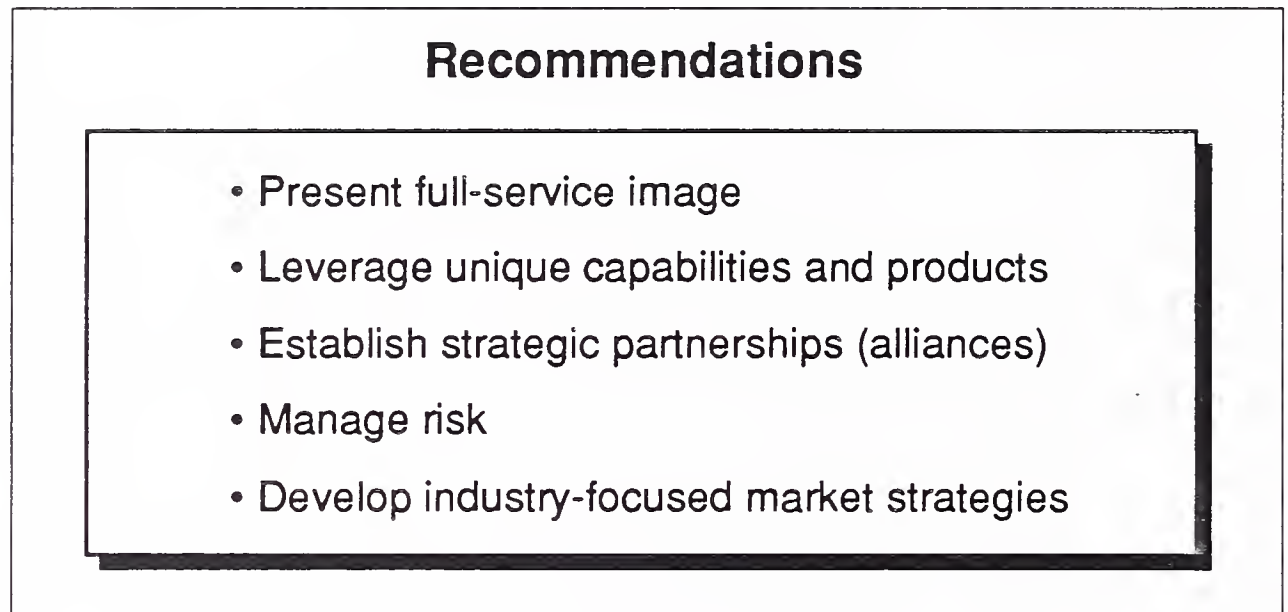
Vendors should assess their current skills and capabilities and build strategies that use them effectively. SI includes too much risk to attempt to provide broad industry coverage if the vendor does not have the necessary skills or experience.

SI is a very complex business. Few vendors have all of the products, skills, and capabilities to satisfy the complete requirements of systems integration programs. Teaming, program partners, and alliances are common approaches used to meet a client's integration requirements. Vendors must establish a set of relationships and alliances for long-term success in this market. Partners should be selected carefully and the resulting alliances managed thoughtfully.

Systems integration is a high-risk business, with great potential for success and failure. Some clients are aware of the gamble and will give higher rewards to the vendor that can demonstrate a good track record of risk management and containment. One reason that clients use SI vendors for complex programs is to have the vendor assume the risk of producing a complete, successful system. The vendor must introduce risk management into every phase of the program.

Success and customer acceptance is based on confidence in the vendor's track record in providing solutions in the customer's industry. Therefore, to be successful, vendors must develop focused strategies for each selected vertical market to be addressed.
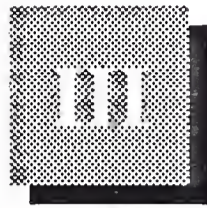
Information Systems Outsourcing

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Information Systems Outsourcing

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1. Types of Outsourcing

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Applications management consists of applications maintenance and applications development. There is evidence that this outsourcing arrangement is beginning to emerge in the market. In this instance, there is no related processing as in applications operations, but the responsibility for the applications software is turned over to a vendor.

2. Impact of Downsizing

The ongoing downsizing revolution that is currently pervading the information technology (IT) market will have a profound impact on the outsourcing market. Already its effects are evident as the new outsourcing options of network management and desktop services become ever more attractive to clients looking for some way to control the proliferation of systems, user requests for help, and interconnectivity requirements.

IS managers are realizing that managing thousands of PCs and workstations, their associated (noncompatible) software, connecting these units to LANs and WANs, and responding to user hot line problems is more difficult than running a data center. These tasks are even more awesome to the user departments when they must provide their own support.

EDS and Digital Equipment Corporation (DEC) have already negotiated impressive standalone desktop services contracts worth millions of dollars. Other vendors are beginning to service this market as part of existing contracts. Still other firms are poised to make their first entry into the outsourcing market through this route. INPUT is projecting growth rates above 30% as this option becomes more recognized by the business community as another case of letting the experts run the process in a more cost-effective manner.

EXHIBIT III-1

Outsourcing Definitions

```
                          Outsourcing

    Systems          Network          Desktop        Applications
    Operations       Management       Services       Management

 Platform      Applications                    Applications    Applications
 Operations    Operations                      Maintenance     Development
```
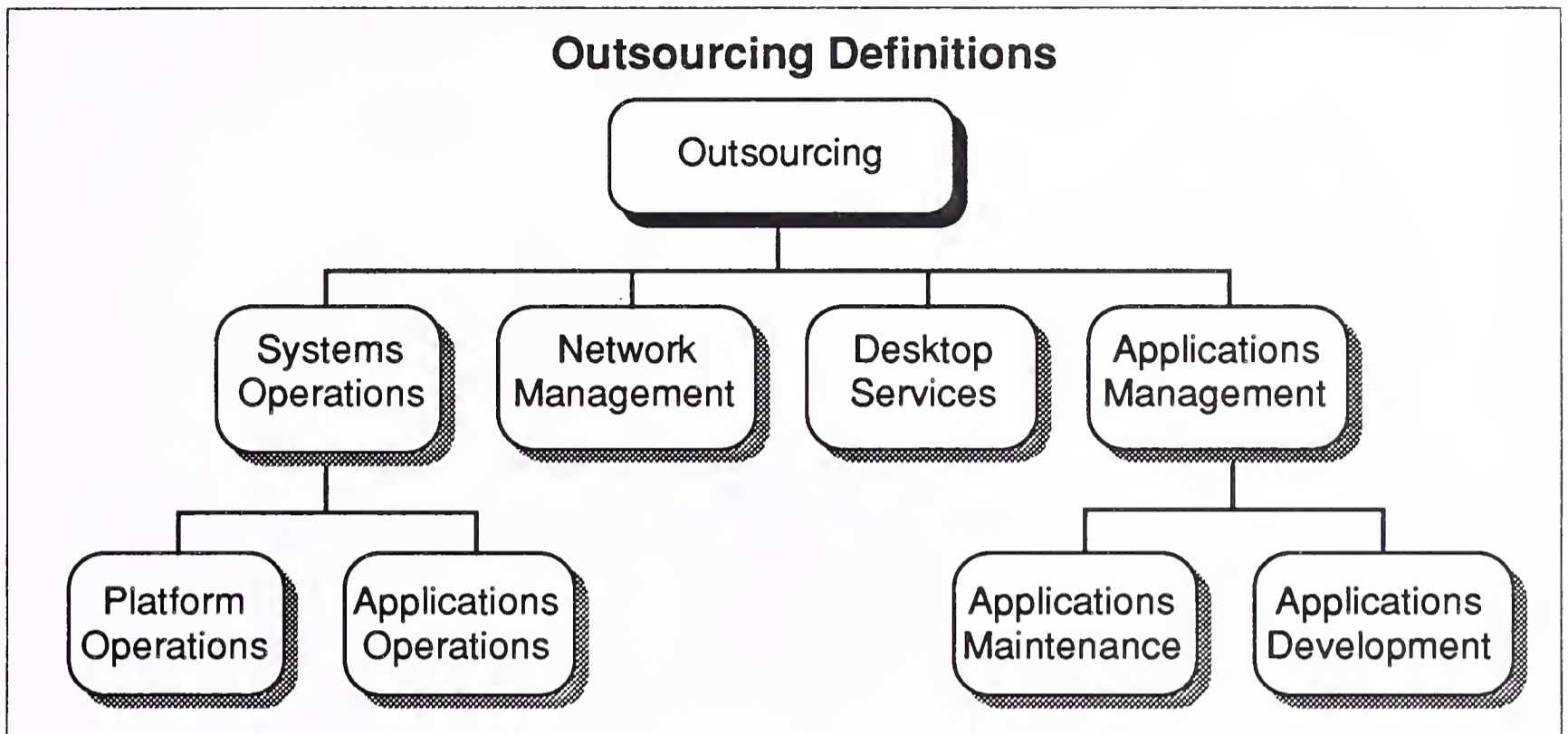
B

Major Buyer Issues

The buyer issues presented in Exhibit III-2 have been identified by user executives as the major issues that arise when considering the outsourcing of information systems operations.

Many organizations face continuing pressure to reduce costs and preserve capital. The stagnant economy is causing even more firms to reassess how they can further reduce expenses and is changing the investment plans of their organizations.

The market continues to be extremely competitive as the reluctant consumer is courted by more firms, both domestic and foreign. Companies must serve their customers better, and in turn, they must get high-quality service from their IS departments. Many companies are becoming convinced that outside vendors can provide a higher level of service than their own internal organizations. They often feel they have more leverage over a vendor's resources than over their own.

Constantly changing technology breeds two problems for the user community: not only is senior management finding it difficult to understand the new technology, but it is also finding it increasingly difficult to recruit staffs that can apply the new technology to meet competitive needs. Outsourcing offers options in both areas.

EXHIBIT III-2

Major Buyer Issues—1992

- Reduce costs/conserve capital
- Improve service levels
- Resolve skills shortage
- Achieve technology upgrade
- Refocus executive attention
- Lose control to vendor

Senior executives in many firms need, more than ever, to focus attention on their core business, be that making cameras or selling hamburgers. Often information systems are not considered part of that core business but a part that, nonetheless, consumes a lot of executive time for the reasons cited above. Turning over systems operations to a vendor eliminates a major demand on executives' time.

One major concern will continue to trouble companies considering outsourcing. Many feel there is no turning back once they have turned their IS operations over to a vendor. They are probably right, but two options are available and both have been demonstrated in the market place:

- A return plan should be created at the start of the relationship if this is a likely outcome of the outsourcing arrangement, i.e., in a transition outsourcing agreement.

- Several clients have successfully changed vendors in the past year at some cost but without major disruption in services levels. There are enough reputable vendors in the market place now to provide options.

C

Market Forecast, 1992-1997

INPUT projects that user expenditures for systems operations will be $11.6 billion for 1992 for the combined commercial and federal markets. Growing at a compound annual growth rate of 18%, these expenditures will reach $26.5 billion in 1997, as illustrated in Exhibit III-3. This represents a slight increase in the growth rate over that reported last year and reflects the continued health of the market, increasing acceptance of the outsourcing option as a viable one, and the emergence of other outsourcing options in response to the downsizing revolution.

EXHIBIT III-3

Systems Operations Market, 1992-1997
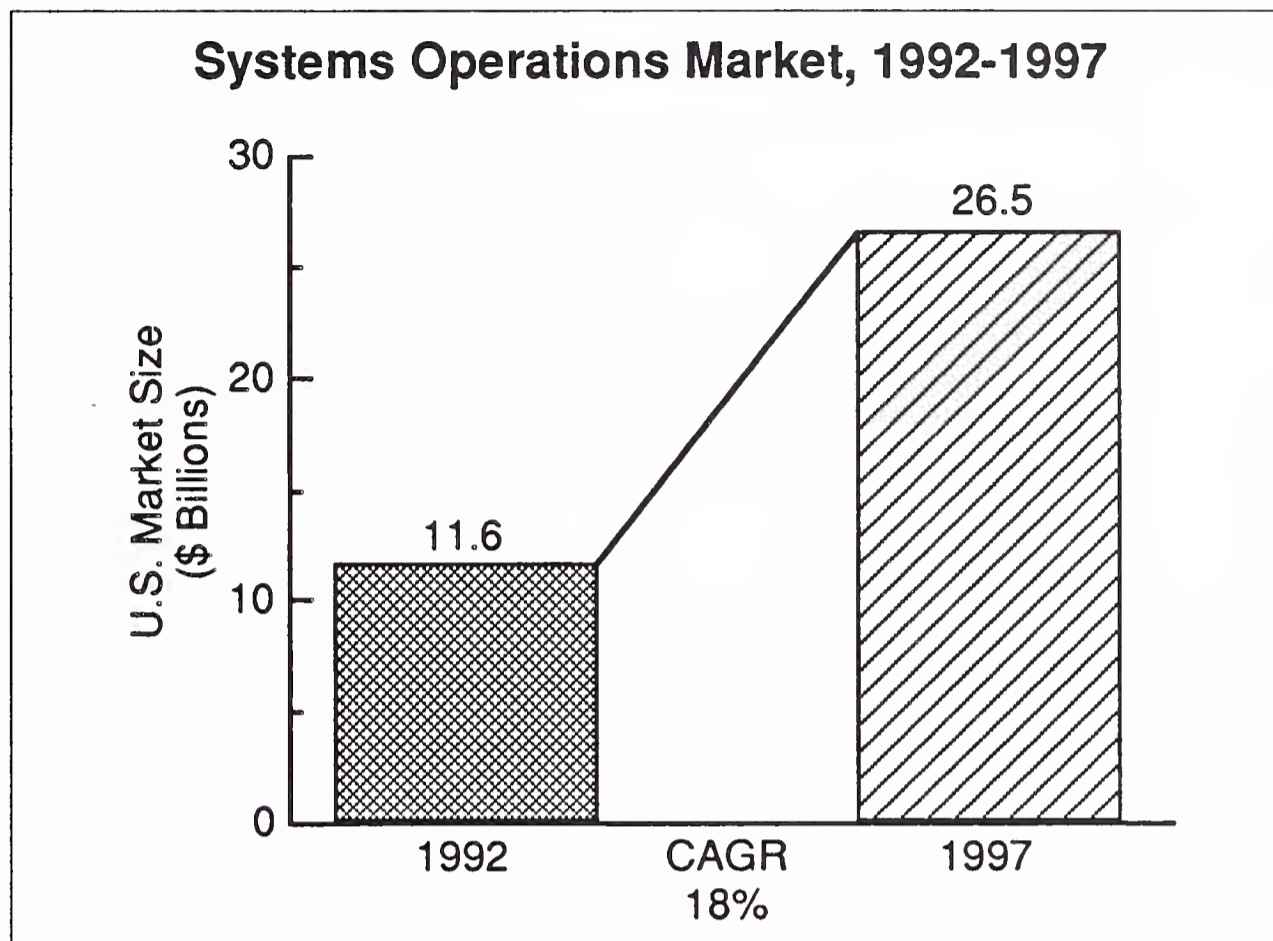
There continue to be major differences between conditions in the federal government and commercial markets. In the federal market, the emphasis on budget constraints and the recurring federal budget deficit are the overriding considerations. Defense budgets are being cut drastically, leading to consolidation of a number of information systems by the Pentagon. Federal government IS expenditures for 1992 are expected to be $2.0 billion, growing to $3.7 billion in 1997, for a compound annual growth rate of 13%—higher than the 10% CAGR predicted last year.

Interest in outsourcing continues to increase in the commercial market, resulting in a compound annual growth of 19% for the period from 1992 to 1997—a slight increase over the 18% forecast last year by INPUT. Outsourcing operations expenditures by commercial enterprises in 1992 are expected to be $9.6 billion, growing to $22.8 billion in 1997.

D

Systems Operations Components Forecast

Exhibit III-4 illustrates how the market is split between the two types of systems operations and how this spread will accelerate over the forecast period. In platform operations, the vendor is responsible for managing and operating the client's computer and/or communications systems. In applications operations, the vendor operates and manages the computer and/or communications operations and is also responsible for maintaining, or maintaining and developing, the client's applications software.

Systems Operations Type Forecasts, 1992-1997

CAGR
(Percent)

3.8

Platform

7.0

11

☒ 1992
☑ 1997

5.2

Applications

17

11.5

0   2   4   6   8   10   12

U.S. Market Size ($ Billions)
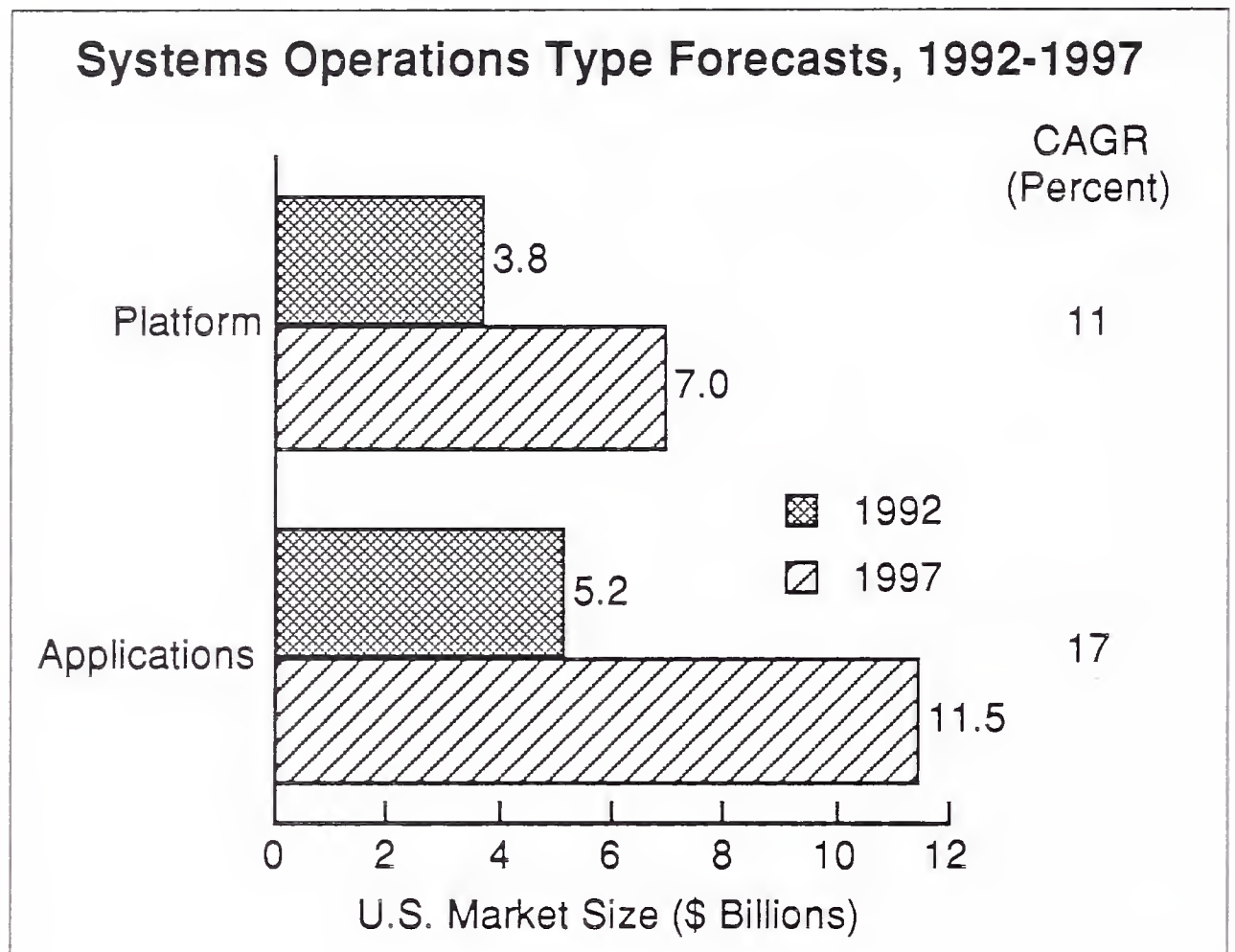
INPUT projects that applications systems operations, already the dominant submode, will grow at a compound annual growth rate of 17% through the period. Expenditures will grow from $5.2 billion in 1992 to $11.5 billion in 1997. Platform operations expenditures will grow from $3.8 billion to $7.0 billion in the same period, at a CAGR of 11%. The difference reflects the client community's greater acceptance of the concept of total systems management by vendors.

INPUT projects that network management will represent a market of $1.4 billion in 1992 and that it will grow at a compound annual growth rate of 20% to reach a value to $3.5 billion in 1997. Desktop services is expected to grow even faster, going from a market size of $1.2 billion in 1992 to $4.5 billion by 1997. This represents a CAGR of 31%, significantly higher than the other three modes of outsourcing being measured this year. The impact of the downsizing phenomenon in organizations and the recent proliferation of PCs as a user tool for productivity are feeding this rapid market expansion.

EXHIBIT III-5

New Outsourcing Type Forecasts, 1992-1997

CAGR
(Percent)

20

Network
Management

1.4

3.5

▨ 1992
⊘ 1997

Desktop
Services

1.2

4.5

31

0   2   4   6   8   10   12

U.S. Market ($ Billions)
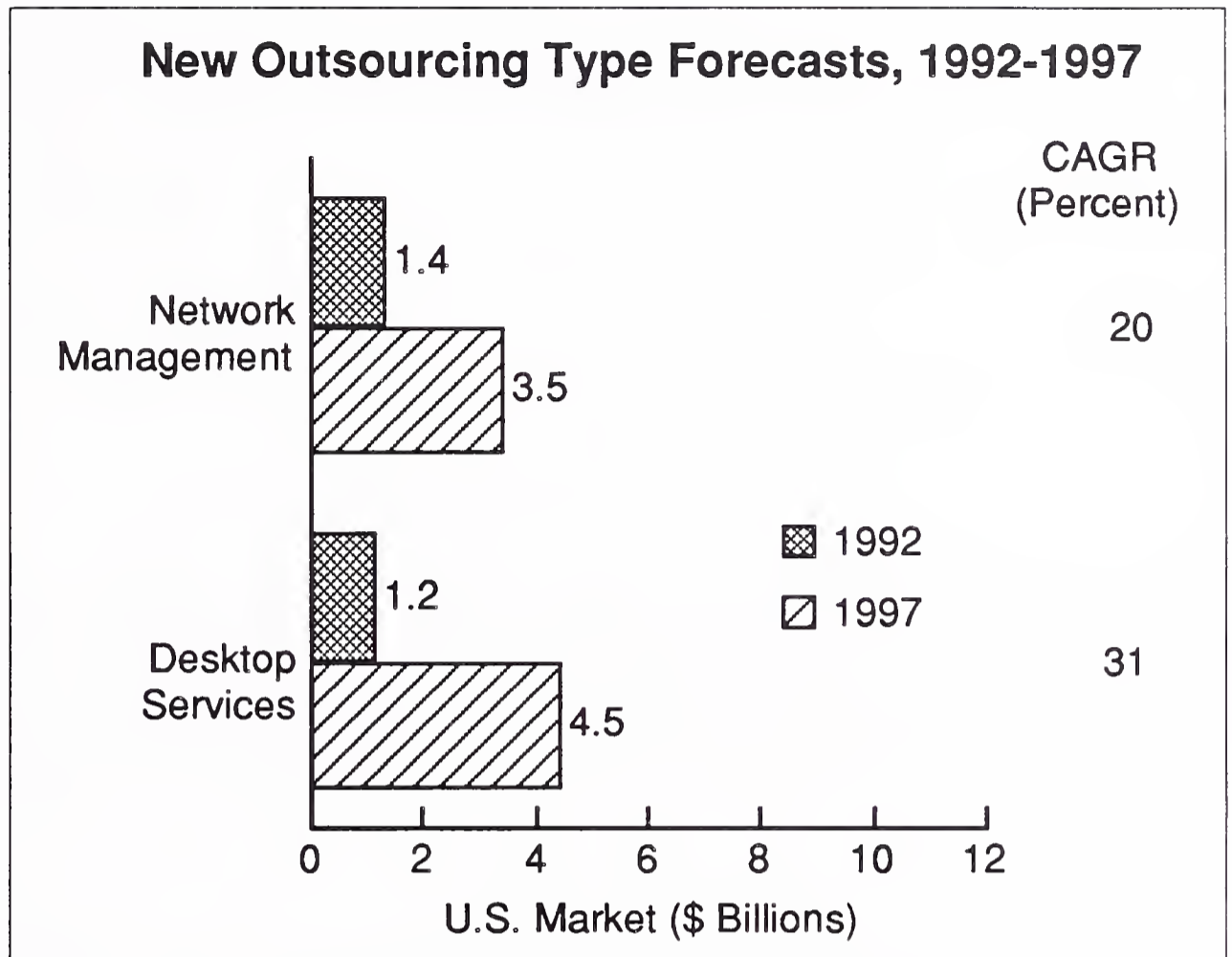
E

Forecast of Key Vertical Industry Sectors

Annual expenditures for systems operations services from 1992 to 1997 for the four leading industry market sectors are included in the table in Exhibit III-6. The industries are ranked based on projected 1997 user expenditures.

EXHIBIT III-6

Leading Vertical Industry Markets, 1992-1997

Industry	Market Size ($ Billions)		CAGR (Percent)
	1992	1997	
Banking/Finance	2.5	6.0	19
State/Local Government	1.8	4.1	18
Federal Government	2.0	3.7	13
Insurance	1.2	2.7	17
Total	7.5	16.5	16

As seen in the exhibit, the top four industries—banking and finance, state and local government, federal government, and insurance—represent 65% of the expenditures in 1992, and 62% in 1997.

F

Vendor Market Share, 1991

Exhibit III-7 lists the leading outsourcing vendors in 1991 based on reported annual revenues.

EDS continues to maintain its market share lead by a comfortable margin. ISSC has moved up from fifth to third position after only one year on the list.

Computer Sciences Corp. (CSC) still obtains most of its revenues from the federal market, but its major win of the General Dynamics contract has changed that mix significantly. However, EDS is still more widely dispersed across various vertical industries. ACS and Systematics specialize in three or fewer industries and have demonstrated strength within their markets.

EXHIBIT III-7

Leading Outsourcing Vendors

Vendor	1991 Market Share (Percent)
EDS	13
CSC	5
ISSC	3
Systematics	2
ACS	2

G

Client Selection Process

The vendor and the client must develop a clear understanding of each other's capabilities and commitments before a real outsourcing contract can be entered into. It is a grueling task for both the vendor's marketing force and the prospect's evaluators.

Fifty percent of the prospects interviewed by INPUT prepared a formal solicitation document. The prospect's purpose is to provide vendors with common data upon which to base their proposals.

The other firms simply assembled their requirement data and notified known vendors or current suppliers that they were looking for an external systems operations management arrangement.

The selection process is essentially a screening process. The first set of responding vendors is narrowed down to a smaller, more viable short list through a preliminary evaluation. This usually involves a comparison of some common criteria. The short list of vendors is then reviewed more thoroughly and discussions are typically begun with several vendors.

Certain vendor capabilities repeatedly appeared on selection criteria. Exhibit III-8 presents ratings for the major evaluation criteria developed as part of INPUT's ongoing research.

A more detailed examination of users' selection procedures confirms that price is not the determining factor in vendor selection, as shown in Exhibit III-8. INPUT asked users to rate a wide range of vendor evaluation criteria on a 1 to 5 scale. The proposed service level—not priced— received the highest average rating, 4.9. Price was rated 4.5. Over half of the criteria received ratings above 4.0.

EXHIBIT III-8

Top Client Selection Criteria

Criterion	Rating
Service Level	4.9
Price	4.5
Technical Ability	4.4
References/Reputation	4.4
Vendor Financial Condition	4.1
Impact on Internal Cash Flow	4.1
Take Staff/Hardware Assets	4.1
Outsourcing Experience	4.1

Average Importance Rating

Not Important   Most Important
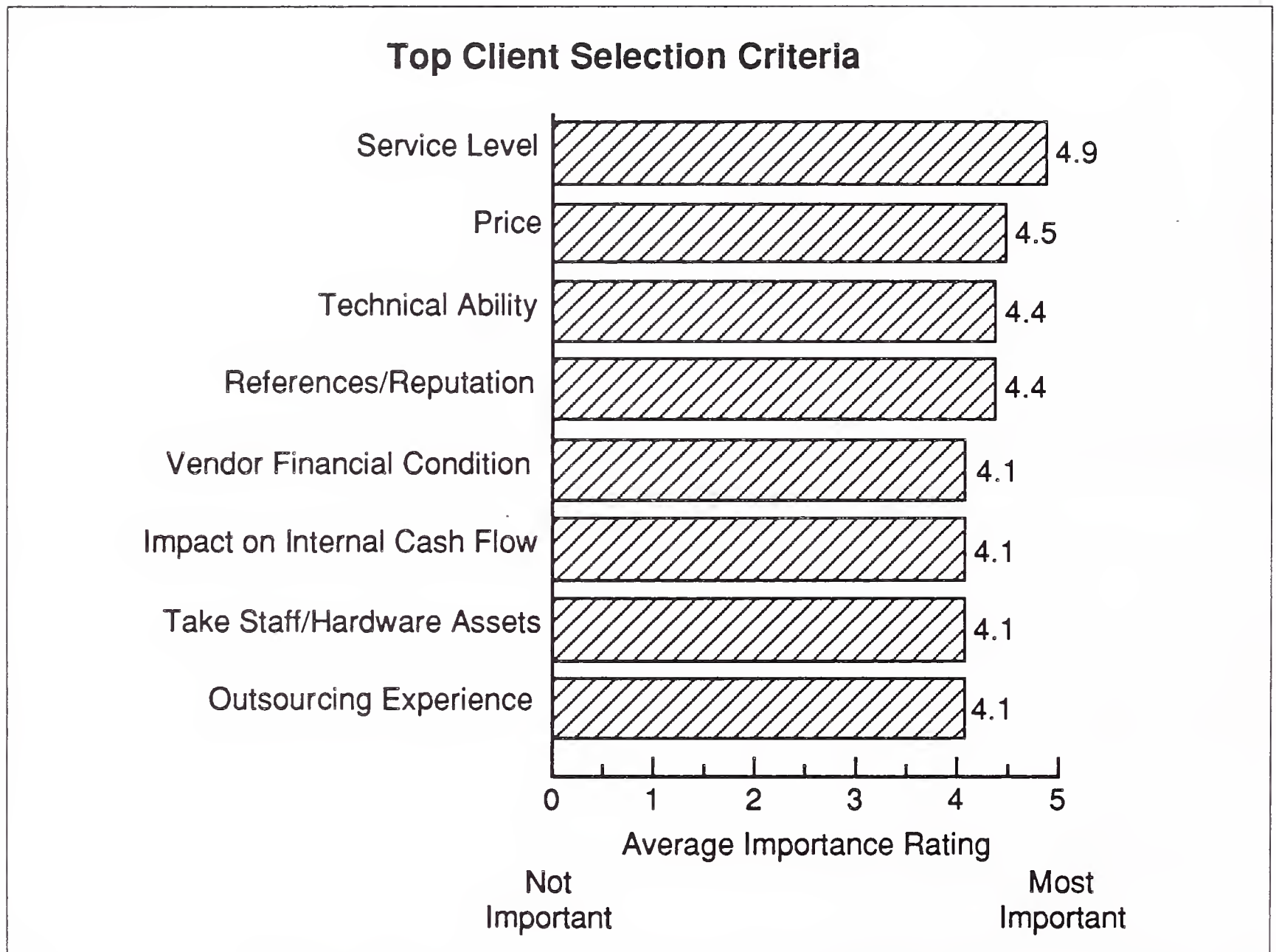
The most highly rated vendor characteristic, service level, was an indication that prospects are more concerned about the quality of service they receive from vendors than the price they pay. They are willing to pay a premium to get superior service levels.

The next three criteria, technical ability, vendor reputation, and vendor financial condition, as well as another criterion also rated at 4.1, outsourcing experience, reflect on the vendor's ability to perform. The prospect knows the relationship with the vendor must be a solid one to succeed, one

that will extend for several years and one that will depend a lot on the abilities of the vendor. The prospect therefore wants to deal with a stable, proven vendor.

The other two items rated above 4.0, impact on cash flow and taking on of hardware/staff assets, reflect other financial concerns that drive prospects to choose outsourcing.

Several other selection criteria were less frequently mentioned by respondents to INPUT's user survey. A more thorough discussion of these less important items can be found in INPUT's report, *Methods of Approaching IS Outsourcing*.

H

Recommendations

The set of recommendations presented in Exhibit III-9 is derived from the analysis of the market this study represents.

These recommendations reflect the conditions as they exist in the present marketplace. They incorporate the issues raised by users and the strategies successfully demonstrated by vendors.

EXHIBIT III-9

Recommendations

- Pre-sales

    - Select high-probability prospects

    - Establish strong alliances

    - Assume risk carefully

    - Define expectations in contract

- Post-sales

    - Communicate constantly

    - Develop partnership relationship

    - Participate in client strategy development

The key recommendations to be made for the pre-sales cycle are

- Select prospects carefully. Capitalize on existing knowledge or prior successful relationships in the target industry.

- Capitalize on long-term, pre-existing relationships with the prospect, which feels that such a relationship is, indeed, the best choice for it.

- Establish strong alliances with partners that can complement industry expertise and provide additional cost-effective resources.

- Assume some financial risk, usually a capital investment or assumption of some of the client's assets.

- Develop contractual terms that protect against undue risk and define expectation for both parties.

The key factors of the post-sales period need to be considered from the onset of the sales cycle also. They are

- Communicate within the client's organization with both user and senior management, on a daily basis if necessary.

- Become part of the client's organization, providing a better service level than that provided by the internal staff.

- Use the contract to define initial operating parameters for both parties.

- The formal contract will need to be supplemented by both parties agreeing that the good of the partnership will often require actions not specifically written in the contract.

- The vendor and client must have joint strategy sessions at which important issues can be discussed and key information shared.

Vendors who successfully master the development of partnerships will be the major outsourcing vendors that benefit most from the expanding market. The relationship will need to be adjusted as IT technology (re-engineering, downsizing, client/server) introduces new options for the client and/or changing business conditions alter the operating requirements.
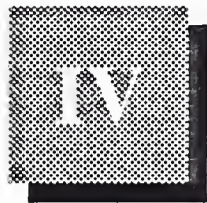
Summary

Systems integration, outsourcing, and network services represent the three fastest growing sectors in the U.S. information services industry. Exhibit IV-1 positions these three markets against the five other markets used by INPUT to define this industry.

EXHIBIT IV-1

U.S. Information Services Industry
Market Comparison

Market Sector	1992 Forecasted Market Size ($ Billions)	1992-1997 CAGR (Percent)
Processing services	19.3	8
Turnkey systems	12.5	8
Application software products	21.1	14
Outsourcing	9.7	17
Systems integration	9.0	16
Professional services	19.1	9
Network services	10.4	17
Systems software products	20.5	14
Total information services market	121.5	12

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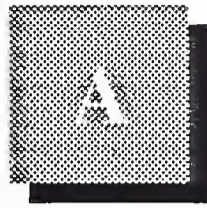
Forecast Data Base

A

Systems Integration

EXHIBIT A-1

Systems Integration
Market Forecast by Market Sector, 1991-1997

Delivery Modes	1991 ($M)	Growth 91-92 (%)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	1996 ($M)	1997 ($M)	CAGR 92-97 (%)
Delivery Mode Total	7,884	14	9,016	10,202	11,712	13,629	15,884	19,039	16
Vertical Industry Markets	7,884	14	9,016	10,202	11,712	13,629	15,884	19,039	16
Discrete Manufacturing	1,136	18	1,346	1,620	1,953	2,355	2,915	3,536	21
Process Manufacturing	324	11	360	402	456	520	596	686	14
Transportation	175	15	202	238	287	347	424	506	20
Utilities	518	10	570	627	689	758	834	918	10
Telecommunications	198	19	235	285	345	417	505	611	21
Retail Distribution	273	21	330	400	484	576	704	852	21
Wholesale Distribution	156	16	181	210	244	285	331	384	16
Banking and Finance	480	8	520	598	717	852	1,045	1,337	21
Insurance	203	8	220	253	300	366	438	524	19
Health Services	247	12	277	309	339	375	419	465	11
Education	91	15	105	121	140	165	200	234	17
Business Services	151	24	187	235	308	356	438	543	24
Federal Government	3,330	14	3,790	4,125	4,565	5,245	5,875	7,105	13
State and Local Government	595	15	685	770	875	1,000	1,145	1,320	14
Miscellaneous Industries	7	14	8	9	10	12	15	18	18

EXHIBIT A-2

1992 Systems Integration
Data Base Reconciliation by Industry Sector

Industry Sector	1991 Market				1996 Market				91-96 CAGR per data 92 rpt	91-96 CAGR per data 92 rpt
	1991 Report (Fcst) ($M)	1992 Report (Actual) ($M)	Variance from 1991 Report ($M)	Variance from 1991 Report (%)	1991 Report (Fcst) ($M)	1992 Report (Fcst) ($M)	Variance from 1991 Report ($M)	Variance from 1991 Report (%)	(%)	(%)
Discrete Manufacturing	1,135	1,135	0	0	3,040	2,915	-125	-4	22	21
Process Manufacturing	170	325	155	91	390	595	205	53	18	13
Transportation	165	165	0	0	410	410	0	0	20	20
Utilities	510	510	0	0	915	915	0	0	12	12
Telecommunications	200	200	0	0	490	505	15	3	19	20
Retail Distribution	270	270	0	0	705	705	0	0	21	21
Wholesale Distribution	155	155	0	0	330	330	0	0	16	16
Banking and Finance	405	480	75	19	1,020	1,045	25	2	20	17
Insurance	210	200	-10	-5	480	440	-40	-8	18	17
Health Services	250	250	0	0	420	420	0	0	11	11
Education	90	90	0	0	200	200	0	0	17	17
State and Local Gov't.	640	640	0	0	1,645	1,970	325	20	21	25
Federal Government	3,320	3,320	0	0	6,900	5,760	-1,140	-17	16	12
Business Services	150	150	0	0	440	440	0	0	24	24
Total	7,680	7,890	210	3	17,385	16,650	-735	-4	18	16

B
Systems Operations

EXHIBIT A-3

Systems Operations Market Size
Forecast Total, 1991-1997

Industry Sector	1991 ($M)	Growth 91-92 (%)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	1996 ($M)	1997 ($M)	CAGR 92-97 (%)
Discrete Manufacturing	655	19	780	935	1,125	1,365	1,655	2,010	21
Process Manufacturing	765	17	900	1,060	1,260	1,490	1,765	2,095	18
Transportation	185	17	215	250	295	340	395	465	17
Utilities	50	14	55	65	70	85	95	115	15
Telecommunications	160	16	180	210	245	285	335	390	17
Wholesale Distribution	195	19	230	265	310	360	425	500	17
Retail Distribution	290	21	350	430	535	650	795	965	23
Banking/Finance	2,100	17	2,460	2,900	3,455	4,160	4,990	5,990	19
Insurance	1,055	16	1,225	1,420	1,660	1,950	2,300	2,710	17
Health Services	960	17	1,130	1,310	1,520	1,775	2,110	2,525	17
Business Services	150	21	180	215	260	320	380	455	20
Federal Government	1,770	12	1,990	2,240	2,525	2,955	3,345	3,675	13
State/Local Government	1,500	17	1,755	2,045	2,400	2,840	3,370	4,080	18
Education	210	16	245	280	325	380	445	530	17
Total	10,045	16	11,695	13,625	15,985	18,955	22,405	26,505	18

EXHIBIT A-4

1992 Systems Operations
Data Base Reconciliation by Industry Sector

Delivery Mode	1991 Market				1996 Market				91-96 CAGR per data 91 rpt (%)	91-96 CAGR per data 92 rpt (%)
	1991 Report (Fcst) ($M)	1992 Report (Actual) ($M)	Variance from 1991 Report ($M)	Variance from 1991 Report (%)	1991 Report (Fcst) ($M)	1992 Report (Fcst) ($M)	Variance from 1991 Report ($M)	Variance from 1991 Report (%)		
Discrete Manufacturing	575	515	-60	-10	1,400	1,165	-235	-17	19	18
Process Manufacturing	465	605	+140	+30	1,145	1,265	+120	+10	20	16
Transportation	150	145	-5	-3	375	270	-105	-28	20	13
Utilities	30	40	+10	+33	55	70	+15	+27	13	12
Telecommunications	75	125	+50	+67	175	240	+60	+34	18	13
Wholesale Distribution	80	150	+70	+88	180	290	+110	+61	18	14
Retail Distribution	180	230	+50	+28	550	580	+30	+5	25	20
Banking/Finance	2,045	1,660	-385	-19	4,660	3,445	-1,215	-26	18	16
Insurance	900	835	-65	-7	1,885	1,600	-285	-15	16	14
Health Services	865	760	-105	-12	1,985	1,475	-510	-26	18	14
Business Services	95	115	+20	+21	260	275	+15	+6	22	19
Federal Government	1,685	1,400	-285	-17	2,595	2,615	+20	+1	9	13
State/Local Government	1,055	1,185	+130	+12	2,360	2,340	-20	-1	17	15
Education	85	165	+80	+94	155	325	+170	+110	13	15
Total	8,285	7,930	-355	-4	17,780	15,955	+1,830	-10	17	15

■ About INPUT

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

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- 9 Categories of Software and Services
- 7 Cross-Industry Markets
- The Worldwide Market (30 countries)

U.S. Focused Programs

- Outsourcing (vendor and user)
- Downsizing (vendor and user)
- Systems Integration
- EDI and Electronic Commerce
- IT Vendor Analysis
- U.S. Federal Government IT Procurements

European Focused Programs

- Outsourcing (vendor and user)
- Downsizing (vendor and user)
- Systems Integration
- Network Management
- Customer Services

■ Custom Consulting

Many vendors leverage INPUT's proprietary data and industry knowledge by contracting for custom consulting projects to address questions about their specific market strategies, new product/service ideas, customer satisfaction levels, competitive positions and merger/acquisition options.

INPUT advises users on a variety of IT planning and implementation issues. Clients retain INPUT to assess the effectiveness of outsourcing their IT operations, assist in the vendor selection process and in contract negotiation/implementation. INPUT has also evaluated users' plans for systems and applications downsizing.

■ INPUT Worldwide

San Francisco — 1280 Villa Street
Mountain View, CA 94041-1194
Tel. (415) 961-3300   Fax (415) 961-3966

New York — 400 Frank W. Burr Blvd.
Teaneck, NJ 07666
Tel. (201) 801-0050 Fax (201) 801-0441

Washington, D.C. — 1953 Gallows Road,
Suite 560
Vienna, VA 22182
Tel. (703) 847-6870   Fax (703) 847-6872

London — 17 Hill Street
London W1X 7FB, England
Tel. +71 493-9335 Fax +71 629-0179

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

Frankfurt — Sudetenstrasse 9
W-6306 Langgöns-Niederkleen, Germany
Tel. + 6447-7229   Fax +6447-7327

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