METHODS OF APPROACHING IS OUTSOURCING

INPUT

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Methods of Approaching IS Outsourcing

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Abstract

Methods of Approaching IS Outsourcing offers guidance to vendors and users on how to establish a successful outsourcing relationship. The report outlines all components of the outsourcing process beginning with the initial user decision to seek the services of a systems operations vendor. The report ends by addressing the critical success factors during the contract management phase that influence users' future intentions toward outsourcing.

The report points out how the outsourcing review process benefits IS management whether or not a decision to outsource is made.

INPUT's sample for this study included:

- Companies without outsourcing agreements
- Companies with existing OS contracts

The respondents' views on the outsourcing review, procurement, and contract management phases were analyzed to present the current status of outsourcing as it exists in the U.S. commercial information services market.

This report contains 72 pages and 30 exhibits and was prepared as part of INPUT's Outsourcing Information Systems Program.

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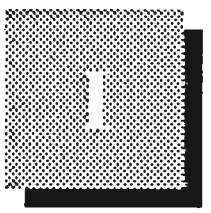


Introduction

The present U.S. economic climate continues to spur growth in the systems operations outsourcing market. Buyers view outsourcing as a business method of saving money while getting better results. The needs to improve cash flow, services, and technical skills primarily drive companies to seek outsourcing solutions for their IS operations.

The outsourcing review process benefits IS management whether or not a decision to outsource is made. Assessments of operational requirements and equipment are performed. Staff levels and credentials are examined. Performance standards are established. This rigorous review becomes the basis for defining an outsourcing relationship, or streamlining the internal IS organization and operations. Companies still running their own information systems operations should consider outsourcing if they have not already done so. The benefits of the internal review process will usually outweigh previous quality assessments.

INPUT expects outsourcing trends to continue as more efficient and cost-effective business management principles are enacted across U.S. industries.

A
Purpose and Scope

The purpose of *Methods of Approaching IS Outsourcing* is to document the components of the outsourcing review and vendor selection processes. Insight into common contract negotiation issues, and factors that build a strong vendor-client relationship are offered to vendors and users.

The perspective of Chief Information Officers will be presented. The person in this position is usually involved in building all phases of a corporation's outsourcing relationship.

The report examines the outsourcing review, procurement and contract management process as it currently exists in the commercial information services market. The federal market is specifically excluded from this study because of its unique rules and regulations governing the procurement process.

Respondents were selected by random sampling, and through preselection of companies known to have existing outsourcing agreements with several established vendors.

B

Methodology

Telephone interviews were conducted with CIOs in several vertical markets. For respondents with outsourcing contracts, sufficient time had elapsed since the contracts were implemented for users to have experienced all phases of the outsourcing process. The questionnaire used for the interviews is included as an appendix to this report.

C

Report Organization

This report consists of the following additional chapters:

- Chapter II presents an executive overview highlighting the contents of the report.

- Chapter III—The Selection Process—discusses the pros and cons of outsourcing, and the functions that are traditionally assigned to a vendor. The components of the buyer preparation and vendor selection phases are reviewed in depth.

- Chapter IV—Evaluation and Negotiation—reviews the major components of the bid evaluation process and the terms and conditions that define the vendor-client contractual relationship.

- Chapter V—Management of the Outsourcing Relationship—addresses management issues after a contract is implemented. It also offers tips on how users can ensure satisfying working relationships with their vendors.

- Chapter VI—Conclusions and Recommendations—reviews the lessons learned by users through all phases of the process. It offers recommendations to buyers who are considering entering the outsourcing process.

D
Related Reports

For additional insight into the systems operations market, readers are encouraged to consult the following published INPUT reports:

Federal Processing Services/Systems Operations Market, 1989-1994 (1988)

Systems Operations—Growth for the 1990s (1989)

Systems Operations—Management Issues and Practices (1990)

Network Operations Management (1990)

Systems Operations Market Analysis, 1990-1995 (1991)

Systems Operations: Vendor Analysis (1991)

Systems Operations Buyer Issues and Alternatives (1991)

Systems Management Priorities and Directions (1991)

Systems Operations Market Analysis, 1991-1996 (1991)

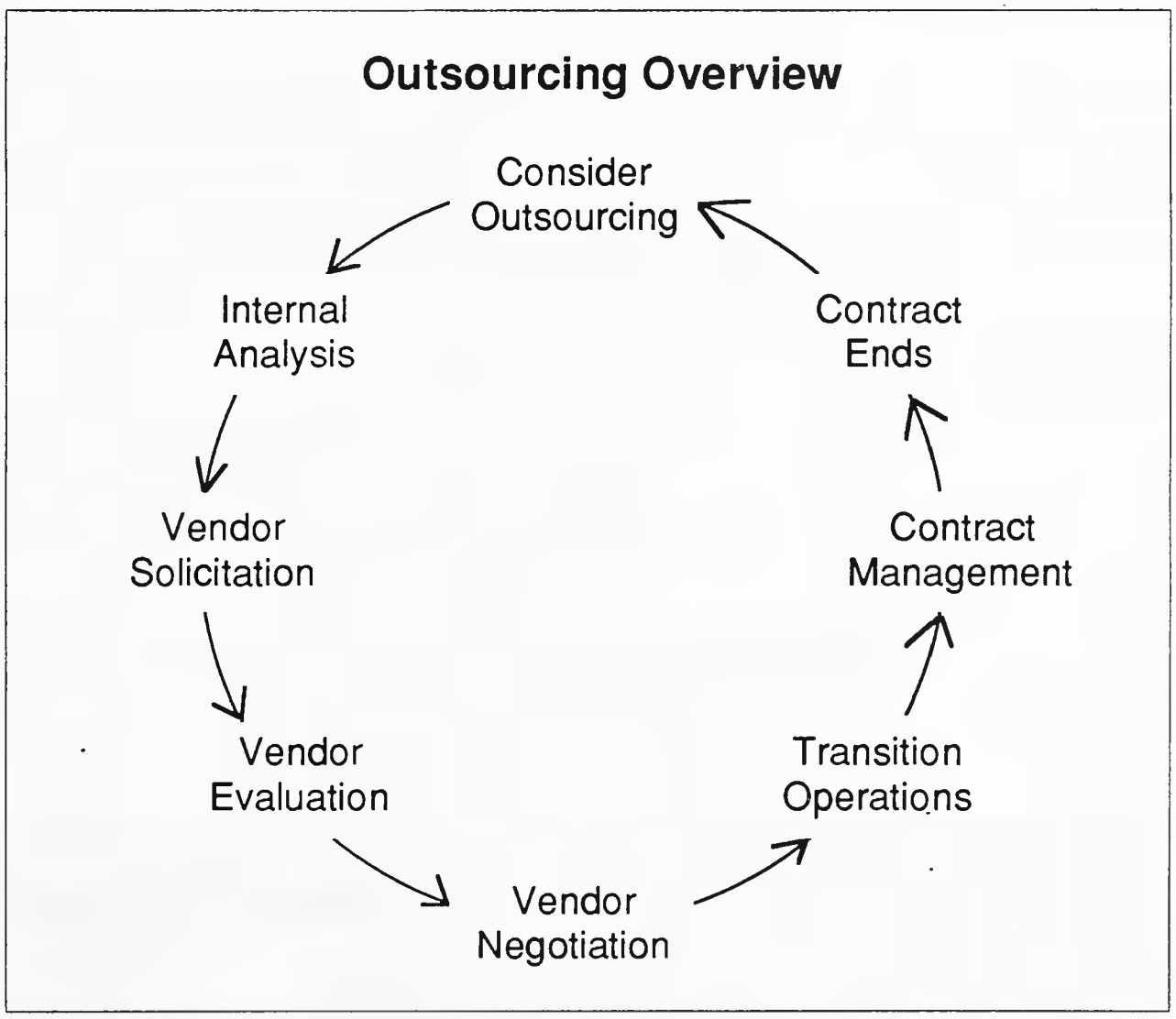
In addition, INPUT regularly issues Systems Operations Research Bulletins, highlighting some aspect of the systems operations market, throughout the year.

II

Executive Overview

The outsourcing process generally proceeds through the steps outlined in Exhibit II-1. The first major decision a company makes is whether or not to consider outsourcing some or all aspects of the company's IS operations.

EXHIBIT II-1



Corporate policies and politics are the chief issues hindering companies from considering outsourcing. Often companies prefer to maintain control of all business operations. Some corporate IS departments are reluctant to lose headcount won in earlier empire-building wars.

Once a decision is made to evaluate outsourcing, buyers go through several phases before a vendor assumes control of the operations. Users may still decide not to outsource upon completing an internal analysis or review, or after vendor proposals are evaluated. If cost savings are not significant enough to the user at the conclusion of each of these phases, a decision to retain IS operations in-house is usually reached.

Review processes are invaluable to corporate management. Assessments are made of operational requirements and equipment, staff levels and standards. When vendor proposals are sought, companies have the opportunity to compare internal operating efficiencies and costs with those proposed by a vendor. It is not uncommon for some organizations to discover that large economies of scale cannot be achieved by using an outsourcing vendor.

A The Selection Phase

Several components comprise the selection phase, as shown in Exhibit II-2. The internal review process serves multiple functions. It becomes the basis for communicating basic operating information and requirements through an informal or formal bid solicitation process. The internal review process also serves to determine which aspects of a corporation's internal operations are likely candidates for outsourcing.

EXHIBIT II-2

The Selection Phase

- Outsourcing decision
- Selection of functions
- Preparation activities
- Vendor preselection

Ninety-five percent of the users in this INPUT study outsource their platform operations. In the majority of outsourcing relationships, vendors manage the client interface. In an earlier study, only 40% provided this function.

Network operations and applications management functions, including applications development services, are required by half of the respondents. An OS vendor is rarely employed to perform applications maintenance functions only.

In earlier INPUT studies, users tended to retain end-user desktop services in-house. However, this trend is changing. Users with recently signed contracts are beginning to contract this function to vendors.

Based on the experiences of buyers in this study, issuance of a formal solicitation document to vendors is declining. A few vendors dominate this market, and buyers rarely ask more than three vendors to bid. Initial talks with vendors start as soon as the decision to outsource is reached.

B

Evaluation and Negotiation

During the evaluation and negotiation phases, buyers focus attention on three main issues, listed in Exhibit II-3.

EXHIBIT II-3

Evaluation and Negotiation Issues

- Price
- Functionality
- Vendor control

For most companies, the primary motivation to outsource IS operations is the need to reduce operating costs. If a vendor's proposal does not include significant cost savings, buyers usually decide to retain systems operations in-house.

During the vendor evaluation process the proposed level of service or functionality becomes almost as critical as cost. Buyers need and seek creative ways of managing their business operations. Vendors that cater to the specialized needs of users will likely win contracts. Value-added services, enhanced systems capability, personnel take-over guarantees, and investments in the buyer's company are commonly offered by outsourcing vendors to buyers.

Once a vendor is selected, the process of defining the dynamics of the relationship begins in the contract negotiation phase. Of utmost importance to buyers is the issue of how to control and guarantee the vendor's performance. The following clauses are usually included in the contract to address this issue:

Performance Criteria
Performance Penalties
Problem Resolution
Early Termination
Disaster Recovery

One cannot define performance penalties, let alone apply them, without defining the level of service that is expected of a vendor. A clause addressing how problems are resolved between the two parties is usually included. However, most users find it unnecessary to refer to their contracts when a good working partnership exists with the vendor.

Buyers usually insist on an early termination clause in case they need to end the contract early. A change in business direction, or extremely poor vendor performance are the main reasons for including early out provisions in a contract. This clause usually contains language explaining compensation provided to the vendor, client rights to vendor-developed software, and a transition plan to return to in-house operations.

Buyers generally include disaster recovery services as an additional safeguard for their business operations.

Pricing structures are usually agreed on prior to reaching the negotiation stage, and become an addendum to the contract. Vendors are beginning to base price proposals on the unique demands of each buyer's business. Language addressing price renegotiation conditions is customarily included in the contract.

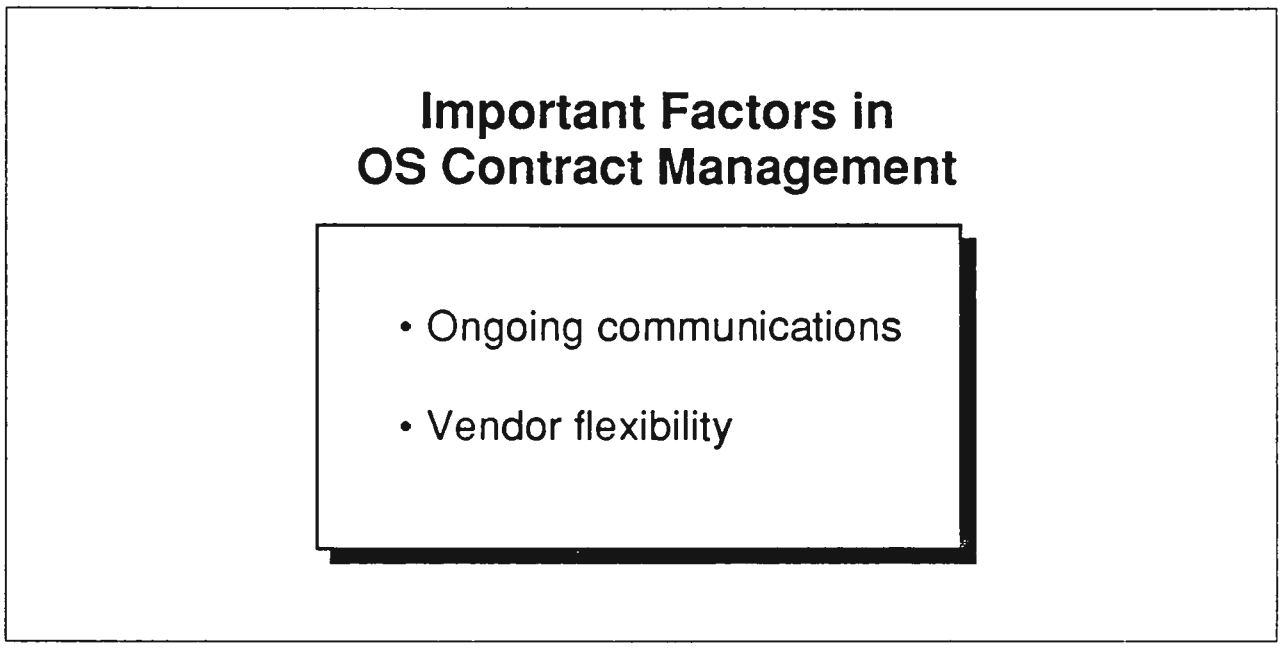
Significant cost economies are available over a long contract term. However, users believe that a shorter term, such as five years, offers more control over a vendor's performance.

C

Management of the Outsourcing Relationship

Exhibit II-4 lists the two factors that are the foundation for building a successful outsourcing relationship.

EXHIBIT II-4



Constant dialog on problems, successes and issues establishes a strong working partnership between a vendor and a user. Many users report having a "buddy-buddy" relationship with their vendors.

The cooperation a vendor exhibits in the vendor selection and negotiation phases is a good indicator of the flexibility a vendor will display while under contract. An "I aim to please" attitude will carry through the relationship.

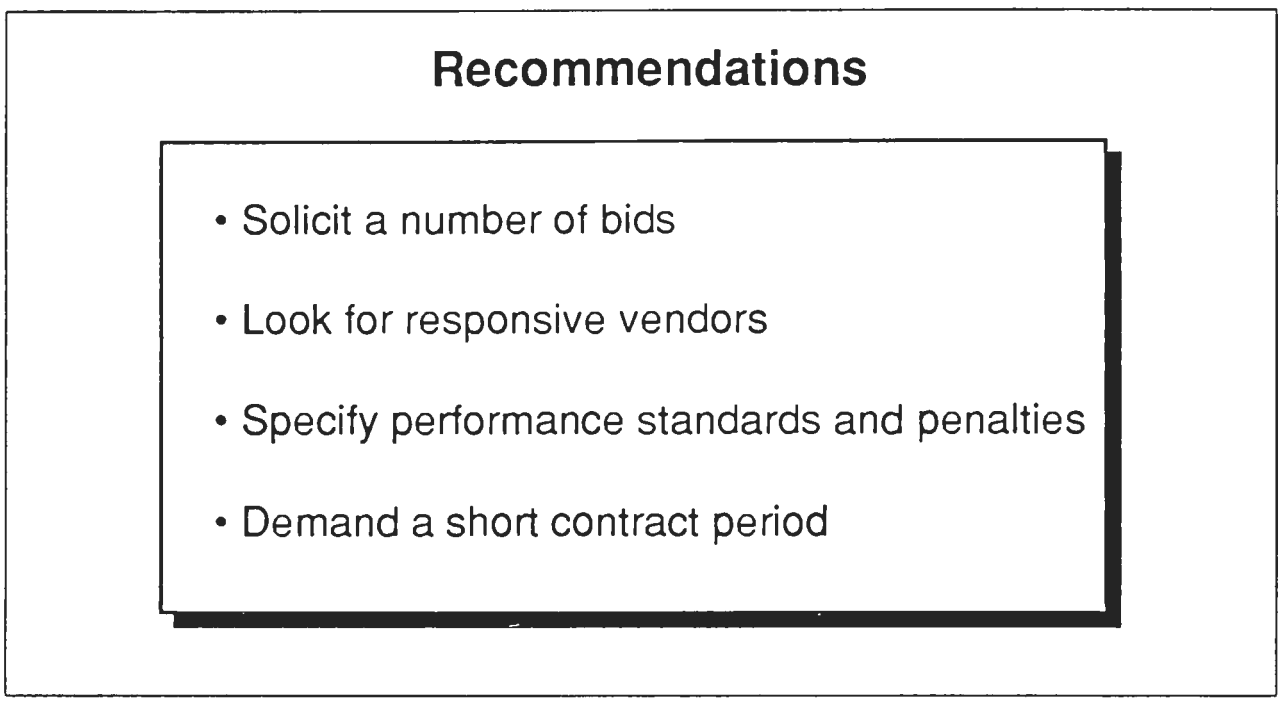
Significant investments by vendors in users' equipment, personnel and other assets reinforce this attitude. Vendors also need long-term relationships with their customers in order to realize profits from these investments.

D

Recommendations

Companies contemplating outsourcing some aspect of their IS operations should follow the guidelines shown in Exhibit II-5.

EXHIBIT II-5



Although the outsourcing market is dominated by a few vendors, it continues to be a buyers' market. It is to the buyer's advantage to solicit bids from as many vendors as possible. More intelligent pricing and services comparisons can be made. The buyer also has more leverage in developing favorable contract terms.

Look for vendors who are responsive to your unique business needs. Vendors who demonstrate this characteristic in early discussions with buyers will carry this attitude throughout a business relationship. Vendors who are easy to communicate with generally understand the foundation of a successful working relationship.

All contracts should explicitly state performance standards and penalties. However, open, ongoing communications between the two parties can solve most problems that arise.

Opting for a shorter contract period will help ensure successful operation of the outsourcing agreement and promote increased competition between vendors.

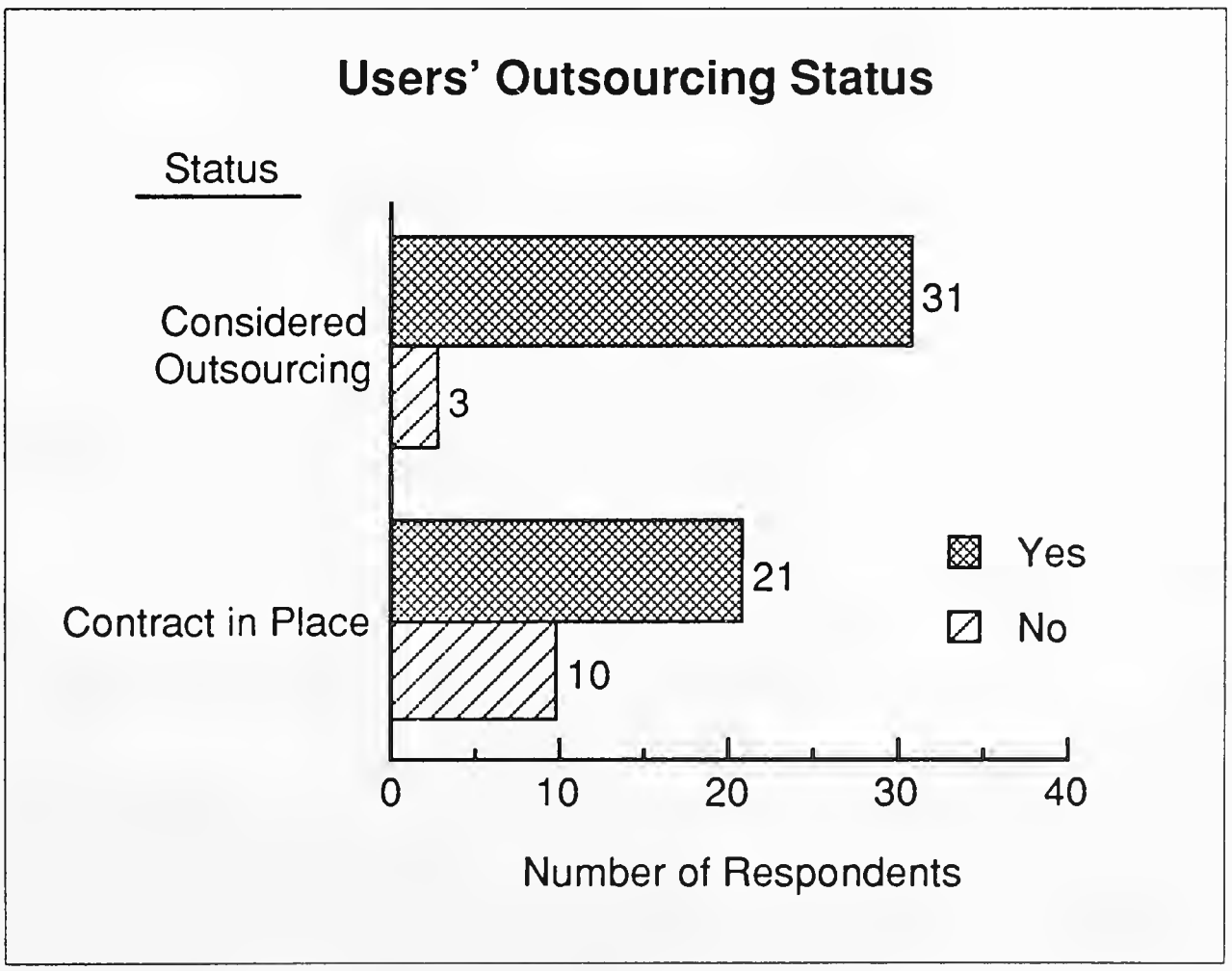
The Selection Process

A
Selective Outsourcing

1. Outsourcing Pros and Cons

Companies must first decide if they should consider the concept of outsourcing systems operations at all. INPUT's sample reveals that many companies consider outsourcing, but may not proceed to the point of contracting with an outsourcing vendor (see Exhibit III-1). Twenty-one respondents have a contract in place with a vendor.

EXHIBIT III-1



The motivation to outsource systems operations is usually made for one of the reasons listed in Exhibit III-2. Respondents did not mention the need to improve operational efficiency specifically. However, a stronger balance sheet is often viewed as improving business efficiency.

EXHIBIT III-2

Motivations for Outsourcing

Motivation	Number of Responses*
Reduce costs	13
Improve cash flow	2
Reduce assets	2
Migrate to new platform	2
Lower risks	2
Need technical expertise	2
New company	1

*Multiple responses were allowed.

Most companies seek outsourcing alternatives as a cost-cutting or control measure. Personnel and hardware and software costs are escalating in our inflating economy. The cost of the associated space needed to house data operations is usually eliminated if the processing site is located at a vendor location.

A company's cash flow position is usually improved as less money is expended for data processing operations on a yearly basis. The corporate financial picture is also strengthened as assets are reduced, and the profitability ratio becomes higher.

Companies also choose outsourcing vendors to manage their present data processing operations while they migrate to new computer platforms. Internal data processing resources are free to concentrate on the migration to a new platform, while the day-to-day operations are maintained by an outside vendor.

Placing the responsibility for a company's data processing operations on a contractor who specializes in providing outsourcing services is very appealing to many companies. There is less risk, and user companies are free to focus their energies on their primary business needs.

Companies find it difficult to staff and maintain a first-class information systems operation. As technology changes, considerable corporate resources are required to continually hire and retrain qualified technical personnel.

Small, start-up companies find it easier to contract with a vendor to fulfill information systems needs rather than invest critical resources in an in-house operation.

Though there are many reasons to outsource, companies decide not to do so for one major reason, illustrated in Exhibit III-3. Fortunately for some companies, information systems functions already operate efficiently. Economies of scale could not be achieved if a vendor provided the services. In INPUT's sample, four respondents had systematically performed both an internal analysis and an outside evaluation before deciding to retain operations in-house. Two respondents were currently in the process of evaluating vendor proposals.

EXHIBIT III-3

User Reasons for Not Outsourcing

Reason	Number of Responses
No cost advantage	8
Currently evaluating	2

B

Function Criteria

Most companies in INPUT's sample selected one vendor to provide all outsourcing services. As shown in Exhibit III-4, 95% use vendors to handle processing operations. Other functions are not outsourced with the same frequency. Both network operations and applications management are required from vendors by half of the respondents.

In earlier INPUT studies, users preferred to perform software development functions internally. The current data suggests that when companies outsource the maintenance of their applications to a vendor, they will contract out all applications functions as well. Only one respondent had a vendor performing solely applications maintenance functions. End-user or desktop services are usually retained in-house. Those with newer contracts are more likely to outsource desktop activities than older contract holders.

EXHIBIT III-4

Outsourced Functions

Function	Number of Respondents	
	Yes	No
Processing Operations	20	1
Network Operations	10	11
Applications Management	10	11
Applications Maintenance	1	20
Desktop Services	7	14

C

The Preparation Phase

Most commercial firms perform an internal analysis before creating a solicitation document for vendors. INPUT found that the components of the analysis vary depending on the underlying reason for outsourcing. As shown in Exhibit III-5, the most common elements include conducting data volume analysis, SMF data analysis, functional analysis, and determining configuration requirements.

EXHIBIT III-5

Internal Analysis Components

Item	Number of Responses
Data Volume Analysis	12
SMF Data Analysis	11
Configuration Requirements	11
Functional Analysis	10
Other	1
Not Done	3

The reasons why internal analysis is not performed are also dependent on the motivation for outsourcing. A company forced into an outsourcing arrangement because of a corporate merger or acquisition may not go through an internal analysis process. New companies without information systems experience have little data to support an analysis. Corporate policies often dictate how a company performs certain business processes. One banking user stated that company policy forbade the allocation of internal resources to perform mainframe operations for credit card applications.

INPUT's study also suggests that companies rely more on in-house personnel to perform internal analysis functions than on hiring outside consultants. As depicted in Exhibit III-6, only seven companies used consultants in the internal analysis process. Management consulting firms were more frequently retained. Consultants provide assistance to the internal IS assessment teams.

EXHIBIT III-6

Types of Consultants Used for Internal Analysis

Firm Type	Number of Respondents
Management Consultant	4
Big Six	2
Individual	1

D

Selection Techniques

Unlike in the federal government sector, potential vendors are selected by the user in the commercial market. Solicitations are not openly advertised to the vendor community. Companies send out bid requests, or issue an informal request to vendors with whom they have a prior relationship or knowledge of.

Some companies pursue prospective vendors through a formal screening process, often assisted by a consultant who suggests possible vendors. Consultants may also be used to develop RFPs.

Regardless of the method, the majority of respondents limited contact to one or two vendors. One company began by casually discussing outsourcing with one vendor. Discussions led to an informal agreement between the two parties. A contract was ultimately signed without the client company conducting an internal analysis, preparing an RFP or a requirements document, or evaluating bids from other vendors.

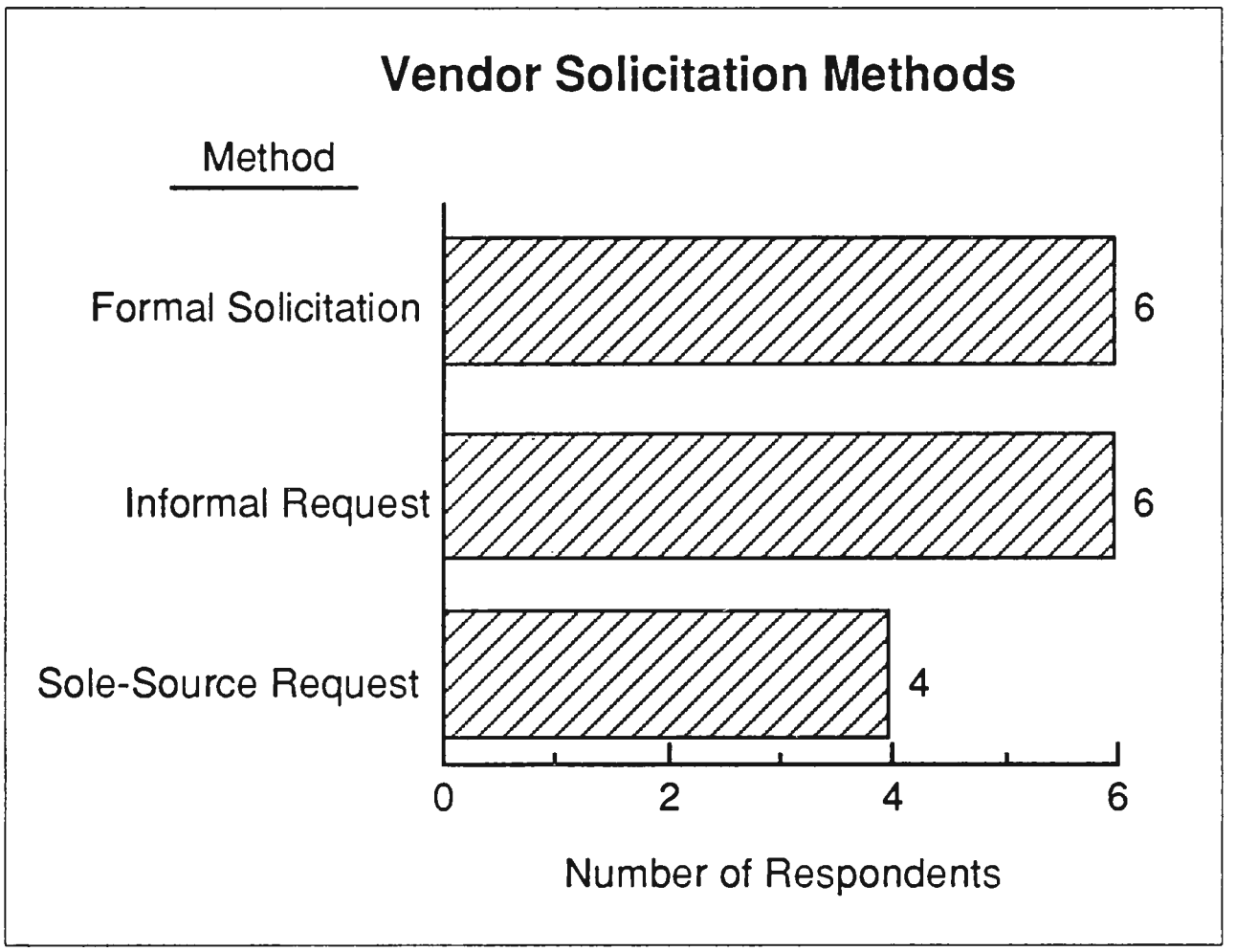
For another respondent, a corporate buyout agreement included an outsourcing arrangement. The selling company's data processing requirements and resources were assumed by the buyer, without evaluating the buyer's capabilities.

A solid, ongoing relationship should be cultivated with prospective clients. Conducting regular dialogs with companies regarding IS needs can lead vendors to opportunities to influence corporate attitudes toward outsourcing.

1. Solicitation Development

The three ways in which users approach potential vendors are shown in Exhibit III-7.

EXHIBIT III-7



In INPUT's previous study, *Systems Operations Buyer Issues and Alternatives*, 50% of the users reported preparing a formal solicitation document. However, the current study shows that use of this method has declined to 38%. Informal requests are just as popular, and differ from sole-source requests only in the number of vendors contacted.

Buyers usually begin talking to vendors immediately after the decision to outsource is made. Early talks help users to identify a "short list" of potential vendors. Unlike in the federal procurement process, the commercial sector engages in considerable discussions with vendors throughout all phases of seeking an outsourcing arrangement.

Buyers provide vendors with readily available types of information, as listed in Exhibit III-8. Supplying data about current processing volumes and software and equipment inventories is standard procedure. A vendor cannot develop a cost proposal without such basic information.

EXHIBIT III-8

Contents of a Solicitation Document

Item	Number of Responses
Current Processing Volumes	14
Software Inventory	12
Equipment Inventory	12
Future Volume Needs	11
Current Staff Deployment	10
SMF Data	10
Current Communications Needs	9
Other	1

Knowledge of current processing volumes is critical to vendors. Most proposals are based on some measure of the number of transactions or resource use. Vendors must also know the types of applications they are expected to run and/or develop and maintain. Systems software and software license agreement information is supplied if the vendor is expected to assume all software operations. The same type of information is required for the hardware. In order to prepare an accurate proposal, vendors need data on all the roles that they are expected to assume for a company.

Information on future volume requirements, if known, can serve to further sharpen a vendor's proposal. If processing volumes are expected to increase or decrease, pricing flexibility should be included in the contract.

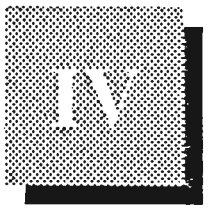
When a vendor is expected to assimilate the user's employees, headcount and skills inventories become essential information. Approximately half of all outsourcing arrangements include the transfer of user employees into a vendor's organization, or the vendor somehow assumes responsibility for the employees.

Resource accounting data, such as SMF (systems management facilities) data, and other operating parameters are also commonly furnished.

Detail on network communications is provided when outsourcing needs include this service. More recent agreements include network operations services from vendors. This represents about half of INPUT's current sample.

Unlike the respondents in an earlier INPUT study, respondents did not communicate their transition phase expectations to vendors. They expect vendors to provide expertise in establishing a transition schedule in all cases.

A few buyers revealed that internal operating cost data was not furnished to prospective vendors. This information may jeopardize vendor/buyer cost comparisons. It is also difficult to prepare this type of data in a form meaningful to outside parties.



Evaluation and Negotiation

A
Evaluation Team

Regardless of the method used to solicit vendors, users carefully evaluate vendor proposals. An evaluation team, usually comprised of the same individuals who prepared the solicitation requirements, analyzes and reviews the proposals. A final vendor decision is made by the evaluation team, or by an executive board, based on the recommendation of the evaluation team.

Most buyers rely on internal personnel to staff their bid evaluation teams. Only 25% of the respondents in this study used external personnel or resources to assist their internal team in selecting a vendor. The external resources included lawyers and consultants. One company visited a vendor's reference site.

As shown below, the composition of an internal bid evaluation team is usually small:

Internal Bid Evaluation Team Composition

Constant Personnel	• 1-3 representatives of corporate management (CEO, President, Executive Vice President)
	• Senior IS Officer (CIO) • Senior Financial Officer
Frequently Used Personnel	• Lawyer • Human Resources Manager • MIS Managers

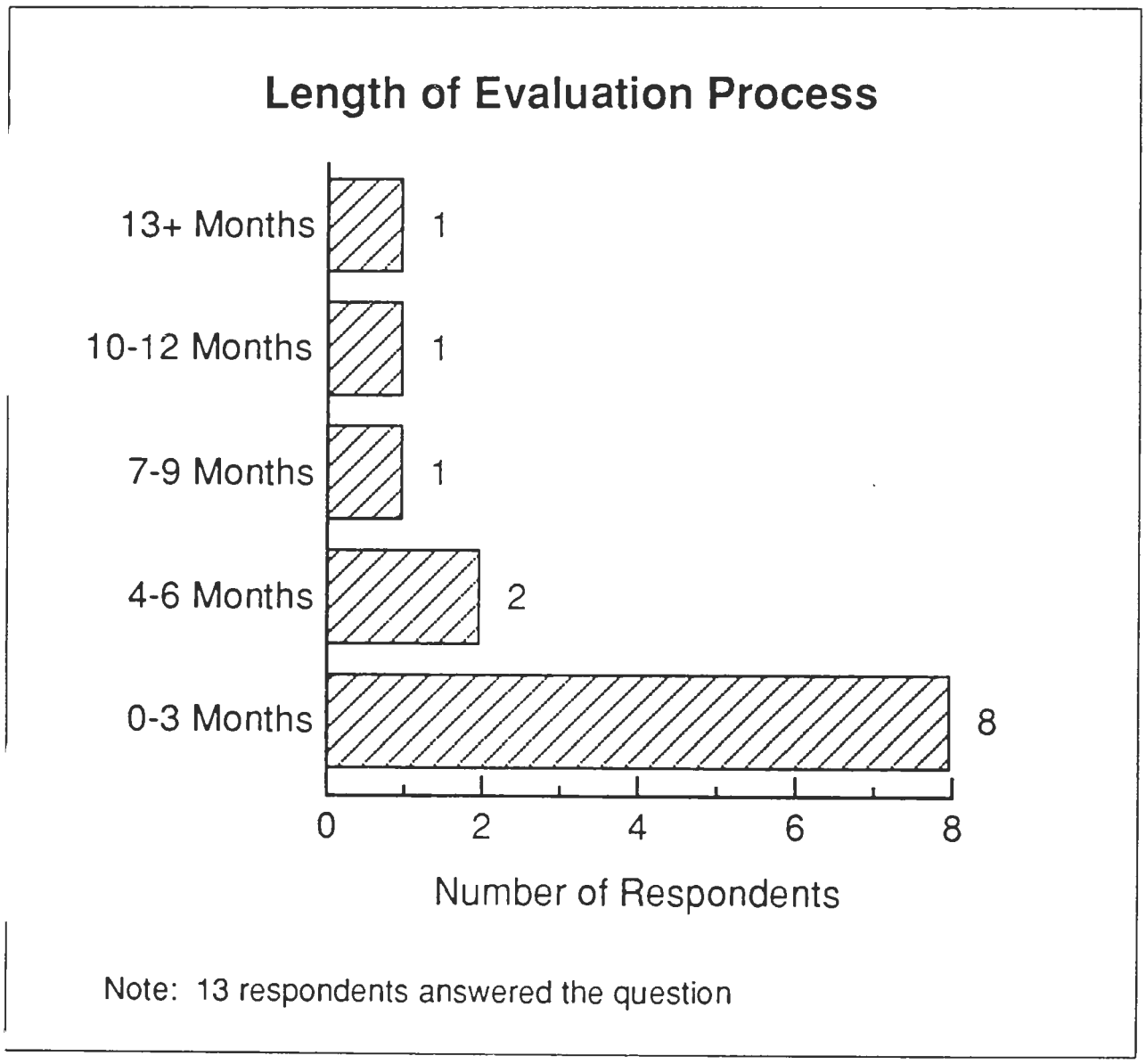
At least three to five corporate personnel make up buyer evaluation teams. An earlier INPUT study reported team composition of as few as one or two corporate executives.

B

Evaluation Process

The vendor selection and evaluation process generally took less than three months for the majority of the users in this study. The experience of all the respondents is illustrated in Exhibit IV-1. The average length of the process for all respondents was 4.9 months. The few companies that took seven months or more to complete this stage of the procurement were not clustered in any particular industry, but spread across several vertical industries.

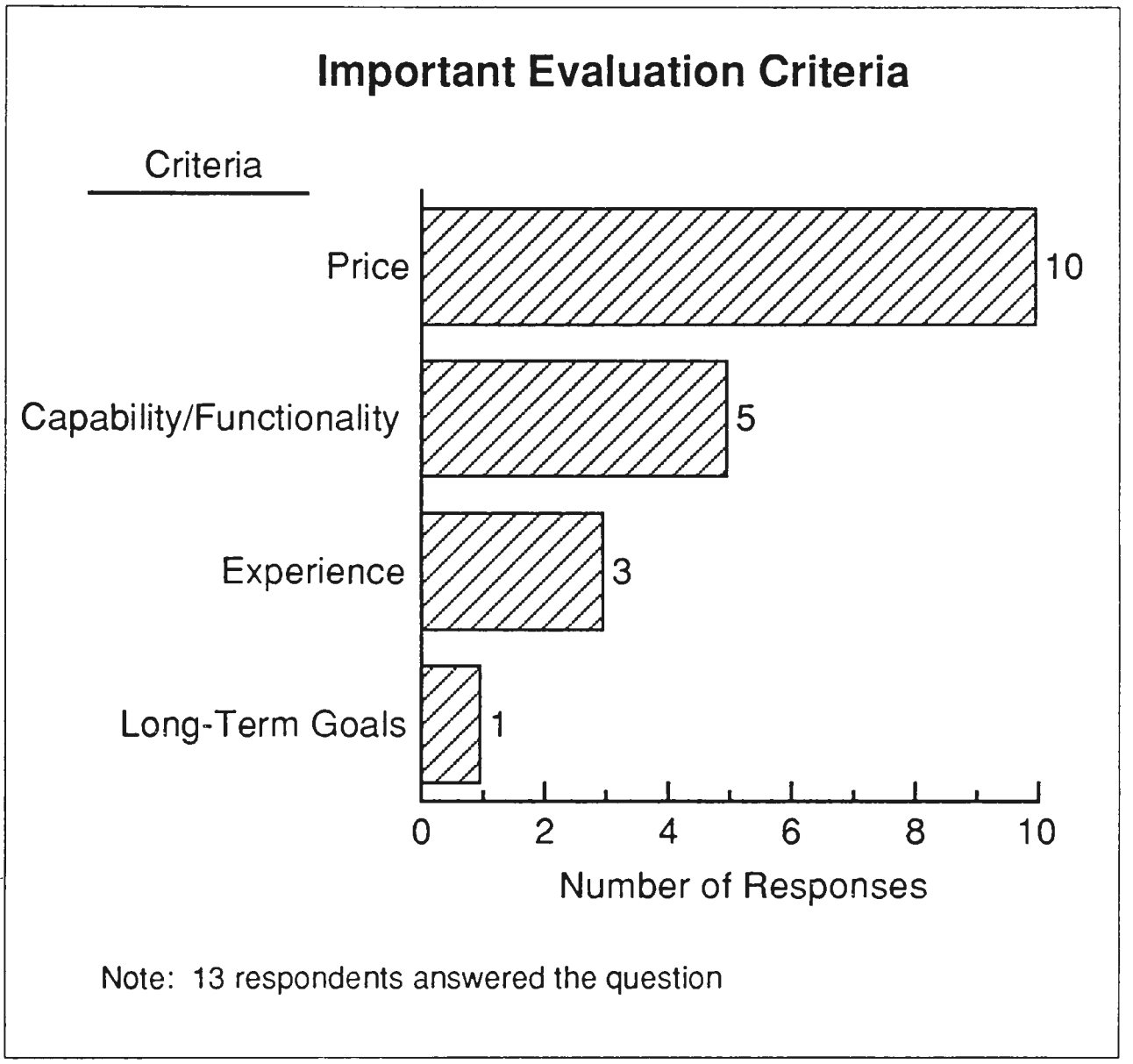
EXHIBIT IV-1



Vendor evaluation is complex and many criteria are analyzed before a final decision is made. Ongoing discussions between the buyer and bidding vendors are customarily extensive. Buyers may further refine requirements based on proposals. Offered prices are compared in detail with in-house costs. Because of the selective manner in which bids are solicited, only a few vendor proposals are submitted. Respondents in this study reviewed, on average, 2.7 vendor proposals.

Users were asked to isolate the criterion that they believed were most critical in the evaluation process. Their responses are shown in Exhibit IV-2.

EXHIBIT IV-2



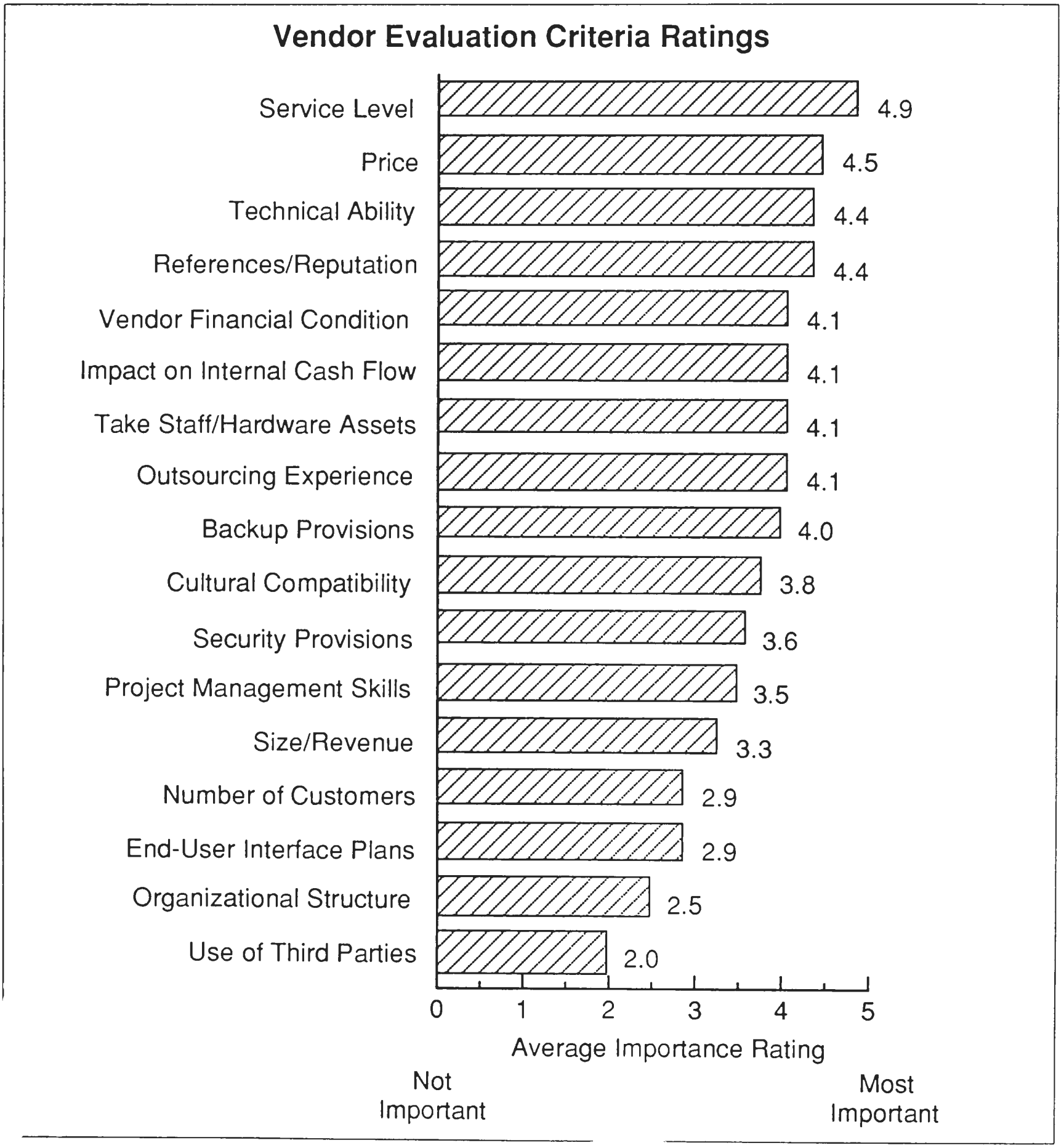
Note: 13 respondents answered the question

Only half of the users' responses mentioned price or cost. Some respondents cited more than one criterion as most important to their companies. The data suggests that a company's motivation to outsource operations also influences vendor selection criteria. Economics play a major role, but a vendor's capability, proposed functionality, and ability to meet a company's long-term goals also influence who wins or loses a contract.

Users seek creative solutions to their business operations. Successful vendors understand and cater to the specialized industry of their buyers. Apparently, the vendor's ability to provide value-added services, such as assuming a user's hardware and software licence agreements, carries a lot of weight with buyers. One vendor based pricing structures on CPU minutes, not transactions, reportedly to win a contract. Although not mentioned by respondents, vendors often make significant investments in a company in exchange for receiving a long-term OS contract.

A more detailed examination of users' selection procedures confirms that price is not the determining factor in vendor selection, as shown in Exhibit IV-3. INPUT asked users to rate a wide range of vendor evaluation criteria on a 1-5 scale. The proposed service level—not price—received the highest average rating, 4.9. Price was rated 4.4. Over half of the criteria received ratings above 4.0.

EXHIBIT IV-3



Security provisions were rated 3.6—not as high as INPUT expected. Buyers assume vendors will make every effort to provide system security measures as part of their proposed service.

Outsourcing vendors are largely multimillion and -billion-dollar companies. However, buyers did not rate vendor size and revenue very high. The average importance rating of 3.3 suggests hope for smaller size vendors in this market.

Apparently, a vendor's organizational structure is not important to users, nor is the contractual use of third-party vendors. It is of little difference to buyers if a vendor intends to subcontract parts of their proposed services to other vendors. Buyers assume that the vendor is liable for all services, regardless of who performs them.

C
Terms and Conditions

Once a vendor is selected, the negotiation stage begins to define the obligations of the vendor and the client. As noted in an earlier INPUT study, the time devoted to contract negotiations varies in length from two weeks to three-and-a-half months. The period is usually dependent on the extent of the discussions that preceded selecting the contractor. Face-to-face discussions occur between the vendor and the user regarding:

- The transition plan
- Day-to-day operations
- Contract terms

Development of a transition plan is usually the responsibility of the vendor. Users feel that a smooth transition is critical, but believe vendors' expertise should generally guide this effort. Users with recent contracts expressed that vendors were very willing to satisfy most of their requirements. Vendors had an "I aim to please" attitude.

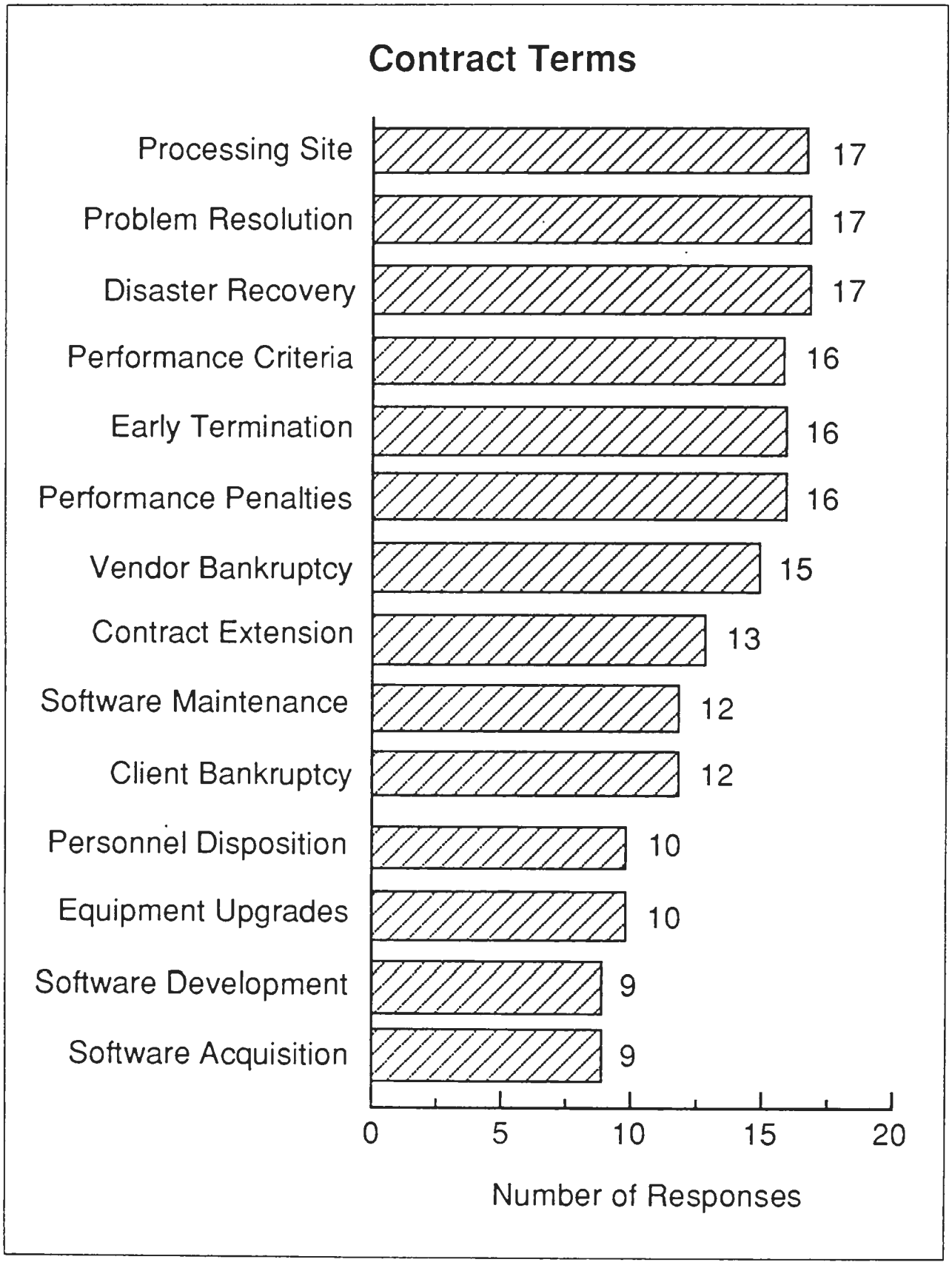
Transitions that include the transfer of client personnel and the takeover of an existing facility generally run smoothly. Staff functions usually don't change at first, and the applications remain the same. If new software is needed or if site consolidations are required, the transition is less transparent, and must be carefully planned.

1. Contract Terms

Resolving the problems of day-to-day operations and defining specific contract terms consume most of the negotiation phase between vendors and users.

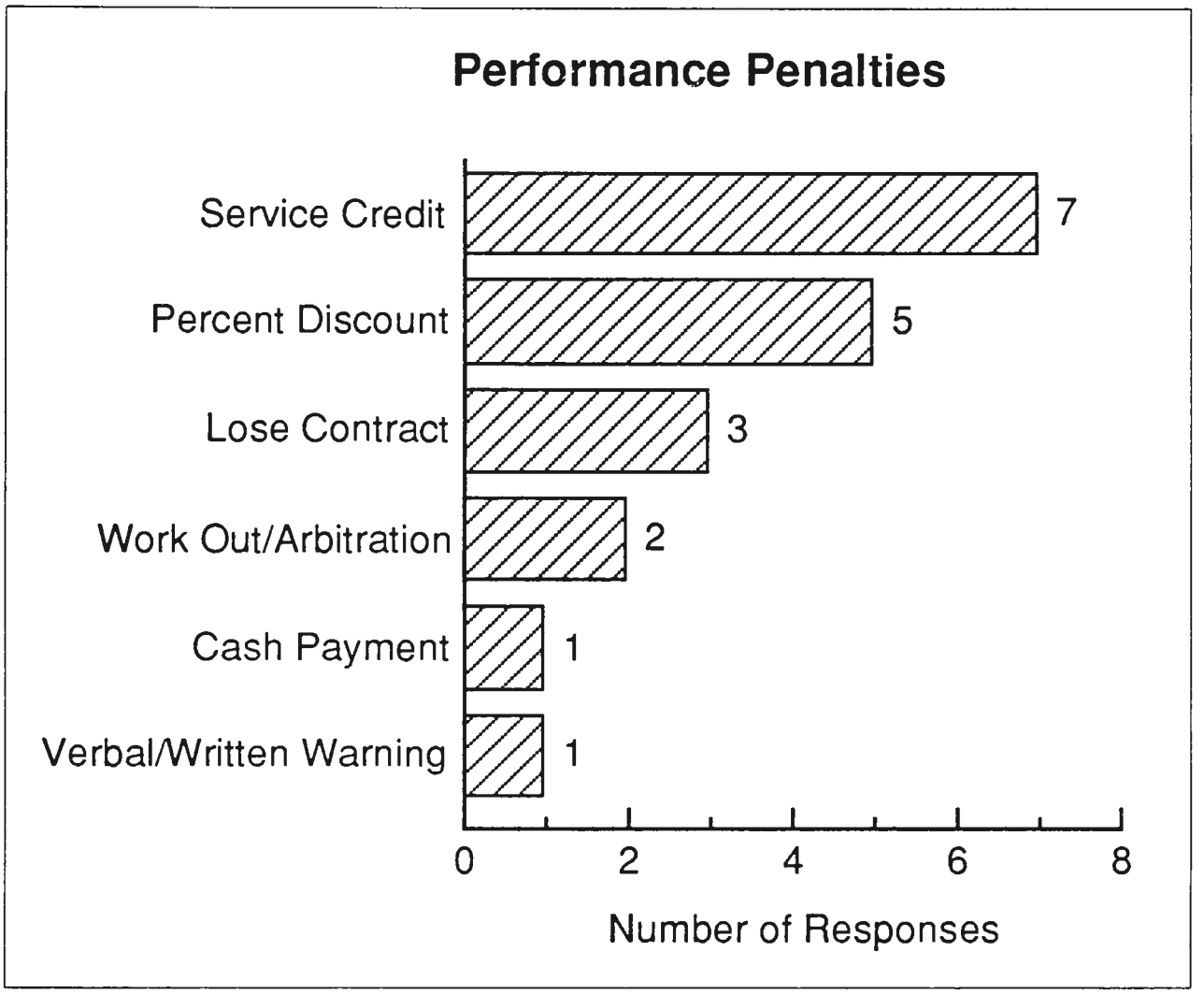
Exhibit IV-4 lists specific contract terms that are commonly included in an outsourcing contract. Most of the users in this study included clauses pertaining to the processing site location, problem resolution and disaster recovery.

EXHIBIT IV-4



Contracts usually included clauses identifying specific performance criteria and performance penalties. Service level expectations should be carefully delineated in order to apply performance penalties. Some form of monetary compensation is the usual redress required by users. Exhibit IV-5 illustrates this point.

EXHIBIT IV-5



The ultimate punishment for nonperformance is for a vendor to lose the contract. Issuing verbal and written warnings and attempts to work out the problem, although effective for many users, will not ensure vendor performance.

Early termination clauses were also often included in respondents' contracts. Some users require this option to protect themselves from nonperformance. Others require it to limit their liability should a corporate merger or acquisition shift their requirement for continuing the outsourcing agreement. For similar protective reasons, vendor and client bankruptcy clauses are often included in the contract.

Inclusion of a contract extension option makes it easier for both vendor and client to renew the outsourcing relationship at the end of the contract term.

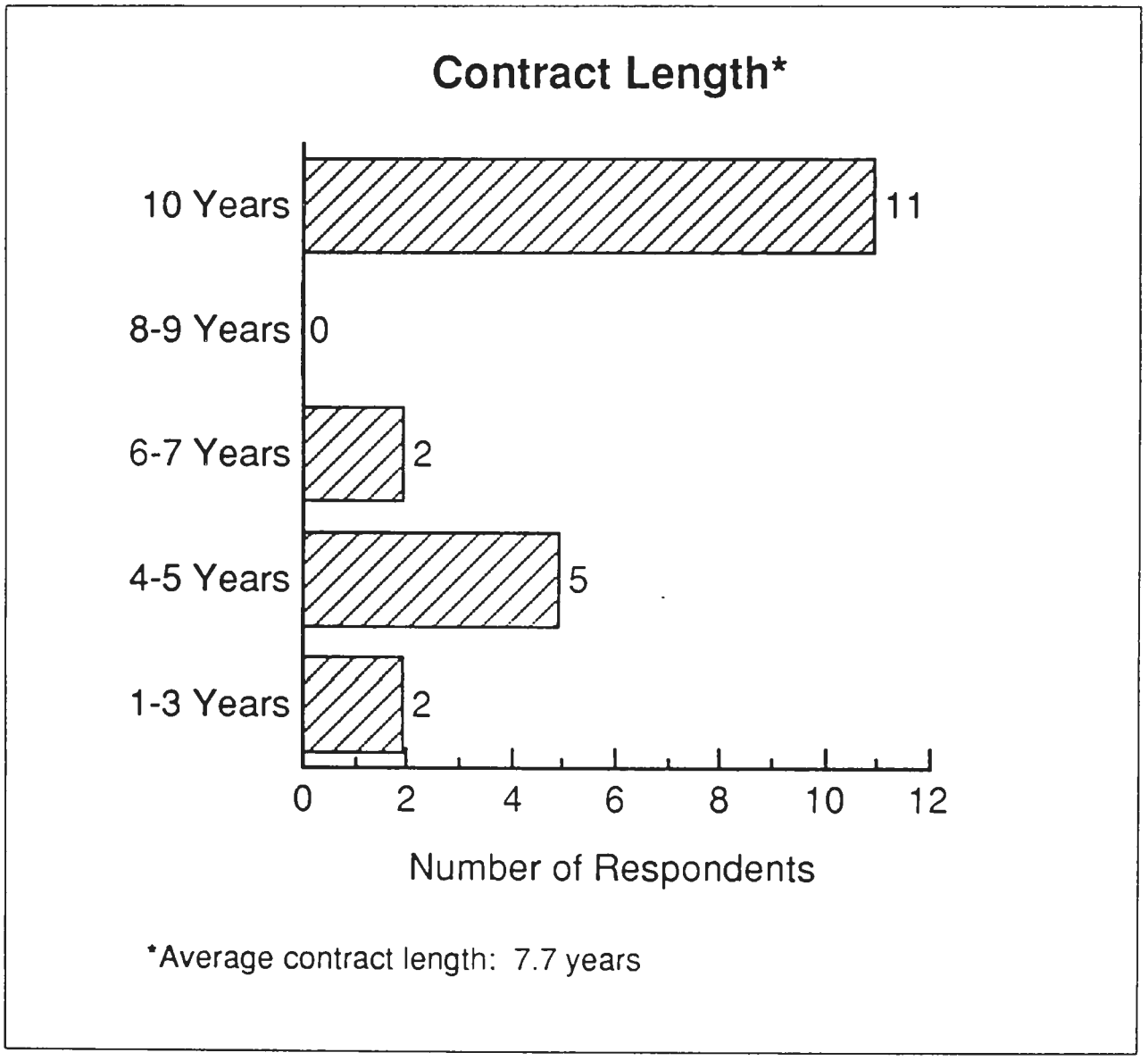
Obviously, clauses concerning software maintenance and development are only specified when buyers require these services from a vendor. The data suggests that the issue of software acquisition is included in the contract if software development services are also required from a vendor.

Although most vendors provide for the transfer of users' personnel into their organizations, or are responsible for their outplacement, only ten user contracts included this provision. Personnel transfer issues are often resolved prior to developing the contractual document.

Contract language addressing equipment upgrades was included in ten contracts. Users with recently signed contracts noted that this provision takes advantage of new technology and changing applications requirements. Those with earlier contracts in place expressed regret that this requirement was not included in their agreements. Vendors are not obligated to provide more efficient hardware and software, according to contract terms.

The period of contract performance is a standard item included in outsourcing contracts. Ten-year contracts are more prevalent than other contract lengths, as shown in Exhibit IV-6.

EXHIBIT IV-6

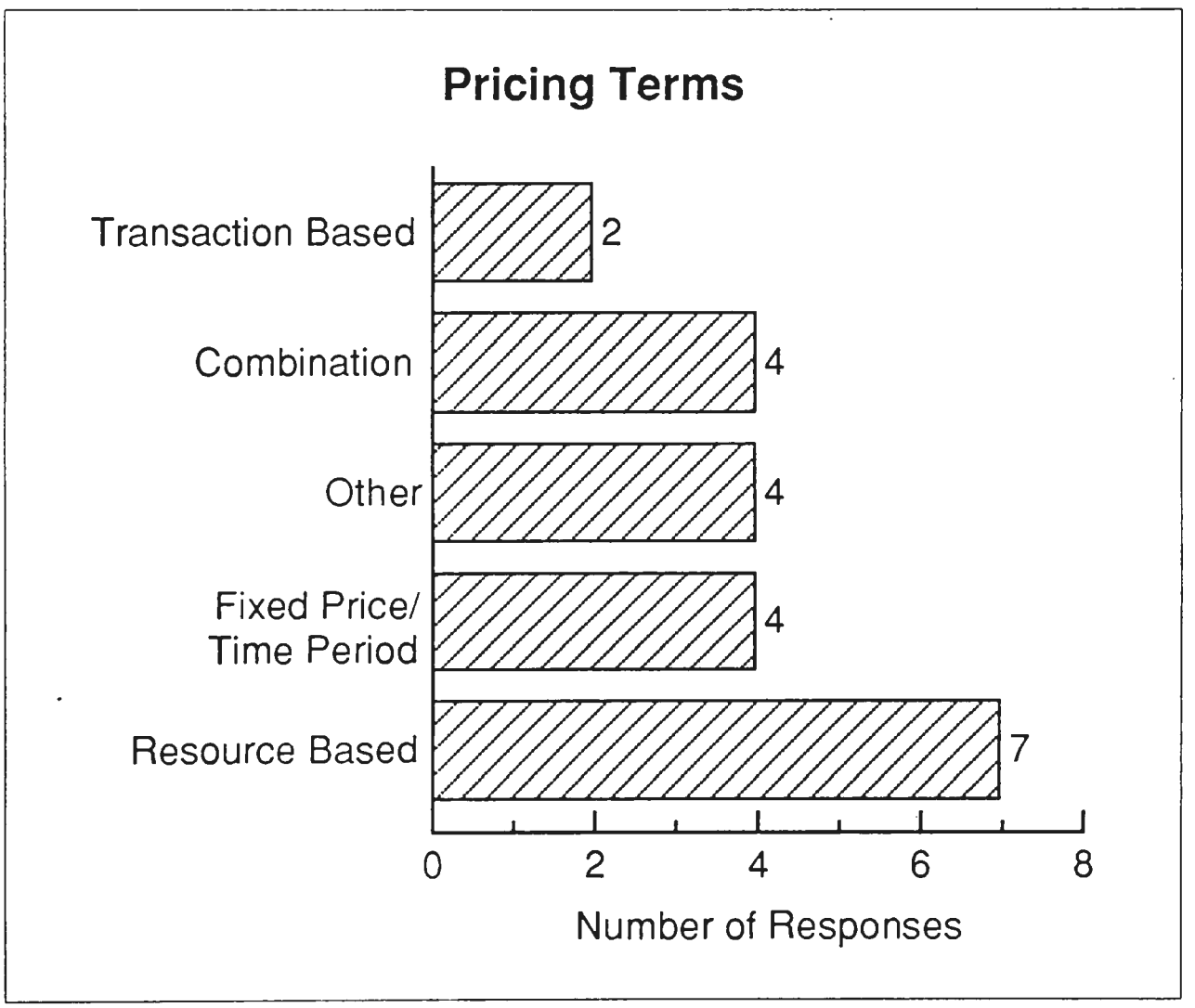


An earlier INPUT study reported that five-year contracts were more predominant. No pattern emerges among vertical market segments or by comparing how long the contracts are in place to explain this change. However, several ten-year contract holders noted that future contracts (if executed) would not exceed five years. A shorter contract term stimulates vendors to keep clients happy by providing more responsive service. The vendor does not have time to slack off if contract renewal becomes an issue in a short period of time. A five-year or shorter contract is a more flexible vehicle for users. Requirements and new technologies can be reevaluated on a frequent basis, if these terms are not included in the contract.

2. Pricing Strategies

The cost of the vendor's services is usually included as an addendum to the contract. The data suggests that vendors were amenable to tailoring their prices to meet the specific business needs of the users' organizations, as shown in Exhibit IV-7.

EXHIBIT IV-7

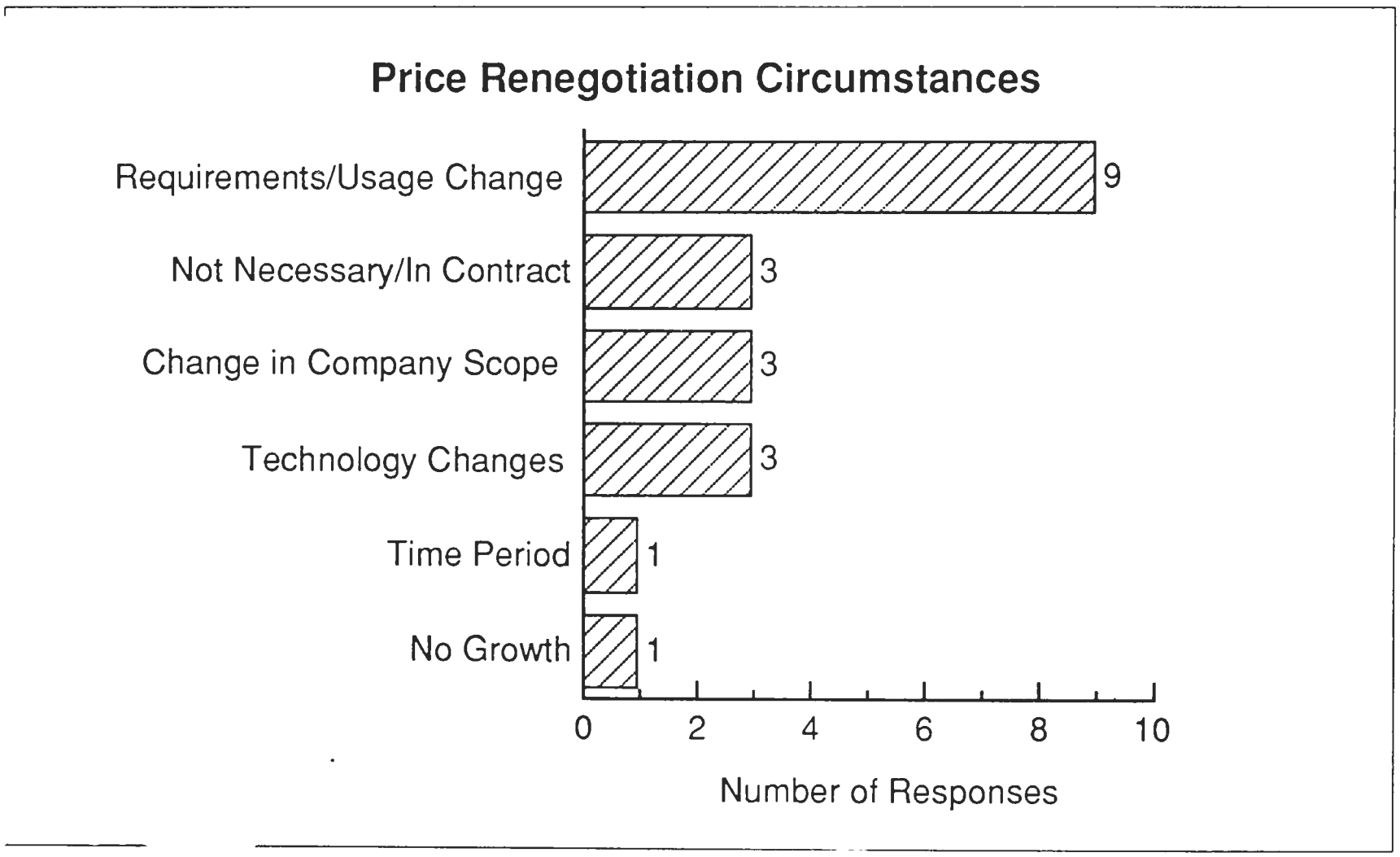


Although resource-based pricing was the most common, followed by fixed price per time period, users mentioned alternative pricing terms. A combination of fixed-price contracting for professional services with resource-based costs for processing operations was noted by two users. An insur-

ance company and a bank had pricing structures on a per-account or per-customer basis. Another user reported volume-based pricing, while another had a graduated price schedule based on anticipated business growth.

Conditions under which pricing terms can be renegotiated are included as standard contract language for outsourcing relationships. As shown in Exhibit IV-8, a change in volume requirements or usage is the prime reason driving most price renegotiations. When usage levels increase or decrease over an extended time period, such as six months, either party has cause to negotiate new pricing terms.

EXHIBIT IV-8



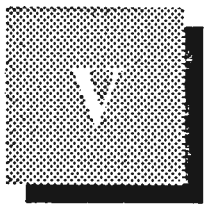
A change in company scope as a result of a merger, acquisition, or new corporate direction can also trigger price renegotiations.

Client demands for new applications and platform changes can cause vendors to seek price increases from users.

Unique reasons for revisiting cost structures included a general contract provision to review price after a specified time period, or if a company is not experiencing growth. Three contracts did not include this clause because flexible pricing was included in the contract agreement.

3. Pricing Summary

Pricing schedules are a significant issue to users. If the proposed cost offers little saving to buyers, a decision not to outsource will be made. Vendors should address flexibility in their pricing proposals by offering creative structures based on the customer's unique business and variances in requirements. If such flexibility is not offered, shorter term contracts are necessary to revisit this issue.



Management of the Outsourcing Relationship

A
The Evolving Relationship

The health of an outsourcing relationship from the buyer's point of view is primarily dependent on the day-to-day interaction that evolves after a contract is signed and the transition period is over. The transition period is often not a true test of a vendor's performance. Mistakes made by either party in any of the previous stages can cause a difficult transition. A lack of planning, poor definitions of roles, and migration to a new platform or applications can all contribute to a rocky start.

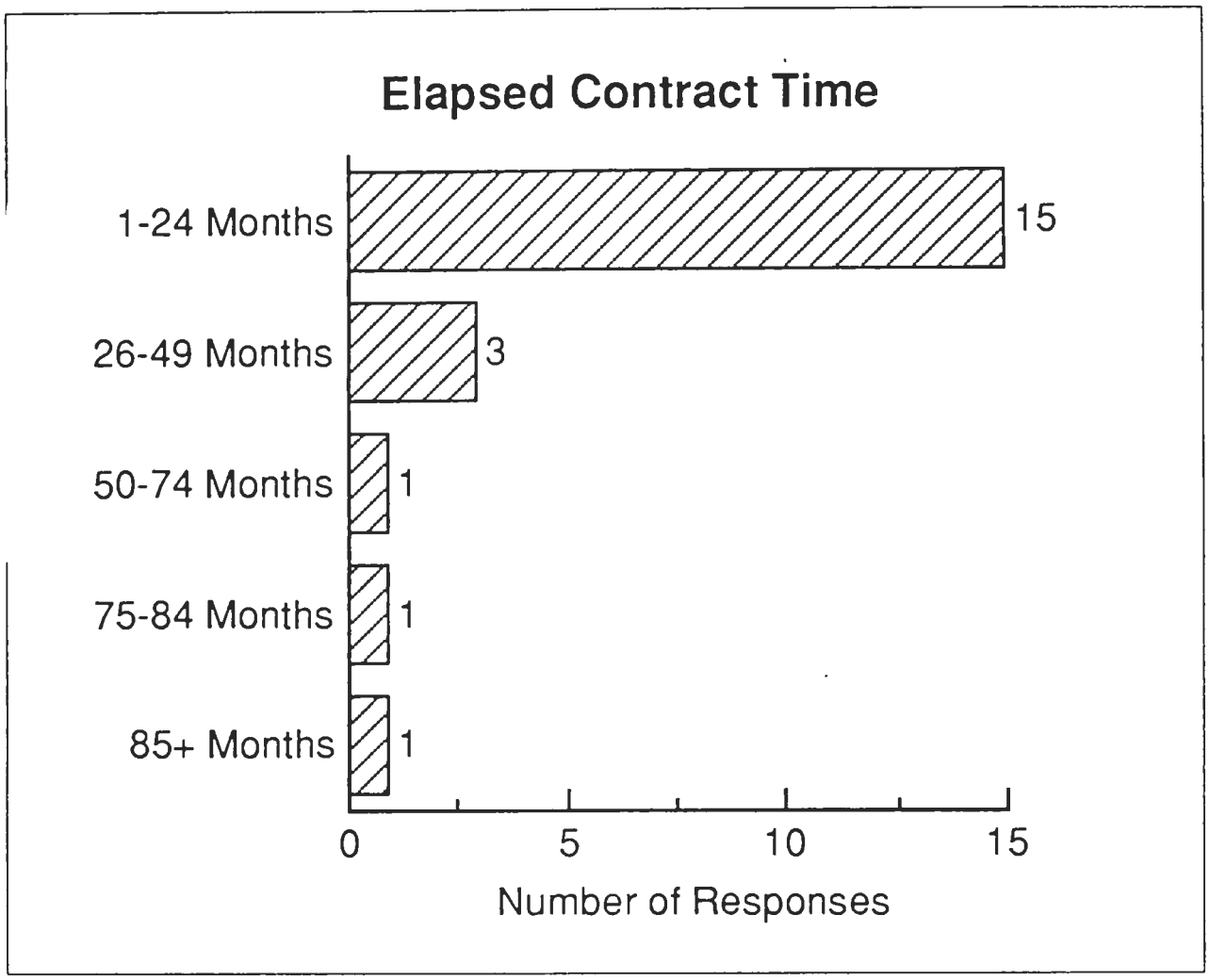
The respondents in this study had completed the transition stage and had established relationships with their OS vendors. Exhibit V-1 shows the time elapsed since the respondents' contracts were implemented. Seventy-one percent had contracts in place for less than two years.

The data suggests that outsourcing as a business methodology for users and vendors is in its infancy. The market is dominated by EDS, Systematics, ACS, and IBM's Integrated Systems Solutions Corporation (ISSC). Few companies offer this service to users. Recent entries into the market include Unisys, CSC, and American Express's First Data Resources.

To be successful at outsourcing, most vendors find it necessary to maintain a wide inventory of equipment, software and technical personnel. A vendor must be open to meeting the unique requirements of diverse buyers. Smaller companies find it difficult to make this commitment.

Unfortunately, market dominance by a few players severely limits vendor selection and evaluation opportunities for buyers.

EXHIBIT V-1



In addition, the majority of respondents in this study represented large and well-known companies within their industries. INPUT expects this trend to change as smaller users having fewer requirements enter the market. The recession will impact this trend, forcing large and small users to seek out OS vendors because of cost-cutting measures imposed within their companies.

B

Factors Impacting the Relationship

Exhibit V-2 lists the average ratings given by users to factors that influence the quality of the vendor-user relationship once the contract management phase has begun.

Ongoing user-vendor communication is the cornerstone of a good outsourcing relationship. It is essential for both parties to communicate problems, successes and issues immediately. Users repeatedly stressed that vendors who respond quickly by listening to users' concerns and taking the steps necessary to resolve issues will ensure client satisfaction.

EXHIBIT V-2

Factors Affecting Outsourcing Relationships

Factor	Rating*
Frequent communications	4.9
Vendor professionalism	4.5
Client professionalism	4.4
Flexible contract	4.3
Advance planning	4.1
Formal meetings	3.8
Vendor on site after conversion	3.3
Strict contract terms	3.1

* Rating based on a 1-5 scale where 5 = very important and 1 = not important at all.

The professional demeanor a vendor's staff exhibits toward the client's business and staff members carries a lot of weight in building a strong relationship. Users also believe that the professionalism displayed by their own staffs contributes almost equally to solidifying the relationship.

A flexible contract becomes a vehicle for easing tensions or problems that may arise between the two parties. Conversely, a contract that requires strict adherence to terms was rated the lowest. Rigid contracts generally cause more problems over the long term. Some users reported that after initial signature, their contracts have never been referenced. One client said that if it is necessary to refer to the contract, a poor relationship exists with the vendor.

Advance planning received a rating of 4.1, indicating its relatively high importance. It is impossible for a vendor to take over any portion of a company's IS operations without planning the transition.

Formal meetings are important to the strength of the relationship. They add to the professional image of both parties, and provide an opportunity to regularly monitor the contract's management. However, formal meetings cannot replace informal communications on an as-needed basis.

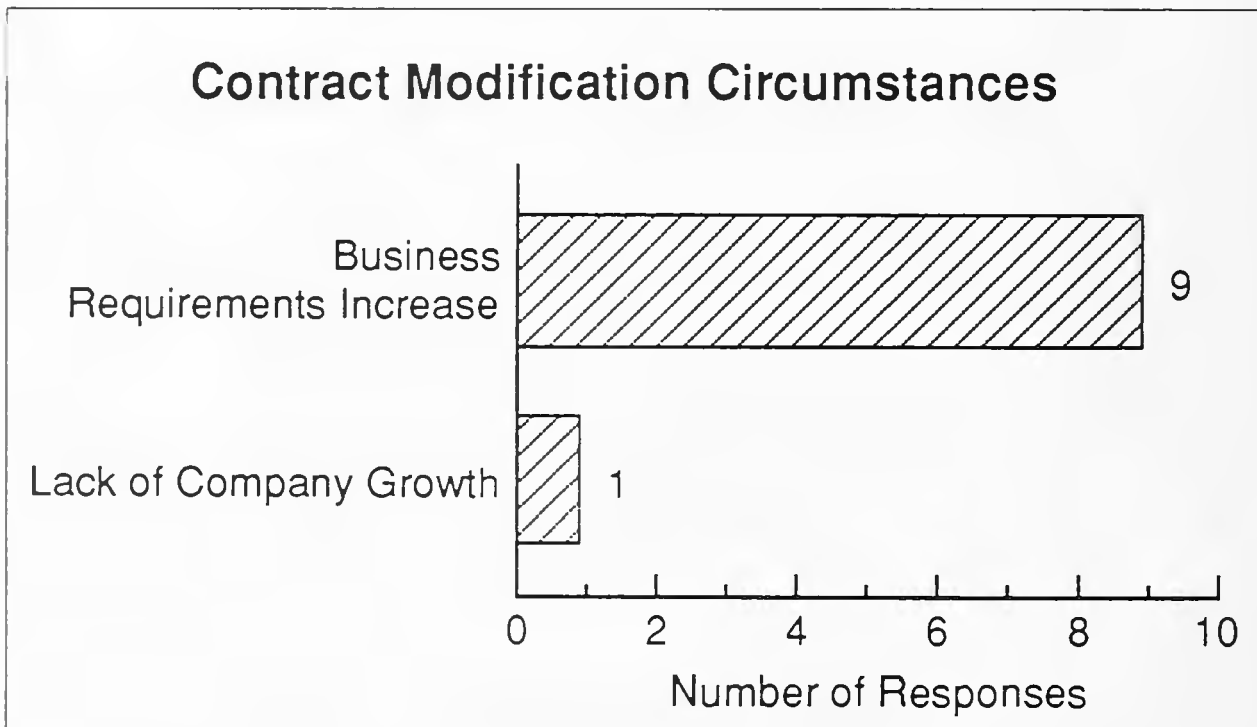
The presence of a vendor on site after conversion is one of the least critical factors to users in a vendor-client relationship. Several vendors mentioned that vendor presence was needed more during the conversion process to respond to any questions or problems that may arise.

C
Contract Modifications

More than half of the users reported that their OS contracts had been modified since the original contract date. As shown in Exhibit V-3, the usual reason to initiate contract modifications is a change in business requirements.

EXHIBIT V-3

Contract Modification Circumstances



*Note: 12 respondents indicated their contracts were modified

In all cases except one, an increase in service levels was requested of vendors. Users asked for additional tasks and new applications. For one company, adding divisions to the outsourcing arrangement necessitated a change to the existing volume-based pricing structure.

Only one user modified the contract because of a negative change in business. The contract included a provision for a yearly percentage price increase based on anticipated company growth. Unfortunately, the user's business is not growing. Renegotiation of the contract's pricing schedule is currently under way.

D
Location of Services

Of critical concern to OS clients is a transparent operational interface to users within their companies. Day-to-day operations should not appear different as clients turn over their operations to the OS vendor. Exhibit V-4 shows how client support was handled in the new outsourced environment.

EXHIBIT V-4

Location/Type of Client Support by Industry

Industry	Number of Respondents By Location Type		
	On-site with Client Personnel	Off-site with Vendor Personnel	On-site with Vendor Personnel
Manufacturing	2	2	2
Banking	1	3	2
Insurance	1	1	
Services			4
Consumer		2	
Total	4	8	8

There is an increasing trend to turn over client support to the OS vendor. OS users are becoming more comfortable with vendors' expertise in these environments, especially since many vendors transfer client IS personnel into their organizations. Unlike an earlier INPUT study, where 40% of the user support was retained by the buyer, 80% of the respondents in this study reported that this function is supplied by vendor personnel. For half the users, support is located on-site, and for the other half, off-site at a vendor location.

No evidence of a trend by industry and client support type was apparent from the data.

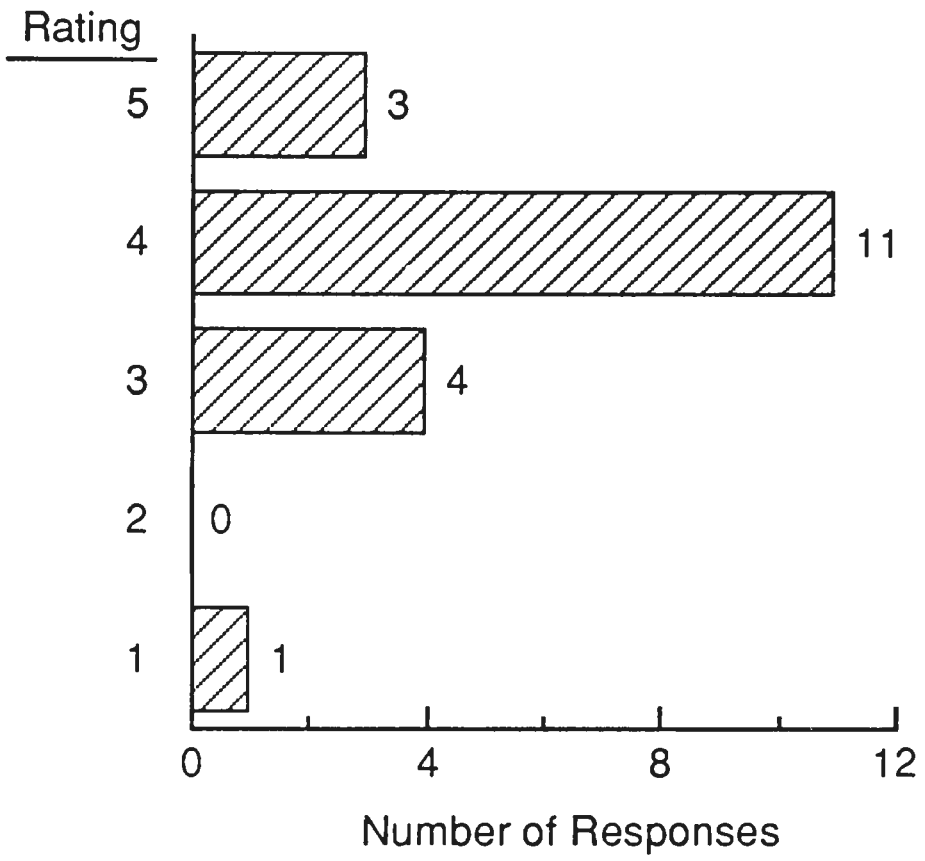
E

Client Satisfaction

Overall, approximately 75% of the users in this study were very satisfied with their outsourcing relationships, as depicted in Exhibit V-5. On a five-point rating scale, fourteen respondents rated their contractor's performance a 4 or 5. In many of the personal interviews, respondents had difficulty selecting a preference. Most reported that their vendors were performing excellent jobs, often providing more services than required. However, four users indicated that they would have rated vendor performance lower earlier in the relationship. Initial migration problems—linked to inadequate planning or to a change in platform—were responsible for the users' attitudes.

Only one vendor's performance received the lowest score possible. Dissatisfaction started at the beginning of the relationship. The user had little input defining business roles, and cannot control contractor performance. The outsourcing agreement was put in place because of a corporate merger/acquisition.

EXHIBIT V-5



*Rating based on 1-5 scale; where 5 = extremely satisfied, and 1 = not satisfied at all. Average rating was 3.74.

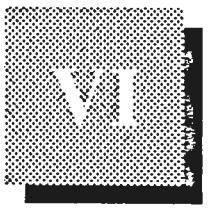
F

Components of a Successful Outsourcing Relationship

According to users, the components that ensure a successful outsourcing relationship are:

- Communication
- Vendor expertise in user business
- Flexibility

A good outsourcing relationship will result if vendors and customers view their relationship as a business partnership. Mutual trust and the ability to communicate on all issues or problems must exist. Vendors possessing expertise in a user's business offer additional customized benefits. Both parties should exhibit flexibility in addressing business issues over the term of the contract. Overly strict adherence to contract terms only serves to draw battle lines.



Conclusions and Recommendations

This chapter presents the lessons learned from the users in this study. Respondents were asked what they would do differently during each phase of the outsourcing process. Recommendations on how buyers can improve the outsourcing procurement and vendor management processes are discussed.

A Process Changes

1. Evaluation Process

Nearly 60% of the users in this study did not offer suggestions on how to improve the evaluation process because they are pleased with their vendors' performance.

The few respondents that are not satisfied with their outsourcing arrangements suggested the following:

- Solicit more bids
- Improve proposal analysis
- Closely examine vendor's organizational structure
- Spend less time in migration planning

Some users regret not obtaining bids from additional vendors. In retrospect, the one or two bids that were received did not provide a sound comparison from which to select a vendor.

One user did not devote sufficient time to analyzing vendors' proposals. Another felt that a closer look at a vendor's organizational structure would have provided more insight into the quality of service their company could expect to receive.

Surprisingly, one user thought that too much time was spent in migration planning. On the contrary, INPUT expects that most users want their vendors to put considerable thought into how this process is implemented.

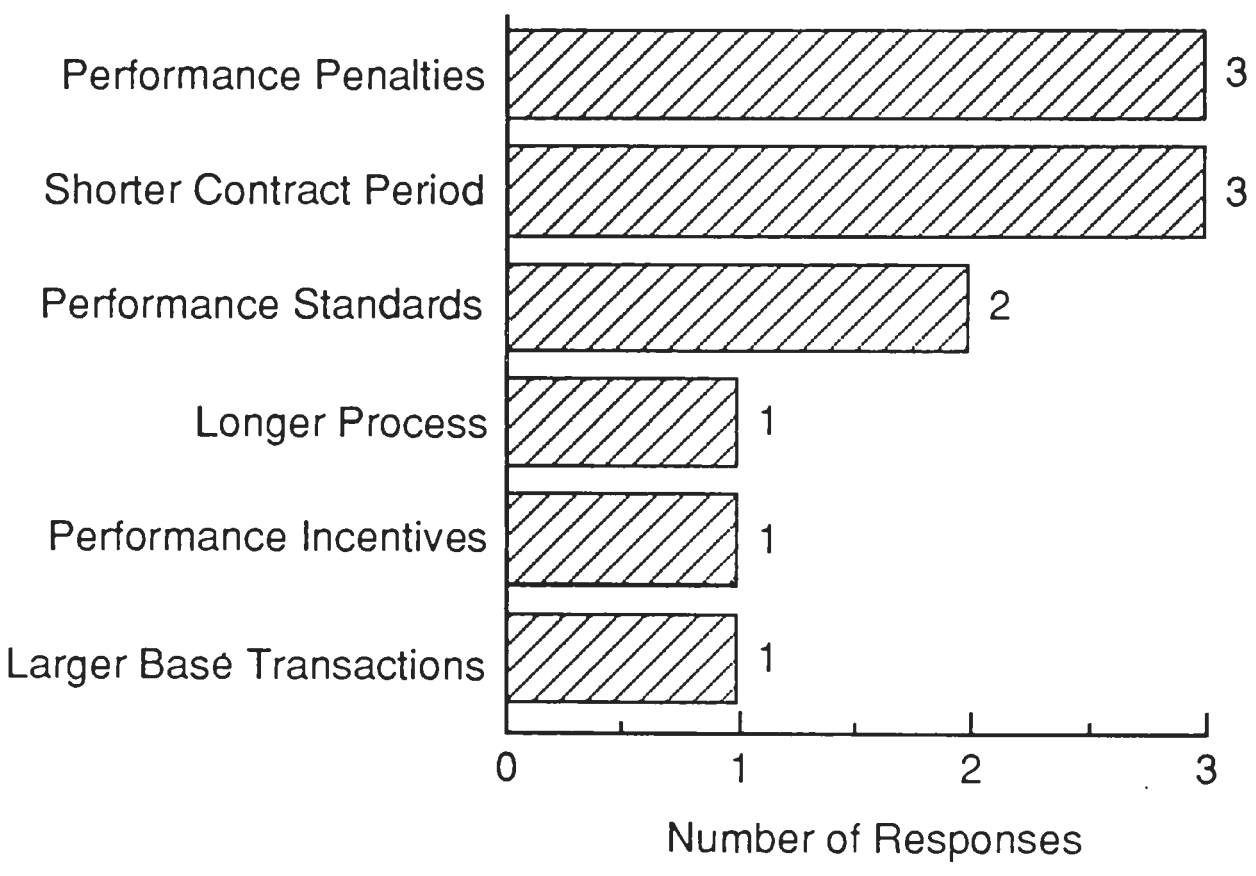
2. Negotiation Stage Changes

As shown in Exhibit VI-1, less than 30% of the users had suggestions on how they could have improved negotiations with their vendors. The suggestions that were made focused on strengthening vendor service levels in the contract and giving more control to the buyer/user.

Specifying exacting performance standards, stronger performance penalties, and offering performance incentives are viewed as enabling users to get better control over contractor performance. A ten-year contract offers certain price advantages to users. However, vendors can grow careless over a long period of time. Shorter contract periods are believed to be very effective in controlling vendor responsiveness. Most vendors want to renew their contracts.

EXHIBIT VI-1

Negotiation Stage Changes*



*Note: 6 respondents answered question

One user noted that the contract negotiation process should have been longer. Evidently the company's negotiation team proceeded too rapidly, and some details were overlooked in the contract.

3. Execution Stage Changes

Users offered few suggestions on how to improve the contract management portion of their relationships. This is not a surprising finding, because most respondents were not unhappy with their vendors' performance, as shown previously in Exhibit V-5.

Suggestions made by users to strengthen the vendor-client relationship during management of the contract included:

- Increase user (client) involvement
- Define roles clearly
- Increase number of meetings
- Develop a project team more quickly

The above suggestions focus on client interaction with the vendor. The users perceive their relationships as weak. Efforts directed at solving the problem include intensifying how and when interaction occurs with the vendor.

B

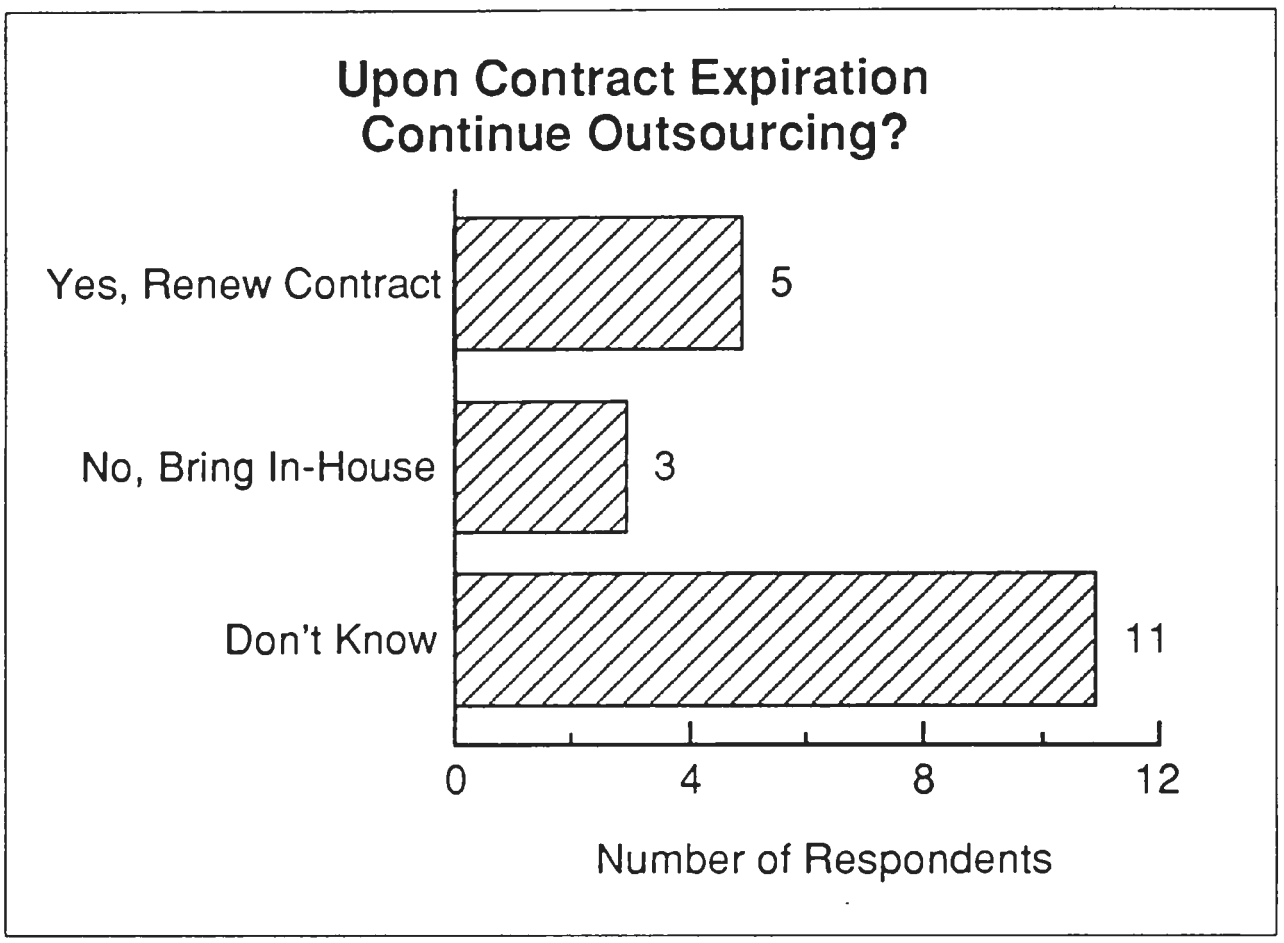
Continuance of the Relationship

Users were explicitly asked about their intentions toward outsourcing upon the completion of their current contracts. As shown in Exhibit VI-2, over half didn't know. For the most, part users felt they could not foresee corporate directions, requirements, or new technology availability five to eight years in advance. In keeping with sound business principles, users expect to reevaluate their requirements prior to reaching any decisions.

Approximately 25% of all respondents intend to renew their existing contracts after they expire. Not one user stated they wanted to continue outsourcing employing another vendor.

Two respondents expect to bring their operations back in-house. For one, the internal environment offers a more cost-effective solution for business operations. In the other instance the vendor was hired to maintain the existing platform while the client migrated to another computer platform.

EXHIBIT VI-2



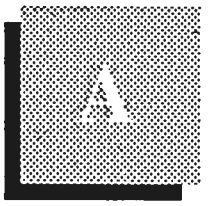
C

Conclusions

Successful outsourcing vendors offer flexible and creative solutions to users. This business philosophy is carried throughout the relationship with a buyer/user. Pricing structures tailored to a user's business is one way of attracting buyers. Other users report that their vendors appear willing to do "anything" to make them happy.

Systems operations buyers and vendors enter into the OS business relationship with expectations that the arrangement will work. In a successful contract, both sides view the relationship as a working partnership. An open-door policy fostering discussion between the two organizations exists. Most users in this study have this type of partnership with their outsourcing vendors.

Some users would prefer to control vendors more stringently through the contract vehicle the next time around. However, most believed that the strength of a relationship is not dependent on a formal contract document or scheduled meetings. It relies on the cooperation developed between the vendor and client staffs.



Definition of Terms

A

Overall Definitions and Analytical Framework

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

- Processing of specific applications using vendor-provided systems (called **Processing Services**)
- A combination of hardware, packaged software and associated support services which will meet a specific application processing need (called **Turnkey Systems**)
- Packaged software (called **Software Products**)
- People services that support users in developing and operating their own information systems (called **Professional Services**)
- Bundled combinations of products and services where the vendor assumes responsibility for the development of a custom solution to an information system problem (called **Systems Integration**)
- Services that provide operation and management of all or a significant part of a user's information systems functions under a long-term contract (called **Systems Operations**)
- Services associated with the delivery of information in electronic form—typically network-oriented services such as value-added networks, electronic mail and document interchange, on-line data bases, on-line news and data feeds, videotex, etc. (called **Network Services**)

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

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

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

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

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

- Double counting, which can occur by estimating total vendor revenues when there is significant reselling within the industry (e.g., software sales to turnkey vendors for repackaging and resale to end users)

- Missed counting, which can occur when sales to end users go through indirect channels such as mail order retailers

Market Sectors or markets, are groupings or categories of the users who purchase information services. There are three types of user markets:

- *Vertical Industry* markets, such as Banking, Transportation, Utilities, etc.

- *Functional Application* markets, such as Human Resources, Accounting, etc. These are also called "Cross-Industry" markets.

- *Generic* markets, which are neither industry- nor application-specific, such as the market for systems software.

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

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

Non-captive Information Services User Expenditures are expenditures that go to vendors which have a different parent corporation than the user. It is these expenditures which constitute the information services market.

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

Of the eight delivery modes defined by INPUT, five are considered primary products or services:

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

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

- *Turnkey Systems*
- *Systems Operations*
- *Systems Integration*

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

Outsourcing is defined as the contracting of information systems (IS) functions to outside vendors. Outsourcing should be viewed as the opposite of *insourcing*: anything that IS management has considered feasible to do internally (e.g., data center operations, applications development and maintenance, network management, training, etc.) is a potential candidate for outsourcing.

IS has always bought systems software, as it is infeasible for companies to develop it internally. However, all other delivery modes represent functions or products that IS management could choose to perform or develop in-house. Viewed this way, outsourcing is the result of a make-or-buy decision, and the outsourcing market covers any product or service where the vendor must compete against the client firm's own internal resources.

B

Industry Structure and Delivery Modes

1. Service Categories

The following exhibit presents the structure of the information services industry. Several of the delivery modes can be grouped into higher level **Service Categories**, based on the kind of problem the user needs to solve. These categories are:

- **Business Application Solutions (BAS)** - prepackaged or standard solutions to common business applications. These applications can be either industry-specific (e.g., mortgage loan processing for a bank), cross-industry (e.g., payroll processing), or generic (e.g., utility timesharing). In general, BAS services involve minimal customization by the vendor, and allow the user to handle a specific business application without having to develop or acquire a custom system or system resources. The following delivery modes are included under BAS:

  - *Processing Services*
  - *Applications Software Products*
  - *Turnkey Systems*

- **Systems Management Services (SMS)** - services which assist users in developing systems or operating/managing the information systems function. Two key elements of SMS are the customization of the service to each individual user and/or project, and the potential for the vendor to assume significant responsibility for management of at least a portion of the user's information systems function. The following delivery modes are included under SMS:

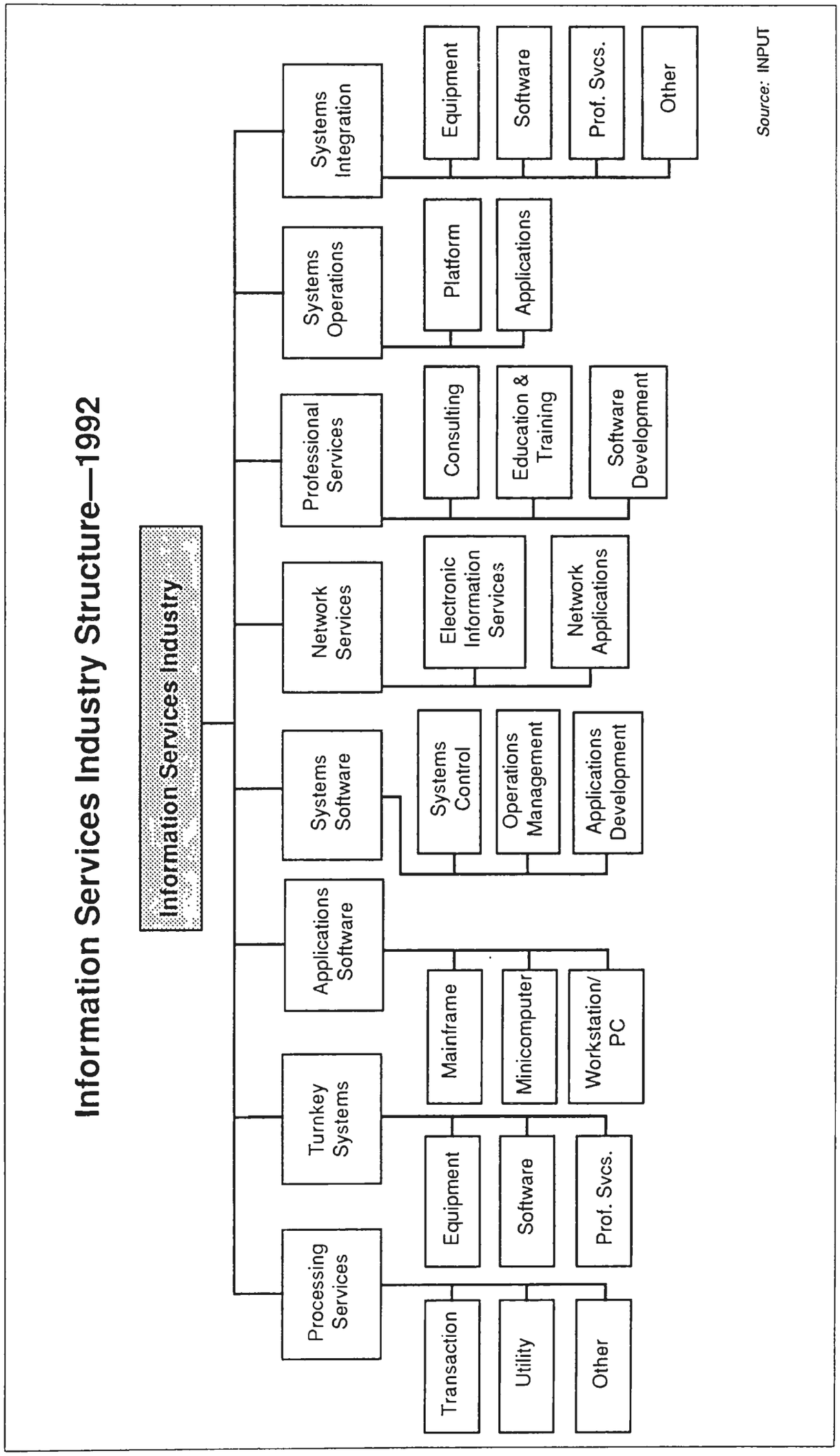
  - *Systems Operations*
  - *Systems Integration*

Each of the remaining three delivery modes represents a separate service category:

- *Professional Services*
- *Network Services*
- *System Software Products*

Note: These service categories are a new concept introduced in the 1990 MAP Program. They are purely an aggregation of lower level delivery mode data. They do not change the underlying delivery modes or industry structure.

EXHIBIT A-1



2. Software Products

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

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

- **Systems Software Products**

  Systems software products enable the computer/communications system to perform basic machine-oriented or user interface functions. These products include:

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

  - *Operations Management Tools* - Software programs used by operations personnel to manage the computer system and/or network resources and personnel more effectively. Included are performance measurement, job accounting, computer operation scheduling, disk management utilities, and capacity management.

  - *Applications Development Tools* - Software programs used to prepare applications for execution by assisting in designing, programming, testing, and related functions. Included are traditional programming languages, 4GLs, data dictionaries, data base management systems, report writers, project control systems, CASE systems and other development productivity aids. Also included are system utilities (e.g., sorts) which are directly invoked by an applications program.

- **Applications Software Products**

  - *Industry-Specific Applications Software Products* - Software products that perform functions related to solving business or organizational needs unique to a specific vertical market and sold to that market

only. Examples include demand deposit accounting, MRPII, medical recordkeeping, automobile dealer parts inventory, etc.

- *Cross-Industry Applications Software Products* - Software products that perform a specific function that is applicable to a wide range of industry sectors. Applications include payroll and human resource systems, accounting systems, word processing and graphics systems, spreadsheets, etc.

3. Turnkey Systems

A turnkey system is an integration of equipment (CPU, peripherals, etc.), systems software, and packaged or custom application software into a single system developed to meet a specific set of user requirements. Value added by the turnkey system vendor is primarily in the software and support services provided. Most CAD/CAM systems and many small business systems are turnkey systems. Turnkey systems utilize standard computers and do not include specialized hardware such as word processors, cash registers, process control systems, or embedded computer systems for military applications.

Hardware vendors that combine software with their own general-purpose hardware are not classified by INPUT as turnkey vendors. Their software revenues are included the appropriate software category.

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

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

Turnkey systems are divided into two categories.

- *Industry-Specific Systems* - systems that serve a specific function for a given industry sector, such as automobile dealer parts inventory, medical recordkeeping, or discrete manufacturing control systems.

- *Cross-Industry Systems* - systems that provide a specific function that is applicable to a wide range of industry sectors, such as financial planning systems, payroll systems, or personnel management systems.

4. Processing Services

This category includes transaction processing, utility processing, and other processing services.

- *Transaction Processing:* - Client uses vendor-provided information systems—including hardware, software and/or data networks—at vendor site or customer site, to process transactions and update client data bases. Transactions may be entered in one of four modes:

  - *Interactive* - Characterized by the interaction of the user with the system for data entry, transaction processing, problem solving and report preparation: the user is on-line to the programs/files stored on the vendor's system.

  - *Remote Batch* - Where the user transmits batches of transaction data to the vendor's system, allowing the vendor to schedule job execution according to overall client priorities and resource requirements.

  - *Distributed Services* - Where users maintain portions of an application data base and enter or process some transaction data at their own site, while also being connected through communications networks to the vendor's central systems for processing other parts of the application.

  - *Carry-in Batch* - Where users physically deliver work to a processing services vendor.

- *Utility Processing*: Vendor provides basic software tools (language compilers, assemblers, DBMSs, graphics packages, mathematical models, scientific library routines, etc.), generic applications programs and or data bases, enabling clients to develop their own programs or process data on vendor's system.

- *Other Processing Services*: Vendor provides services—usually at vendor site—such as scanning and other data entry services, laser printing, computer output microfilm (COM), CD preparation and other data output services, backup and disaster recovery, etc.

5. Systems Operations

Systems operations involves the operation and management of all or a significant part of the user's information systems functions under a long-term contract. These services can be provided in either of two distinct submodes:

- *Professional Services:* The vendor provides personnel to operate client-supplied equipment. Prior to 1990, this was a submode of the Professional Services delivery mode.

- *Processing Services:* The vendor provides personnel, equipment and (optionally) facilities. Prior to 1990, this was a submode of the Processing Services delivery mode.

In the federal government market the processing services submode is called "COCO" (Contractor-Owned, Contractor-Operated), and the professional services mode is referred to as "GOCO" (Government-Owned, Contractor-Operated).

Systems operations vendors now provide a wide variety of services in support of existing information systems. The vendor can plan, control, provide, operate, maintain and manage any or all components of the user's information systems (equipment, networks, systems and/or application software), either at the client's site or the vendor's site. Systems operations can also be referred to as "resource management" or "facilities management."

There are two general levels of systems operations:

- *Platform/network operations* - where the vendor operates the computer system and/or network without taking responsibility for the applications

- *Application operations* - where the vendor takes responsibility for the complete system, including equipment, associated telecommunications networks, and applications software

Note: Systems Operations is a new delivery mode introduced in the 1990 MAP Program. It was created by taking the Systems Operations submode out of both Processing Services and Professional Services. No other change has been made to the delivery mode definitions, and the total forecast expenditures for these three delivery modes are identical to the total forecast expenditures of the two original modes before the breakout of Systems Operations.

6. Systems Integration (SI)

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

To be included in the information services market, systems integration projects must involve some application processing component. In addition, the majority of cost must be associated with information systems products and/or services.

The systems integrator will perform, or manage others who perform, most or all of the following functions:

- Program management, including subcontractor management
- Needs analysis
- Specification development
- Conceptual and detailed systems design and architecture
- System component selection, modification, integration and customization
- Custom software design and development
- Custom hardware design and development
- Systems implementation, including testing, conversion and post-implementation evaluation and tuning
- Life cycle support, including
  - System documentation and user training
  - Systems operations during development
  - Systems maintenance
- Financing

7. Professional Services

This category includes consulting, education and training, and software development.

- *Consulting:* Services include management consulting (related to information systems), information systems consulting, feasibility analysis and cost-effectiveness studies, and project management assistance. Services may be related to any aspect of information systems, including equipment, software, networks and systems operations.

- *Education and Training:* Products and services related to information systems and services for the professional and end user, including computer-aided instruction, computer-based education, and vendor instruction of user personnel in operations, design, programming, and documentation.

- *Software Development:* Services include user requirements definition, systems design, contract programming, documentation and implementation of software performed on a custom basis. Conversion and maintenance services are also included.

8. Network Services

Network services typically include a wide variety of network-based functions and operations. Their common thread is that most of these functions could not be performed without network involvement. Network services is divided into two major segments: *Electronic Information Services,* which involve selling information to the user, and *Network Applications,* which involve providing some form of enhanced transport service in support of a user's information processing needs.

- *Electronic Information Services*

  Electronic information services are data bases that provide specific information via terminal- or computer-based inquiry, including items such as stock prices, legal precedents, economic indicators, periodical literature, medical diagnosis, airline schedules, automobile valuations, etc. The terminals used may be computers themselves, such as communications servers or personal computers. Users typically inquire into and extract information from the data bases. Although users may load extracted data into their own computer systems, the electronic information vendor provides no data processing or manipulation capability and the users cannot update the vendor's data bases.

  The two kinds of electronic information services are:

  - *On-line Data Bases* - Structured, primarily numerical data on economic and demographic trends, financial instruments, companies, products, materials, etc.

  - *News Services* - Unstructured, primarily textual information on people, companies, events, etc.

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

- *Network Applications*

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

    While VAN services were originally provided only by specialized VAN carriers (Tymnet, Telenet, etc.), today these services are also offered by traditional common carriers (AT&T, Sprint, etc.). Mean-

while, the VAN carriers have also branched into the traditional common carriers' markets and are offering unenhanced basic network circuits as well.

INPUT's market definition covers VAN services only, but includes the VAN revenues of all types of carriers.

- *Electronic Data Interchange (EDI)* - Application-to-application exchange of standardized business documents between trade partners or facilitators. This exchange is commonly performed using VAN services. Specialized translation software is typically employed to convert data from organizations' internal file formats to EDI interchange standards; this software may be provided as part of the VAN service, or may be resident on the organization's own computers.

- *Electronic Information Exchange (EIE)* - Also known as Electronic Mail (E-mail), EIE involves the transmission of messages across an electronic network managed by a services vendor, including facsimile transmission (FAX), voice mail, voice messaging, and access to Telex, TWX, and other messaging services. This also includes bulletin board services.

- *Other Network Services* - This segment contains videotex and pure network management services. Videotex is actually more a delivery mode than an application. Its prime focus is on the individual as a consumer or in business. These services provide interactive access to data bases and offer the inquirer the capability to send as well as receive information for such purposes as home shopping, home banking, travel reservations, and more.

  Network management services included here must involve the vendor's network and network management systems as well as people. People-only services, or services that involve the management of networks as part of the broader task of managing a user's information processing functions, are included in Systems Operations.

C

Vendor Revenue and User Expenditure Conversion

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

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

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

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

The following table summarizes the net effect of the various ratios used by INPUT to convert vendor revenues to end-user expenditure (market size) figures for each delivery mode:

Delivery Mode	Vendor Revenue Multiplier
Applications Software Products	1.18
Systems Software Products	1.10
Systems Operations	1.00
Systems Integration	0.99
Professional Services	0.99
Network Services	0.99
Processing Services	0.99
Turnkey Systems	0.95

D

Sector Definitions and Delivery Mode Reporting

1. Industry Sector Definitions (Vertical Markets)

INPUT has structured the information services market into 16 generic industry sectors, such as process manufacturing, insurance, transportation, etc. The definitions of these sectors are based on the 1987 revision of the Standard Industrial Classification (SIC) Code system. The specific industries (and their SIC Codes) included under these generic industry sectors are detailed in the attached table.

EXHIBIT A-2

Industry Sector Definitions

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

EXHIBIT A-2 (Con't)

Industry Sector Definitions

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

EXHIBIT A-2 (Con't)

Industry Sector Definitions

Industry Sector	SIC Code	Description
Business and Technical Services	65xx	Real estate
	73xx	Business services (except hotel reservation services in 7389)
	81xx	Legal services
	87xx	Engineering, accounting, research, management, and related services
	89xx	Miscellaneous services
Federal Government	9xxx	
State and Local Government	9xxx	
Miscellaneous Industries	01xx	Agricultural production - crops
	02xx	Agricultural production - livestock/animals
	07xx	Agricultural services
	08xx	Forestry
	09xx	Fishing, hunting and trapping
	15xx	Building construction - general contractors, operative builders
	16xx	Heavy construction - contractors
	17xx	Construction - special trade contractors
Personal/Consumer Services	4512x	Airline reservation services
	472x	Arrangement of passenger transportation (travel agencies)
	70xx	Hotels, rooming houses, camps, and other lodging places
	72xx	Personal services
	7389x	Hotel reservation services
	75xx	Automotive repair, services and parking
	76xx	Miscellaneous repair services
	78xx	Motion pictures
	79xx	Amusement and recreation services
	83xx	Social services
	84xx	Museums, art galleries, and botanical/zoological gardens
	86xx	Membership organizations
	88xx	Private households

2. Cross-Industry Sector Definitions (Horizontal Markets)

In addition to these vertical industry sectors, INPUT has also identified seven cross-industry or horizontal market sectors. These sectors or markets involve multi-industry applications such as human resource systems, accounting systems, etc. In order to be included in an industry sector, the service or product delivered must be specific to that sector only. If a service or product is used in more than one industry sector, it is counted as cross-industry. The seven cross-industry markets are:

- *Human Resource Systems*
- *Education and Training*
- *Office Systems*
- *Accounting Systems*
- *Engineering and Scientific Applications*
- *Planning and Analysis Systems*
- *Other Applications (including telemarketing, sales management and electronic publishing)*

3. Delivery Mode Reporting by Sector

The tables below show how market forecasts for individual delivery modes are related to specific market sectors.

Vertical Market Sectors Only

The following delivery modes are reported by industry sector (vertical market) only:

Delivery Mode	Applicable Submodes
• Network Services:	Network Applications
• Systems Operations:	All
• Systems Integration:	All
• Professional Services:	All

This reporting structure is intended to provide expenditures by industry sector. However, it is recognized that many of the services provided are not necessarily specific or unique to any of the individual sectors.

Vertical and Cross-Industry Market Sectors

The following delivery modes are reported by industry sector and cross-industry sector (vertical and horizontal markets):

Delivery Mode	Applicable Submodes
• Processing Services:	Transaction Processing
• Software	Applications
• Turnkey Systems	All

All of these delivery modes represent specific business application solutions.

Vertical and Generic Market Sectors

The following submode is reported both by industry sector (vertical market), and the generic market:

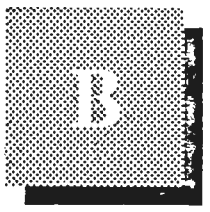
Delivery Mode	Applicable Submodes
• Network Services	Electronic Information Services

While some electronic information is industry-specific (e.g., farm crop reports), much of it is relevant to or may be used by any industry (e.g., data base services such as Dialog).

Generic Market Sector Only

The following delivery modes are so generic that they are not reported by industry or cross-industry sector (vertical or horizontal market):

Delivery Mode	Applicable Submodes
• Processing Services:	Utility Processing Other Processing
• Software	Systems (All)



User Questionnaire

Definitions

The following INPUT definitions apply to this survey:

Downsizing—The shifting of applications processing from one platform to a smaller one, such as from a mainframe to a mini- or a mini- to a microcomputer. The objective is to reduce costs and put more of the processing power into the hands of the user.

Outsourcing—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 can include any or all of the following elements:

- *Processing Operations* - The vendor is responsible for managing and operating the client's computer systems.
- *Network Operations* - The vendor assumes full responsibility for the client's data communications systems. This may also include the voice communications of the client.
- *Applications Maintenance* - The vendor has full responsibility for maintaining the applications software that it uses as part of its business operations.
- *Applications Management* - Not only does the vendor maintain and upgrade the applications software for the client, it also develops and implements new software as the need arises.
- *Desktop Services* - The vendor assumes responsibility for the deployment, maintenance and connectivity between the PCs in the client organization. The service may also include performing the help desk function.

Outsourcing Information

1. Has your firm outsourced any of its systems operations to a vendor?

   Yes _____
   No _____ (Go *to Q4)*

2. Which of the following systems operations functions have been outsourced to a vendor and who is the vendor? *(Check ALL that apply and indicate vendor)*

Function	Yes	Vendor
Processing Operations	____	_____
Network Operations	____	_____
Applications Maintenance	____	_____
Applications Management	____	_____
Desktop Services	____	_____

3. Why did your firm decide to outsource systems operations functions?

_____

_____

_____

_____

(Go to Q5)

4. Which of the following functions do you expect your firm to consider outsourcing to a vendor in the next five years? *(Check either yes or no for each function.)*

	Yes	No
Processing Operations	_____	_____
Network Operations	_____	_____
Applications Maintenance	_____	_____
Applications Development	_____	_____
Desktop Services	_____	_____

(Go to END)

Preparation Phase

5. Which of the following components were included in your internal analysis? *(Check ALL that apply)*

Functional analysis
Data volume analysis
Configuration requirements
SMF data analysis
Others *(Specify below):*

_____

_____

6. Did you use outside consultants for your internal analysis process? *(Check one)*

Yes _____ (Go *to Q7)*
No _____ *(Go to Q9)*

7. Which of the following types of outside consultants were used? *(Check ALL that apply)*

Management consulting firm
Big Six firm
Individual consultants
Your audit firm
Other *(Specify below):*

_____

_____

8a. In retrospect, was an outside consultant(s) useful in the decision process? *(Check Q9)*

Yes _____ *(Go to Q9)*
No _____

8b. Why not?

_____

_____

_____

_____

Selection Process

9. How did you solicit bids? *(Check one)*

Through a . . .

formal solicitation document? _____
informal request to vendors? _____
sole-source request to one vendor? _____

10. Which of the following did your company provide to the vendor(s) about your operations? *(Check ALL that apply)*

Current processing volumes _____
Future processing requirements _____
Current staff deployment _____
Current software inventory _____
Current equipment inventory _____
SMF data _____
Current communications requirements _____
Other factors *(Specify below):* _____

_____

_____

11a. How many vendors' responses were evaluated? _____

11b. What was the most important evaluation criterion?

_____

_____

12. What internal and external resources were used to evaluate the responses and were they useful? *(Specify resources for each category.)*

Internal: _____

_____

External: _____

_____

13. How long did it take to evaluate the vendors' responses? *(Specify number of weeks or months)*

_____

14. Which of the following were included in your evaluation of vendors? Please rate items on a scale of 1 to 5, with 1 being the least important and 5 the most important.

	(Circle one)				
Technical ability	1	2	3	4	5
Experience in outsourcing	1	2	3	4	5
Cultural compatibility	1	2	3	4	5
Security provisions	1	2	3	4	5
Organizational structure	1	2	3	4	5
User interface plans	1	2	3	4	5
Use of third parties	1	2	3	4	5
Project management skills	1	2	3	4	5
Backup provisions	1	2	3	4	5
Level of service	1	2	3	4	5
Prior references/reputation	1	2	3	4	5
Vendor size/revenue	1	2	3	4	5
Number of customers	1	2	3	4	5
Price for services	1	2	3	4	5
Financial condition of vendor	1	2	3	4	5
Willingness of vendor to take over staff or hardware assets	1	2	3	4	5
Impact on internal cash flow	1	2	3	4	5
Other *(specify below):*	1	2	3	4	5

_____

_____

15. What would you do differently in the procurement process next time?

_____

_____

_____

_____

Negotiation Stage

16. What is the base length of your contract, including early out provisions?
(Specify years) _____

17. Which of the following best describes the pricing terms of your contract?
(Check one)

Fixed price per time period	_____
Resource-based pricing	_____
Transaction-based pricing	_____
Other pricing	_____
A combination of the above	_____

18. Under what circumstances could the price be renegotiated?

_____

_____

_____

_____

19. Which of the following items were specifically included in the contract? *(Check ALL that apply)*

Processing site	_____
Software development	_____
Software acquisition	_____
Software maintenance	_____
Problem resolution	_____
Disaster recovery	_____
Personnel disposition	_____
Performance criteria	_____
Performance penalties	_____
Equipment upgrade	_____
Vendor bankruptcy	_____
Client bankruptcy	_____
Early termination	_____
Extension of contract	_____
Other *(Specify below):*	_____

_____

20. Which of the following penalties will be imposed on the vendor if he fails to meet performance requirements? *(Check ALL that apply)*

Cash payment	_____
Service credit	_____
Percent discount on fee	_____
Other *(Specify below):*	_____

_____

21. What would you do differently in the negotiation stage next time?

_____

_____

_____

_____

Contract Management

22. How long has your outsourcing contract been in place? *(Specify years/months)*

_____

23. Has the contract been modified since it was originally signed?

Yes _____
No _____ *(Go to Q25)*

24. Explain the circumstances behind any contract modifications:

_____

_____

_____

_____

25. Please rate the importance of each of the following factors in a vendor-client outsourcing relationship. Use the 1-5 scale again, where 5 is extremely important and 1 is not important at all.

	(Circle one)				
Strict contract terms	1	2	3	4	5
Careful advance planning	1	2	3	4	5
Professionalism of vendor	1	2	3	4	5
Professionalism of client staff	1	2	3	4	5
Flexible contract terms	1	2	3	4	5
Frequent communications	1	2	3	4	5
Frequent formal meetings	1	2	3	4	5
On-site presence of vendor after conversion	1	2	3	4	5
Other *(Specify below):*	1	2	3	4	5

_____

26. How is user support provided through the contract? *(Check one)*

On-site with client personnel	_____
On-site with vendor personnel	_____
Off-site with vendor personnel	_____

27. What would you do differently in the early execution stages of an outsourcing contract?

_____

_____

_____

_____

28a. Rate your company's overall satisfaction with the performance of your current outsourcing vendor. Use the 1-5 scale, where 5 means extremely satisfied and 1 means not satisfied at all. *(Circle one)*

1 2 3 4 5

28b. Why? _____

_____

29. When your current outsourcing contract expires, do you think your company will .... *(Check one)*

Renew the vendor's contract?	_____
Solicit a new vendor?	_____
Bring the operations back in-house?	_____
Don't know	_____

END