INPUT

RESEARCH REPORT

The Future of Network Support and Management in the US

The Future of Network Support and Management in the US

INPUT®

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

INPUT®

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

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

SUBSCRIPTION SERVICES

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

SERVICE FEATURES

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

DATABASES

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

CUSTOM PROJECTS

For Vendors–analyse:

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

For Buyers–evaluate:

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

OTHER SERVICES

Acquisitions/partnerships searches

INPUT Worldwide

Frankfurt
Perchstätten 16
D-35428 Langgöns
Germany
Tel: +49 (0) 6403 911420
Fax: +49 (0) 6403 911413

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

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

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

San Francisco
1881 Landings Drive
Mountain View
CA 94043-0848
U.S.A.
Tel: +1 (650) 961-3300
Fax: +1 (650) 961-3966

Tokyo
6F#B,Mitoshiro Bldg
1-12-12,Uchikanda
Chiyoda-ku, Tokyo 101
Japan
Tel: +81 3 3219 5441
Fax: +81 3 3219 5443

Washington, D.C.
1921 Gallows Road
Suite 250
Vienna, VA 22182 3900
U.S.A.
Tel: +1 (703) 847-6870
Fax: +1 (703) 847-6872

Published by
INPUT
Cornwall House, 55-77 High Street
Slough, Berkshire, SL1 1DZ
United Kingdom

Customer Services and Support

The Future of Network Support and Management in the US

SC37U • 1997 • 768

Abstract

An increasing proportion of mission critical business processes are underpinned by enterprise-wide networks comprising LANs and WANs. Hence, buyers now seek services that enable them to optimize their business processes which are underpinned by networking technology.

This study will:

- Help vendors to understand the dynamics affecting the network support and management markets
- Reveal ways in which vendors can enjoy success in the network support and management markets
- Equip vendors with information relating to user attitudes towards network support and management.

Table of Contents

List of Exhibits

IV

V

A

Introduction

This chapter summarizes the findings of INPUT's US Network Management and Support project. Additionally, it offers recommendations to network services vendors on ways in which they can enhance their services.

A Objectives

An increasing proportion of mission critical business processes are underpinned by enterprise-wide networks comprising LANs and WANs. Hence, buyers now seek services that enable them to optimize their business processes which are underpinned by networking technology.

This study will:

- Help vendors to understand the dynamics affecting the network support and management markets
- Reveal ways in which vendors can enjoy success in the network support and management markets
- Equip vendors with information relating to user attitudes towards network support and management

B
Definitions

For the purposes of this project, INPUT defines network support as maintenance activities which relate to networking equipment and networking software. Activities include associated support activities such as telephone support, problem analysis and on-site support.

INPUT defines network management services as the on-going delivery of a set of activities which are required for controlling, co-ordinating and monitoring a network. Activities include traffic routing, configuration management, security management and performance management.

Network support and management are often viewed as two components within the network services lifecycle. The network services lifecycle can be split into four service types:

- Network planning and design services
- Network implementation services
- Network support services
- Network management services

This project focuses on the two on-going services within the lifecycle, namely support and management. Planning and design and implementation services are typically viewed as 'one off' services' .

C

Research Methodology

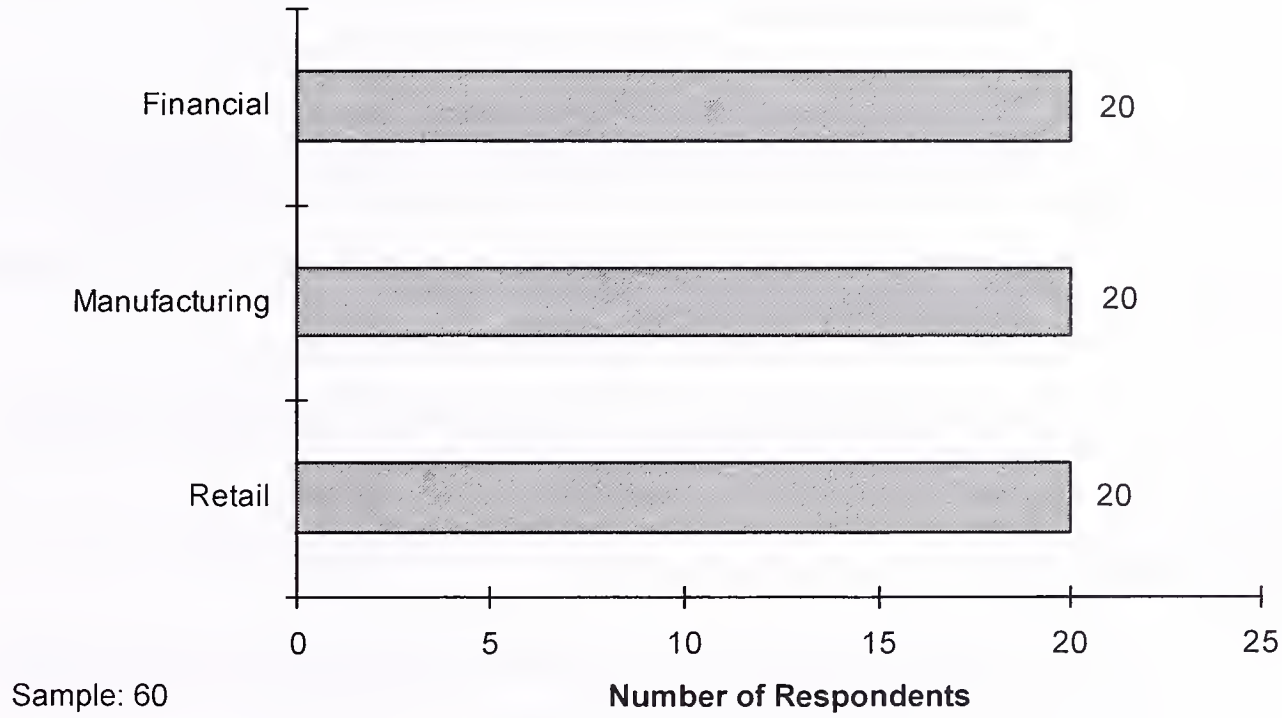
INPUT interviewed 60 buyers of network support services in November 1997. Respondents were sampled from the financial services, manufacturing and retail sectors.

Respondents were IT Directors or IT managers employed by enterprises with annual revenues in excess of $100 million.

Exhibit 1 splits the sample by industry.

Exhibit 1

Sample Split by Industry



Source: INPUT

D
Report Structure

The remaining chapters of this report are as follows:

- Chapter II is an executive summary which provides a summary of the key findings of the study
- Chapter III examines the dynamics of the network services market with a focus on the network support and management components.
- Chapter IV analyses analyses user perceptions of suppliers of network services. Additionally, it examines the types of Service Levels Agreements (SLAs) which are made available to users of network services.
- Chapter V analyses buyer attitudes towards network support and management services provided by external suppliers.
- Appendix A illustrates user perceptions of network management vendors in more detail
- Appendix B contains the questionnaire used for this study.

E
Related INPUT Reports

Other INPUT reports which address topics related to the subjects discussed here include the following:

- *IT Customer Services and Support Market Analysis 1997-2002*
- *The Future of Network Management and Support, Europe 1997*
- *Desktop Services Opportunities in the United States, 1997*
- *Evaluation of Business Continuity Services in the US*
- *US Call Center Operations, Requirements and Opportunities, 1997*
- *Supporting the Networked Enterprise, Europe 1996-2000.*

II

Executive Summary

This chapter summarises the findings of INPUT's US Network Management and Support project. Additionally, it offers recommendations to network services vendors on ways in which they might enhance their services.

A
Network Management Services Offer Vendors New Opportunities

An increasing proportion of mission critical business processes are now underpinned by enterprise-wide networks comprising LANs and WANs.

Buyers seek services which will assist them throughout the lifecycle of their networks. The network services lifecycle can be split into four service types:

- Network planning and design services
- Network implementation services
- Network support services
- Network management services.

Planning and design and implementation services are 'one off' services' whereas support and management services are on-going services.

The markets for each service types are set to grow significantly over the next five years (see Exhibit II-1).

Exhibit II-1

Network Services Market in the UK, 1997-2002

	1997 ($ Billions)	2002 ($ Billions)	CAGR (%)
Planning & Design	2.4	5.0	16
Implementation	6	9.3	9
Support	7.8	11.6	8
Management	1.8	7.1	32
Total	18	33	13

Source: INPUT

Nearly 80% of customers have received some assistance from external vendors with planning and designing, implementing and supporting their network infrastructures. However, an increasing proportion of buyers now seek to augment their network support services with network management services.

Network management is the fastest growing area within network services. Furthermore, approximately 70% of network management buyers use the same vendor for network support. Of those which do not use the same vendor for both network support and management, 60% intend to use the same vendor for both services within the next two years.

Hence, in order to benefit form the rapidly growing network management market, vendors must:

- Ensure that network support customers are satisfied
- Encourage network support customers to augment their support service with network management
- Focus strongly on providing network management services to the financial services sector where profit margins will be greatest.

B

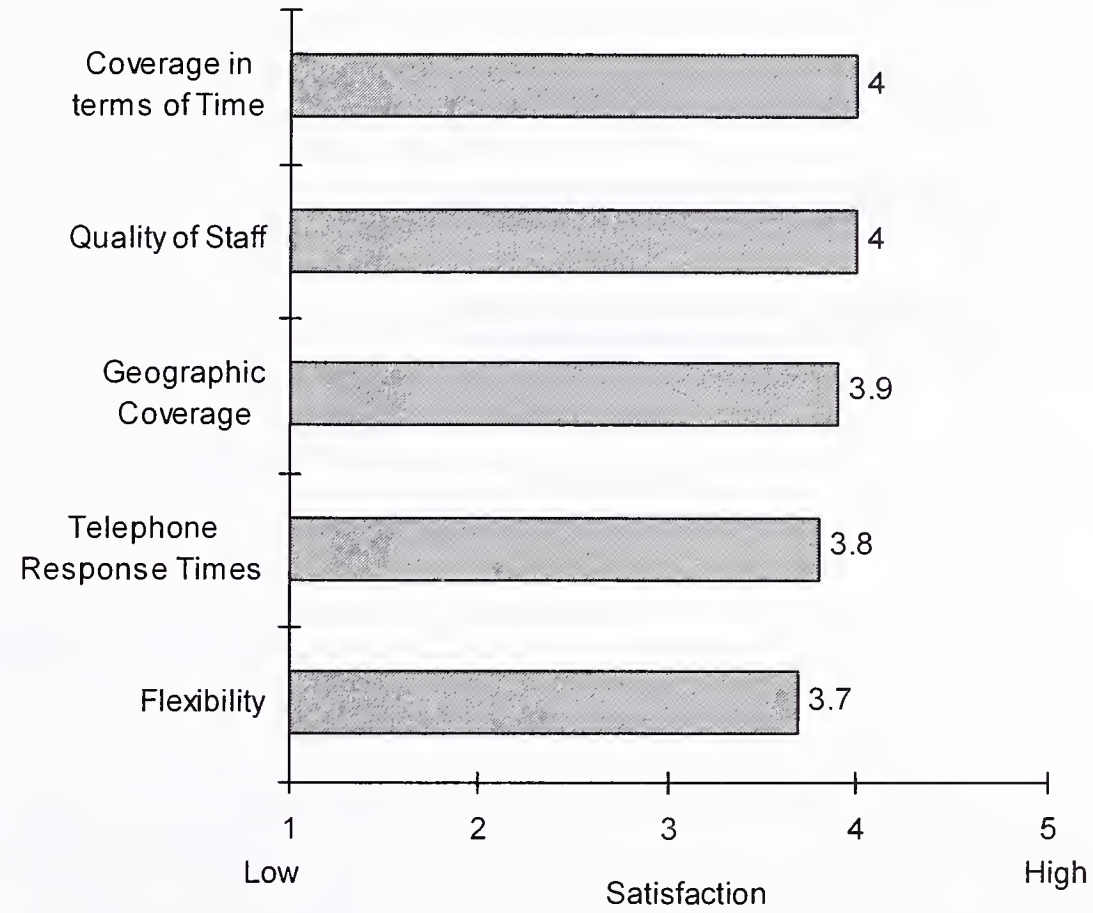
Buyers Must be Satisfied with Network Support Offerings

INPUT asked network support buyers to reveal their levels of satisfaction with aspects of network support services provided by external suppliers.

Exhibit II-2 illustrates the aspects of network support services with which buyers expressed high levels of satisfaction.

Exhibit II-2

Aspects of Network Support — High Satisfaction Categories



Sample: 60

Source: INPUT

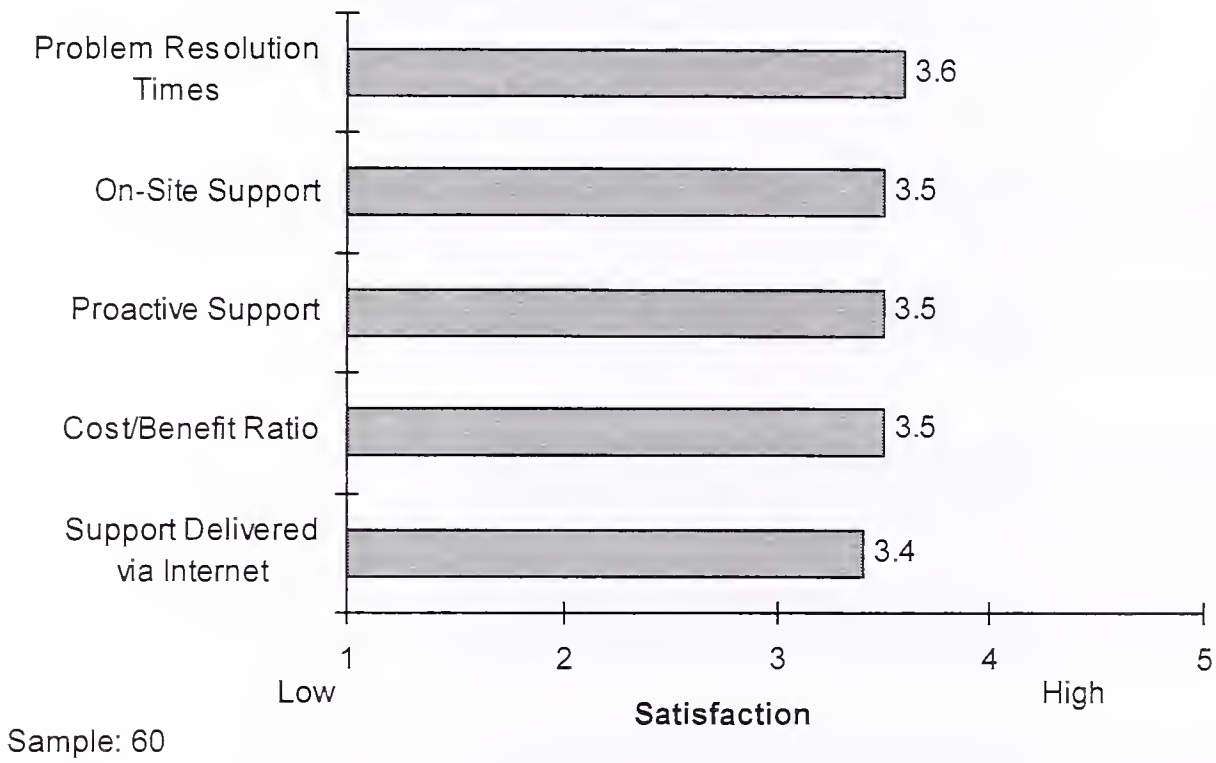
Most network support vendors now offer support contracts which include broad coverage both in terms of time and geography. INPUT research indicates that buyers are highly satisfied with these aspects of network support. Furthermore, buyers express high levels of satisfaction with the quality of staff who deliver network support services, telephone response times and the flexibility of network support offerings.

The aspects of network support services with which buyers expressed lower levels of satisfaction are more interesting because they provide the

best indication of ways in which network support services can be improved(see exhibit II-3).

Exhibit II-3

Aspects of Network Support — Moderate Satisfaction Categories



Sample: 60

Source: INPUT

Of the moderate satisfaction aspects of network support, problem resolution times, proactive support and cost/benefit ratio are the most significant. For each of these aspects, the difference between the perceived importance of each aspect and buyer satisfaction was high (see Exhibit II-4)

Exhibit II-4

Aspects of Network Support which Require the Most Improvement

Issue	Importance Rating	Satisfaction Rating	Difference
Problem Resolution Times	4.5	3.6	0.9
Proactive Support	4.4	3.5	0.9
Cost/Benefit Ratio	4.2	3.5	0.7

Source: INPUT

Problems with networks increasingly interrupt mission critical business processes. Today, most enterprises can ill afford long problem resolution times. Indeed, as an increasing proportion of mission critical activity is underpinned by networks, buyers will seek lower problem resolution times and will expect to encounter problems less frequently. One way to reduce the probability of problems interrupting business process is to take a proactive approach. Such an approach is typically designed to minimize the occurrence of problems. However, INPUT research reveals that buyers of network support services do not believe that their service providers offer a proactive approach to support.

In order to deliver proactive support services most effectively, suppliers must also manage their customers' networks. If a supplier manages a network in addition to supporting it, it is well placed to:

- Prevent problems from occurring in the first place
- Minimize problem resolution times when problems do occur.

C

Vendors Must Encourage Customers to Augment Network Support Services with Network Management Services

A steadily growing proportion of enterprises depend on undersized, over-utilized network backbones. This is being caused by the many new applications such as videoconferencing and multimedia email, and the use of networks for mission critical business activities. Combined with the use of more host-based, centralized systems, current bandwidth requirements will at least triple in the next five years and. Furthermore, bandwidth requirements will become far more unpredictable.

Increasingly, enterprises are dealing with the issue of bandwidth shortages by managing network traffic and ensuring that networks are operating at optimum efficiency. Rather than replacing existing networks, most enterprises opt to upgrade network components where possible and focus to a greater extent on network management.

Hence, the network management market is growing rapidly (32% CAGR) and an increasing proportion of buyers are indeed augmenting their network support services with network management services. The market is been driven by the following:

- The shortage and expense of network management skills
- The rapidly changing nature of network management technology
- The increasing proportion of mission critical activities which are underpinned by networks and the use of networks for new applications such as videoconferencing and multimedia email.
- The increasing ability of external suppliers to offer truly 'best of breed' services.

However, it is also being inhibited by the following:

- The network is perceived to be too critical to core business activities to justify working with external suppliers. Buyers view network security breaches as a major threat
- External suppliers are often perceived to have an inadequate understanding of clients' businesses

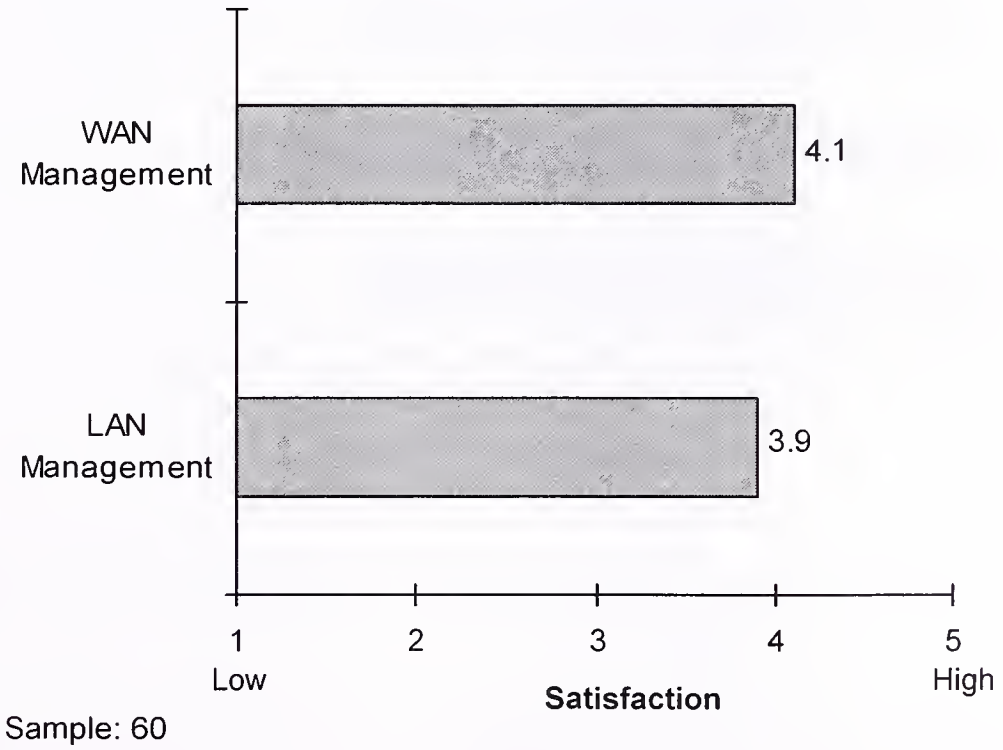
- Network management software with comprehensive functionality is now available — many enterprises believe that this software will make managing their networks easier, thus minimizing the need to work with external suppliers

- Enterprises are aware that the network management services market is immature so many are reluctant to risk purchasing a service, the delivery of which the vendor has had little experience.

Network management suppliers must work with buyers to encourage them to overcome their concerns. Indeed, of those enterprises which have chosen to purchase network management services from external vendors, satisfaction levels are high (see Exhibit II-5).

Exhibit II-5

Buyer Satisfaction Levels with LAN and WAN Management Services



Sample: 60

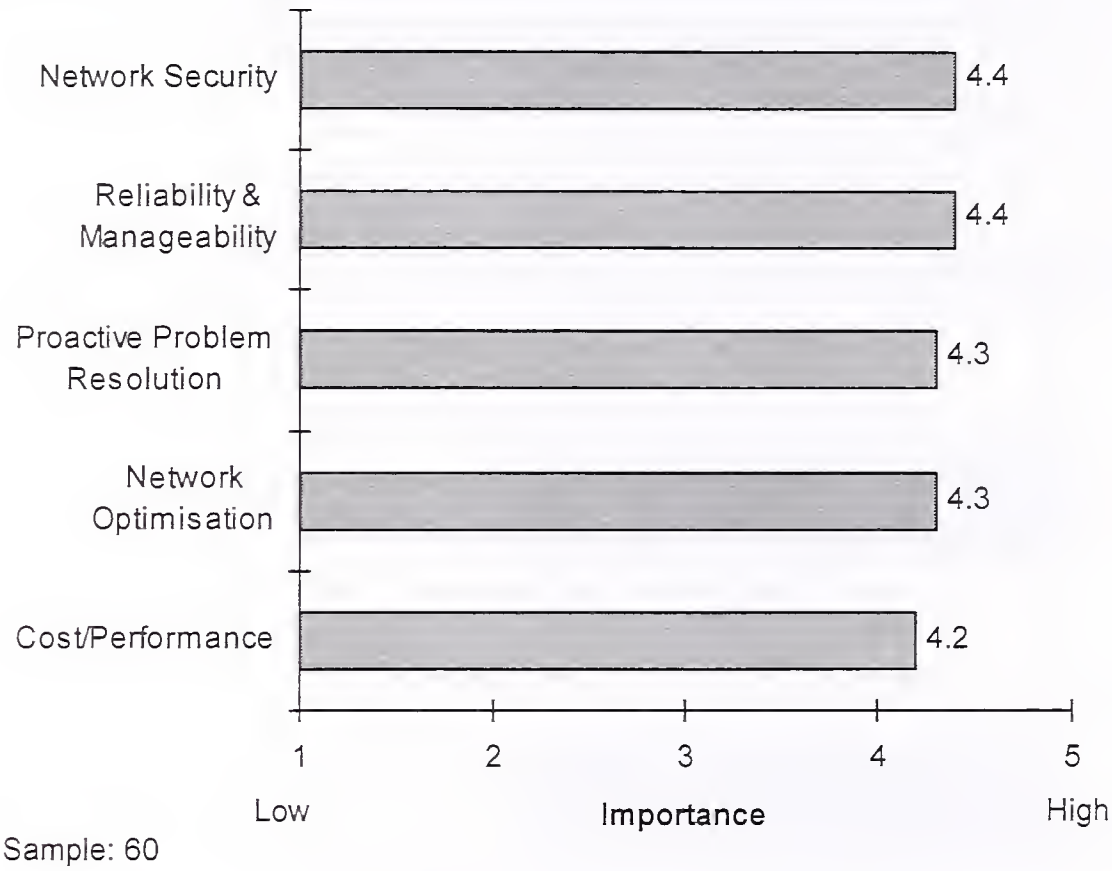
Source: INPUT

Of particular concern to buyers considering purchasing network management services from external suppliers is the issue of network security.

Exhibit II-6 reveals the five most important network management issues to buyers.

Exhibit II-6

Important Network Management Issues



Sample: 60

Source: INPUT

Network security is the most important aspect of network management at present. Furthermore, the difference between satisfaction and importance levels which buyers attribute to network security is significant.

Today's networked IT environments are much more vulnerable to security breaches than proprietary mainframe environments. For this reason network security is now of critical importance to many enterprises.

Internal as well as external security breaches are commonplace. An example of a security breach which disrupted business processes is the

altering of intranet pages of interest and currency rates causing traders to lose millions of dollars on miscalculated deals.

In addition to the threat from hacking, the rise of networked IT environments has exposed enterprises to a greater risk from industrial espionage, email eavesdropping, sabotage, fraud, virus attack, data theft, and illicit funds transfer. Interestingly, the most common security problem is the unintentional corruption of files by unauthorized employees.

The reliability and manageability of networks is also a very important issue to buyers. Vendors must convince buyers that they are better positioned ensure the reliability and manageability of networks than IT departments within enterprises.

D

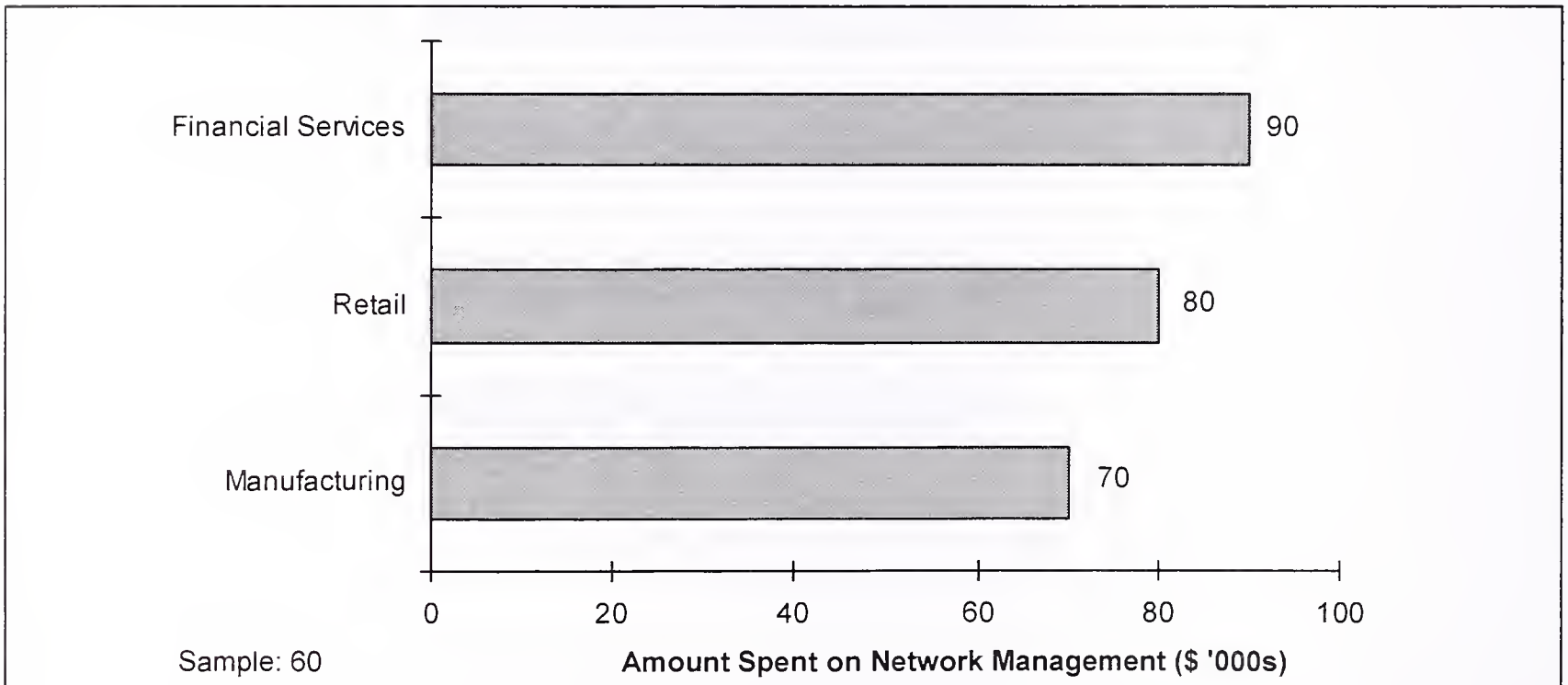
Financial Services Sector Offers Greatest Network Management Opportunities

Although many financial services companies are reluctant to purchase network management services from external suppliers, those that work with external suppliers spend more on network management than organizations from other vertical sectors.

Exhibit II-7 shows the average amount spent on network management in the financial services, retail and manufacturing sectors.

Exhibit II-7

Average Amount Spent on Network Management by Industry



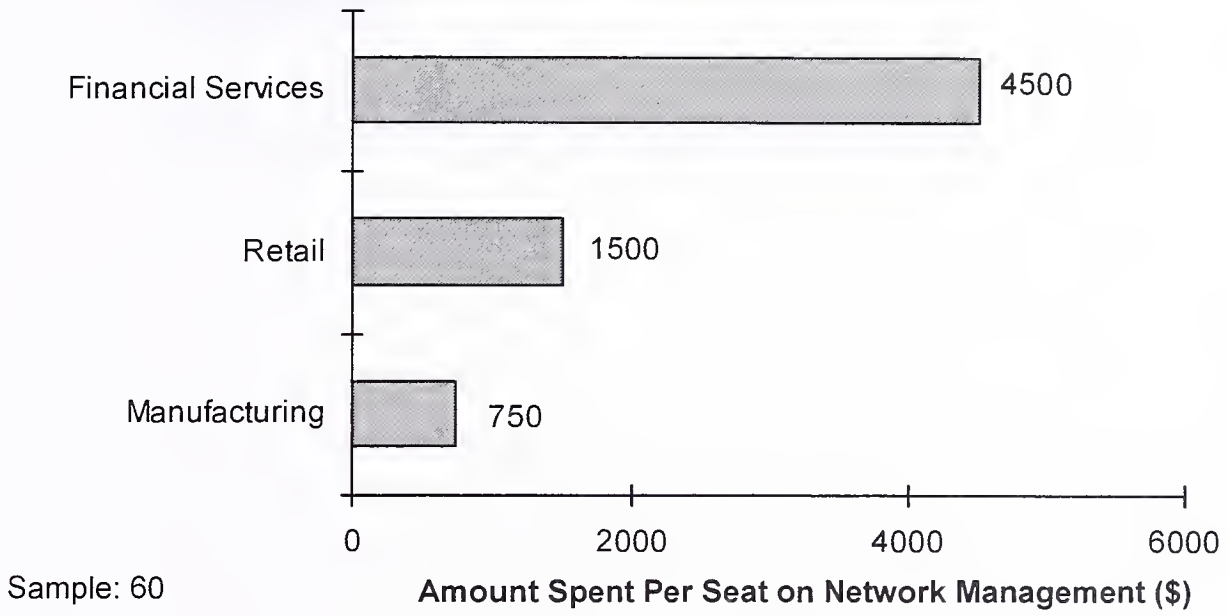
Source: INPUT

On average, financial services companies spend more on network management contracts than organizations in other industry sectors. Indeed, when the amount spent per seat is calculated, it is clear that financial services companies spend much more than organizations from other industry sectors.

Exhibit II-8 shows that financial services companies spend $4500 per seat on network management services.

Exhibit II-8

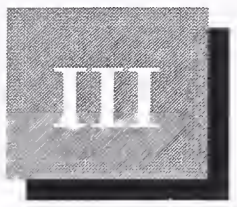
Average Amount Per Seat Spent on Network Management Services by Industry



Source: INPUT

Vendors can make the highest profits from providing network management services to the financial services sector. Note that network management services provided to banks tend to have the highest service levels. For example banks typically demand higher levels of availability and faster response times than organizations from other industry sectors.

(Blank page)



Market Development

This chapter analyses the development of the market for the lifecycle of network services in the US and the dynamics that shape it. It analyses the markets for network planning and design services, network implementation service, network support services and network management services. However, it focuses strongly on the network support and management components of the lifecycle.

A
Network Planning and Design Services

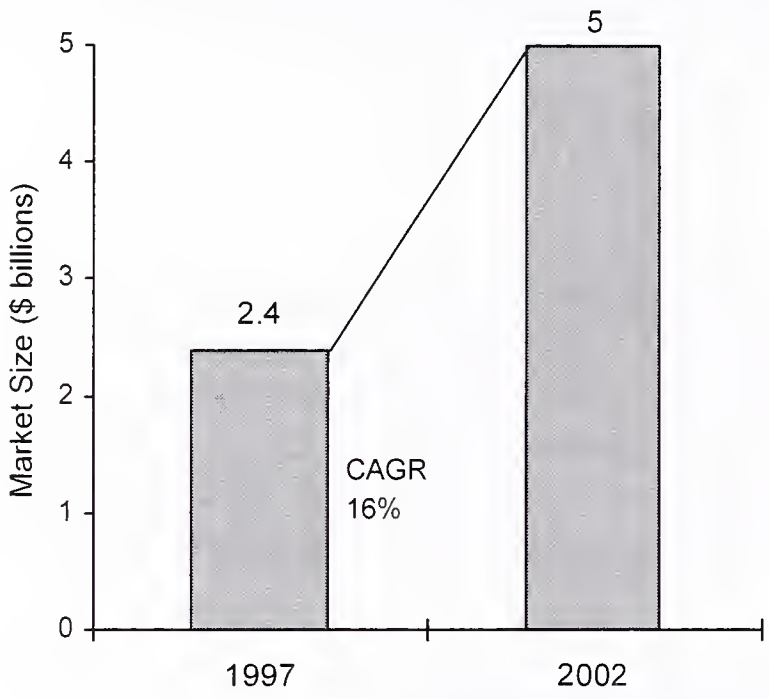
Today's enterprise-wide networks are becoming increasingly complex. Buyers are faced with a bewildering array of networking technologies which could potentially be used to support their businesses. However, understanding which types of networking technology and which network infrastructures meet buyers' business objectives is difficult to say the least. For this reason buyers increasingly seek consultancy-style services from network services suppliers in order to ascertain the most appropriate networking infrastructure for their needs. Furthermore, in order to design networks to meet business objectives, buyers increasingly work with network services providers.

The market for network planning and design services is growing relatively rapidly (16% CAGR). Suppliers can make sizeable margins in this relatively immature market.

INPUT research reveals that the market for network planning and design services will grow from $2.4 billion in 1997 to $5 billion in 2002 at 16% CAGR (see Exhibit III-1).

Exhibit III-1

Network Planning and Design Market in the US, 1997-2002



Source: INPUT

B
Network Implementation Services

Many enterprise are implementing new networking architectures to support an increasing proportion of their business processes.

Enterprises are demanding ever higher levels of reliability, availability and security from their networks. Hence, many enterprises are either upgrading their network components on a regular basis or fundamentally re-engineering their network infrastructures to:

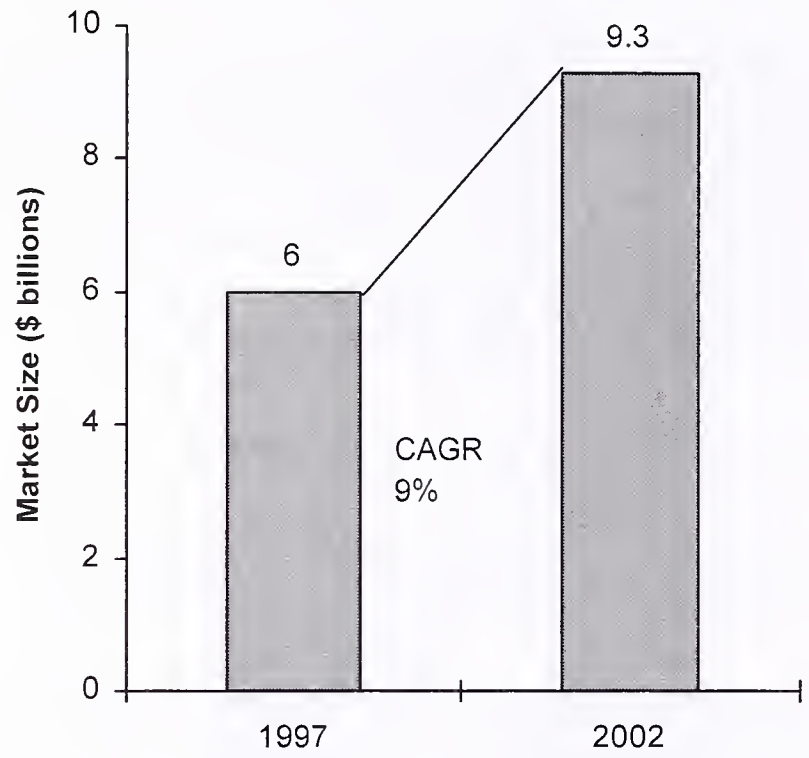
- Take advantage of Internet technology
- Implement switch technology which is perceived to be more powerful and cheap than rival technologies
- Implement ATM technology which is perceived to be the fastest, most reliable technology/protocol for high bandwidth or quality of service (QoS) applications.

However, the market for network implementation is maturing and profit margins are declining. For this reason, INPUT expects the market for network implementation to grow at a relatively low 9% CAGR between 1997 and 2002.

Exhibit III-2 shows that the market for network implementation is worth approximately $6 billion and is set to reach $9.3 billion in 2002.

Exhibit III-2

Network Implementation Market in the US, 1997-2002



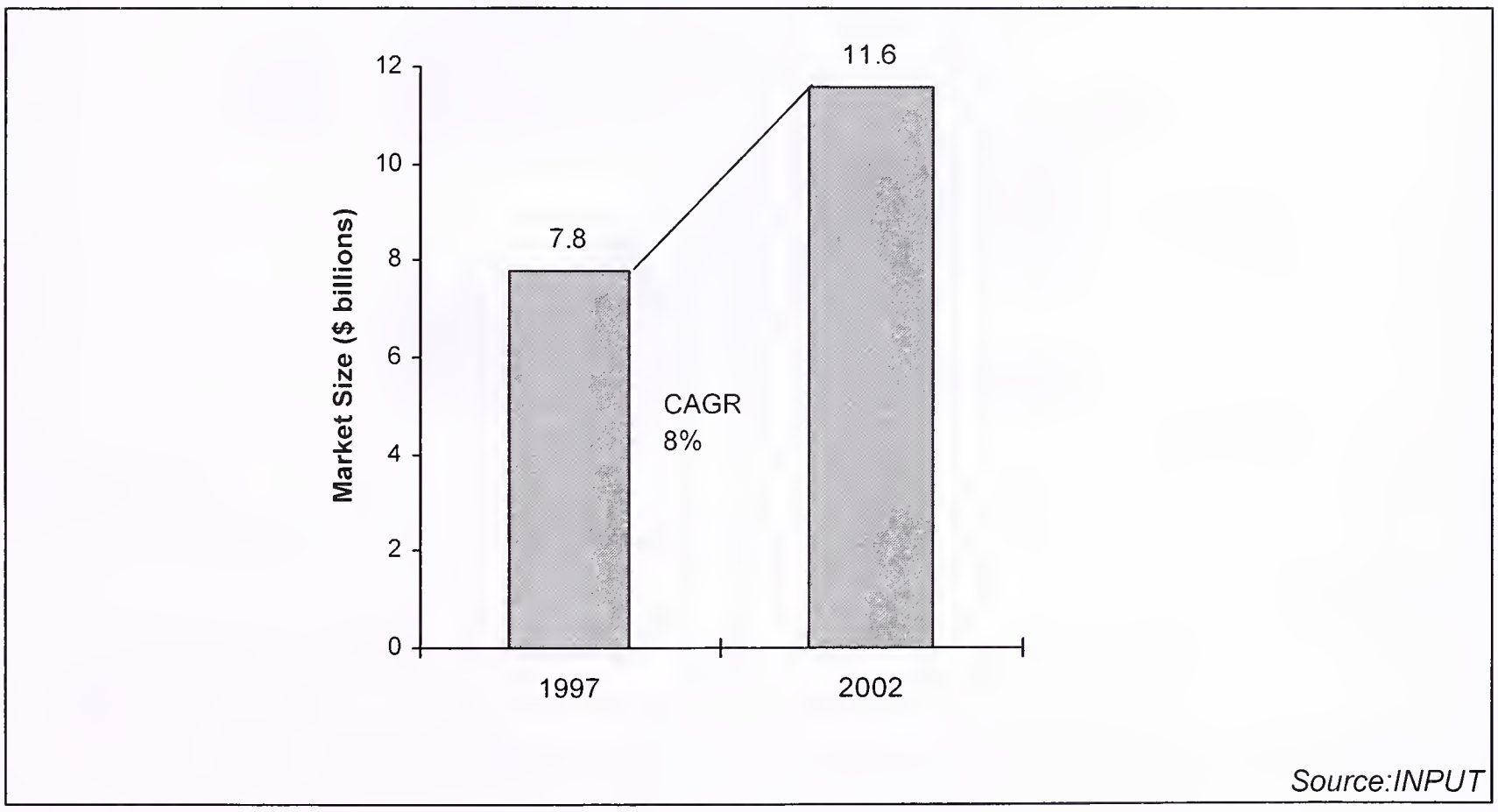
Source: INPUT

C
Network Support Services

The market for the on-going support of networks is maturing. Although network support is the largest component of the network services market, it offers the lowest profit margins. However, it is typically through the sale of network support contracts that suppliers can gain lucrative network management contracts. Note that network support and management are very often sold as part of the same contract. Exhibit III-3 shows that the network support market will grow from $7.8 billion in 1997 to $11.6 billion in 2002.

Exhibit III-3

Network Support Market in the US, 1997-2002



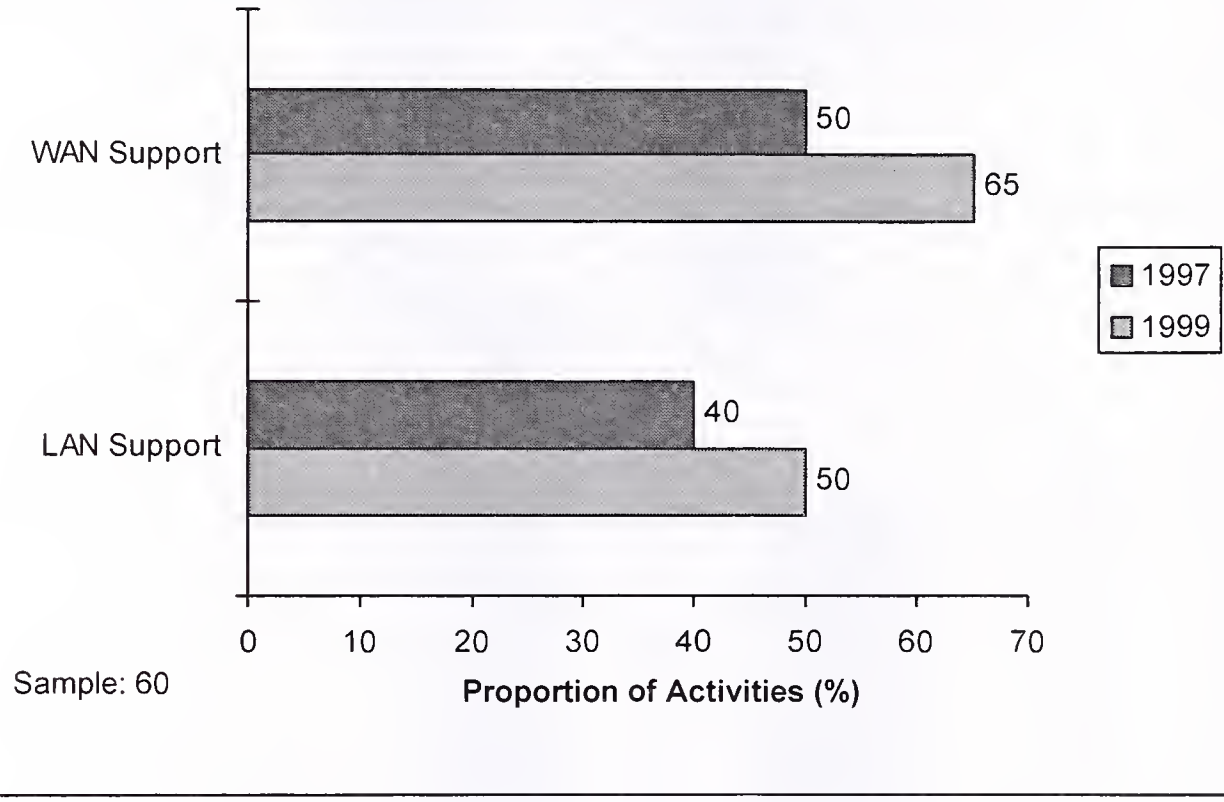
Source:INPUT

INPUT estimates that approximately 80% of enterprises purchase network support services from external suppliers. However, most large enterprises mix support services purchased from external suppliers with those delivered using in-house resources. Of those enterprises which purchase network support services from external suppliers, the proportion of their network support activities which are undertaken by external suppliers varies.

Exhibit III-4 illustrates the average proportions of LAN and WAN support activities which are carried out by external vendors for US enterprises. Additionally, it illustrates the average proportion of LAN and WAN support activity which will be undertaken by external suppliers in two years' time.

Exhibit III-4

Average Proportions of Network Support Activities Delivered by External Suppliers



Sample: 60

Source:INPUT

The increased criticality of WANs to today's enterprises has made the provision of WAN support a priority. Using WANs to take full advantage of Internet technology to develop infrastructures for electronic business and communication makes the support of WANs essential. However, most enterprises lack the resources to enable them to effectively support their WANs. Hence, the proportion of WAN support undertaken by external suppliers will increase significantly over the next two years.

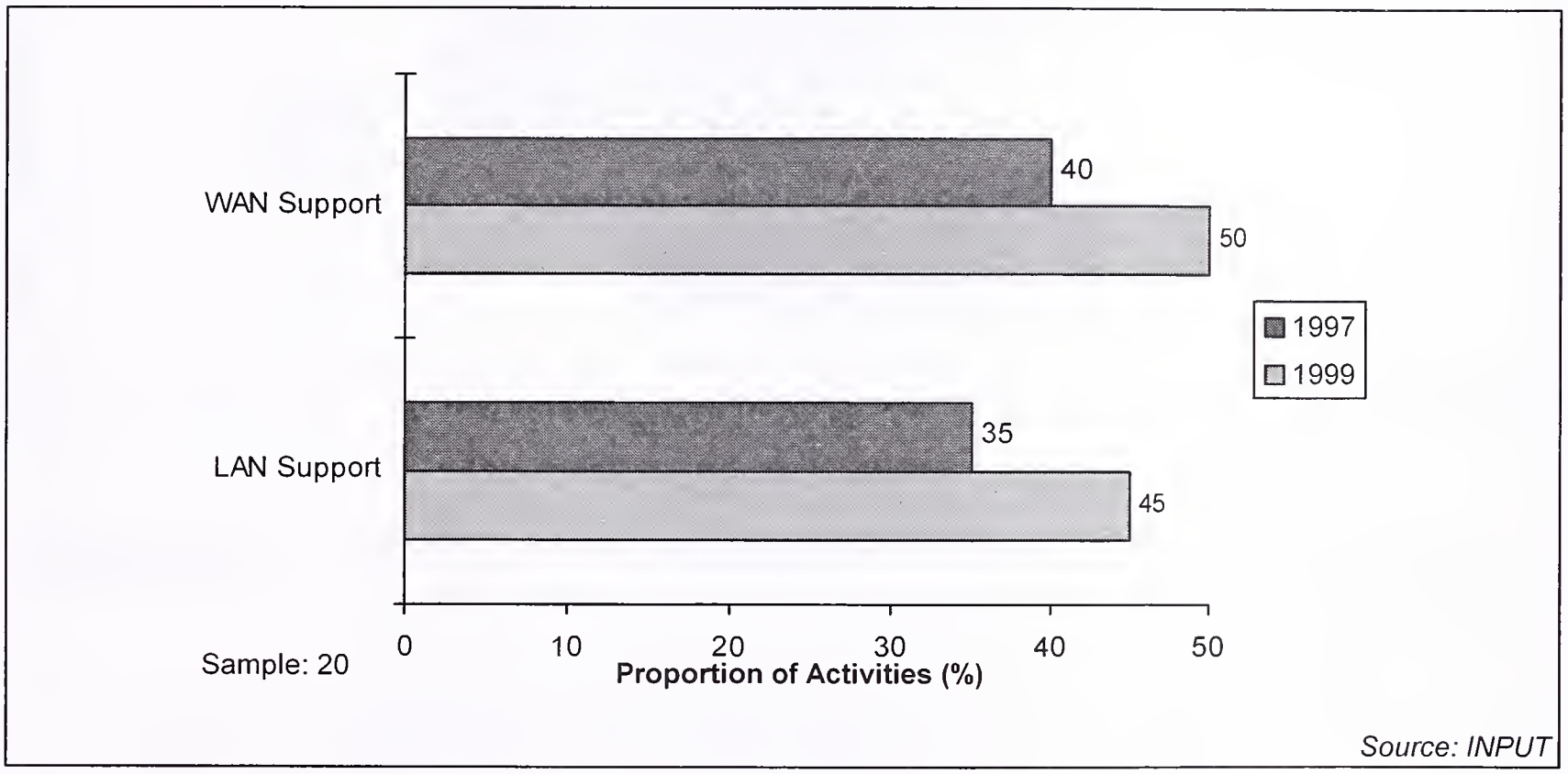
LAN support skills are less scarce and many enterprises have invested heavily in internal LAN support infrastructures. Although the criticality of LANs to today's enterprises will increase, the proportion of LAN support provided by external suppliers will be smaller than that for WANs.

The proportions of network support purchased from external suppliers varies by vertical sector. Interestingly, enterprises within the financial services sector source a smaller proportion of their network support requirements from external suppliers than average.

Exhibit III-5 illustrates the proportions of LAN and WAN support activities which are carried out by external vendors for US financial services vendors.

Exhibit III-5

Average Proportions of Network Support Activities Delivered by External Suppliers within the Financial Services Sector



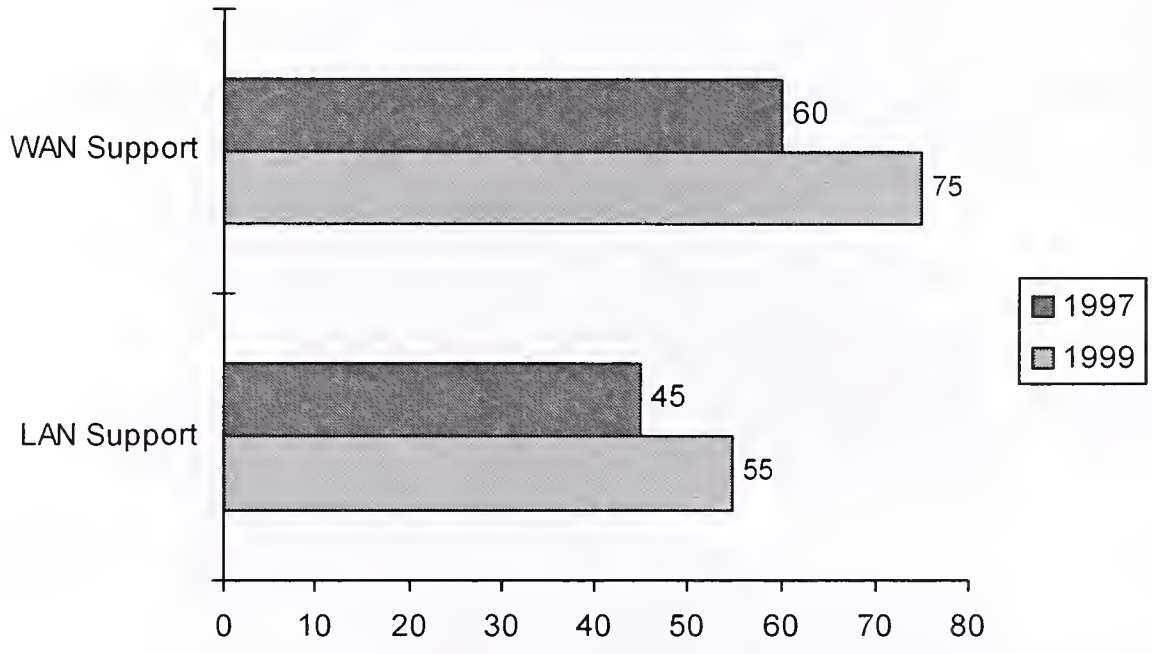
Source: INPUT

In most areas, enterprises within the financial services sector lead the trend towards purchasing IT services from external suppliers. However, networks are critical to a very large proportion of processes within financial services enterprises. Problems which interrupt business processes which are dependent on networks can cost such enterprises millions of dollars. Furthermore financial services companies are particularly vulnerable to network security breaches. Until external suppliers can convince financial services companies that they offer truly 'best of breed' network support services and that their services guarantee network security as far as is possible, these enterprises will continue to be reluctant to source network support services from external suppliers.

Exhibit III-6 illustrates the proportions of LAN and WAN support activities which are carried out by external vendors for US manufacturing companies.

Exhibit III-6

Average Proportions of Network Support Activities Delivered by External Suppliers within the Manufacturing Sector



Sample: 20

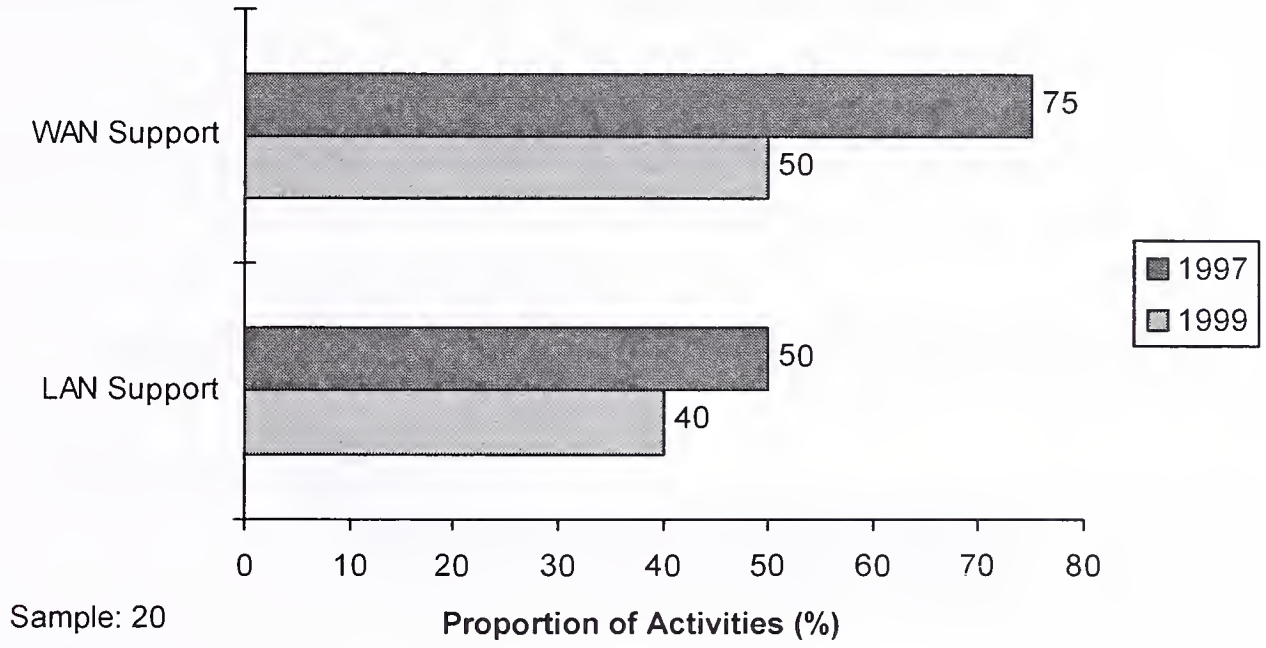
Source: INPUT

Manufacturing companies intend to significantly increase both the proportion of LAN support and WAN support which they receive from external vendors. Cost control is paramount to most manufacturing companies, so suppliers must be demonstrating value for money with their network support offerings delivered to the manufacturing sector. Indeed, US buyers increasingly perceive network services suppliers to be capable of offering more cost effective support services than can be provided using in-house resources.

Exhibit III-7 illustrates the proportions of LAN and WAN support activities which are carried out by external vendors for US retailers.

Exhibit III-7

Average Proportions of Network Support Activities Delivered by External Suppliers within the Retail Sector



Source:INPUT

Retailers are increasingly seeking network services providers who can support their WANs. This can be explained by the rapid adoption of WAN/Internet technology to connect the supply chain. Many retailers do not have the capacity to adequately support their WANs so have increasingly willing to seek assistance from external vendors.

The proportion of support activities carried out by an external supplier for an enterprise of course has a major bearing on the cost of the support contract. Indeed the cost of support contracts are affected by numerous other variables including:

- The number and complexity of hardware and software products used in the network
- The number of seats to be supported
- The network response times which a support contract guarantees
- The coverage in terms of time which is provided by the supplier

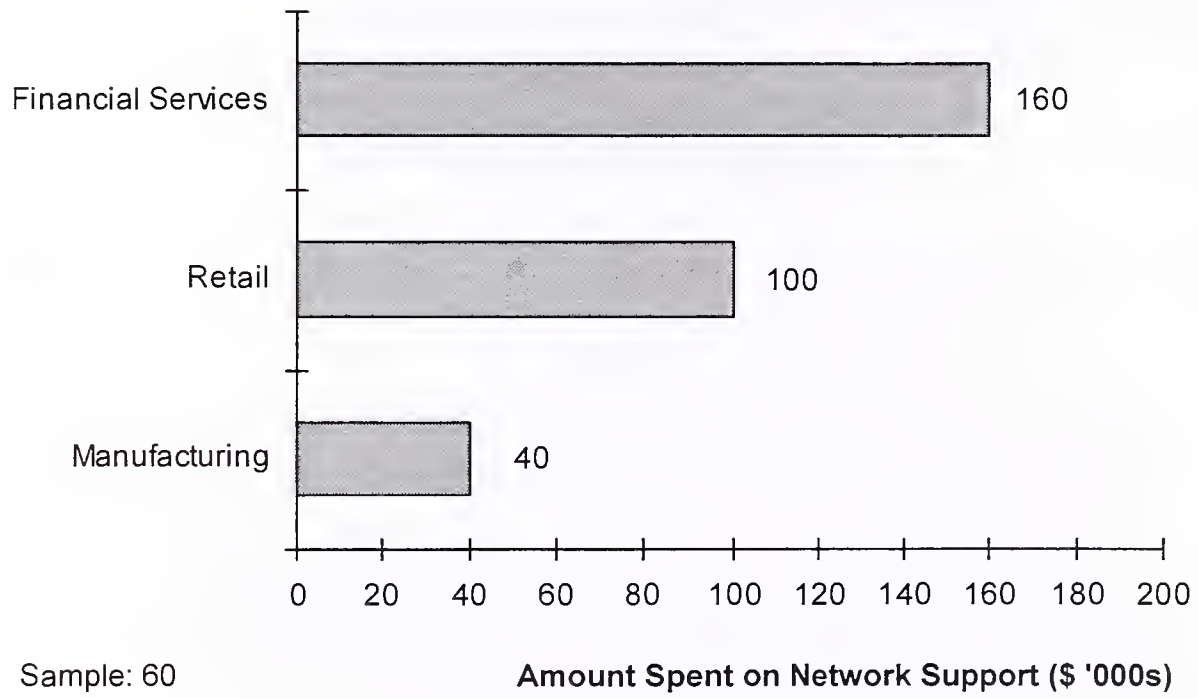
- The level of availability which is guaranteed within the support contract
- The level of business knowledge required from the supplier.

INPUT research reveals that the average annual amount spent on network support by enterprises with annual revenues in excess of $100 million is approximately $100,000

Exhibit III-8 shows the average amount spent on network support in the financial services, retail and manufacturing sectors.

Exhibit III-8

Average Amount Spent on Network Support by Industry



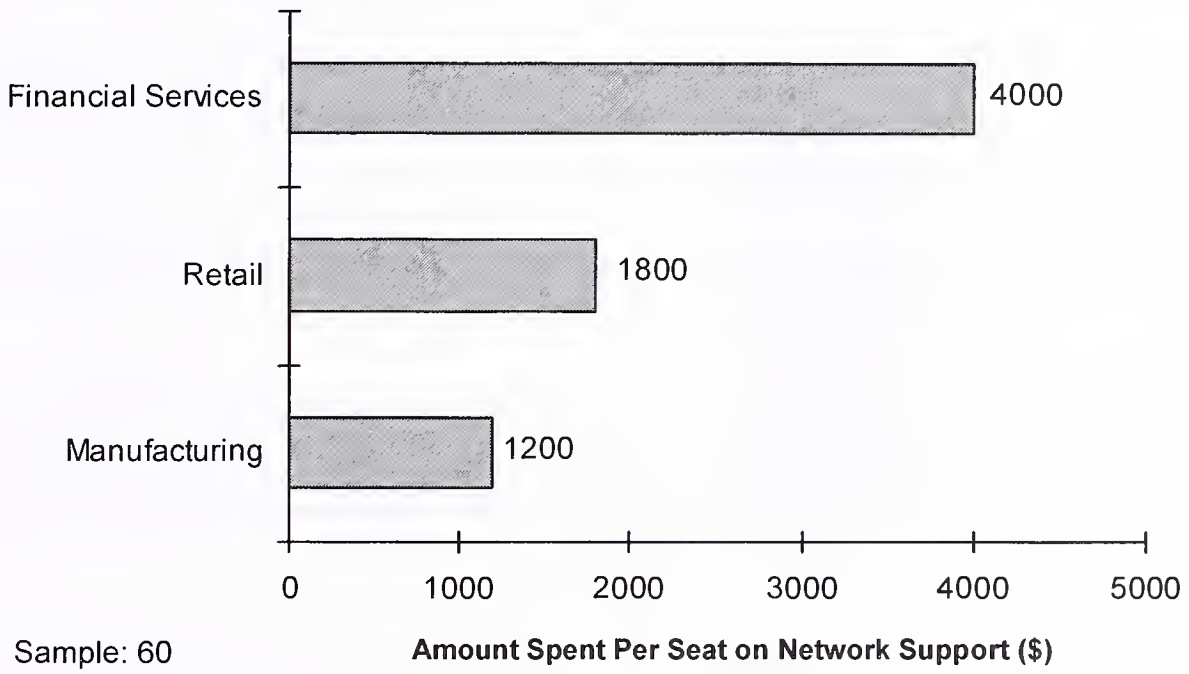
Source:INPUT

Given that enterprises in the financial services sector tend to be more concerned with 'best of breed' services and less concerned with cost than other sectors, it is perhaps not surprising that financial services vendors, on average spend more on network support.

Indeed, when the amount spent per seat on network support is calculated, enterprises from the financial services sector tend to spend a larger amount (see Exhibit III-9).

Exhibit III-9

Average Amount Per Seat Spent on Network Support by Industry



Source: INPUT

Manufacturing companies tend to focus more strongly on cost reduction than other companies. This explains why manufacturing companies spend by far the least per seat on network support.

D
Network Management Services

The market for network management services is still relatively immature. Many enterprises are unwilling to purchase network management services from external suppliers for the following reasons:

- The network is perceived to be too critical to core business activities to justify working with external suppliers. Buyers view network security breaches as a major threat
- External suppliers are often perceived to have an inadequate understanding of clients' businesses
- Network management software with comprehensive functionality is now available — many enterprises believe that this software will make managing their networks easier, thus minimizing the need to work with external suppliers
- Enterprises are aware that the network management services market is immature so many are reluctant to risk purchasing a service, the delivery of which the vendor has had little experience.

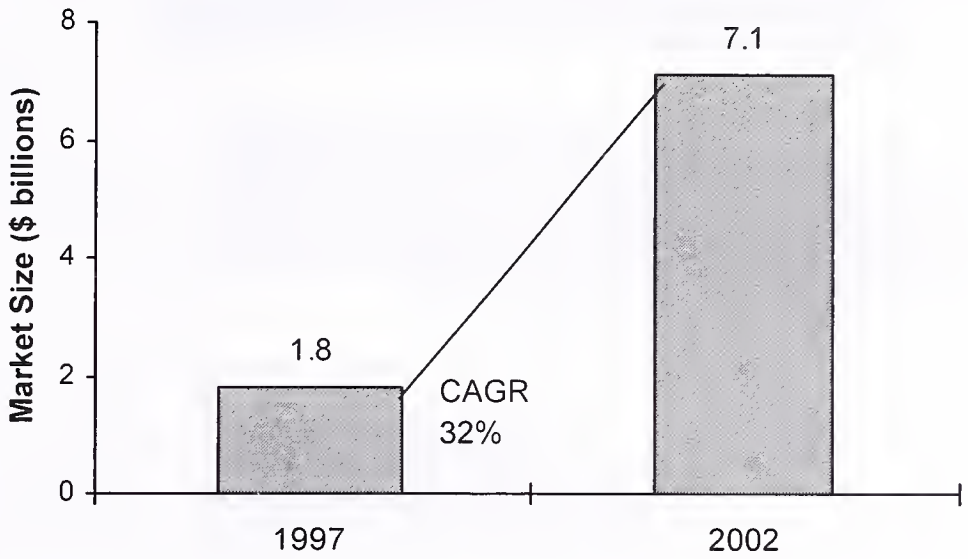
Nevertheless, the market for network management services is expected to grow rapidly for the following reasons:

- The shortage and expense of network management skills
- The rapidly changing nature of network management technology
- The increasing proportion of mission critical activities which are underpinned by networks
- The increasing ability of external suppliers to offer truly 'best of breed' services.

Indeed, the market for network management services in the US is expected to grow at 32% CAGR from $1.8 billion in 1997 to $7.1 billion in 2002 (see Exhibit III-10).

Exhibit III-10

Network Management Market in the US, 1997-2002



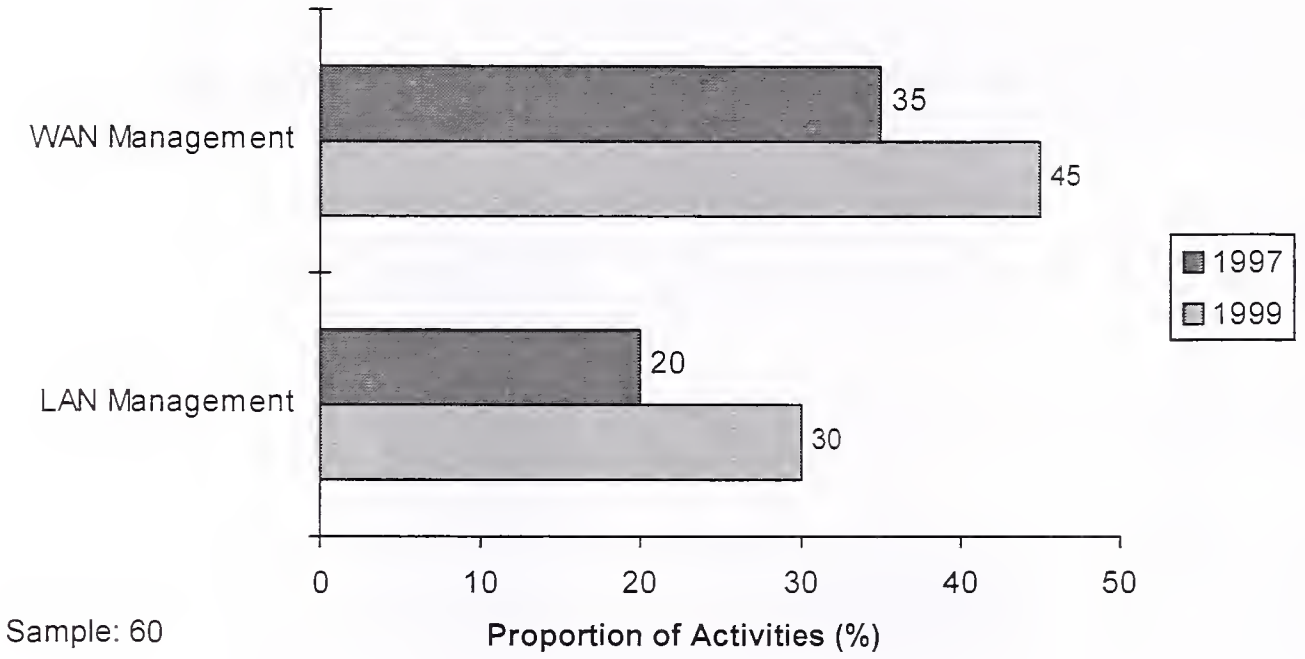
Source: INPUT

INPUT estimates that just over 30% of enterprises purchase network management services from external suppliers. However, most large enterprises mix network management services purchased from external suppliers with those delivered using in-house resources. Of those enterprises which purchase network management services from external suppliers, the proportion of their network management activities which are undertaken by external suppliers varies.

Exhibit III-11 illustrates the average proportions of LAN and WAN management activities which are carried out by external vendors. Additionally, it reveals the average proportion of LAN and WAN management activities which will be undertaken by external suppliers in two years' time.

Exhibit III-11

Average Proportions of Network Management Activities Delivered by External Suppliers



Sample: 60

Source: INPUT

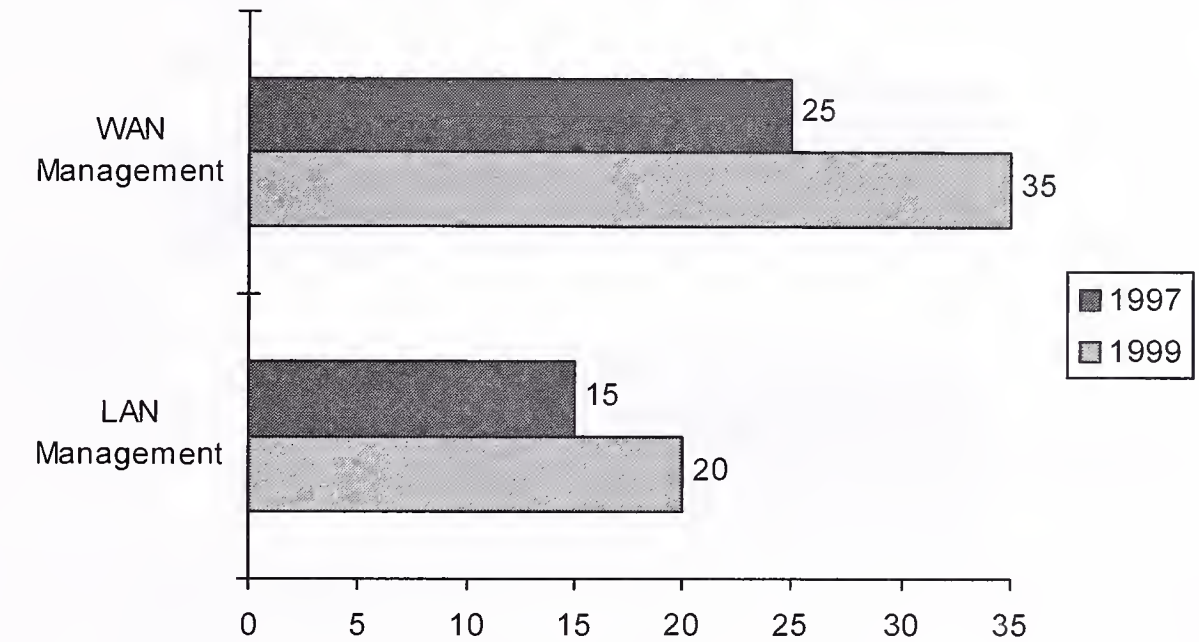
WAN management services are set to increase in importance. Increasingly, enterprises depend on WANs for the execution of business processes as WAN networking technology offers greater reliability, availability and security. Furthermore, WAN technology is becoming more complex and increasing volumes of data can be distributed via WANs. Although enterprises source a relatively small proportion of the network management services from external suppliers, a higher proportion of WAN management than of LAN management is being sourced from external suppliers.

The proportions of network management services sourced from external suppliers varies by vertical sector. Although enterprises within the financial services sector source a smaller proportion of their network support requirements from external suppliers than average, they source a higher proportion of their network management services from external suppliers.

Exhibit III-12 illustrates the proportions of LAN and WAN management activities within financial services companies which are carried out by external suppliers.

Exhibit III-12

Average Proportions of Network Management Activities Delivered by External Suppliers in the Financial Services Sector



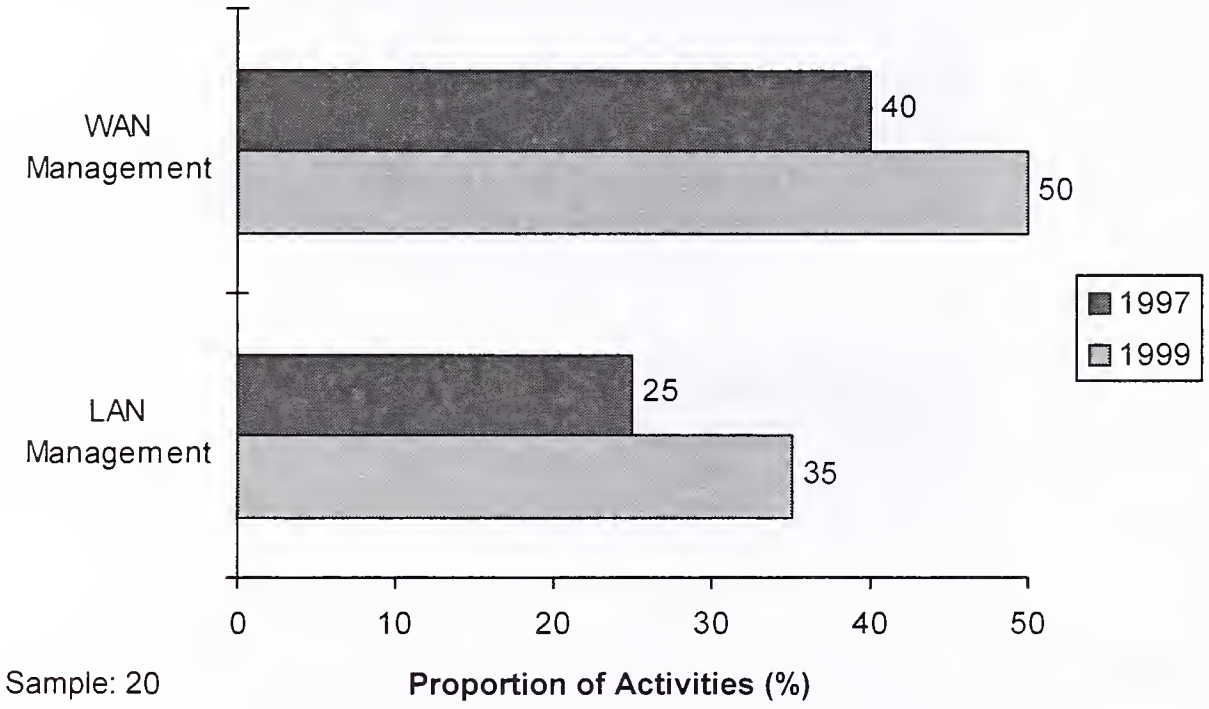
Source:INPUT

Interestingly, financial services companies do not expect to subcontract as high a proportion of their network management activities from external suppliers as enterprises within the manufacturing and retail sectors.. Many financial services companies do not believe that network management services offer the reliability, availability and security guarantees which they seek. Additionally, networks are invariably mission critical within financial services companies. Hence, there will be a reluctance to purchase services from external suppliers until the network management industry is perceived to be mature and to offer truly 'best of breed' services.

Exhibit III-13 illustrates the proportions of LAN and WAN management activities which are carried out by external vendors for manufacturing companies.

Exhibit III-13

Average Proportions of Network Management Activities Delivered by External Suppliers in the Manufacturing Sector



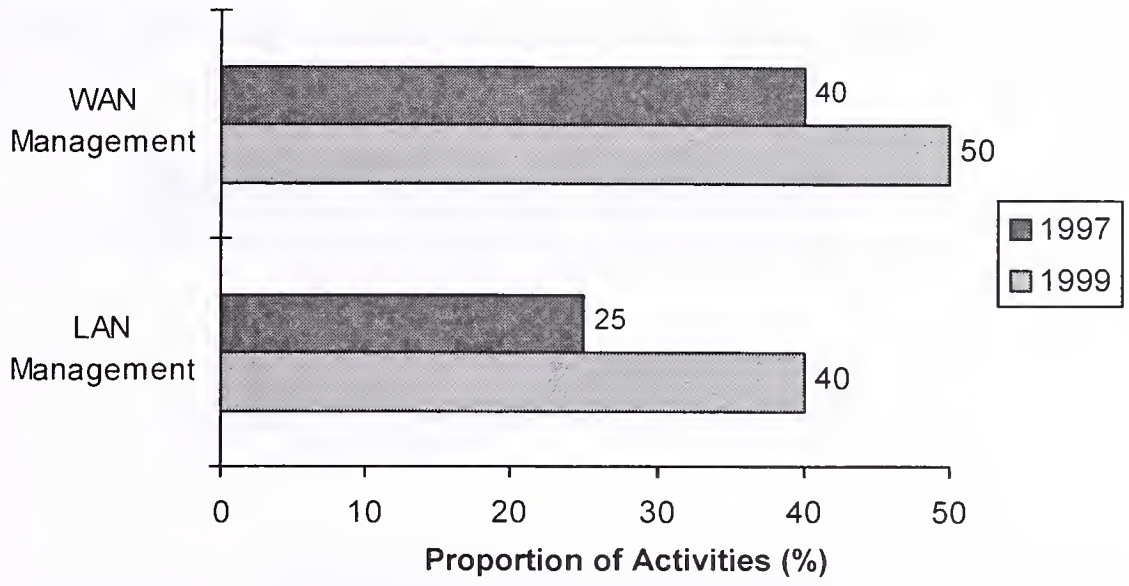
Source: INPUT

Manufacturing companies will source an increasing proportion of their network management activity as network management services supplied externally are perceived to offer ever improving value for money. This can only occur as the industry matures.

Exhibit III-14 illustrates the proportions of LAN and WAN management activities which are carried out by external vendors for retail companies.

Exhibit III-14

Average Proportions of Network Management Activities Delivered by External Suppliers in the Retail Sector



Source: INPUT

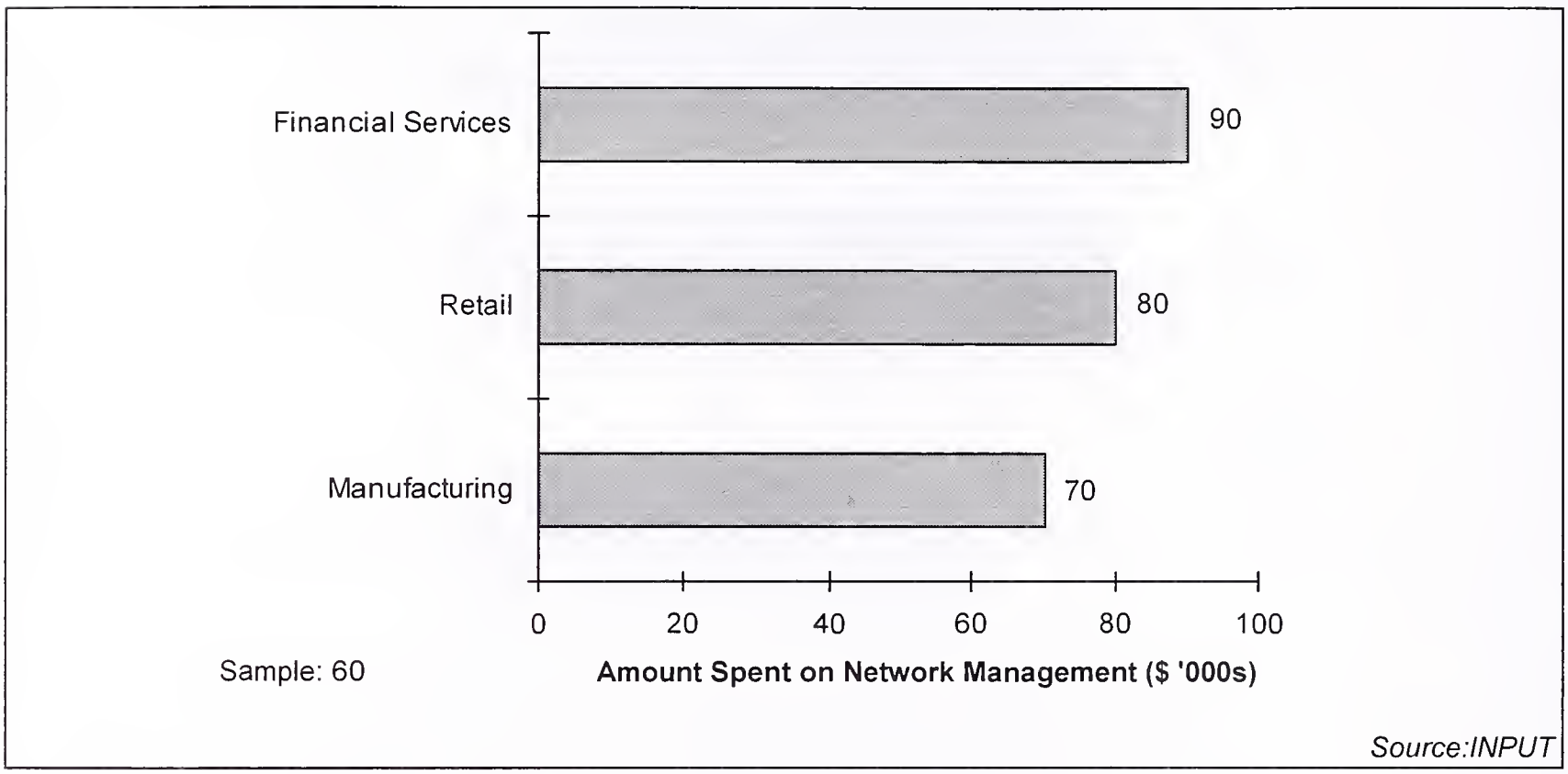
The use of private WANs to link the supply chain will increase in the retail sector. Hence, retail companies which seek to focus on their core competencies will purchase a significantly larger proportion of their WAN management activities from external suppliers in two years' time. Additionally the difficulty in managing networks which are typically distributed over a wide geographical area will lead to a significant increase in the proportion of LAN management activities which are subcontracted to external vendors.

INPUT research reveals that the average annual amount spent on network management by enterprises with annual revenues in excess of $100million is approximately $80,000

Exhibit III-15 shows the average amount spent on network management in the financial services, retail and manufacturing sectors.

Exhibit III-15

Average Amount Spent on Network Management Services by Industry



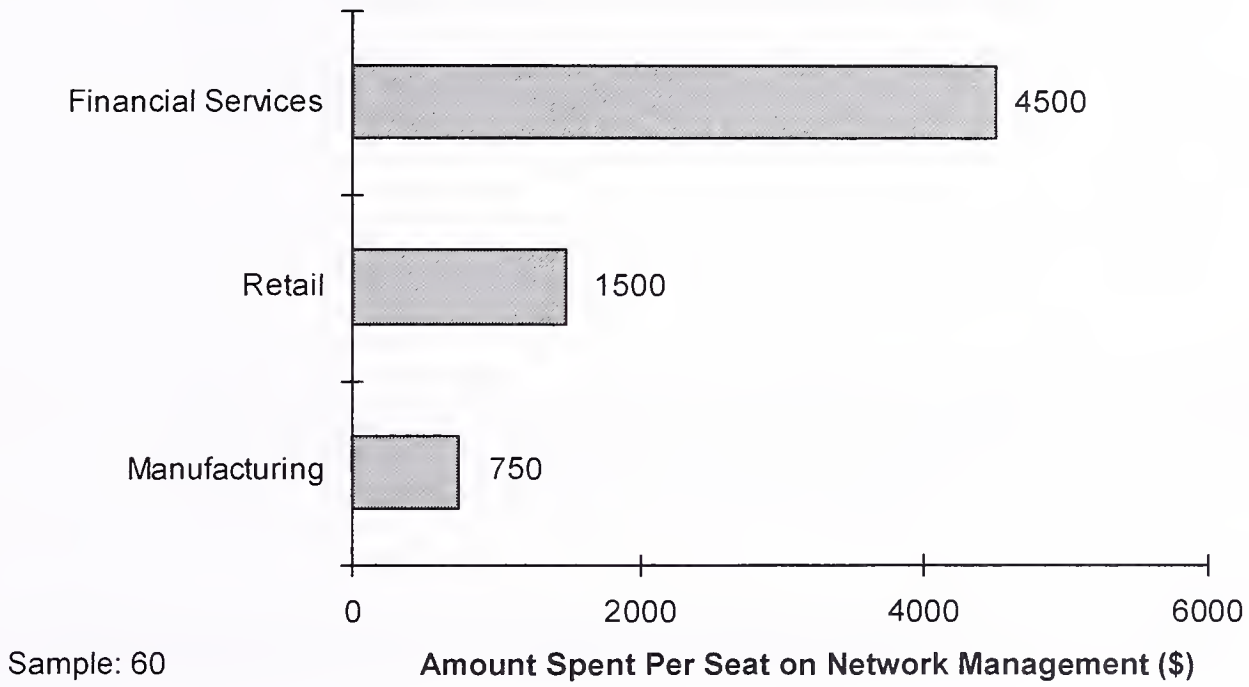
Source:INPUT

Predictably, the financial services sector spends, on average, the largest amount on network management services.

However, the amount spent per seat on network management services varies greatly across industries (see Exhibit III-16).

Exhibit III-16

Average Amount Per Seat Spent on Network Management Services by Industry



Source:INPUT

(Blank page)

Competition and Contract Arrangements

This chapter analyses user perceptions of suppliers of network services. Additionally, it examines the types of Service Levels Agreements (SLAs) which are made available to users of network services.

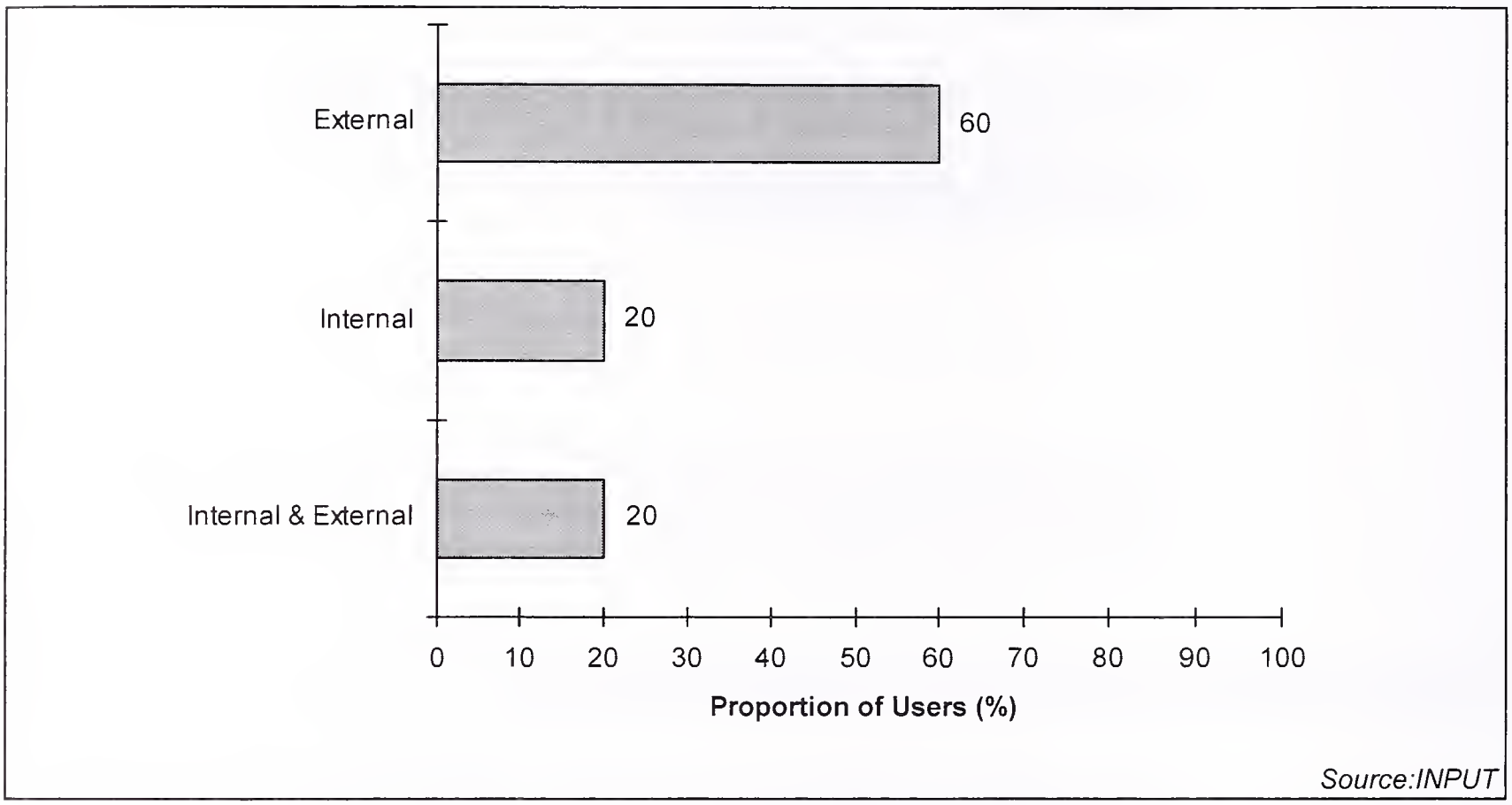
A
Service Levels Agreements for Network Services

While individual IT hardware and software components are more reliable today and less dependent on support than before, the infrastructure which connects IT environments is considerably more vulnerable to failure. For this reason, the importance of clear, unambiguous SLAs which meet business objectives is increasing.

Exhibit IV-1 illustrates the proportions of customers who have internal SLAs, external SLAs and both internal and external SLAs.

Exhibit IV-1

Types of SLAs Held by Network Services Buyers for Principal Networks



Source:INPUT

As an increasing proportion of enterprises purchase network support and management services from external suppliers, it is important to focus on SLAs as SLAs often fail to match expectations. This is largely because vendors focus on devising SLAs which are more slanted towards their interests than those of their customers. However, it is ultimately the responsibility of buyers to ensure that SLAs are designed for their advantage in the first place. Buyers are in a strong position to incorporate the following into their SLAs:

- Quality standards such as response times, coverage and availability
- Procedures for change control, thus offering customers additional flexibility
- Penalties and bonuses.

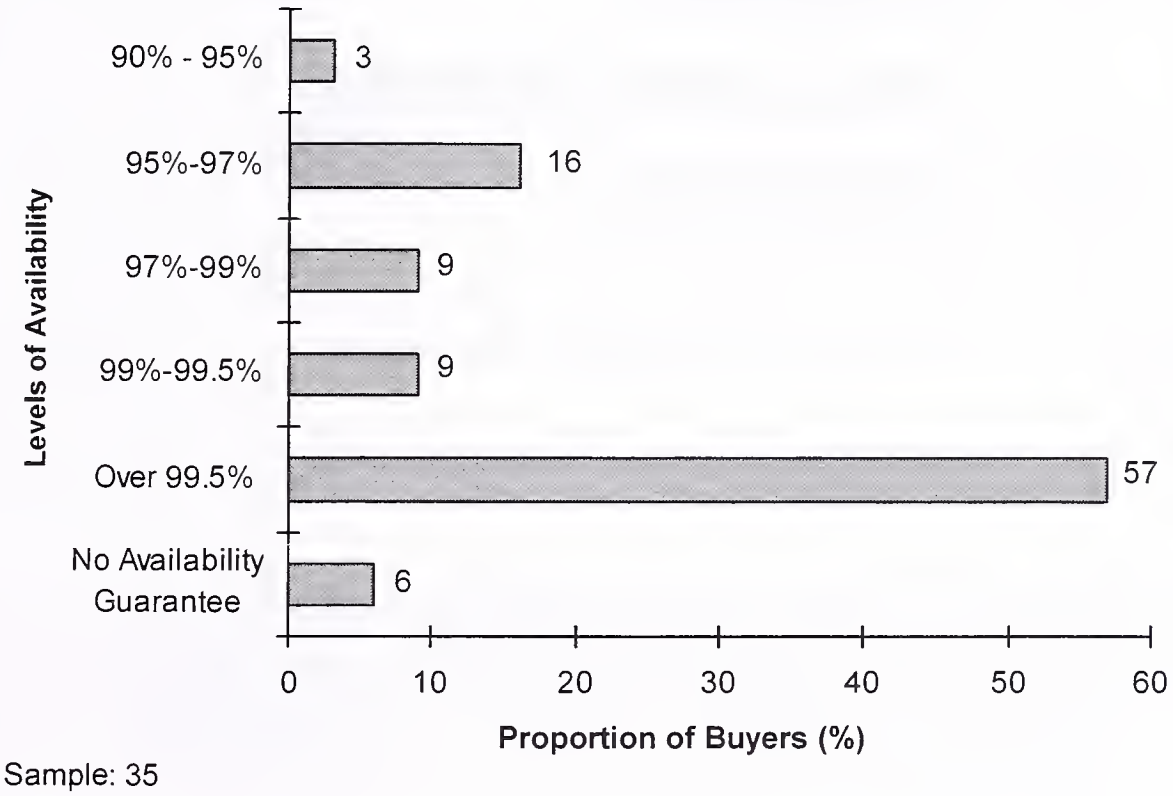
Furthermore, SLAs should not be too generic. Such SLAs will be weak. Instead, they should specify cover for individual components of an IT environment.

INPUT asked buyers to reveal levels of availability and coverage terms within their SLAs, both internal and external.

Exhibit IV-2 reveals availability levels which are incorporated into external SLAs.

Exhibit IV-2

External Guaranteed Levels of Availability



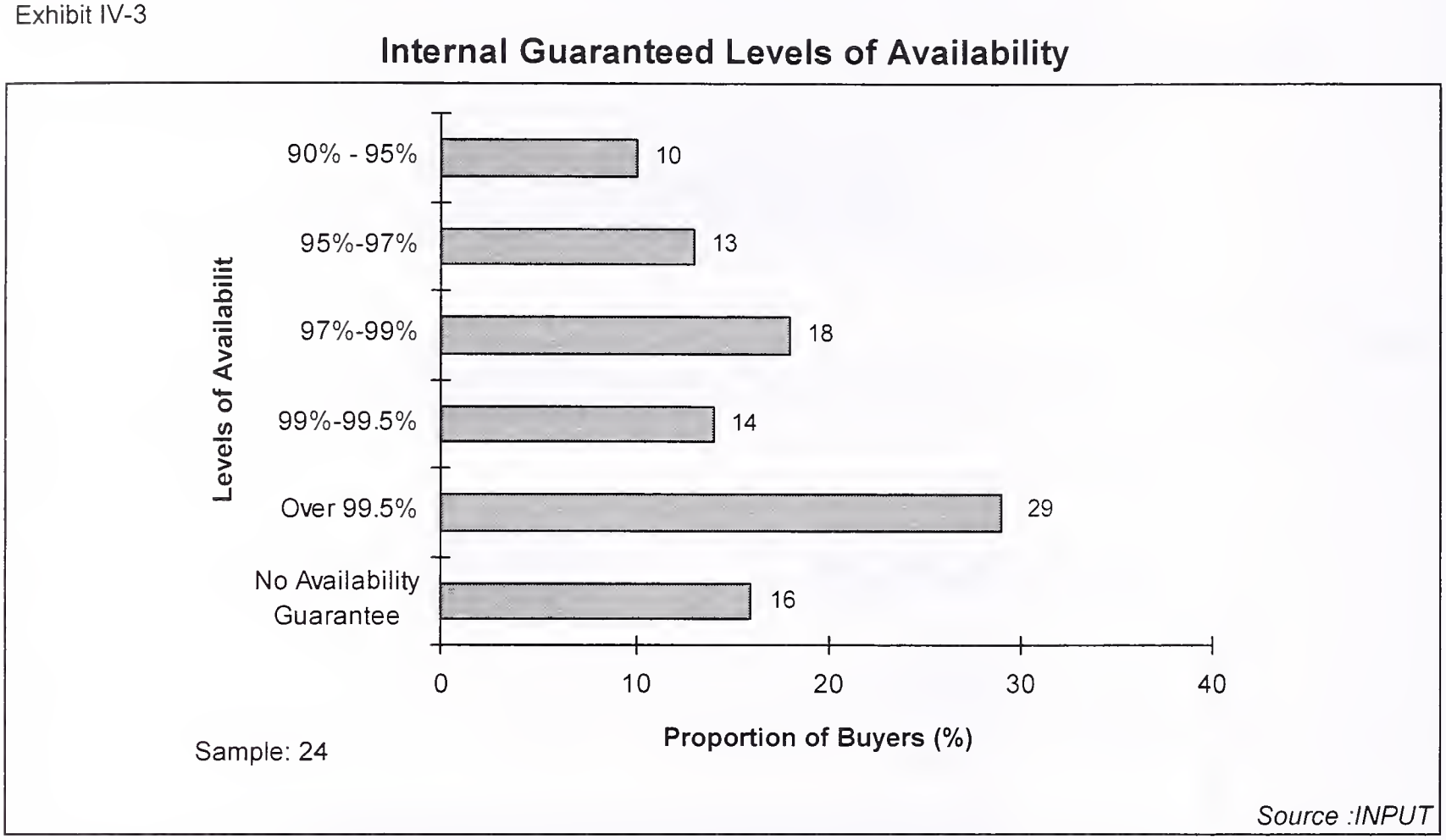
Sample: 35

Source:INPUT

Of those buyers who purchased SLAs with availability guarantees from external suppliers, nearly 60% purchased contracts which guaranteed availability for over 99.5% of the time. Only 6% incorporated no availability guarantee into their SLAs. As networks become increasingly mission critical to enterprises, buyers will seek higher levels of availability.

Exhibit IV-3 illustrates internal guaranteed levels of availability.

Exhibit IV-3



Generally, lower levels of availability which are incorporated into internal SLAs. Enterprises are finding it increasingly difficult to guarantee availability levels of over 99.5% using in-house resources. Hence buyers will demand increasingly high availability levels from external vendors.

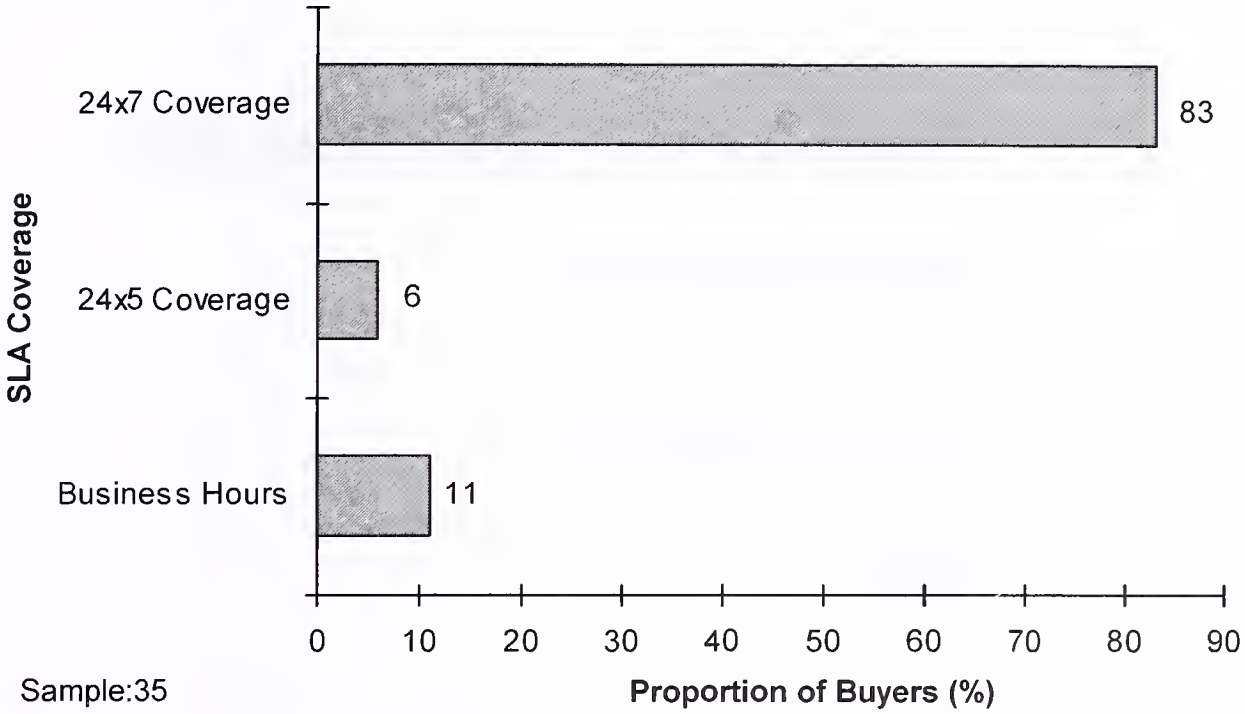
It is necessary for many networks to undertake mission critical business activity outside normal business hours. For example, many networks used in banking must be operational at all times.

Over 80% of SLAss negotiated with external suppliers include 24x7 cover. All external SLAs have some guarantees in terms of the times in which services will be available.

Exhibit IV-4 shows the service coverage in terms of time customers' external SLA guarantees.

Exhibit IV-4

Guaranteed Periods of Service Cover with External SLAs



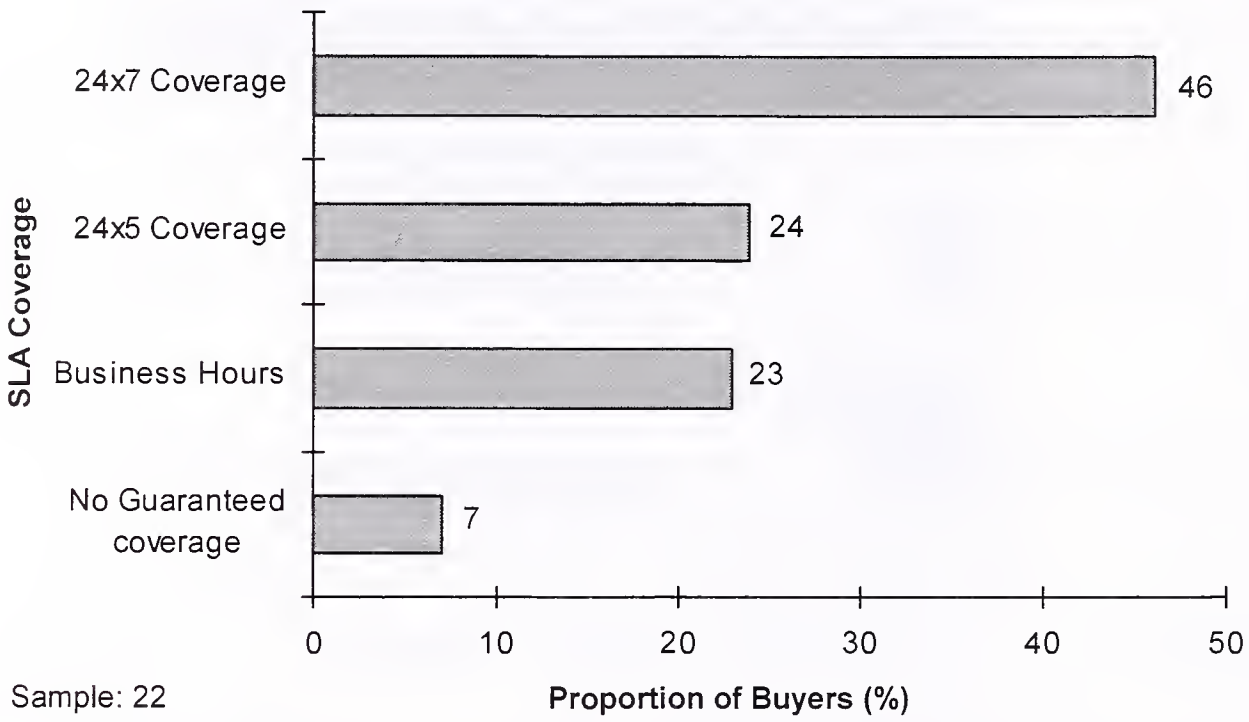
Source:INPUT

Perhaps not surprisingly, a lower proportion of SLAs negotiated with in-house service providers offer 24x7 coverage. Less than 40% of network services buyers receive 24x7 cover from their internal support infrastructure.

Exhibit IV-5 shows the service coverage in terms of time that customers' internal SLA guarantees.

Exhibit IV-5

Guaranteed Periods of Service Cover with Internal SLAs



Source:INPUT

At present SLAs are of particular importance for the support and management of WANs especially where vendors are leasing network bandwidth. Unambiguous SLAs are essential for virtual private networks (VPNs), managed carrier services and Internet business systems like Intranets and extranets.

Interestingly, an SLA monitoring software market has emerged. Software is now available which helps to monitor SLAs such as Openview, and Micromuse's Netcool range of management software. BT uses X-Cell's Net-Tell package.

B

Enterprises Seek One Supplier for Network Support and Management Activities

At present telecommunications vendors are well positioned to benefit from the services market centered around WANs. Indeed many telecommunications vendors such as NTT, AT&T, Cable & Wireless and BT are leveraging their existing expertise to position themselves as end-to-end service provides for large and small companies, offering both WAN and LAN expertise.

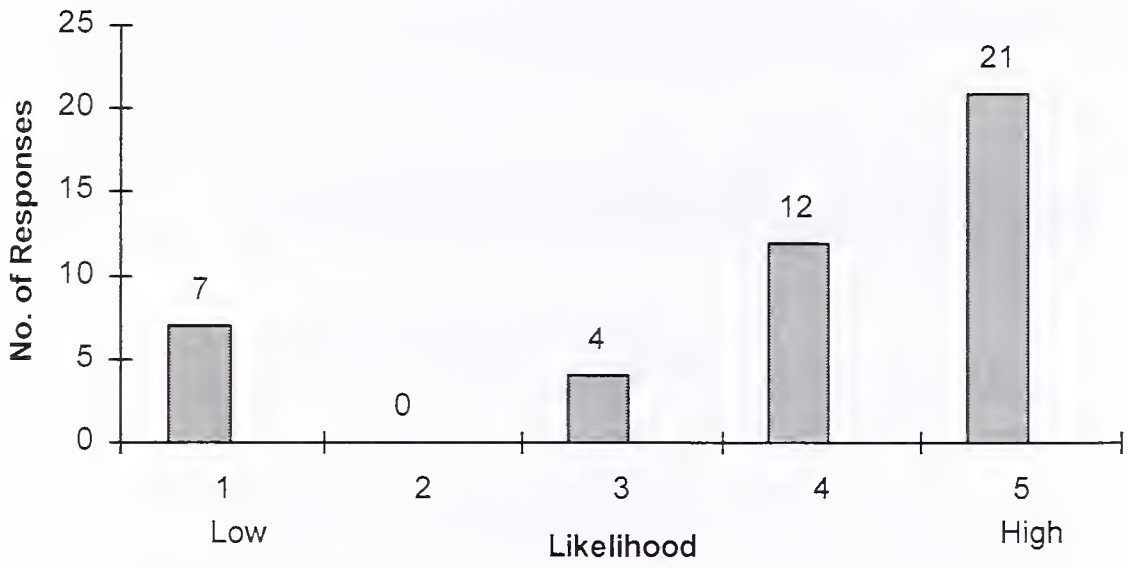
Other network services vendors are becoming increasingly reluctant to offer support for components of IT environments that are beyond their control. For example many vendors do not offer guaranteed fix times for WAN links because they normally need to work closely with telecommunications vendors for this kind of task but do not wish to be held accountable for the failure of telecommunications vendors.

However, it is clear that many services vendors are working very closely with telecommunications vendors in order to offer support services for both LANs and WANs. INPUT research reveals that approximately three-quarters of network services buyers purchase LAN and WAN support from the same supplier.

Customers were asked to indicate the likelihood of using the same supplier for both LAN and WAN support within the next two years (see Exhibit IV-6).

Exhibit IV-6

Likelihood of Using Same Supplier for LAN and WAN Support within Two Years



Sample: 44

Source:INPUT

Most customers indicate that it is likely that they will purchase both LAN and WAN support from the same supplier within the next two years.. However, it is clear that a significant number of buyers have reservations with using the same supplier for both LAN and WAN support:

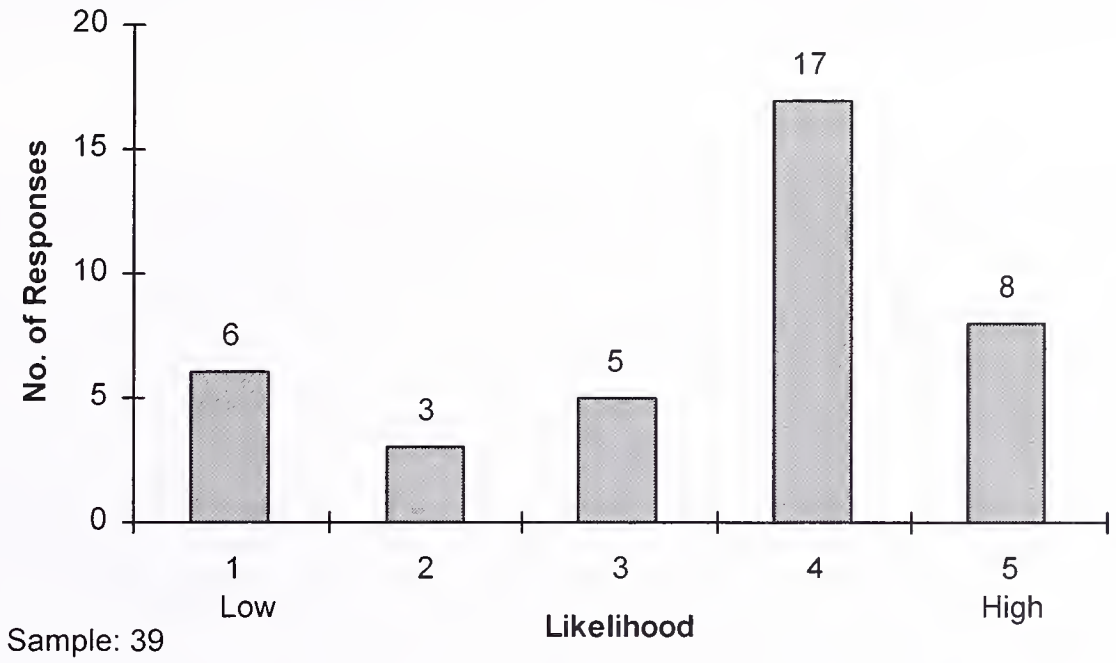
Buyers are aware that LAN and WAN support require different types of expertise and that no single supplier can offer truly 'best of breed' support for both LANs and WANs on a global basis.

Just over 50% of network services buyers purchase LAN and WAN management services from the same supplier.

Customers were asked to indicate the likelihood of using the same supplier for both LAN and WAN management services within the next two years (see Exhibit IV-7).

Exhibit IV-7

Likelihood of Using Same Supplier for LAN and WAN Management within Two Years



Sample: 39

Source:INPUT

In the network services market, there is a definite trend towards lowering the number of network services suppliers. Increasingly, enterprises seek suppliers with end-to-end network support and management capabilities.

C
Market Positioning

Services vendors currently market their network services as a lifecycle which includes:

- Network planning and design services
- Network implementation services
- Network support services
- Network management services.

Network planning and design services and network implementation services tend to be 'one off' activities. Network support and network management, on the other hand, are on-going activities. For this reason, vendors tend to focus strongly on the provision of support and management services within the network services lifecycle.

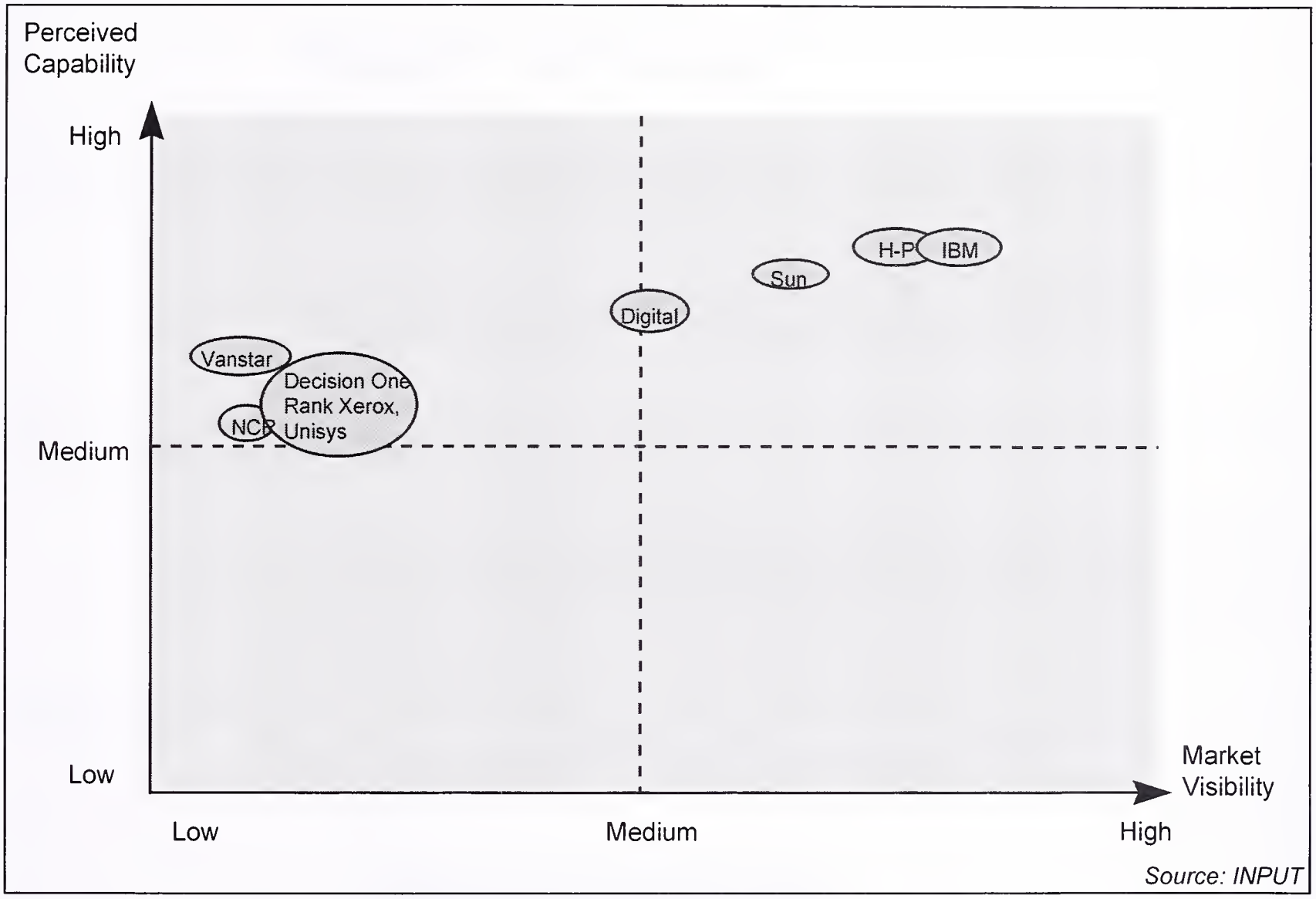
However, vendors generate the largest profit margins from the provision of network management services. The market for network management services is growing very rapidly, hence vendors are keen to sell network management services in addition to any other network service.

INPUT asked users of network management services to indicate whether or not they are aware of major network management vendors in the US. Additionally, users were asked to indicate their perceptions of the network management capabilities of network management vendors of whom they are aware on a scale of 1 to 5 (where 1 = low capability and 5 = high capability). A score of 3 is taken to represent medium capability; awareness of a vendor by 30% network management buyers represents medium awareness.

Exhibit IV-8 illustrates user perceptions of major network management vendors in the US.

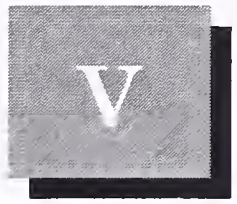
Exhibit IV-8

Buyer Perceptions of Major Network Management Vendors in the US



IBM, H-P and Sun are well placed in terms of buyer perceptions of their activities. They are recognised as network management vendors and perceived to have strong network management capabilities. Although the other vendors illustrated in Exhibit IV-8 offer network management services, US buyers are not aware of their network management activities.

(Blank Page)



Buyer Attitudes

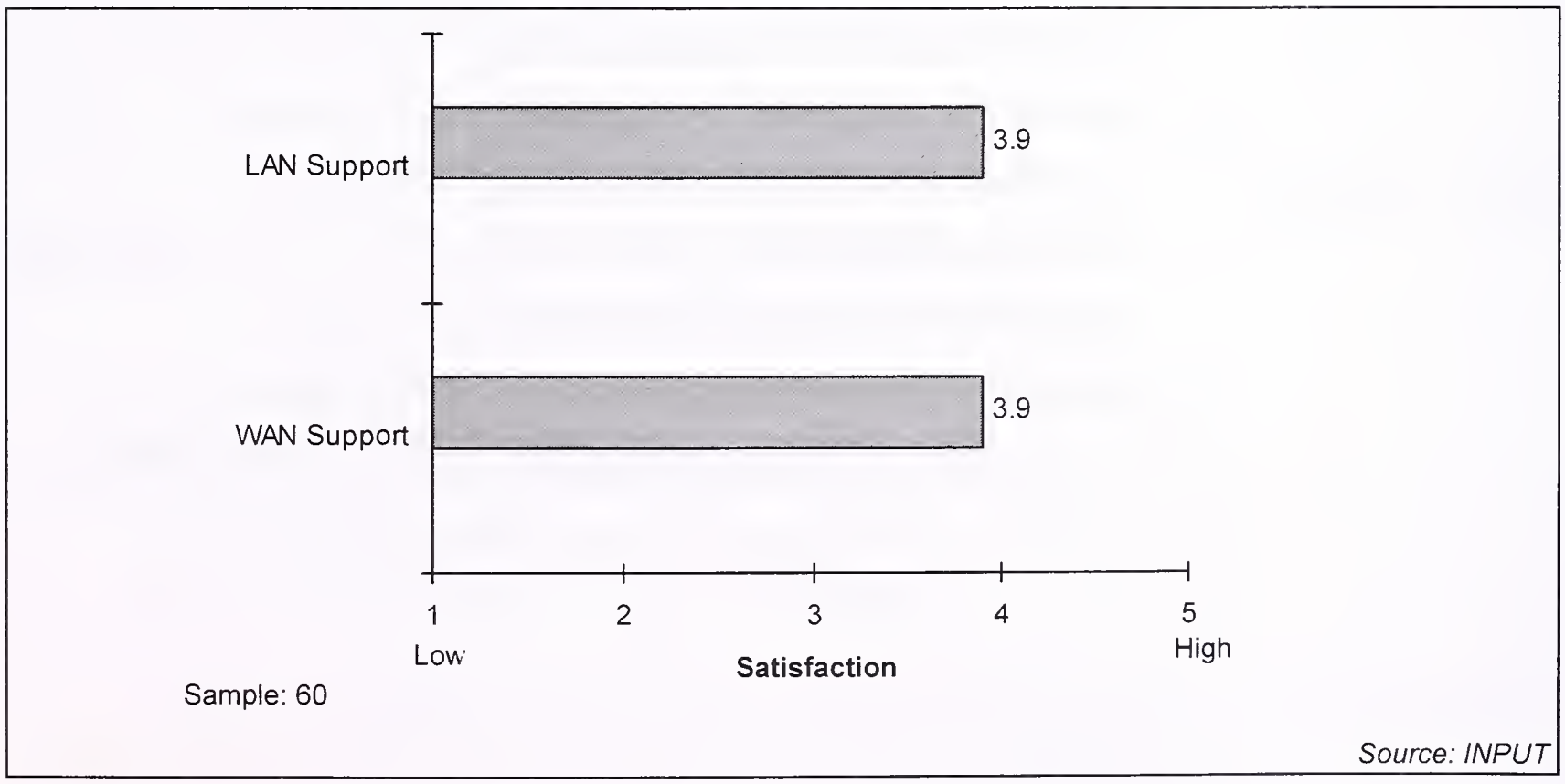
This chapter analyses buyer attitudes towards network support and management services provided by external suppliers.

A
Buyer Attitudes to Network Support

Despite the differing capabilities which are required for LAN and WAN support services, buyer satisfaction levels are the same. In fact, a score of 3.8 or above is taken by INPUT to indicate a high level of satisfaction (see Exhibit V-1).

Exhibit V-1

Buyer Satisfaction with LAN & WAN Support Services



INPUT asked network support buyers to reveal their attitudes towards aspects of network support services in terms of importance and satisfaction. Exhibit V-2 illustrates customer satisfaction and perceived importance levels which can be attributed to aspects of network support services provided by external suppliers.

Exhibit V-2

Ratings of Network Support Issues

Issue	Importance Rating	Satisfaction Rating	Difference
Problem Resolution Times	4.5	3.6	0.9
Coverage in terms of Time	4.5	4.0	0.5
Quality of Staff	4.5	4.0	0.4
Proactive Support	4.4	3.5	0.9
Telephone Response Times	4.4	3.8	0.6
Cost/Benefit Ratio	4.2	3.5	0.7
Flexibility	4.2	3.7	0.5
Geographic Coverage	4.0	3.9	0.1
On-Site Support	4.0	3.5	0.5
Multivendor Support	3.9	3.6	0.3
Support Delivered via Internet	3.9	3.4	0.5
Network Installation	3.7	3.6	0.1

Source: INPUT

Problem resolution times, coverage in terms of time and the quality of staff are perceived by network support buyers to be the most important aspects of network support services. However, there is considerable scope for improvement. The difference between average satisfaction and importance levels for problem resolution times in particular is high

Vendors must be perceived to be offering more proactive services — vendors are still considered to take a reactive approach to network support despite a greater awareness of the need to offer proactive support services.

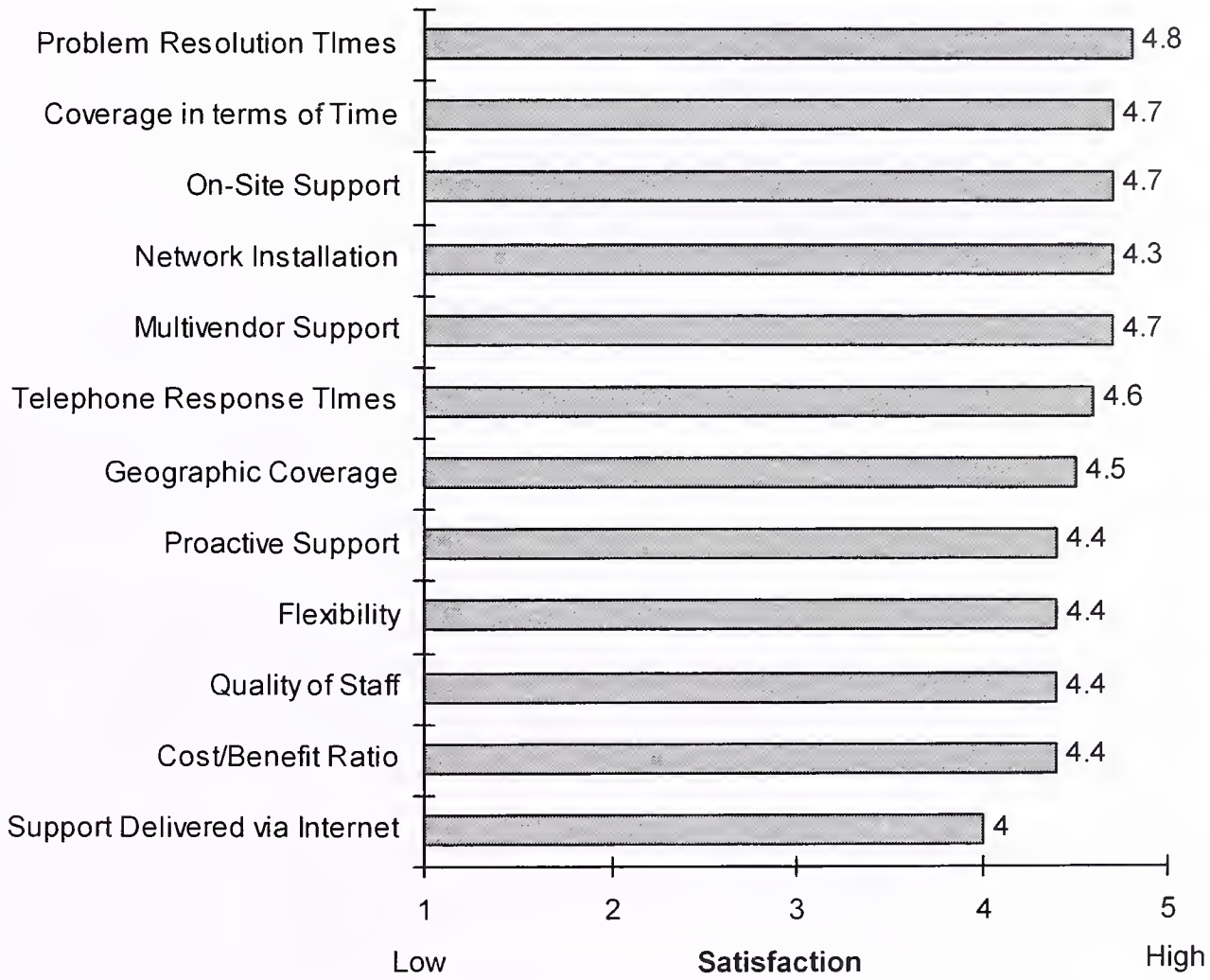
Most network support vendors now offer support contracts which include broad coverage both in terms of time and geography. INPUT research indicates that buyers are highly satisfied with these aspects of network support.

The ability of the Internet to act as a support medium is limited. Indeed, the delivery of network via the Internet is not considered to be an important aspect of network support offerings. At present it only acts as filter for some problems and is used largely to reduce call volume and assist support buyers to escalate their own problems.

Exhibit V-3 illustrates customer perceptions of the importance of aspects of network support in two years' time.

Exhibit V-3

Importance of Aspects of Network Support in Two Years' Time



Sample: 60

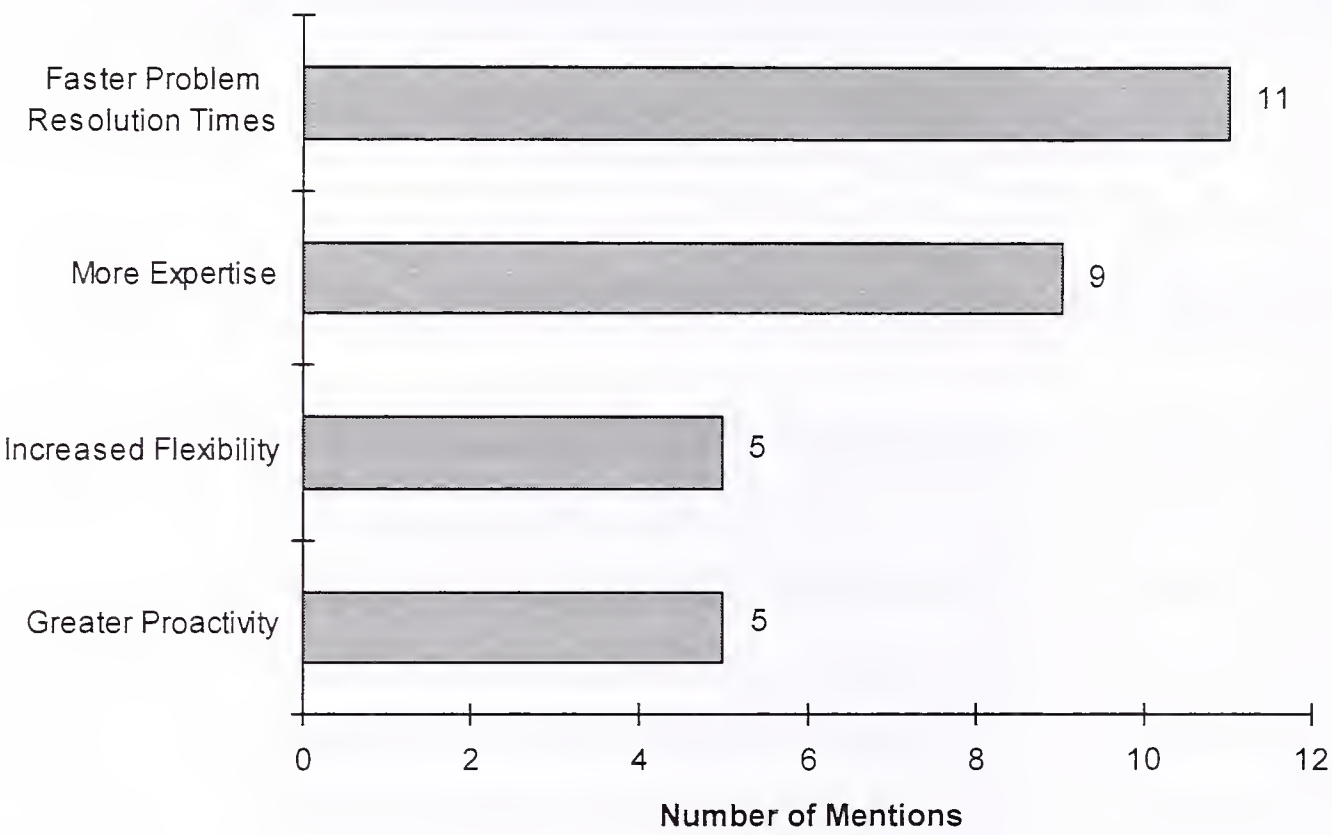
Source: INPUT

Buyers believe that in two years' time, the importance of most aspects of network support will increase significantly. As networks underpin an increasing proportion of mission critical business processes, so each aspect of support will become more critical.

Exhibit V-4 shows the ways in which network support could be improved.

Exhibit V-4

Improvements to Network Support Services



Source: INPUT

When buyers were asked to indicate ways in which they believe that network support could be improved unprompted, faster problem resolution times, more expertise, increased flexibility and a more proactive approach were mentioned frequently.

B

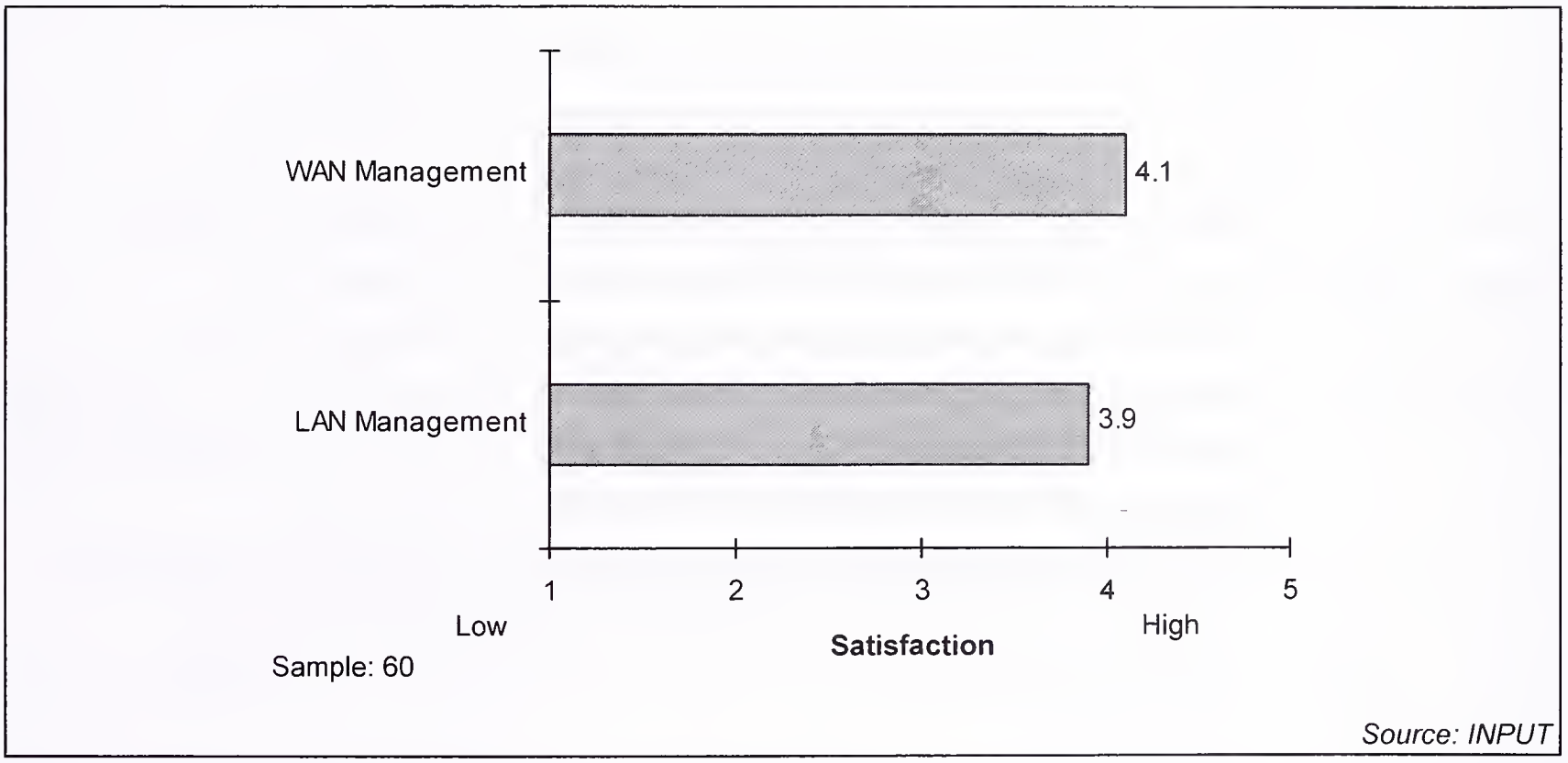
Buyer Attitudes to Network Management

Network management services are becoming increasingly important as networks themselves become critical to an increasing proportion of business processes.

Exhibit V-5 shows buyer satisfaction levels with LAN and WAN management services.

Exhibit V-5

Buyer Satisfaction Levels with LAN and WAN Management Services



Source: INPUT

Overall satisfaction levels with network management services are high. Although many users express reluctance to subcontract the management of their networks, those that do are typically satisfied.

INPUT asked buyers of network management services to attribute levels of importance and levels of satisfaction to aspects of network management services (see Exhibit V-6).

Exhibit V-6

Ratings of Network Management Issues

Issue	Importance Rating	Satisfaction Rating	Difference
Network Security	4.4	3.8	0.6
Reliability & Manageability	4.4	4.1	0.3
Proactive Problem Resolution	4.3	3.9	0.4
Network Optimization	4.3	3.8	0.5
Cost/Performance	4.2	3.5	0.7
Performance Management	4.2	3.8	0.4
Traffic Management	4.1	3.9	0.2
Configuration Management	4.1	3.6	0.5
Capacity Management	4.1	3.8	0.3
Planning & Design	4.0	3.7	0.3

Source: INPUT

Network security is the most important aspect of network management at present. Furthermore, the difference between satisfaction and importance levels which buyers attribute to network security is significant.

Today's networked IT environments are much more vulnerable to security breaches than proprietary mainframe environments. For this reason network security is now of critical importance to many enterprises.

Internal as well as external security breaches are commonplace. An example of a security breaches which disrupted business processes is the altering of intranet pages of interest and currency rates causing traders to lose millions of dollars on miscalculated deals.

In addition to the threat from hacking, the rise of networked IT environments has exposed enterprises to a greater risk from industrial espionage, email eavesdropping, sabotage, fraud, virus attack, data theft, and illicit funds transfer. Interestingly, the most common security

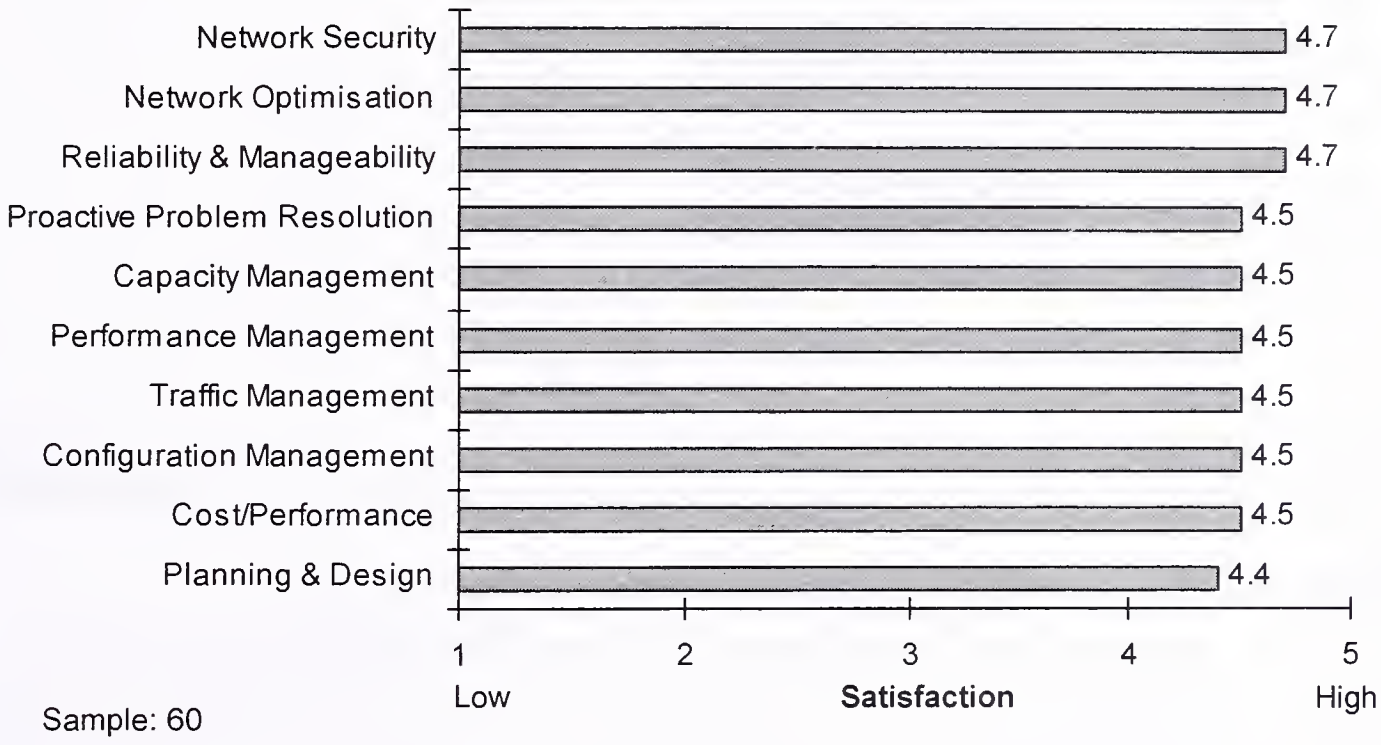
problem is the unintentional corruption of files by unauthorized employees.

Reliability and manageability of the network together with proactive problem resolution which involves use of the network are also very important aspects of network management.

Exhibit V-7 illustrates the importance of a number of network management issues to enterprises in two years' time.

Exhibit V-7

Improvements to Network Management Services



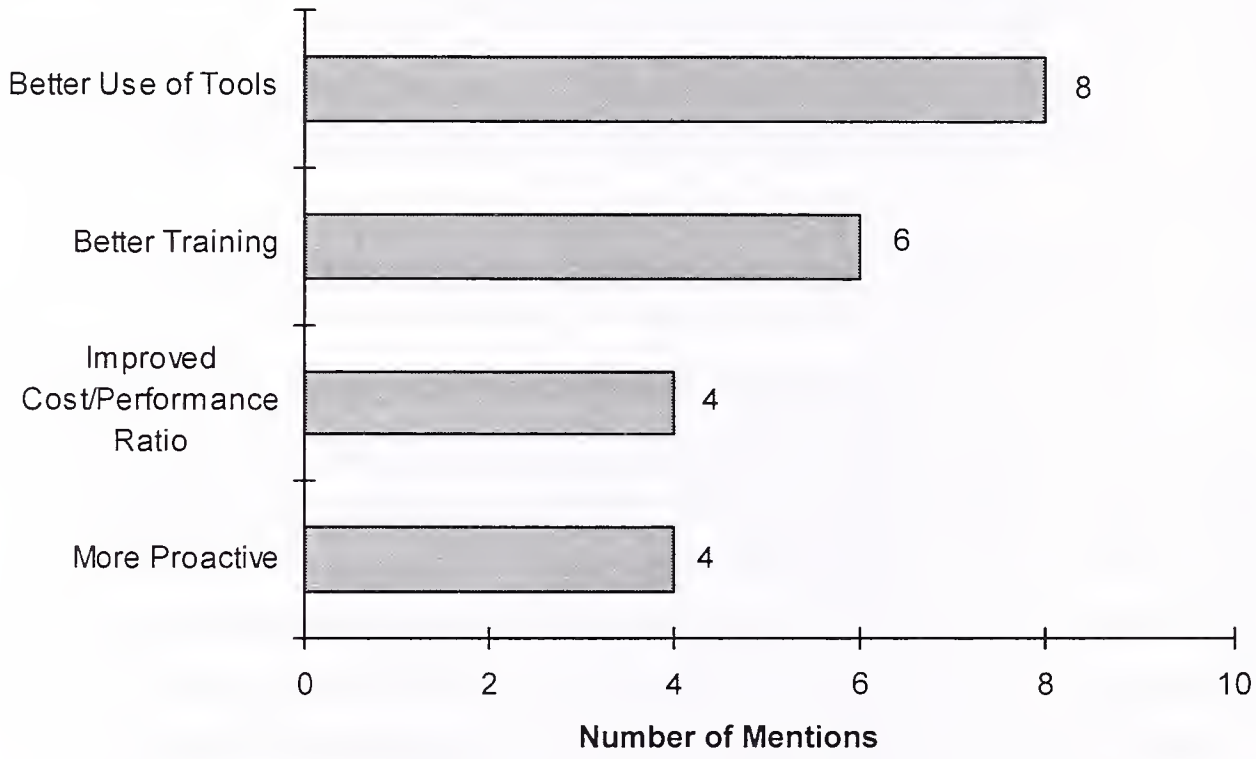
Source: INPUT

Network management buyers expect the importance of most aspects of network management to increase as networks become more mission critical.

Exhibit V-8 shows ways in which network management buyers believe that network management services could be improved.

Exhibit V-8

Improvements to Network Management Services



Source:INPUT

A more proactive approach to network management which seeks to optimize the network for business processes would enhance network management services. Additionally, fully utilizing the functionality of network management software and offering more training to end users is perceived to improve the effectiveness of network management services. Some buyers do not believe that their network management services offer good value for money and that the cost/performance ratio of the service could be improved in their favor.

A

Network Management User Perceptions

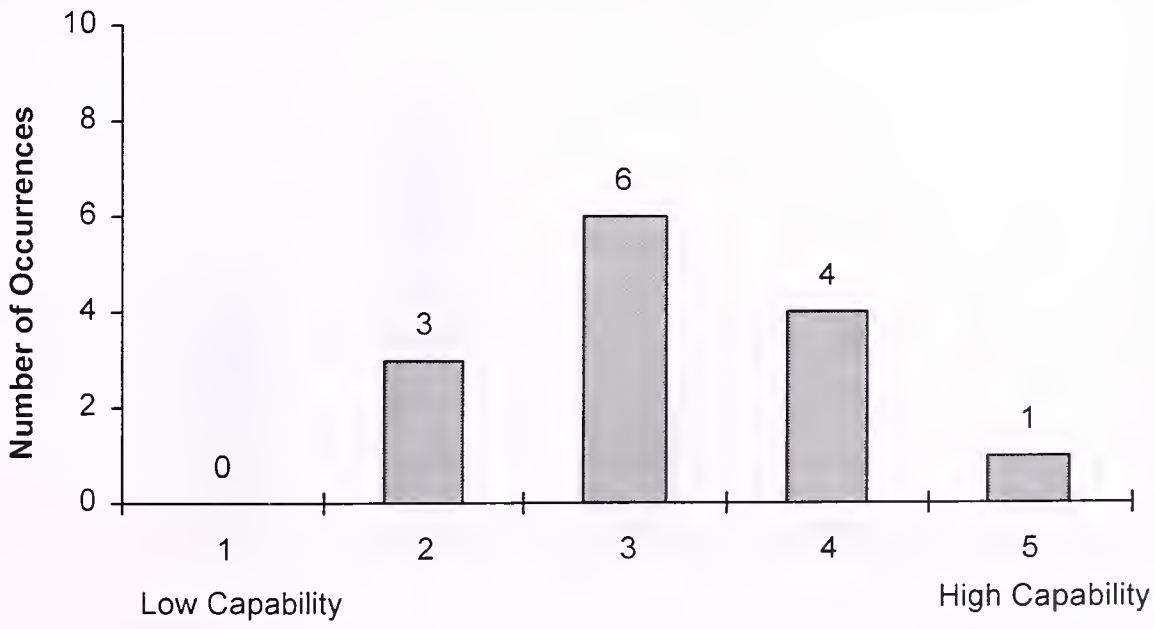
This appendix illustrates the perceptions of services vendors held by 60 network management user in the United States.

Users were asked to indicate their perceptions of the capability of a number of vendors as network management suppliers where 1 = low capability and 5 = high capability.

A Decision One

14 interviewees are aware of Decision One as a network management services supplier.

Exhibit A-1

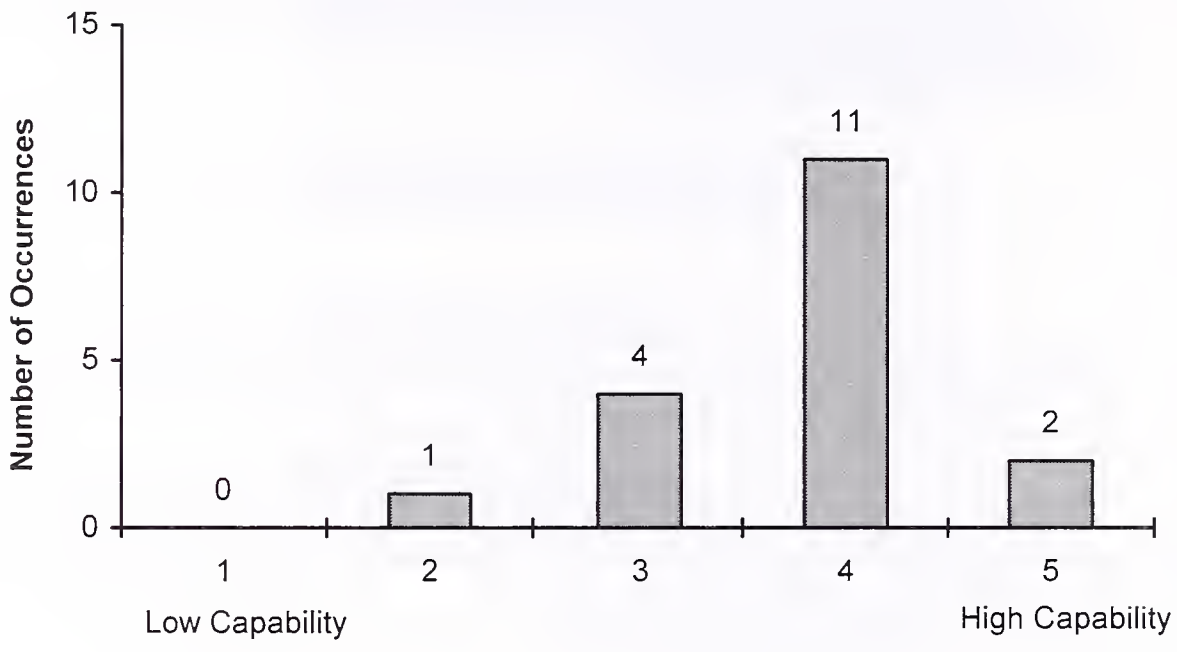


Source: INPUT

B
Digital

18 interviewees are aware of Digital as a network management services supplier.

Exhibit A-2

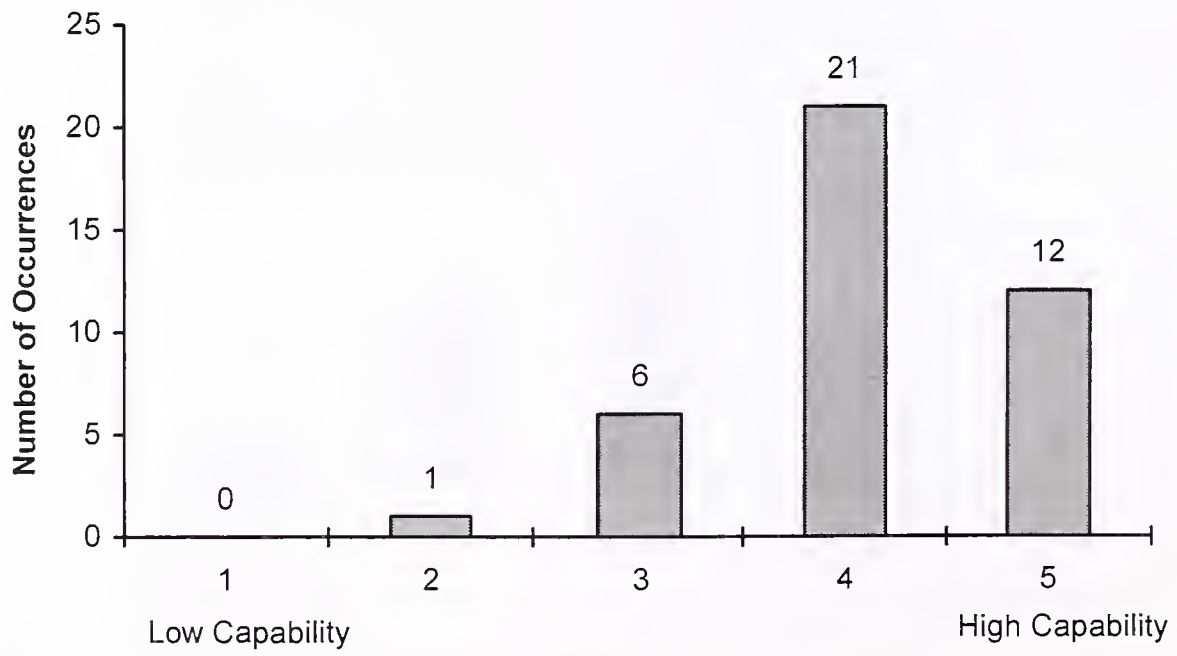


Source: INPUT

C
H-P

40 interviewees are aware of H-P as a network management services supplier.

Exhibit A-3

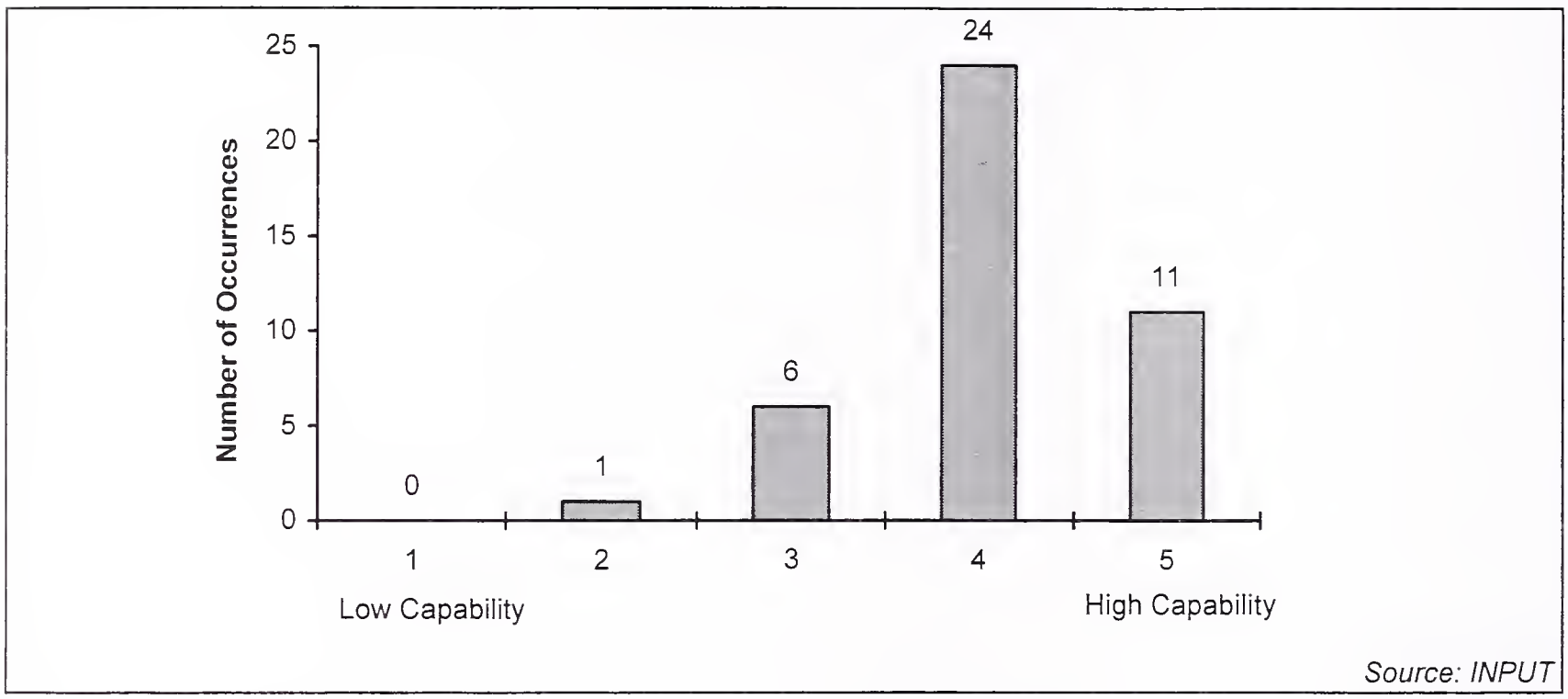


Source: INPUT

D
IBM

42 interviewees are aware of IBM as a network management services supplier.

Exhibit A-4

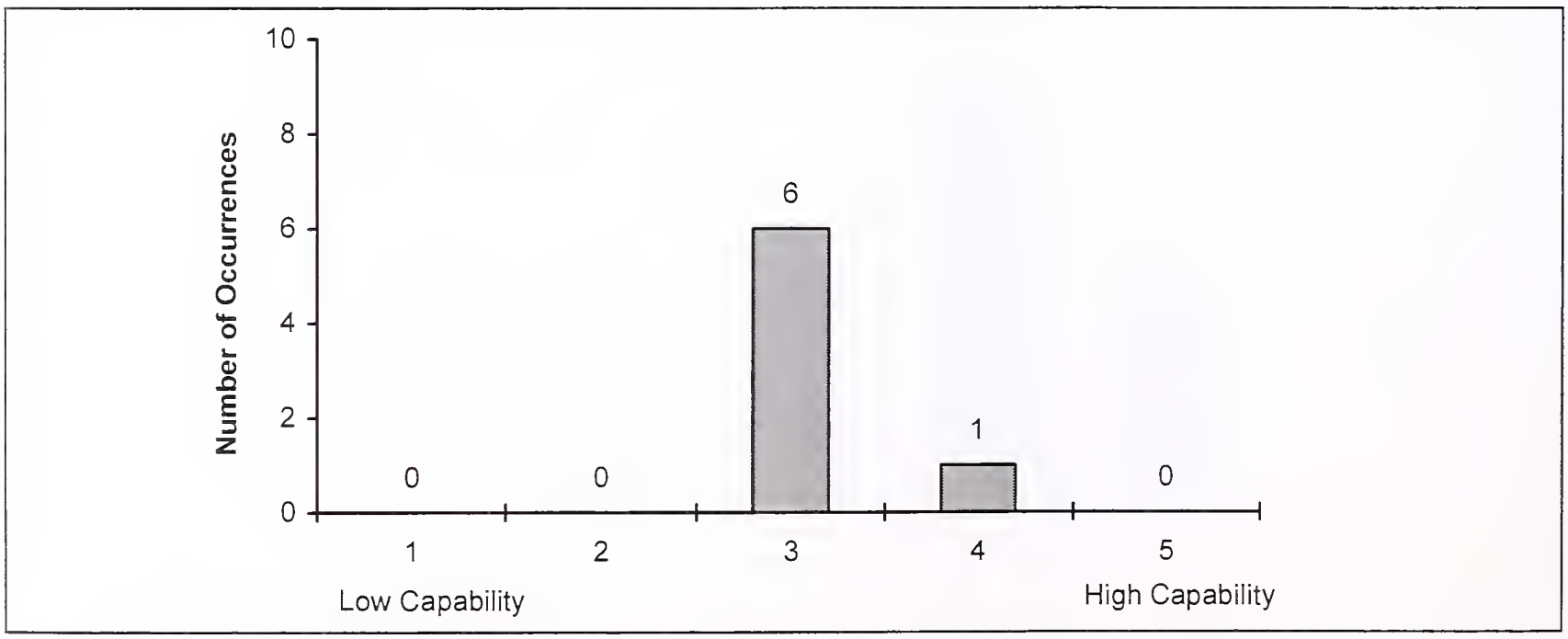


Source: INPUT

E
NCR

7 interviewees are aware of NCR as a network management services supplier.

Exhibit A-5



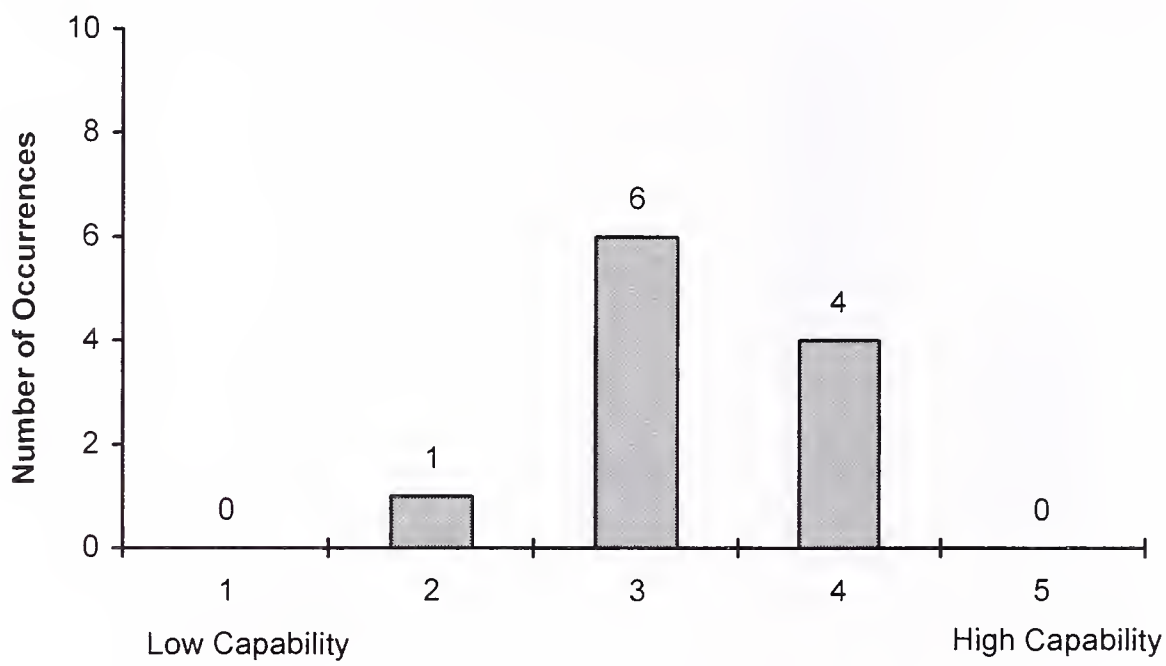
Source:INPUT

F

Rank Xerox

11 interviewees are aware of Rank Xerox as a network management services supplier.

Exhibit A-6



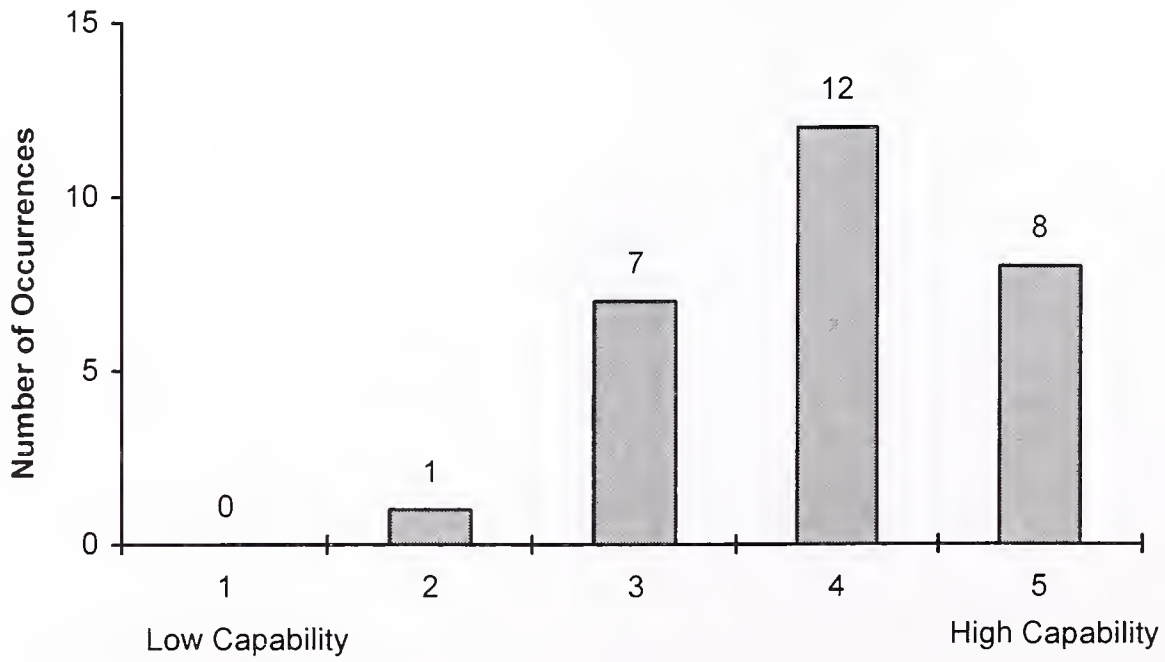
Source: INPUT

G

Sun

28 interviewees are aware of Sun as a network management services supplier.

Exhibit A-7



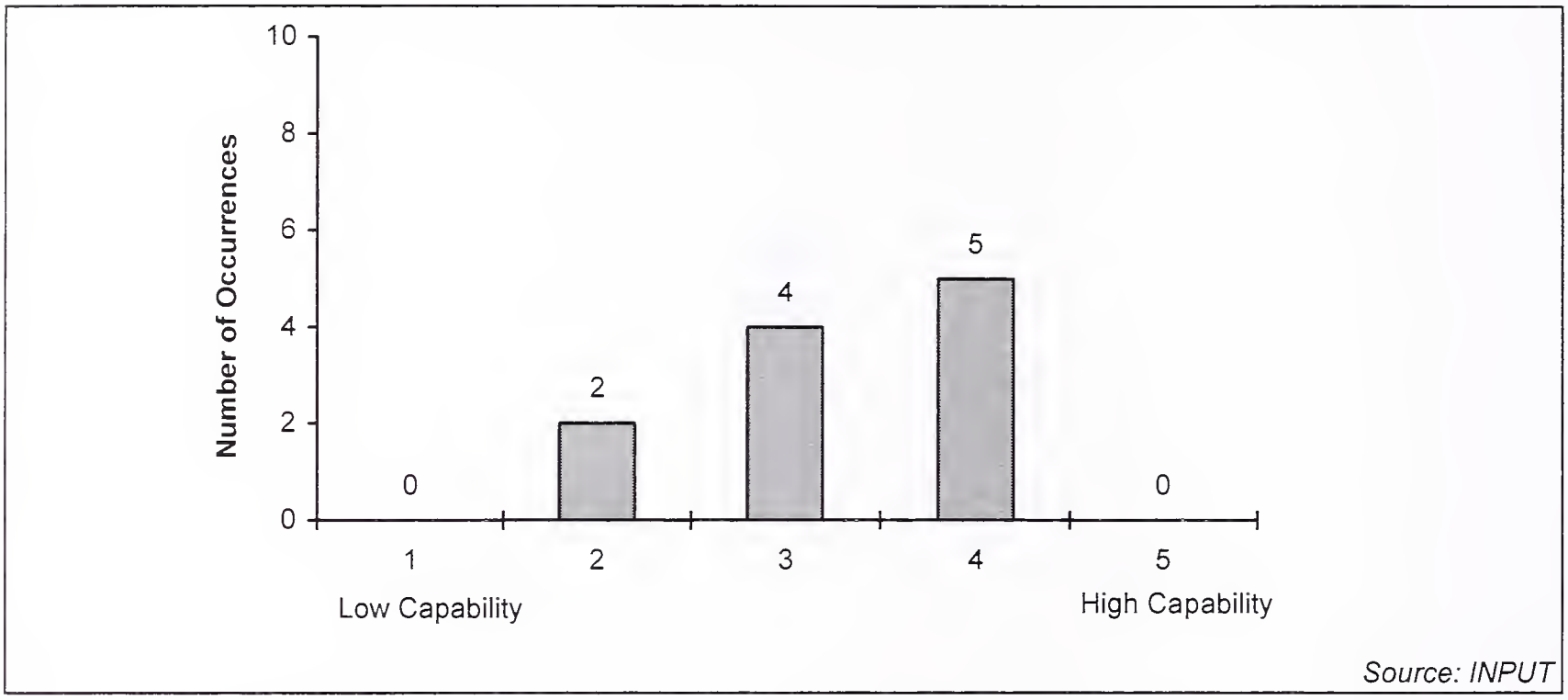
Source: INPUT

H

Unisys

11 interviewees are aware of Unisys as a network management services supplier.

Exhibit A-8



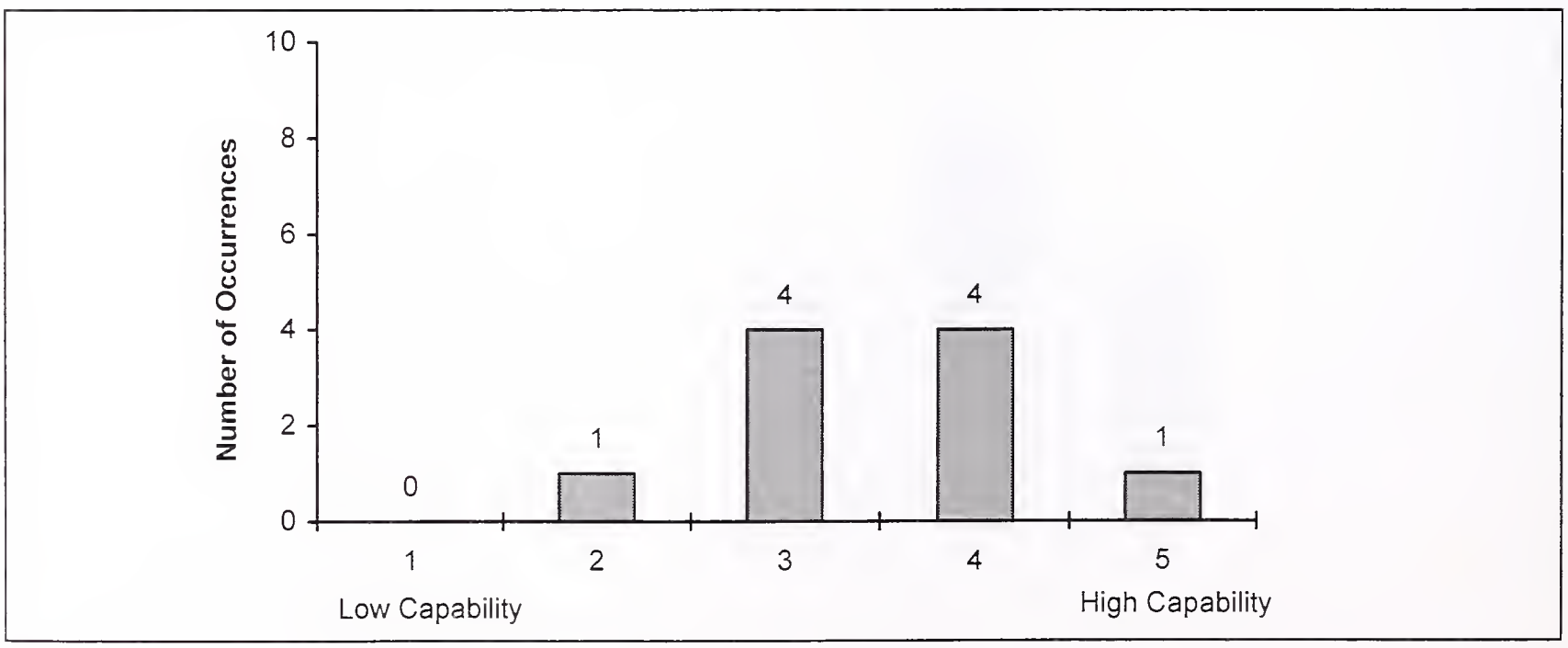
Source: INPUT

I

Vanstar

10 interviewees are aware of Vanstar as a network management services supplier.

Exhibit A-9



Source: INPUT

(Blank page)