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MARKET FORECAST

Information Systems Outsourcing Market Europe 1996 – 2001

Outsourcing Programme – Europe

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Information Systems Outsourcing Market Europe 1996-2001

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Abstract

The purpose of this report is to track the key trends in the European information systems outsourcing market and to provide a comprehensive forecast of the size of the market over the period 1996-2001. In addition, the report forecasts the changing pattern of demand, and hence service types, within Europe.

The report provides:

- An analysis of the changing nature of the European information systems outsourcing market
- Forecasts by service type for Europe and each individual country
- Forecasts of the information systems outsourcing market by industry
- Market shares of the leading outsourcing vendors in Europe and each individual country.

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Outsourcing Programme — Europe

Information Systems Outsourcing Market, Europe 1996-2001

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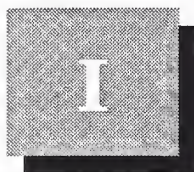
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Introduction

A

Scope and Objectives

In spite of many predictions to the contrary, growth in the European IT outsourcing market has been strong in recent years. This high level of growth is set to continue over the next few years, fuelled by organisations increasing acceptance of the outsourcing concept, the Year 2000 problem and the fundamental changes taking place in the IT infrastructures of many organisations.

The objectives of this report are:

- To identify the major market trends taking place in the European outsourcing market
- To forecast the size of the European outsourcing market by delivery mode, industry and country
- To provide league tables of outsourcing vendors by country
- To identify the key business pressures and outsourcing trends within a number of key industry sectors.

Outsourcing is defined by INPUT as follows.

Outsourcing is a long-term relationship (greater than one year) between a client and vendor in which the client delegates all, or a major portion, of an operation or function to the vendor. The operation or function may be solely Information Systems Outsourcing-based, or merely include Information Systems Outsourcing as a prominent component of the operation (at least 30% of the budget).

The critical components defining an outsourcing service are:

- Delegating an identifiable area of the operation to a vendor
- Single vendor responsibility for performing that delegated function
- Intended, long-term relationship between the client and vendor
- Contract term is at least one year
- Client's intent is not to perform this function with internal resources
- The contract may include non-Information Systems Outsourcing activities, but Information Systems Outsourcing must be an integral part of the contract
- Outsourcing is a collection of services integrated under a single, long-term contract with one vendor responsible for its operation and management.

Business Operations Outsourcing (also known as, Business Outsourcing or Functional Outsourcing) is a relationship in which one vendor is responsible for performing an entire business/operations function including the Information Systems Outsourcing that support it. The Information Systems Outsourcing content of such a contract must be at least 30% of the total annual expenditure in order for INPUT to include it in the Business Operations Outsourcing market.

Information Systems (IS) Outsourcing can be viewed as a component of the Business Operations Outsourcing market (i.e., Information Systems Outsourcing is a business/operations function, see Exhibit I-1). However, in order to delineate between outsourcing contracts that are solely IS versus those that include IS as well as other functions, IS Outsourcing will be segregated from Business Operations Outsourcing. Information systems Outsourcing is divided into four service components as shown in Exhibit I-2.

- *Systems Operations* outsourcing describes a relationship in which a vendor is responsible for managing and operating a client's "computer system"/data centre (*Platform Systems Operations*) or developing and/or maintaining a client's application as well as performing Platform Operations for those applications (*Applications Systems Operations*).

- *Desktop Services* is a relationship in which a vendor assumes responsibility for the deployment, maintenance and connectivity of personal computer, workstations, client/server and LAN systems in the client organisation. To be considered as Desktop Services outsourcing, a contract must include a significant number of the individual services listed below.
 - Software Product Supply
 - Equipment Supply
 - Equipment/Software Installation
 - Equipment Maintenance
 - LAN Installation and Expansion
 - LAN Management
 - Network Interface Management
 - Client/Server Support
 - Logistics Management
 - User Support
 - Help Desk Functions
 - User Training and Education
- *Network Management* outsourcing is a relationship in which a vendor assumes full responsibility for operating and managing the client's data telecommunications systems. This may also include the voice, image and video telecommunications components
- *Application Management* is a relationship in which the vendor has full responsibility for developing and maintaining all of the application or function.

Exhibit I-1

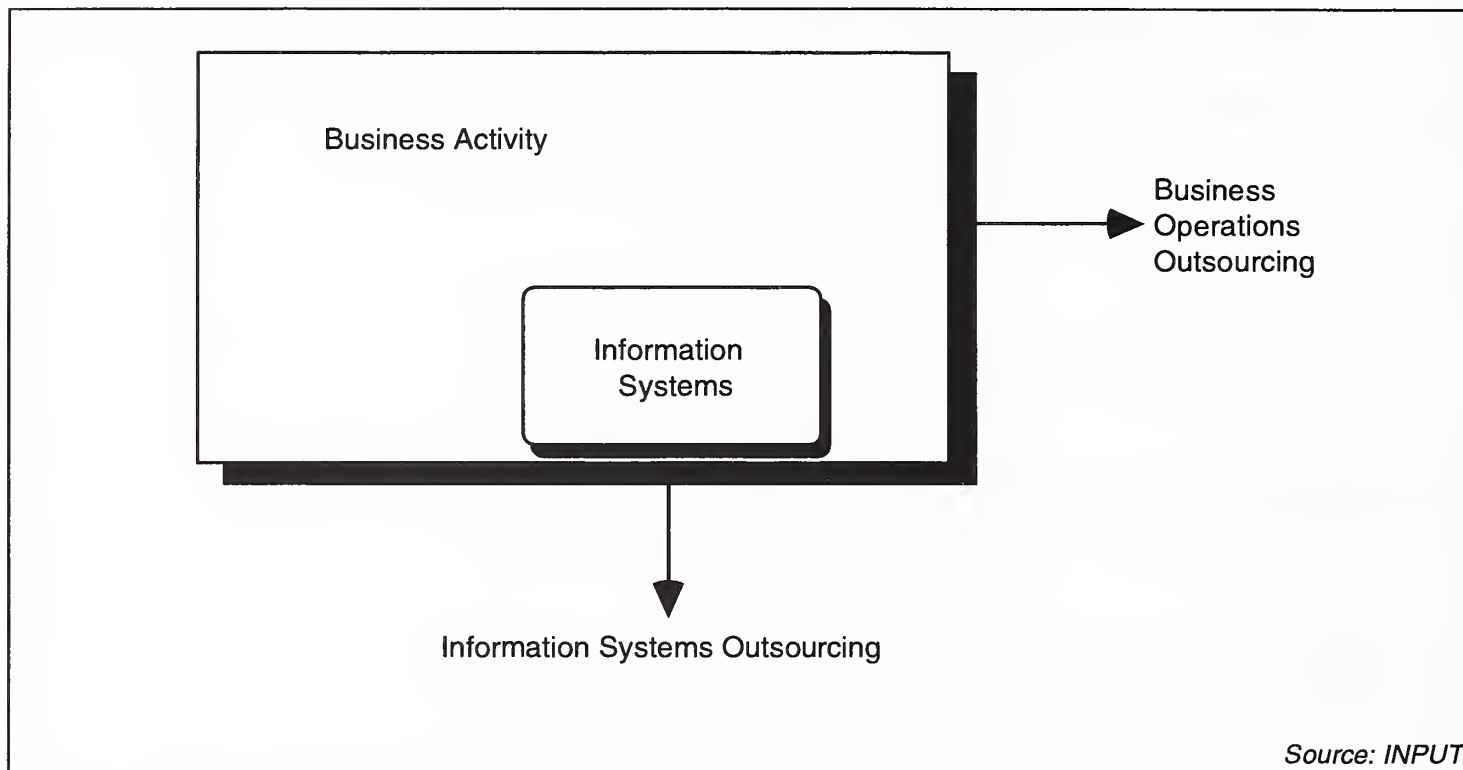
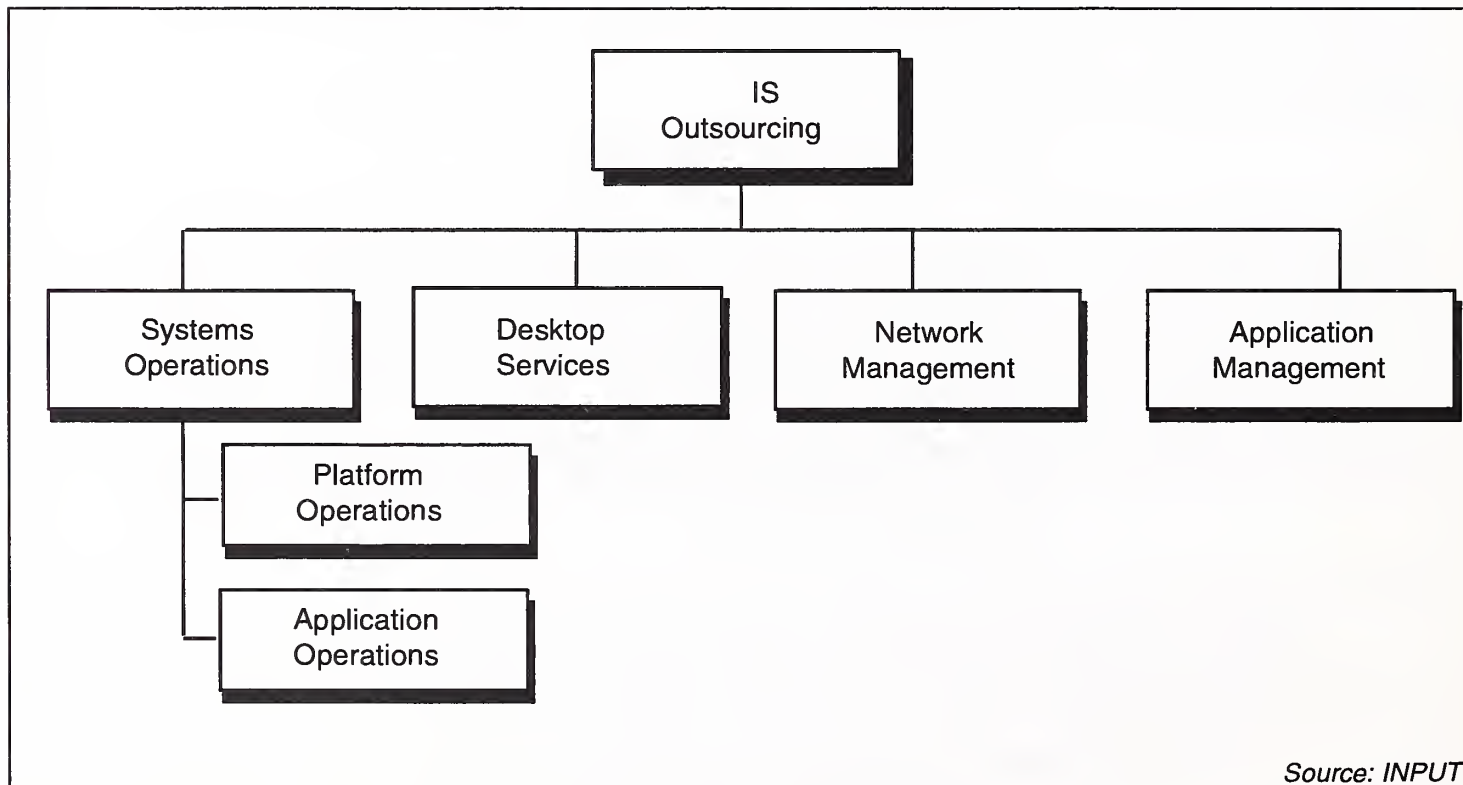
Business Operations Outsourcing

Exhibit I-2

Information Systems (IS) Outsourcing Service Categories

The above definitions focus on the services covered in the outsourcing contract. For example, an Application Operations contract can include all facets of Information Systems Outsourcing (platform operations, desktop services, network and application management). The key to INPUT's market definition is the service contract. If a customer only wants to outsource the network, it is network management outsourcing. If an airline, for example, wishes to outsource their reservation operation which includes not only the network, but also its infrastructure, applications and the people running the operation, this is a Business Operations Outsourcing contract. Exhibit I-3 shows the service components that may be included in each outsourcing service category.

Exhibit I-3

Outsourcing Service Components

Component	Platform Ops	Appl. Ops.	Desktop Services	Network Mgt.	Appl. Mgt.	Business Ops.
Project/Contract Management	X	X	X	X	X	X
Data Centre Management	X	X				X
Client\Server Operations	X	X	X			X
Equipment Maintenance	X	X	X			X
System Software Maintenance	X	X	X	X		X
Application Software Maintenance		X	X		X	X
Application Development		X			X	X
LAN Management		X	X	X		X
WAN/MAN Management		X		X		X
Transaction Processing Services		X				X
Other Professional Services		X	X		X	X
Business Process Operations						X

Source: INPUT

The largest, most visible contracts awarded over the past year have been typically Application Operation outsourcing contracts since they, at least, included management of the infrastructure (data centres and various computing platforms) and the support of some legacy applications. In the past, most Application and Platform Operation outsourcing contracts

included network management but recent contracts have also included desktop services.

What is not included in INPUT's world of outsourcing are the following:

- Project based services are not considered as part of outsourcing. Thus, Systems Integration and application development projects are not included
- Services that were never intended to be performed internally. Maintenance only services do not constitute an outsourcing function by itself. However, responsibility for hardware and software maintenance is inherent in most outsourcing contracts
- Processing services contracts of less than one year
- Voice-only network management
- Business operations with minimal information systems content. For example, the outsourcing of the marketing communication function to an outside agency is not covered by INPUT's analysis. A function or business operation must at least have 30% of its budget attributed to information technology to be included.

B

Methodology

The data shown in this study was derived from the following combination of sources:

- A vendor research programme of over 500 interviews with key software and services vendors across Europe
- A further 1,000 vendor and user interviews across all European market sectors to determine trends and opinions
- INPUT's continuous analysis of the delivery modes and vertical industry sectors comprising the computer software and services market
- INPUT's extensive library and database of information relating to the European outsourcing market.

In addition, further interviews with representatives of 88 organisations were carried out across a number of industry sectors to determine the key pressures on these sectors and their relative propensity to adopt each of the various modes of IT outsourcing.

These interviews were spread across organisations in France, Germany, and the U.K. and between senior non-IT executives, such as chief financial officers, and IT managers.

The interviews were divided across industry sectors as shown in Exhibit I-4.

Exhibit I-4

Interview Profile by Industry

Sector	Number of interviews
Banking and finance	11
Insurance	6
Discrete manufacturing	24
Process manufacturing	28
Distribution	5
Business Services	7
Utilities	7
Total	88

Source: INPUT

All interviews were carried out with organisations with annual revenues in excess of \$100 million.

C**Report Structure**

Chapter II consists of the Executive Summary which is a summary of the key findings of the report.

Chapter III provides forecasts of the European outsourcing market by service category.

Chapter IV provides a forecast of the European outsourcing market by industry sector and analyses the nature of outsourcing opportunities within each of the following sectors: banking and finance, insurance, discrete manufacturing, process manufacturing, retail distribution, wholesale distribution and transportation.

For each sector, it analyses:

- Key business pressures
- The key IT challenges
- Areas of satisfaction and dissatisfaction with IT functions performed in-house
- The perceived necessity of performing individual IT functions in-house.

Chapter V provides forecasts by service type and market shares of leading outsourcing vendors for each individual country market. Forecasts by industry sector are provided for France, Germany, U.K., Italy and Sweden.

D

Related Reports

Desktop Services Outsourcing — Europe, 1994

Impact of Business Reengineering on Outsourcing — Europe, 1994

Identifying & Winning Outsourcing Opportunities — Europe, 1994

Network Outsourcing — Europe, 1995

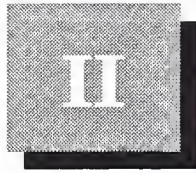
Information Systems Outsourcing Market — Europe, 1995-2000

Outsourcing in Europe — Competitive Analysis, 1995

Opportunities in Business Operations Outsourcing — Europe, 1996

Outsourcing Vendor Performance Analysis — Europe, 1996

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Executive Summary

A

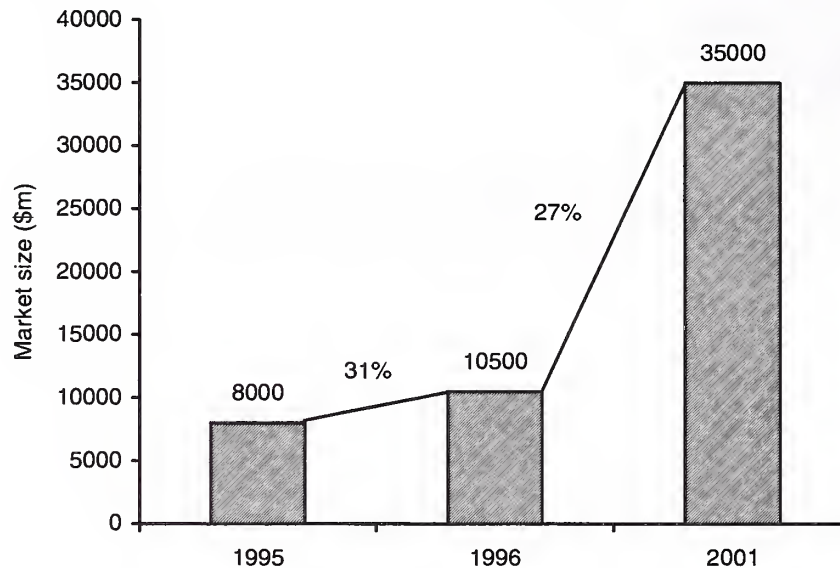
European Outsourcing Growth Continues to Accelerate

Outsourcing is still often portrayed as a short-term phenomenon, concerned primarily with tactical cost reduction exercises. From this viewpoint, it is argued that outsourcing is close to reaching saturation point and the use of outsourcing will begin to decline as the major European economies return to growth.

However, the evidence in the market does not appear to support this case. In practice, growth in the European outsourcing market has accelerated in recent years and will continue to do so in at least the medium-term.

INPUT's overall forecast for the European outsourcing market is shown in Exhibit II-1.

Exhibit II-1

European Outsourcing Market

Source: INPUT

This forecast includes both IS outsourcing and business operations outsourcing.

Throughout Europe, high medium-term growth in outsourcing is being fuelled by a number of factors, both tactical and strategic, including:

- The impact of the Year 2000 problem
- The impact of the move to electronic commerce on organisations' IT infrastructures
- The increasing propensity of large organisations to use outsourcing strategically rather than tactically and the resulting increased adoption of business operations by the private sector.

Growth is forecast to be strongest in the European outsourcing market over the next three years, with growth exceeding 30% per annum in 1997 and 1998.

In addition, there has been a change in the profile of organisations adopting outsourcing. While the manufacturing sector is typically the first sector in each country to introduce outsourcing, the main focus of outsourcing has now switched to the finance sector.

B**Impact of the Year 2000 Problem**

The Year 2000 problem is typically presented as an application maintenance problem to be tackled with the assistance of teams of body-shop personnel. However, the issue is more wide-ranging than this and presents a major source of revenue for IS outsourcing vendors.

Overall, IS outsourcing is still driven by:

- A need for change, typically involving new systems development
- Financial pressures and a desire for greater value-for-money
- Skills access
- Risk transfer.

The Year 2000 problem places many organisations in a situation with precisely these characteristics.

Exhibit II-2 lists a scenario indicating the profile of routes that organisations might take to tackling their Year 2000 problems.

Exhibit II-2

Profile of Approaches to Year 2000 Problem

Approach To Year 2000	Proportion of Systems (%)
Fix code	75
Build replacement systems	15
Outsource application maintenance of range of current systems	8
Outsource all application management	1
Outsource complete IT function	1

Source: INPUT

Even this relatively modest switch to outsourcing would be sufficient to increase IS outsourcing growth rates by 10% per annum.

In addition, vendors will use Year 2000 projects based around code auditing and fixing to introduce organisations to the concepts of application management and IT outsourcing and to demonstrate their

own IT management capabilities producing a longer term impact on the growth in outsourcing.

For example, EDS is currently assisting Morgan Stanley in the Year 2000 certification of its information systems. Morgan Stanley has been dissatisfied with its internal IT performance in the past and it is not inconceivable that EDS will enter into an outsourcing contract with Morgan Stanley at some point in the future.

Finally, although much of the impact of the Year 2000 problem will arise in areas related to application management, the problem will also impact upon IT infrastructure outsourcing.

For example, at the desktop level, many PCs when set to midnight on 31st December 1999 currently revert to January 4, 1980. Furthermore, there will be many user developed applications, such as developed in Excel, requiring extensive support both before and after December 31, 1999.

This will require organisations to implement robust systems management and support mechanisms well in advance of the Year 2000. In particular, any organisations without a sophisticated and rugged help-desk by then will face major difficulties.

Issues such as these are likely to result in increased levels of desktop and distributed systems management.

C

The Impact of Electronic Commerce

Overall, there is currently a very high level of enthusiasm for IT in Europe. Many European executives now recognise the potential of information technology to assist proactively in the reengineering of key business processes and are increasingly prepared to be more aggressive in their use of IT.

This is having a major impact on the way in which IT is applied. Senior executives now place a strong emphasis on electronic commerce which they see as a key means of enhancing service delivery to customers and partners. Indeed, much of the focus of IT is now moving towards direct interaction with the organisation's clients. In some sectors, witness the explosion in home banking services now emerging from the banking sector, the organisation's ability to offer online services direct to their clients is critical to their future success.

In response to these goals, many organisations have moved towards a client/server architecture and the importance of robust architectures and support in this area is increasing.

This is creating major opportunities in network management and desktop services outsourcing. Firstly, many wide area networks will have to undergo fundamental changes over the next few years if they are to play an effective part in their organisation's use of information technology. However, for many organisations it requires a considerable investment to upgrade the technology of their corporate data network, with the consequence that wide area network outsourcing is increasingly being seen as the answer.

Secondly, organisations need to invest in appropriate support infrastructures, such as network management centres and super help-desks, if they are to provide adequate and cost-effective support to desktop users. Again this requires high investment in rapidly evolving technology, a risk that organisations will be increasingly prepared for outsourcing vendors to shoulder.

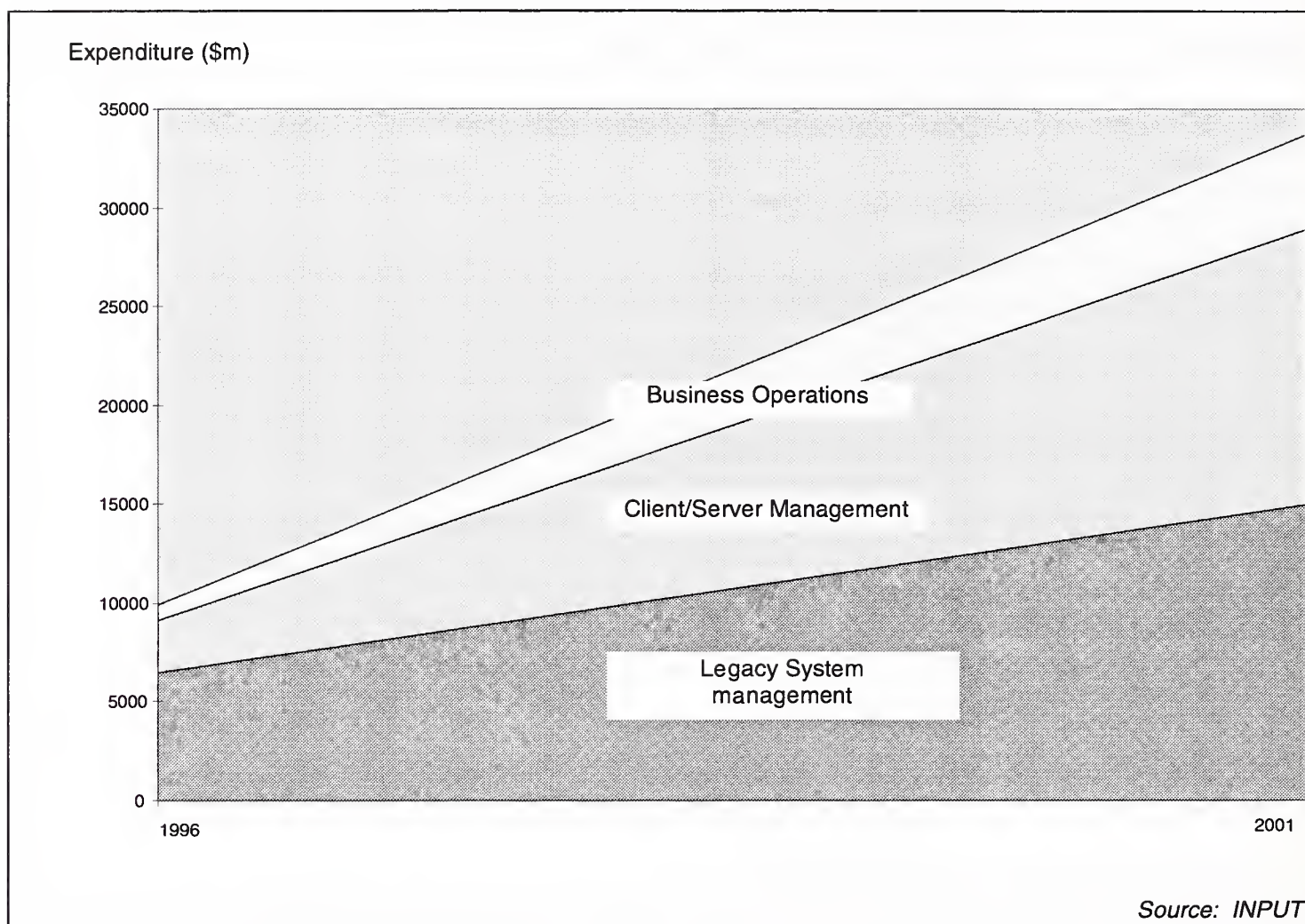
However, at present, desktop outsourcing is still being inhibited by the difficulty in demonstrating reductions in real, as opposed to hidden, support costs.

Exhibit II-3 shows the forecast growth in the European outsourcing market separated into:

- Legacy system management, including datacentre management and the application maintenance management of legacy applications
- Client/server management, including distributed systems management and the development of new applications based on client/server architecture
- Business process outsourcing.

Exhibit II-3

Outsourcing Service Trends



As a result of the changing nature of clients' motivations for outsourcing, legacy system management is forecast to grow much more slowly, an average of 18% per annum, than outsourcing based around client/server system development and management, average annual growth 43% per annum. Between 1996 and 2001, the proportion of the European outsourcing market accounted for by legacy system management is forecast to decline from 66% to 44%, while the proportion related to client/server architectures increases from 26% to 41%.

Until recently, many organisations expected their client/server architecture to be based around a large number of site/departmental/workgroup LANs fully linked via wide area networks.

However, some of the shortcomings of traditional networks are now being overcome by the use of Internet and intranets. Intranets, in particular, are being increasingly adopted as a means of communicating both within an organisation and with key partners. At the present time,

approximately 8% of major organisations in the UK have implemented intranets. This figure will increase dramatically over the next few years, creating opportunities in intranet server management.

At the same time, approximately a third of major organisations expect to adopt network computers for use within their organisations by the Year 2000. However, this does not mean that the network computer, despite its potential for control and minimisation of support costs, will replace the personal computer.

In many large organisations, there are still large numbers of dumb terminals connected to servers and many personnel who have no network access at all. It is primarily these areas which will initially be penetrated by network computers. To be effective, the network computer depends upon the existence of significant bandwidth connecting itself to a server. Accordingly, for the time being, it needs to be well-integrated within the scope of the organisation's corporate data network.

These changes have considerable future implications for infrastructure support. The trend is increasingly away from supporting the IT infrastructure on a piecemeal basis with one group supporting datacentres, another supporting networks and a third supporting the desktop environment. Instead organisations are increasingly recognising the need to adopt end-to-end service management which treats the IT infrastructure as an integrated whole.

Exhibit II-4 shows the leading outsourcing vendors in Europe at the end of 1995.

Exhibit II-4

Leading Vendors: Europe — 1995

Vendor	Estimated 1995 Revenues (\$ m)	Estimated Market Share (%)
EDS	1030	13
IBM	850	11
Cap Gemini	500	6
debis Systemhaus	380	5
Sema Group	345	4
BT/Syncordia	300	4
CSC	280	4
AT&T	200	3
ICL/CFM	190	2
Digital	180	2

Source: INPUT

Six vendors are now emerging as full-service outsourcing vendors, aiming to operate in national markets across Europe. These are EDS, IBM, Cap Gemini/debis Systemhaus, Sema Group, CSC, and Siemens Business Services. In addition, Origin has the ambition to establish itself within this group of leading pan-European outsourcing vendors.

Within this group, IBM is currently the strongest in IT infrastructure management having comprehensive offerings in datacentre management, desktop services (NetworkStation Management) and WAN outsourcing (IBM Global Network).

AT&T and BT have broken into the top ten in Europe principally by virtue of their network management activities.

D

The Adoption of Business Operations by the Private Sector

Much of the business operations activity in Europe to-date has taken place in the public sector, particularly the local government sector in the U.K. However, there are now signs that business operations is finally becoming established in the private sector.

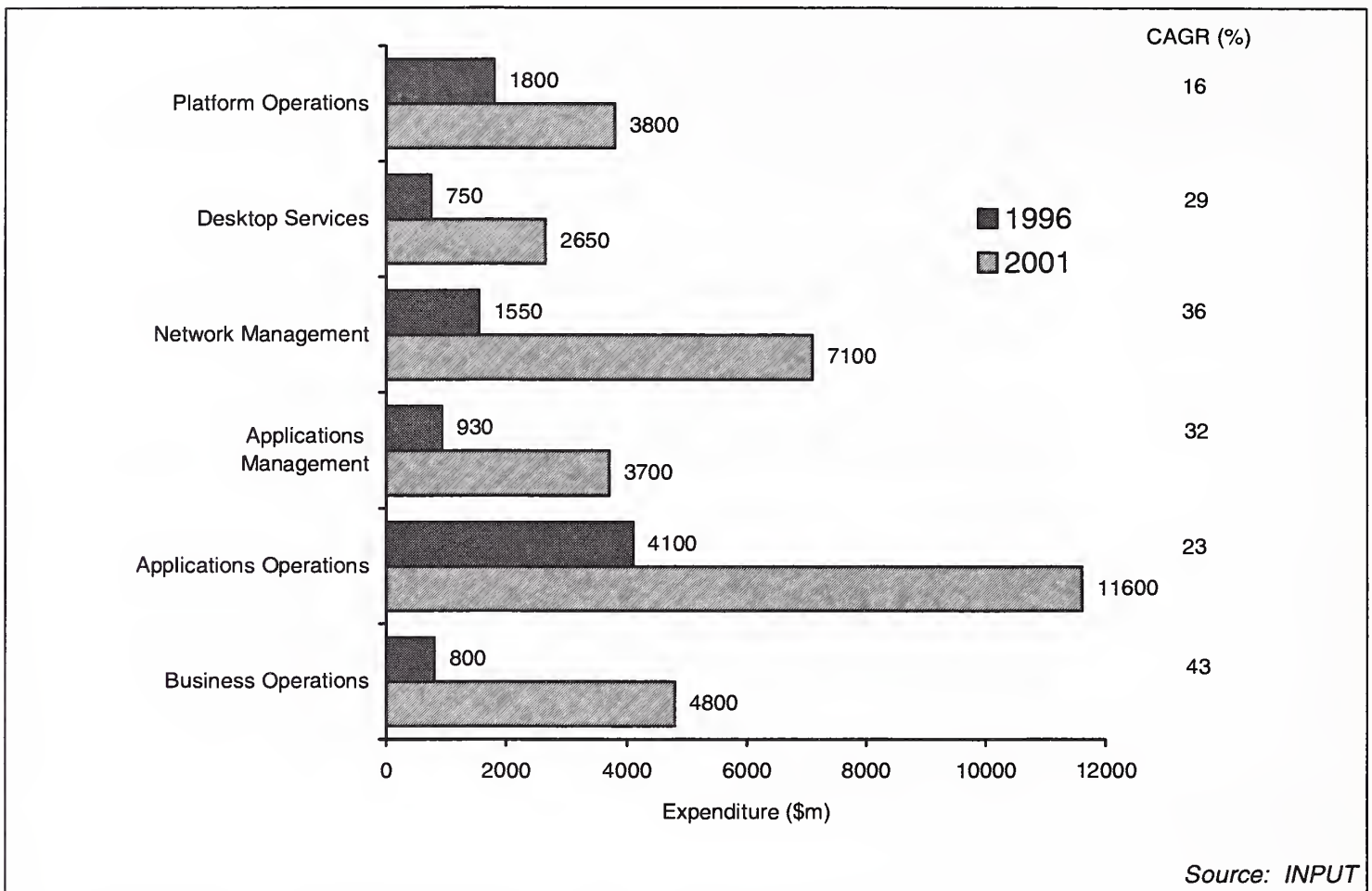
Some organisations have, in the past, used IT outsourcing to demonstrate the feasibility of outsourcing to other business functions within their organisation.

As IT outsourcing matures, so these organisations, and others, are becoming increasingly prepared to outsource entire business processes that are either non-core or not performed to an adequate standard in-house.

As a result of this increasing acceptance of the role of the virtual corporation, business operations outsourcing is forecast to be the fastest growing sector of the outsourcing market over the next five years.

Exhibit II-5 provides a forecast of the growth in the European outsourcing market by segment.

Exhibit II-5

Outsourcing Market Segments, Europe 1995-2000

This change in the market necessitates a corresponding change in skill mix by vendors, as shown in Exhibit II-6.

Exhibit II-6

Vendor Skill Requirements

Skill	1996	2001
Technical capability	****	***
Ability to identify process improvements	***	*****
Business process management	**	****

Source: INPUT

At present, users perceive vendors as possessing low levels of ability to identify business process improvements. This must change as clients place increasing emphasis not on technical skills but on the ability to effectively apply technology in pursuit of corporate goals.

Similarly business function management skills will become increasingly important.

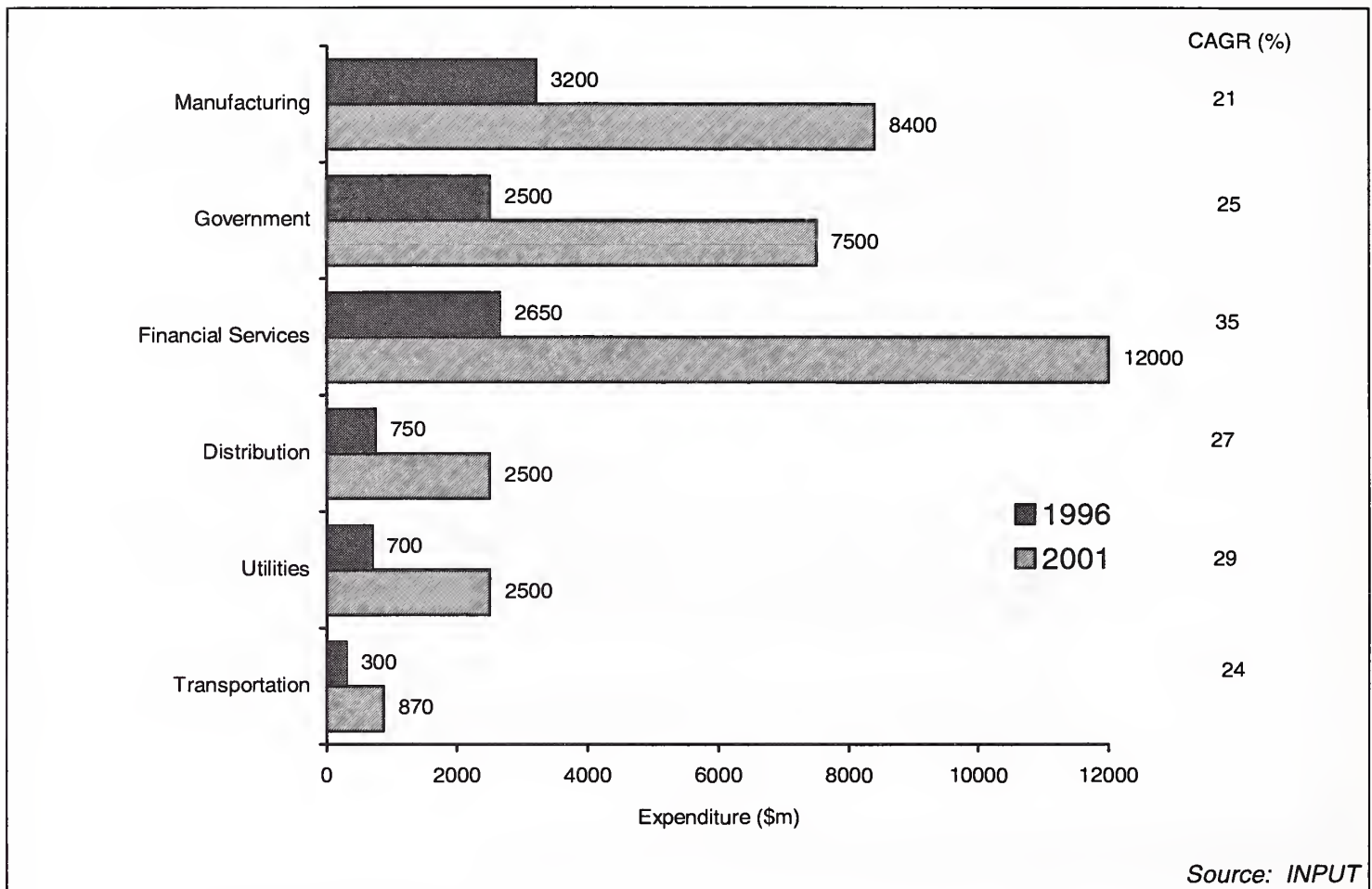
E

Financial Services Sector Adopts Outsourcing

Exhibit II-7 provides a forecast for the European outsourcing market by industry sector. The forecasts shown in this exhibit include both business operations outsourcing and SAP outsourcing in addition to IS outsourcing.

Exhibit II-7

European Outsourcing Industry Sector Forecast



The manufacturing sector has always been at the forefront in the use of outsourcing in Europe. However, much of the outsourcing activity in Europe in the past year has been in the financial services sector and outsourcing expenditure by this sector is forecast to overtake that of the manufacturing sector over the next few years.

This is because the financial services sector now faces massive business change and is using outsourcing as a means of driving the corresponding change in its IT focus. However, the pattern of IT outsourcing will remain much more selective in the financial services sector than the manufacturing sector, with some organisations choosing multiple vendors and individually outsourcing activities such as:

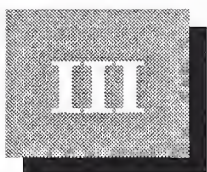
- WAN management
- Datacentre management
- Desktop services management

- IT infrastructure management
- Application management within particular application groupings.

In the U.K., the public sector will remain a major growth area with the Public Finance Initiative producing major outsourcing opportunities for vendors in central government and the health service at least over the life of the present administration. Similarly, the deadlines for Compulsory Competitive Tendering in local government will lead to major growth in this sector.

Elsewhere in Europe, governments in countries such as France and Germany may cautiously begin to follow the U.K. model, at least where new services are concerned.

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Europe — Outsourcing Continues To Grow In Acceptance

A Business Operations Outsourcing Emerges in the Private Sector

Exhibit III-1 forecasts the European outsourcing market by delivery mode over the period 1996-2001.

Exhibit III-1

Outsourcing, Europe 1996-2001

	Market Forecast (US\$ millions)				
	1995	Growth 1995-1996 (%)	1996	Growth 1996-2001 (%)	2001
Platform Operations	1500	22	1800	16	3800
Desktop Services	550	34	750	29	2650
Network Management	1100	39	1550	36	7100
Applications Management	700	33	930	32	3700
Applications Operations	3300	25	4100	23	11600
Total IS Outsourcing	7150	28	9130	26	29000
Business Operations	300	167	800	43	4800
Total Outsourcing	7500	32	9900	28	34000
SAP Outsourcing	520	25	650	14	1250

Source: INPUT

This chart provides a complete forecast for outsourcing including the business operations activity carried out by IT services vendors and SAP outsourcing activity. INPUT classifies traditional SAP R/2 outsourcing as a processing service though this is changing as R/3 outsourcing emerges. SAP outsourcing is typically a form of distributed systems management or desktop services.

A large part of the current business operations activity in Europe is still concentrated in the U.K., particularly in the public sector, whereas SAP outsourcing is still primarily concentrated in Germany.

However, the business operations market is now emerging strongly in the private sector in Europe as organisations move beyond IS outsourcing and the concept of the virtual corporation becomes increasingly acceptable.

The subsequent charts in this chapter refer specifically to IS outsourcing and exclude both business operations outsourcing and SAP outsourcing.

Although the IS outsourcing market has exhibited high growth rates for a number of years, there are no signs of growth slackening over the next three years. Indeed IS outsourcing growth is expected to accelerate over the next three years and to exceed 30% per annum in 1997 and 1998.

This high market growth is being driven by the simultaneous impact of a number of factors, namely:

- The Year 2000 problem. This problem is forcing organisations to audit their current systems portfolio and decide whether to retain or replace each application. This process, combined with resource shortfalls and an immovable deadline, will increase application management expenditure considerably. At the same time, organisations will require a robust distributed systems environment and an industrial strength help-desk to meet the challenges of Year 2000. This is creating increased demand in IT infrastructure management and, in particular, desktop services.
- Increasing use of electronic commerce and the move towards distributed IT infrastructures. Electronic commerce is putting existing network infrastructures under considerable pressure since these are typically inappropriate for the widespread transmission of multi-media content both within the enterprise and to external clients and partners.

- The need to adopt an enterprise management approach to IT infrastructure management and to develop a support infrastructure, including network management centres, that enables this to take place.

These driving forces will have greatest impact on distributed systems management, i.e. desktop services and network management, and on application management. Consequently, there will be a relative decline in the importance of datacentre management though this will still remain an important component of total IT infrastructure management and applications operations contracts.

Since INPUT's delivery modes typically contain a combination of service components, Exhibit III-2 forecasts the European outsourcing market by service component over the period 1996-2001.

Exhibit III-2

IS Outsourcing by Service Component, Europe 1996-2001

Service Component	User Expenditure \$(m)		CAGR (%)
	1996	2001	
Datacentre Management	4600	10000	17
Distributed Systems Management	1200	4800	32
WAN Management	1000	5000	38
Application Management	2300	9200	32
Total	9100	29000	26

Source: INPUT

The leading outsourcing vendors in Europe are listed in Exhibit III-3.

Exhibit III-3

Leading Outsourcing Vendors, Europe 1995

Vendor	Estimated 1995 Revenues (\$ m)	Estimated Market Share (%)
EDS	1030	13
IBM ISSC	850	11
Cap Gemini	500	6
debis Systemhaus	380	5
Sema Group	345	4
BT/Syncordia	300	4
CSC	280	4
AT&T	200	3
ICL/CFM	190	2
Digital	180	2
Andersen Consulting	155	2
Racal	150	2
Origin	140	2
GSI	125	2
Data Sciences	115	1
Olivetti	110	1
TS FM	100	1
ITnet	92	1
Integris/Bull	90	1
Finsiel	90	1
FI Group	85	1
Capita Group	80	1
Perot Systems	75	1
Enator	75	1
tds	73	1
Axime	65	1
Sligos	60	1
Alldata	60	1
Hewlett-Packard	60	1
Unisys	52	1
Total listed	6107	76
Total market	8000	100

Source: INPUT

B

Outsourcing Growth will be Boosted by the Year 2000 Problem

Exhibit III-4 provides forecasts for the IS outsourcing market by country over the period 1996-2001. Neither business operations nor SAP outsourcing are included in the figures shown in this exhibit.

Exhibit III-4

IS Outsourcing Country Markets, Europe 1996-2001

	Market Forecast (US\$ millions)				
	1995	Growth 1995-1996 (%)	1996	Growth 1996-2001 (%)	2001
Europe	7100	28	9100	26	29000
France	1400	23	1700	26	5400
Germany	1100	26	1400	26	4400
UK	2550	32	3400	27	11200
Italy	420	44	610	25	1850
Sweden	470	25	580	25	1800
Denmark	72	20	85	22	235
Norway	60	20	70	22	190
Finland	115	20	140	22	370
Netherlands	375	28	480	25	1450
Belgium	135	18	160	22	440
Spain	165	22	200	26	650
Switzerland	125	30	160	25	500
Austria	32	23	40	23	110
Portugal	15	23	20	25	57
Greece	5	21	6	24	18
Ireland	21	21	25	23	72
Eastern Europe	30	33	40	25	125

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. Source: INPUT

Growth rates for IS outsourcing are forecast to remain strong across Europe. There are no signs of demand slackening in the more mature markets such as the U.K. and Sweden, and there is still a growing acceptance of the role of outsourcing in many of the less developed markets.

However, the service pattern varies somewhat from country to country. Typically, the more advanced outsourcing markets, such as U.K., Germany, Sweden and the Netherlands are seeing increasing emphasis on reengineering and desktop services, while outsourcing activity in the less mature markets, such as Belgium and Italy, is still primarily focused on cost reduction and facilitating transition between centralised and decentralised IT architectures.

C

Platform Operations in Relative Decline

Exhibit III-5 provides forecasts for the platform operations market by country over the period 1996-2001.

Exhibit III-5

Platform Operations Country Markets, Europe 1996-2001

	Market Forecast (US\$ millions)				
	1995	Growth 1995-1996 (%)	1996	Growth 1996-2001 (%)	2001
Europe	1500	22	1800	16	3800
France	330	15	380	18	850
Germany	245	17	285	15	570
UK	465	15	535	13	1000
Italy	95	100	190	19	450
Sweden	100	20	120	18	270
Denmark	18	16	20	14	40
Norway	14	15	16	16	35
Finland	28	16	32	15	63
Netherlands	70	18	80	17	175
Belgium	45	16	50	14	100
Spain	35	18	42	17	92
Switzerland	24	20	28	17	62
Austria	7	16	8	14	16
Portugal	3	20	4	18	9
Greece	1	20	1	18	3
Ireland	6	20	8	17	17
Eastern Europe	7	35	9	25	30

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. Source: INPUT

The platform operations market is driven by the desire to reduce the cost of running mainframe datacentres and by the need to phase out mainframes in favour of more distributed IT infrastructures.

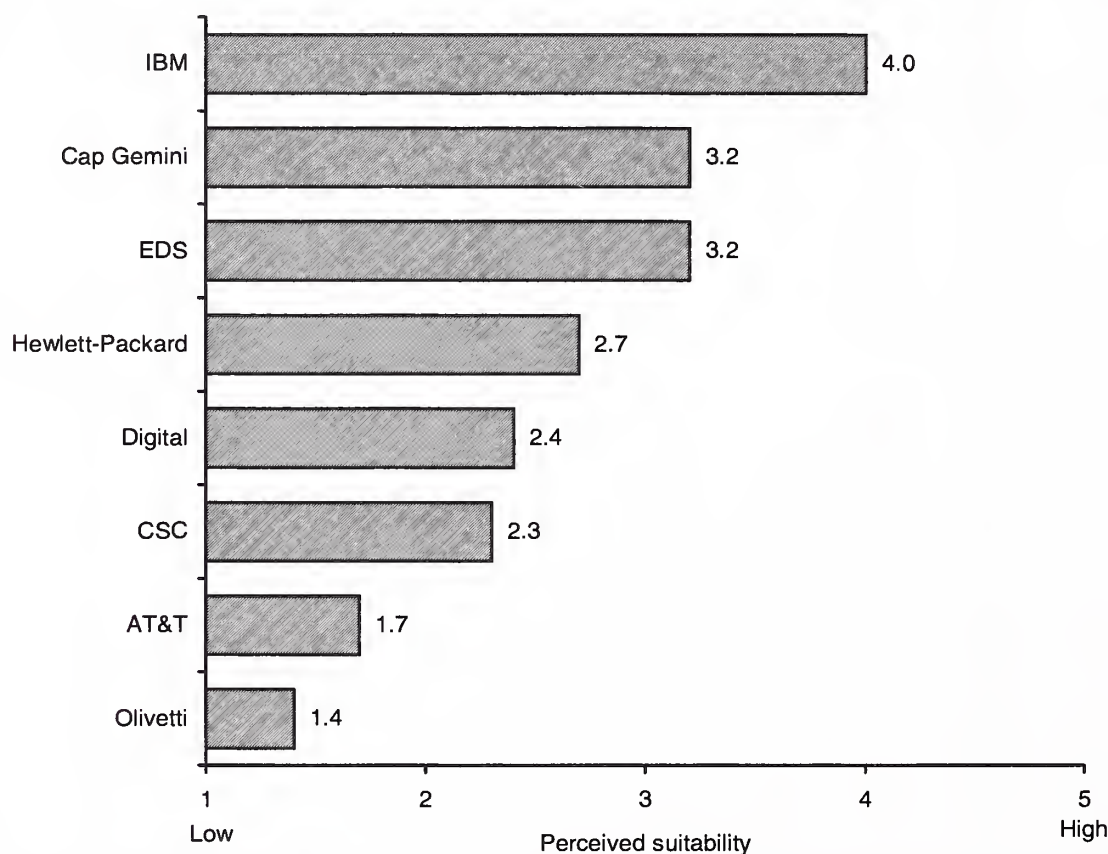
These driving forces are being replaced in the more developed outsourcing markets by an emphasis on re-applying IT to the business. Consequently the overall European growth in platforms is reducing and the growth rates are lowest in the more sophisticated outsourcing markets such as the U.K., France and Germany.

In addition, many organisations are consolidating their mainframe datacentres in-house, making the justification of outsourcing on solely cost reduction grounds a more difficult proposition for vendors.

Exhibit III-6 shows the perceived suitability of a number of vendors as datacentre management suppliers, averaged across managers in France, Germany and the U.K.

Exhibit III-6

Perceived Vendor Suitability: Datacentre Management



Sample of 25 organisations. Standard error =0.2

Source: INPUT

IBM has traditionally been strongly price competitive in datacentre management across much of Europe, in particular in France and Germany, and this is reflected in the company's image.

The relative lack of awareness of CSC is reflected in the company receiving a lower suitability rating than Hewlett-Packard, a company that is not an active participant in large-scale, mainframe datacentre outsourcing.

D

Desktop Services — The New Face of IT Infrastructure Outsourcing

Exhibit III-7 provides forecasts for the desktop services market by country over the period 1996-2001.

Exhibit III-7

Desktop Services Country Markets, Europe 1996-2001

	Market Forecast (US\$ millions)				
	1995	Growth 1995-1996 (%)	1996	Growth 1996-2001 (%)	2001
Europe	550	34	740	29	2700
France	100	35	140	31	530
Germany	110	35	150	31	580
UK	130	35	180	26	560
Italy	57	35	75	30	280
Sweden	60	35	80	30	300
Denmark	5	35	7	29	25
Norway	6	32	8	27	27
Finland	10	32	15	27	45
Netherlands	25	35	35	30	125
Belgium	7	35	9	28	32
Spain	12	22	15	30	55
Switzerland	10	25	13	31	50
Austria	2	22	3	29	11
Portugal	1	22	2	30	6
Greece	0	22	0	30	2
Ireland	2	25	2	30	7
Eastern Europe	3	35	4	34	17

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.

Source: INPUT

Desktop services is still becoming established in Europe. So far, desktop services outsourcing has only tended to be adopted by organisations, such as financial institutions, with extremely critical applications running over LANs or by organisations with a large number of LANs spread over hundreds of sites, such as retailers, where the in-house IT support group has lacked the means to provide enterprise-wide support.

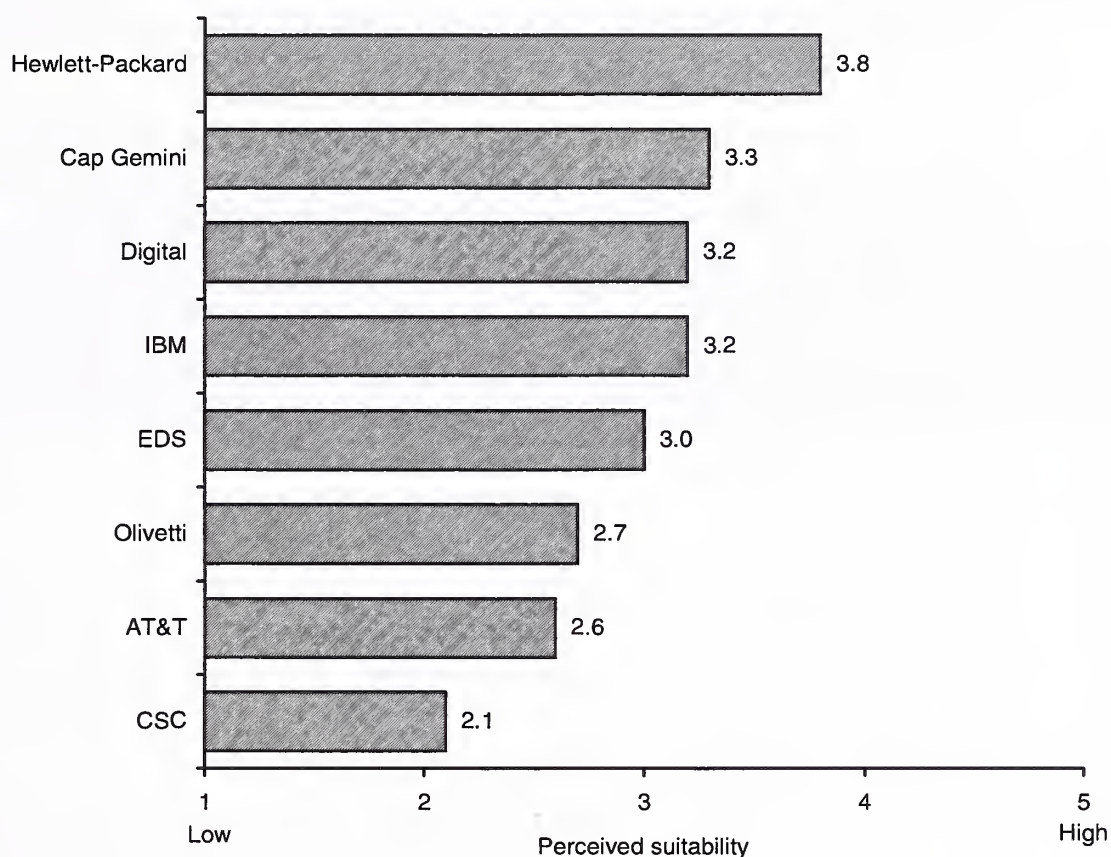
However, a number of vendors have now developed pan-European, or global, desktop support infrastructures which will, over the next few years, enable them to offer comprehensive remote management of LANs and client/server infrastructures. In addition to the management of technical complexity on behalf of clients, this will lead to considerably reduced desktop support costs, which will provide a major boost to the desktop services outsourcing market.

Although the first contracts for desktop services outsourcing were signed in the U.K., desktop services outsourcing is now becoming rapidly established throughout Europe. The market for desktop services is already growing rapidly in the major countries, though it may take longer to become established in some of the smaller countries. In some of the smaller countries, desktop services will be initially be inhibited by the lack of large corporations. Desktop services outsourcing currently requires a minimum critical mass of approximately 500 workstations, which makes it mainly applicable to medium to large organisations.

However, as vendors continue to build their expertise in remote systems management, remote management will become feasible for smaller numbers of workstations and, hence, smaller organisations.

Exhibit III-8 shows the perceived suitability of a number of vendors as suppliers of distributed systems management services, averaged across managers in France, Germany and the U.K.

Exhibit III-8

Perceived Vendor Suitability: Distributed Systems Management

Sample of 20 organisations. Standard error = 0.2

Source: INPUT

IBM is now strongly targeting IT infrastructure management across Europe and has a strong service portfolio comprising its NetworkStation Management offering, IBM Global Network services and datacentre management capability.

Similarly Cap Gemini has a strong tradition of assisting its clients to undergo architectural transitions.

However, Hewlett-Packard has the strongest image in this area across the U.K., France and Germany. Indeed the company has developed a strong capability in client/server implementations and remote network management and has developed many of the leading tools for remote systems management.

However, many vendors are still finding it difficult to penetrate the market for desktop services outsourcing, because of the current difficulty in providing a proactive desktop management service at a price below the real support cost achieved by internal IT departments. Accordingly,

Hewlett-Packard has initially concentrated its efforts on remote network and server management rather than desktop device support.

In doing so, the company has achieved particular success in establishing itself as one of the leading SAP R/3 outsourcing vendors in Europe.

Digital initially established itself as a strong player in third-party software support, but is now, via AltaVista, becoming a major player in the provision and management of Internet and Intranet servers.

E

Network Management Growth Driven by Changes in IT Architectures

Exhibit III-9 provides forecasts for the network management market by country over the period 1996-2001.

Exhibit III-9

Network Management Country Markets, Europe 1996-2001

	Market Forecast (US\$ millions)				
	1995	Growth 1995-1996 (%)	1996	Growth 1996-2001 (%)	2001
Europe	1100	39	1550	36	7100
France	200	35	280	36	1300
Germany	90	32	120	35	535
UK	620	45	900	36	4200
Italy	45	30	57	33	235
Sweden	45	30	60	35	265
Denmark	7	30	10	34	40
Norway	5	30	7	32	27
Finland	10	30	13	35	55
Netherlands	28	30	37	37	175
Belgium	10	30	13	41	75
Spain	21	25	26	38	130
Switzerland	13	30	17	35	75
Austria	3	30	4	33	16
Portugal	1	30	1	36	6
Greece	0	25	1	32	2
Ireland	2	25	2	32	8
Eastern Europe	3	30	4	30	15

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. Source: INPUT

There is currently a strong need for network management in Europe. Many organisations are now facing a similar situation in wide area networks to that they faced in their datacentres five to ten years ago. In particular, many corporate data networks lack the throughput required to support interconnected LANs and new technologies such as multimedia. They are also implemented in inappropriate topologies for support of client/server infrastructures and in legacy technologies.

Accordingly, the potential demand for WAN outsourcing is very strong. Indeed, many users would like to appoint a single vendor to provide management of their combined LAN and WAN infrastructures.

At present, the financial services sector is in the vanguard of the network outsourcing movement. Organisations in this sector are under pressure to adopt new network technology to assist them in offering new types of service and improving service delivery.

For example Sun Alliance has recently outsourced its wide area network management to BT. The new network being supplied by BT will connect approximately 80 sites in the U.K. and form the infrastructure around which Sun Alliance will market insurance services electronically to the domestic market.

Similarly NatWest was driven to outsource its network to BT by the size of the investment required to introduce a new network in support of its new branch banking system.

F

Application Management Stimulated by Year 2000 Problem

Exhibit III-10 provides forecasts for the application management market by country over the period 1996-2001.

Exhibit III-10

Application Management Country Markets, Europe 1996-2001

	Market Forecast (US\$ millions)				
	1995	Growth 1995-1996 (%)	1996	Growth 1996-2001 (%)	2001
Europe	700	33	930	32	3700
France	145	35	190	34	830
Germany	112	35	150	32	600
UK	255	35	350	32	1400
Italy	38	30	50	32	200
Sweden	38	30	50	32	200
Denmark	8	20	10	30	36
Norway	4	25	5	30	20
Finland	12	25	14	31	55
Netherlands	35	30	45	32	180
Belgium	7	30	9	36	40
Spain	25	30	32	30	120
Switzerland	9	25	11	30	40
Austria	3	25	4	28	15
Portugal	3	30	4	31	17
Greece	0	30	0	36	2
Ireland	2	25	2	27	7
Eastern Europe	3	20	4	30	13

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. Source: INPUT

A number of vendors such as FI Group and Hoskyns, in the U.K. have offered application management as a separate offering for several years. However, while these vendors have shown high levels of growth in these activities, many vendors have been slow to realise the potential of application management.

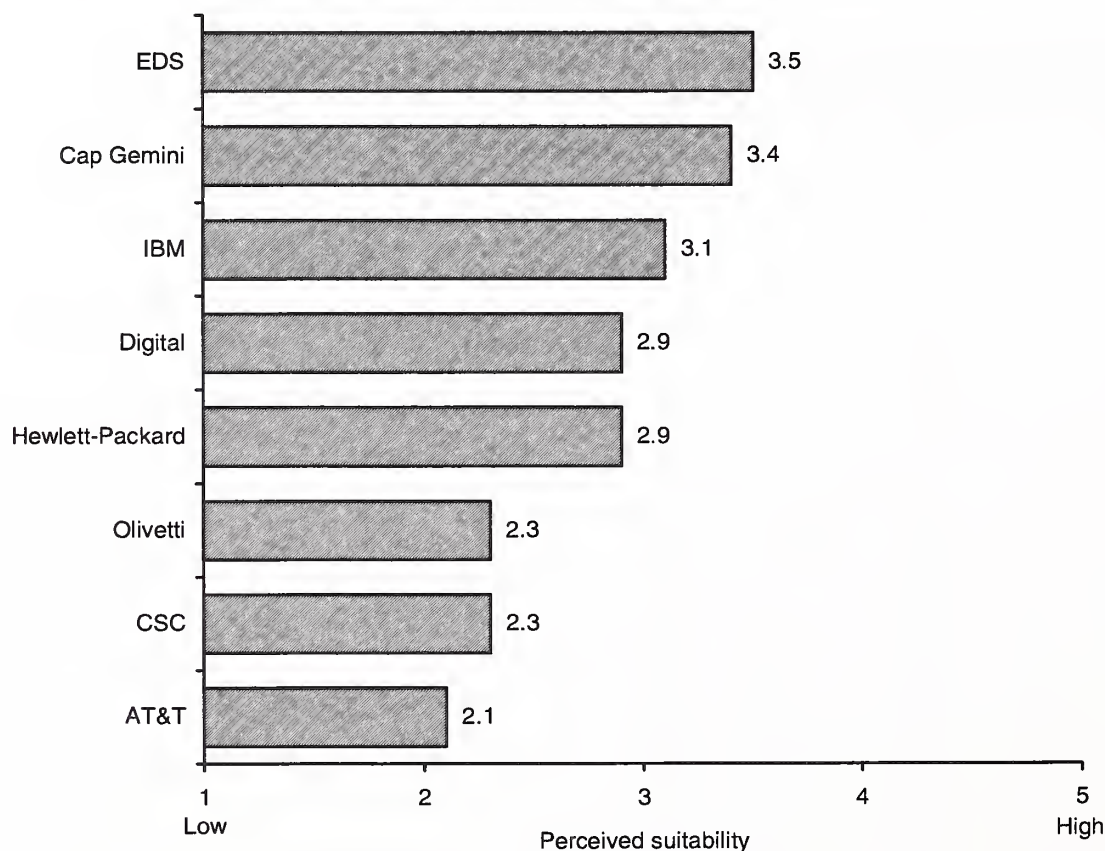
Application management is expected to show very high levels of growth over the forecast period as organisations struggle to come to terms with the Year 2000 problem. One tactic when faced with this problem is to outsource application maintenance for applications that are to be phased out by the Year 2000.

Another tactic is to outsource complete suites of applications or even the whole systems development department.

Exhibit III-8 shows the perceived suitability of a number of vendors as suppliers of application management services, averaged across managers in France, Germany and the U.K.

Exhibit III-11

Perceived Vendor Suitability: Application Management



Sample of 15 organisations. Standard error = 0.2

Source: INPUT

G

Applications Operations Boosted by Increasing Emphasis on Reengineering

Exhibit III-12 provides forecasts for the applications operations market by country over the period 1996-2001.

Exhibit III-12

Applications Operations Country Markets, Europe 1996-2001

	Market Forecast (US\$ millions)				
	1995	Growth 1995-1996 (%)	1996	Growth 1996-2001 (%)	2001
Europe	3300	25	4100	23	11600
France	610	18	720	22	1900
Germany	560	25	700	25	2100
UK	1100	30	1400	24	4100
Italy	190	25	240	24	685
Sweden	230	22	280	22	750
Denmark	33	17	40	19	95
Norway	30	17	35	20	85
Finland	55	18	65	18	150
Netherlands	220	30	280	23	810
Belgium	68	15	78	20	190
Spain	72	20	85	24	250
Switzerland	68	35	92	24	270
Austria	16	25	20	22	53
Portugal	6	20	7	21	20
Greece	3	20	3	22	9
Ireland	10	20	12	24	33
Eastern Europe	14	35	20	21	50

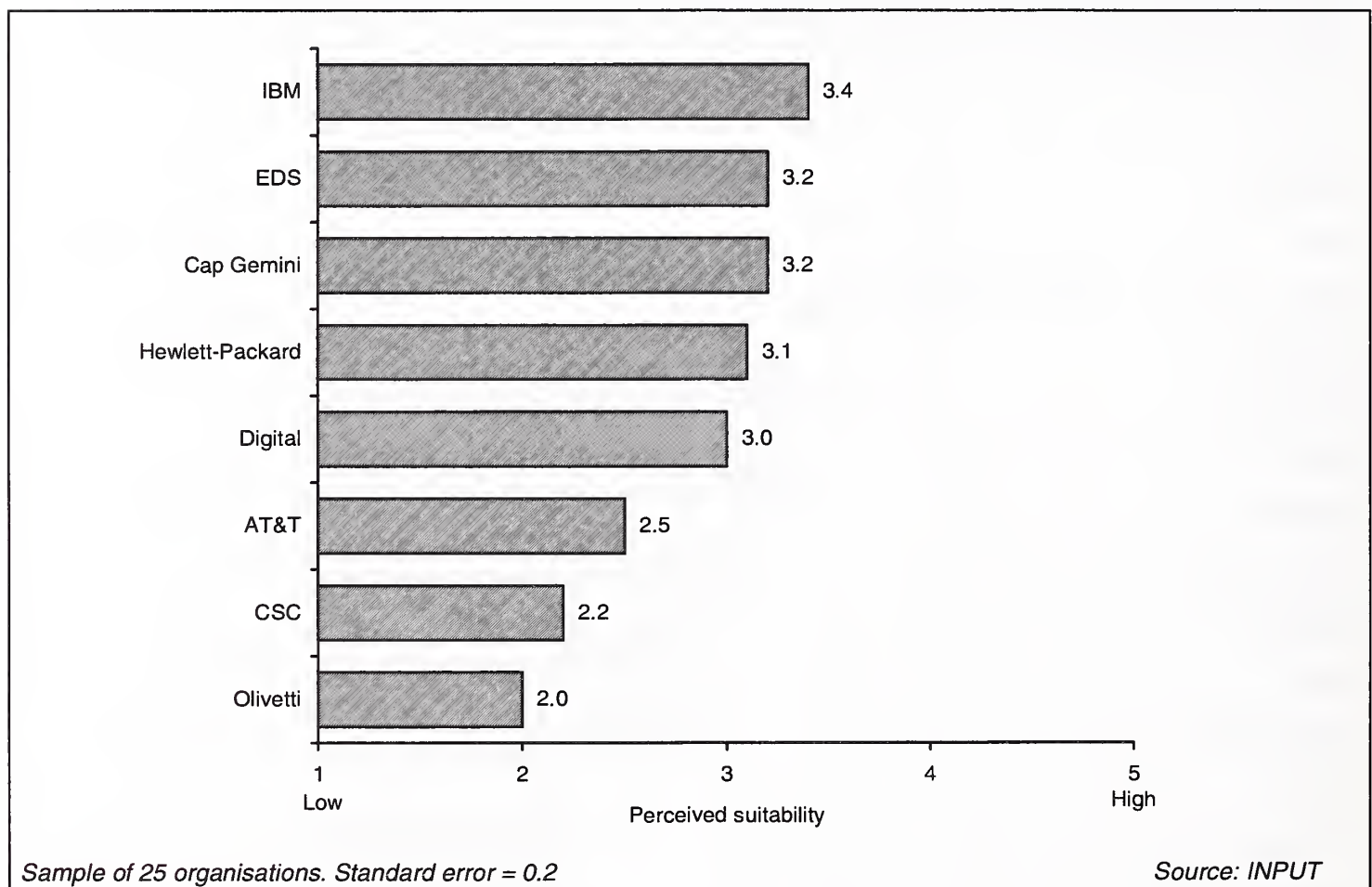
Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. Source: INPUT

The applications operations market will continue to grow rapidly over the forecast period. Some of this growth is at the expense of the platform operations market, as the principal drivers of IS outsourcing in Europe shift from factors overwhelmingly concerned with cost reduction to factors related to improving the effectiveness with which IT is applied in support of business goals.

Exhibit III-13 shows the perceived suitability of a number of vendors as suppliers of full IS outsourcing services, averaged across managers in France, Germany and the U.K.

Exhibit III-13

Perceived Vendor Suitability: Full Service Outsourcing





Industry Sector Analysis

Section A of this chapter contains a forecast of the European outsourcing market by industry sector. Sections B-H contain discussions of the business and IT pressures within a number of key industry sectors.

A

Industry Sector Forecast — Europe

Exhibit IV-1 provides a forecast for the European outsourcing market by industry sector.

Exhibit IV-1

Industry Sector Breakdown, Europe 1996-2001

	Europe \$m 1995	Growth 1995-1996 %	Europe \$m 1996	Growth 1996-2001 %	Europe \$m 2001
Government	1950	28	2500	25	7500
-Local	650	15	750	22	2000
-Central	1100	45	1600	28	5500
Manufacturing	2500	28	3200	21	8400
-Discrete	1500	27	1900	19	4500
-Process	1000	30	1300	25	3900
Financial Services	1900	39	2650	35	12000
-Banking&Finance	1150	43	1650	37	8000
-Insurance	750	33	1000	32	4000
Distribution	650	15	750	27	2500
Transportation	200	50	300	24	870
Utilities	500	40	700	29	2500
Other	300	33	400	25	1230
Total Outsourcing	8000	31	10500	27	35000

Source: INPUT

The manufacturing sector has been at the forefront of the adoption of outsourcing in Europe and is generally one of the key sectors where outsourcing begins in each country. Despite its role in the vanguard of outsourcing, there are no signs of any significant slackening of growth in the manufacturing sector. Indeed there are indications in this year's research that the cost pressure on the manufacturing sector has further increased over the past year potentially creating another wave of outsourcing activity. Indeed over the next five years it is probable that outsourcing within the manufacturing sector will advance beyond IT outsourcing to new forms of business operations outsourcing such as accounting and logistics management.

Traditionally the financial services sector has been more concerned to maintain strong control over its use of information technology and has consequently been more reluctant to adopt IT outsourcing. This resistance is now beginning to break down as financial institutions face the need for major business change.

However, financial institutions still prefer to outsource on a more incremental level than organisations in the manufacturing sector, typically separating IT infrastructure management from application management.

Irrespective of the pattern of outsourcing adopted, there is considerable growth potential for outsourcing within the financial services sector over the next few years.

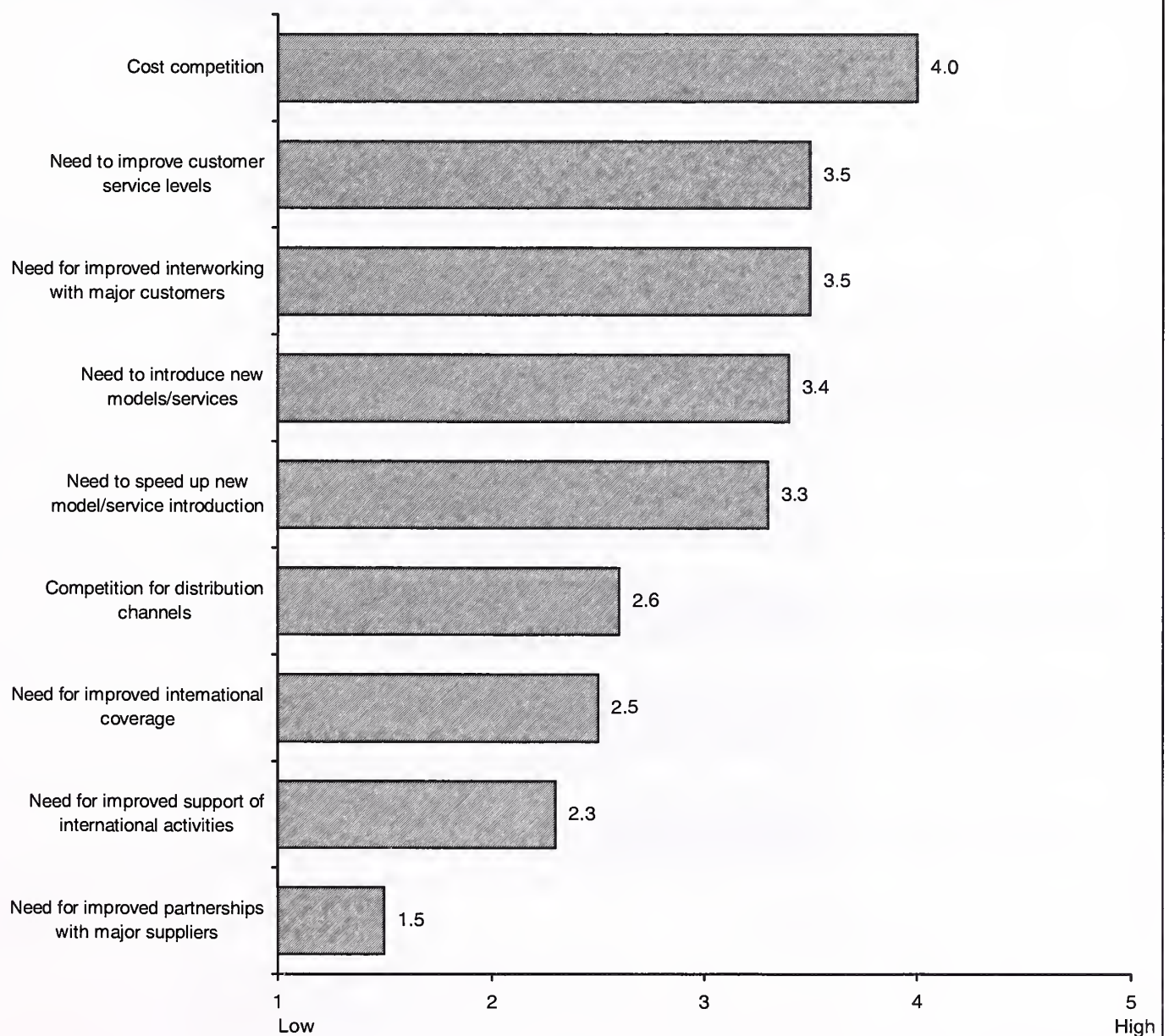
Outsourcing within central government has grown very strongly in the UK over the past 2-3 years. This trend will continue with a strong emphasis on the Private Finance Initiative (PFI). Indeed the PFI approach is now being extended in the U.K. to the health sector and local government.

Other governments in Europe have studied this approach and are likely to adopt some form of outsourcing of central government IT services. While pressure from civil servants will initially slow down the transfer of existing services to the private sector outside the U.K., it is probable that new services being introduced will increasingly be privatised.

B**Banking and Finance — Increasing Pressure from New Service Providers**

Exhibit IV-2 lists the principal business pressures on the European banking and finance sector, and Exhibit IV-3 identifies key areas for action in this sector.

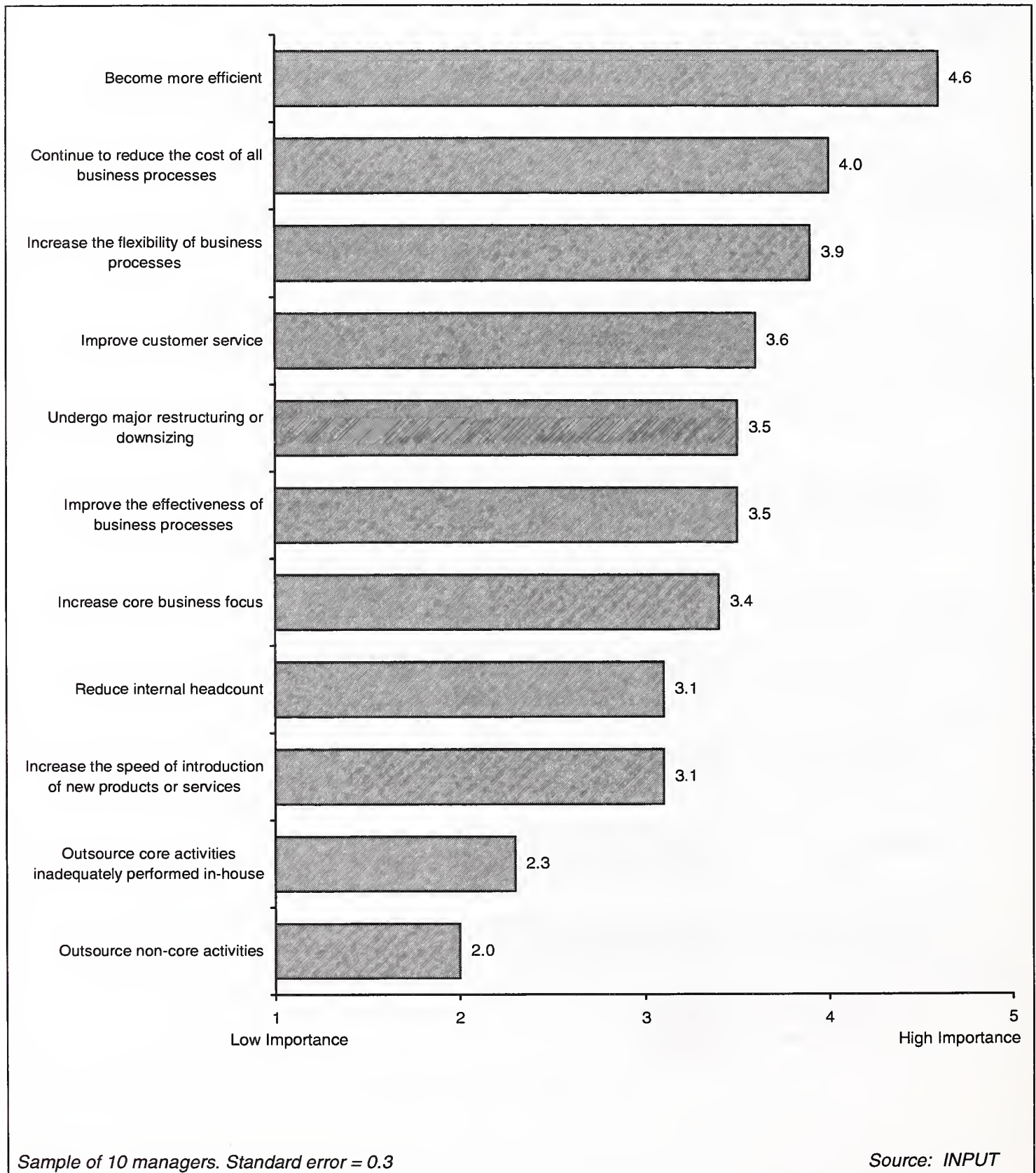
Exhibit IV-2

Principal Business Pressures: Banking and Finance

Sample of 10 managers. Standard error = 0.3

Source: INPUT

Exhibit IV-3

Key Actions: Banking and Finance

In last year's survey, the need to improve customer service was perceived to be paramount by organisations in the banking and finance sector. Typically banks perceived that the answer to increasing competition was improved customer service rather than cost reduction.

This perception appears to have changed with the increasing threat from low-cost service providers in the banking and finance sector. New service providers are entering the banking sector offering a combination of improved service and low cost by utilising new forms of banking such as telephone and electronic banking. This is putting banking organisations with large branch structures under considerable cost pressure. Although improved customer service remains of importance, managers in the banking sector now perceive that their main priority is to become more efficient by reducing the cost of all business processes.

The significance of each of a number of potential IT challenges facing the banking and finance sector is contrasted with the ability of IT departments to meet each of these challenges in Exhibit IV-4.

Exhibit IV-4

IT Challenges: Banking and Finance

	Importance	Ability to Cope	Difference
To move to a new generation of applications	4.7	3.3	1.5
To become more cost-effective in using IT	4.1	2.9	1.2
To reduce the time taken to implement new applications	3.4	2.8	0.7
To improve focus on business needs	3.8	3.4	0.4
To become more pro-active in meeting business needs	3.2	3.1	0.1
To adopt a distributed IT architecture	3.6	3.5	0.1
Updating internal skills	3.4	3.4	0.0
To improve support for distributed and desktop systems	3.1	3.5	-0.4

Source: INPUT

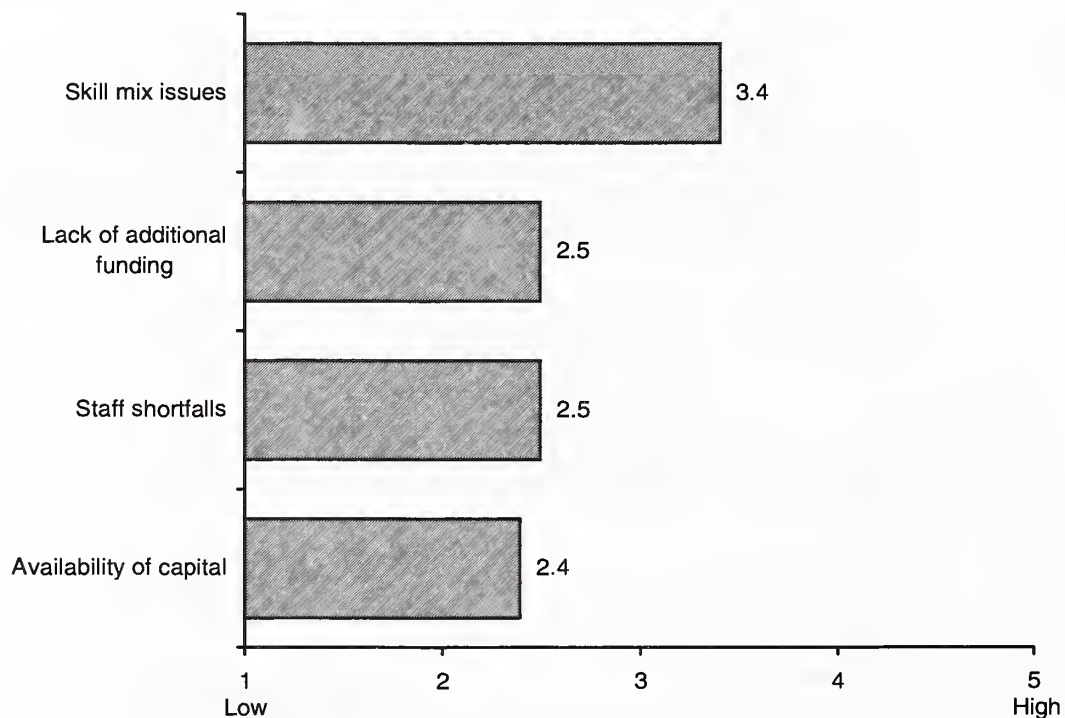
The pressure on IT departments in the banking and finance sector is immense. IT departments here are under pressure to move to a new generation of systems while simultaneously becoming more cost-effective in their use of IT.

This is a classic scenario for outsourcing. Traditionally the banking sector has been more reluctant than other sectors to adopt IT outsourcing. However there has been a marked increase in IT outsourcing within the past year as organisations have come to terms with the need to transform the ways in which IT is used within the banking sector.

The extent to which each of a number of factors are perceived to inhibit IT departments in the banking and finance sector from achieving their goals is listed in Exhibit IV-5.

Exhibit IV-5

IT Inhibitors: Banking and Finance



Sample of 10 managers. Standard error = 0.3

Source: INPUT

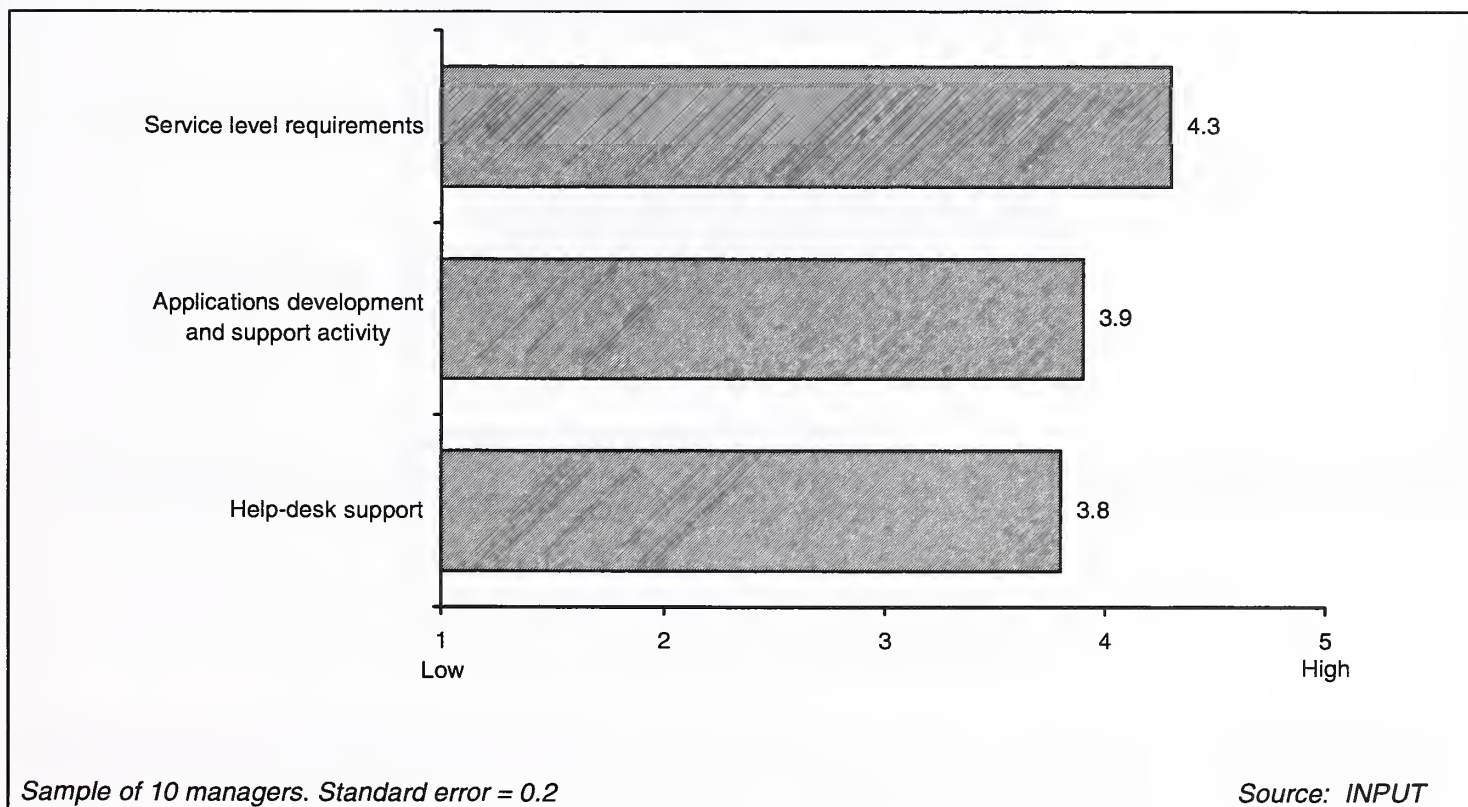
Despite the cost pressure on IT departments in the banking sector, a lack of resources, in the form of either funds or personnel, is not perceived to be a major constraint by the majority of IT departments. The main inhibitor to the successful application of IT is the skill mix of personnel. While this partly reflects the introduction of new technologies, the main issue for banking organisations is finding personnel with the skills

required to assist in major business reengineering projects. The level of change in business processes in the banking sector is no longer incremental. The banking sector is now finding that more radical changes in ways of doing business are required.

The extent to which organisations in the banking and finance sector expect significant changes in IT activity over the next few years is listed in Exhibit IV-6.

Exhibit IV-6

Changes in IT Activity: Banking and Finance



Organisations in the banking and finance sector anticipate considerable increases in IT activity over the next few years. In addition to high levels of new system development, IT infrastructure support is becoming more critical.

Help-desk support is increasingly important for internal clients. In addition, call centres are becoming of critical importance in supporting banking clients usage of electronic and telephone banking.

Exhibit IV-7 lists the most satisfactory attributes of IT departments belonging to organisations in the banking and finance sector while Exhibit IV-8 lists their least satisfactory attributes.

Exhibit IV-7

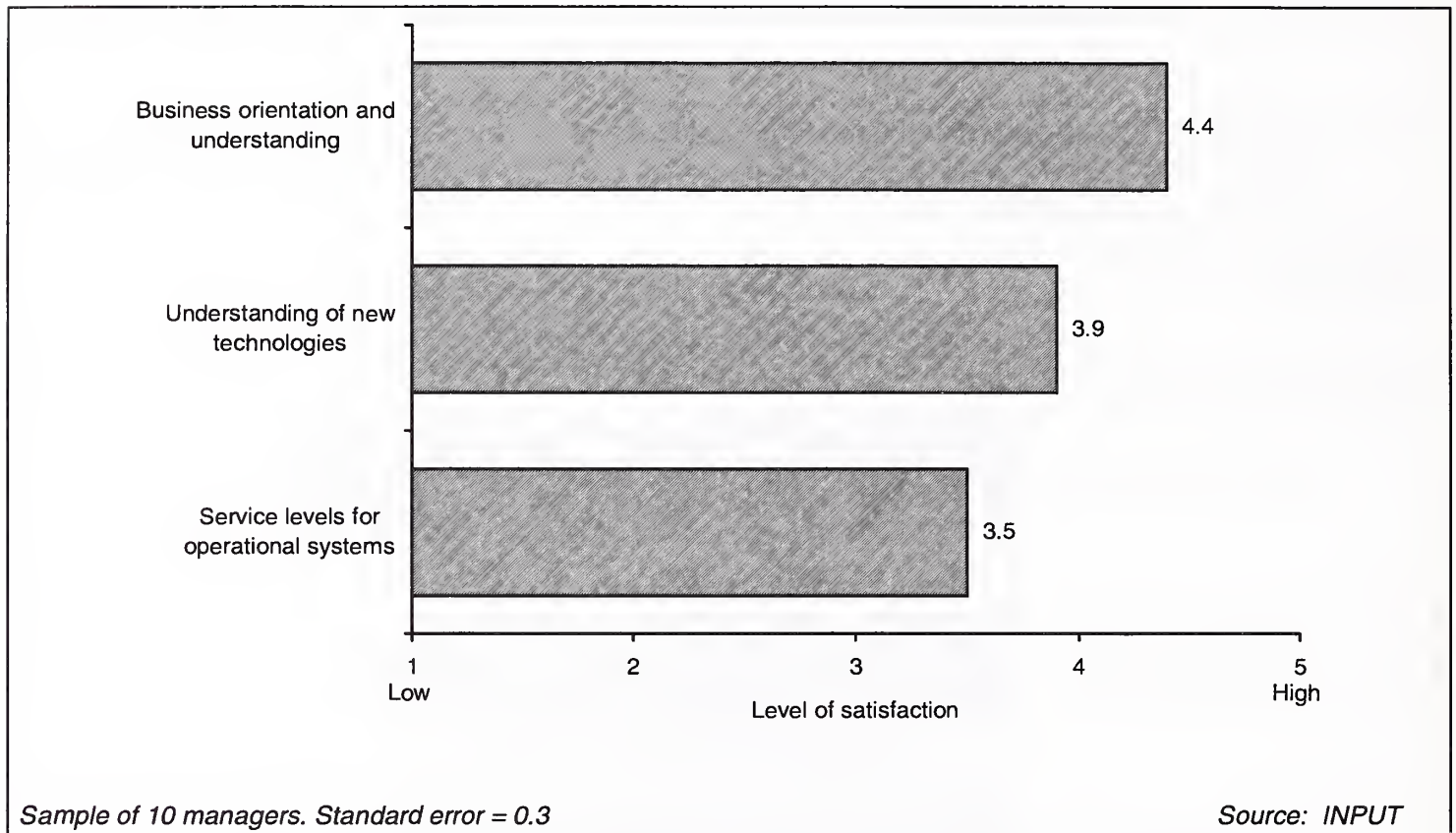
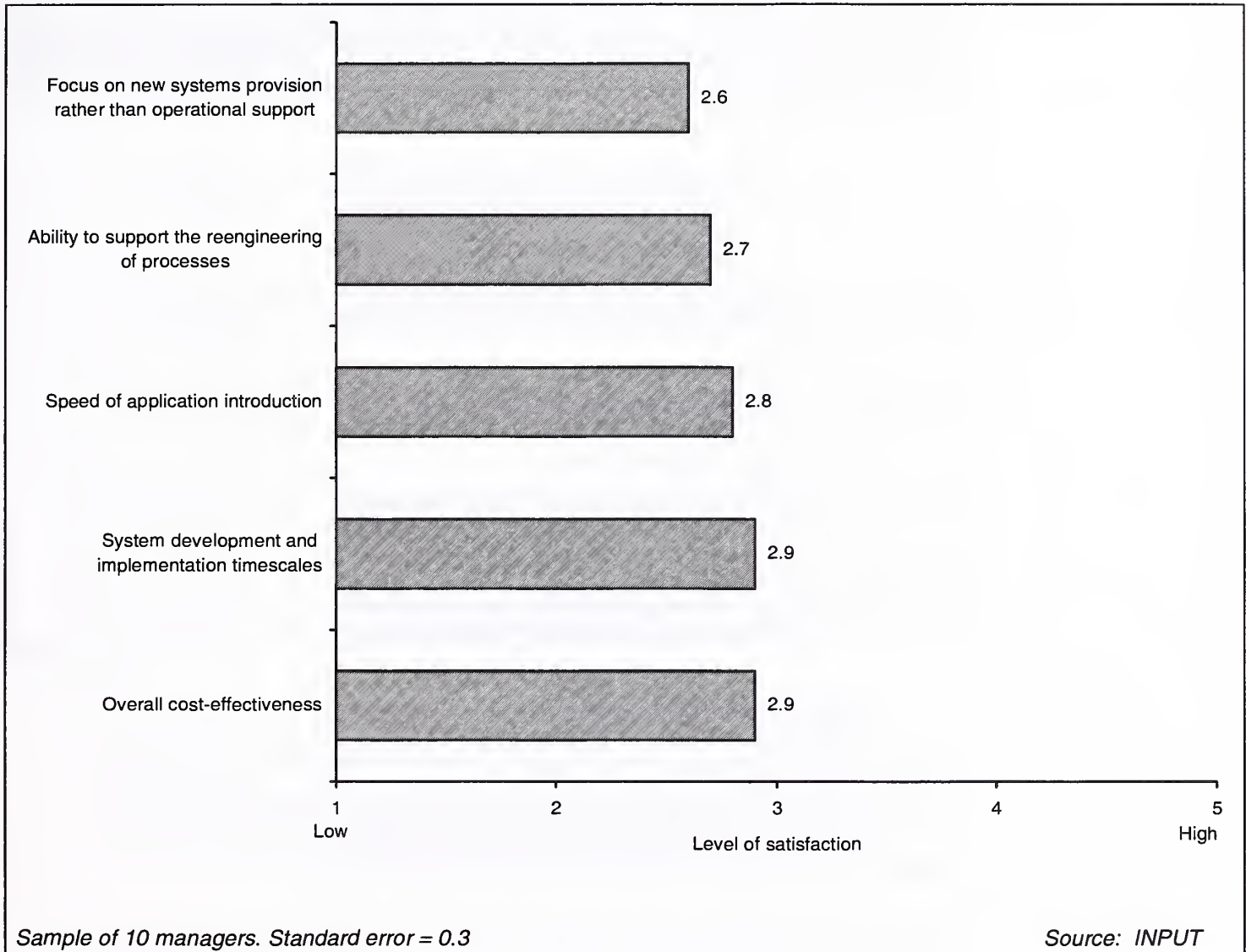
Areas of Highest Satisfaction: Banking & Finance

Exhibit IV-8

Areas of Lowest Satisfaction: Banking and Finance

IT departments in the banking sector are now facing the dual pressures of a need for higher levels of operational support for existing systems and infrastructure combined with a substantial new systems development workload. This is making it difficult for IT departments in this sector to focus on new systems development and support the reengineering of business processes.

While IT departments are perceived to have a strong understanding of current ways of doing business, they often lack the new skills required for introducing applications that support radically new business processes.

Exhibit IV-9 compares the perceived importance of a number of IT functions with the current level of satisfaction with their performance in-house.

Exhibit IV-9

Satisfaction with In-house Performance: Banking and Finance

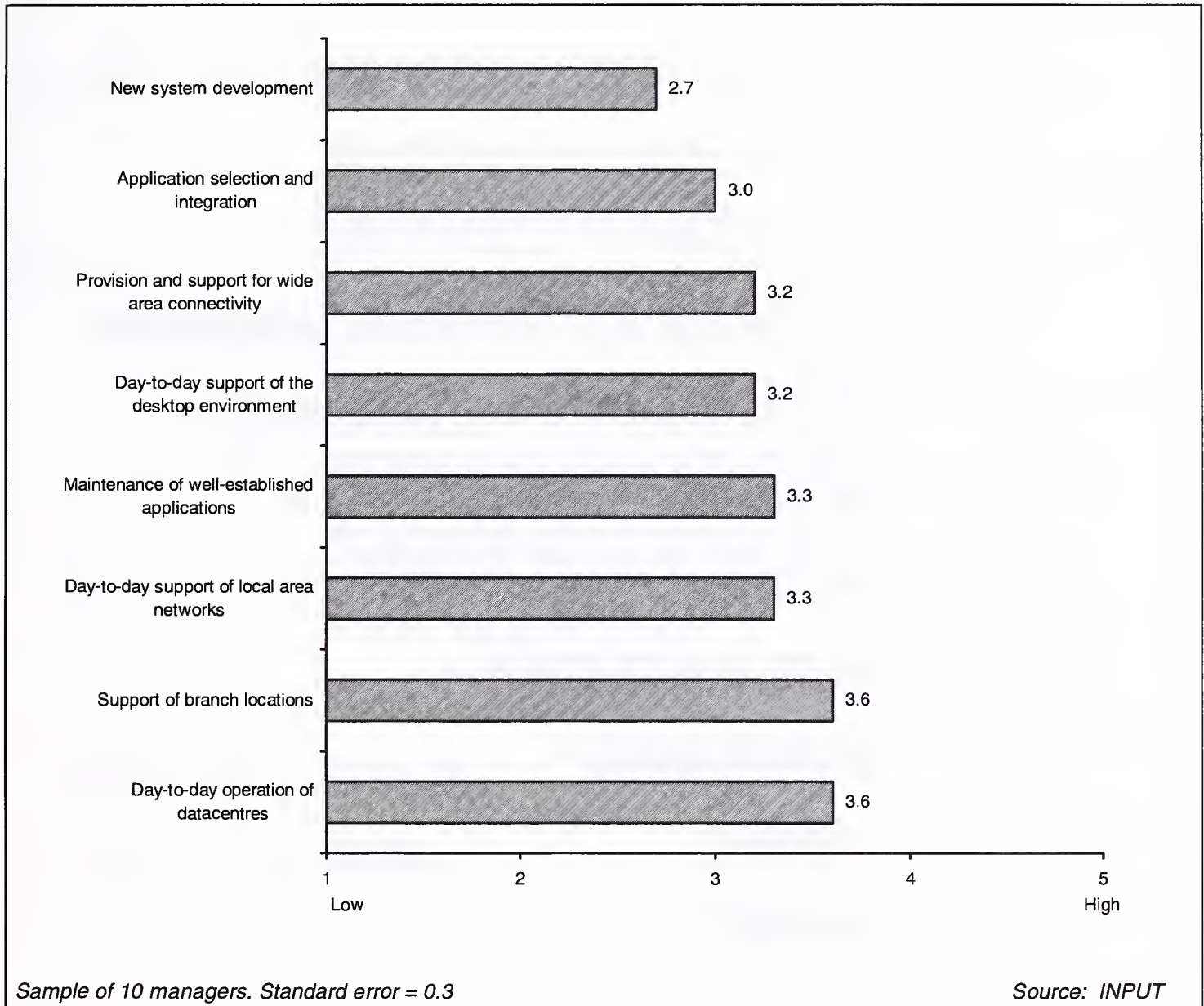
	Importance	Current Performance	Difference
New system development	4.8	3.0	1.8
Support of branch locations	4.8	3.4	1.4
Maintenance of well-established applications	4.9	3.7	1.3
Application selection and integration	4.5	3.4	1.2
Provision and support for wide area connectivity	4.5	3.7	0.9
Day-to-day operation of datacentres	4.7	3.9	0.8
Day-to-day support of local area networks	4.2	3.5	0.8
Day-to-day support of the desktop environment	3.8	3.6	0.3

Source: INPUT

Again IT departments in the banking sector are facing considerable pressure in new system development and the support of distributed systems. In addition, the Year2000 problem is placing considerable pressure on the maintenance of existing applications.

Exhibit IV-10 indicates the relative extent to which managers in the banking and finance sector perceive it is necessary to perform each of the IT functions in-house.

Exhibit IV-10

Perceived Necessity of Performing In-house: Banking & Finance

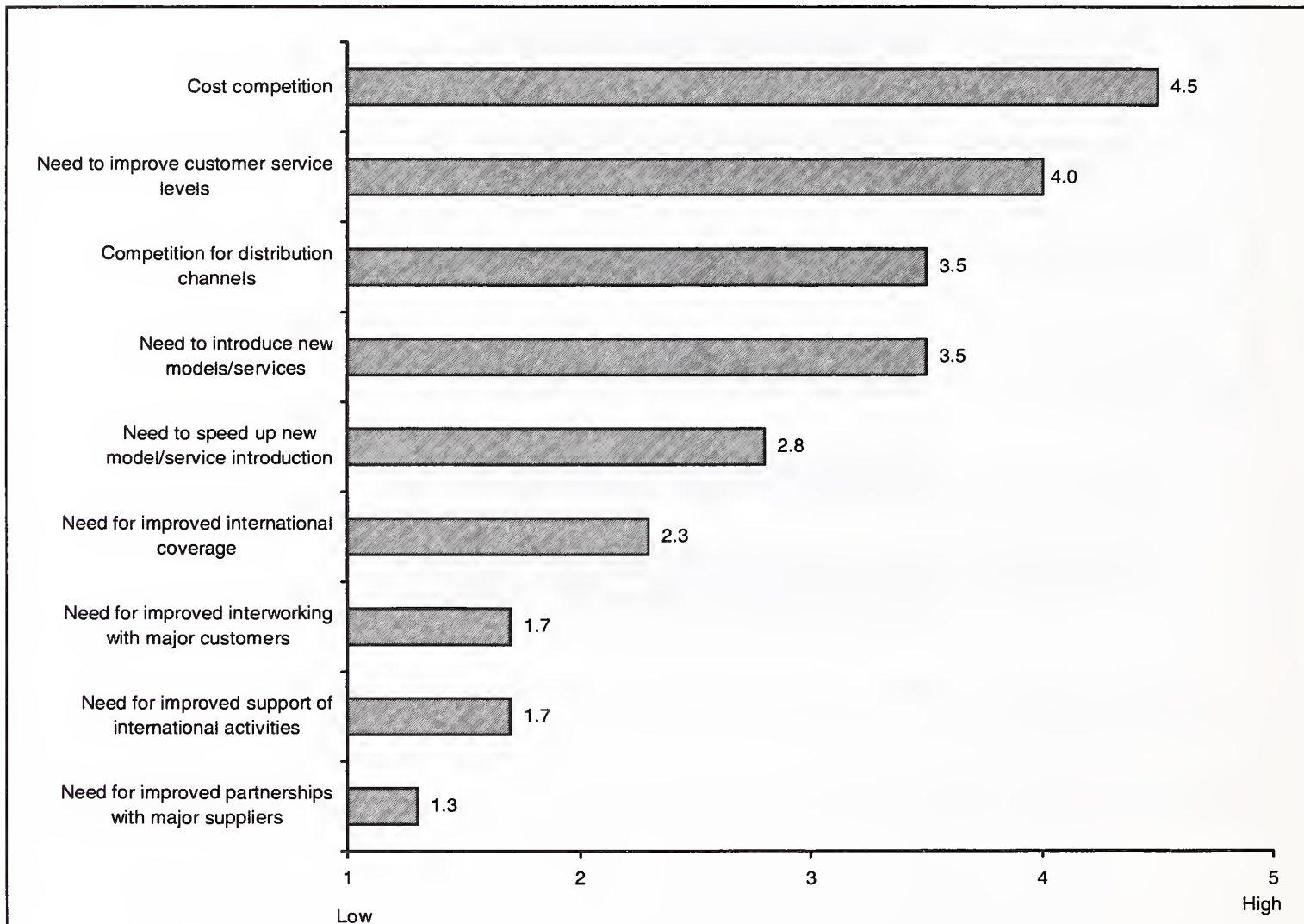
C

Insurance — Faces Increase in Cost Pressure

Exhibit IV-11 lists the principal business pressures on the European insurance sector, and Exhibit IV-12 identifies key areas for action in this sector.

Exhibit IV-11

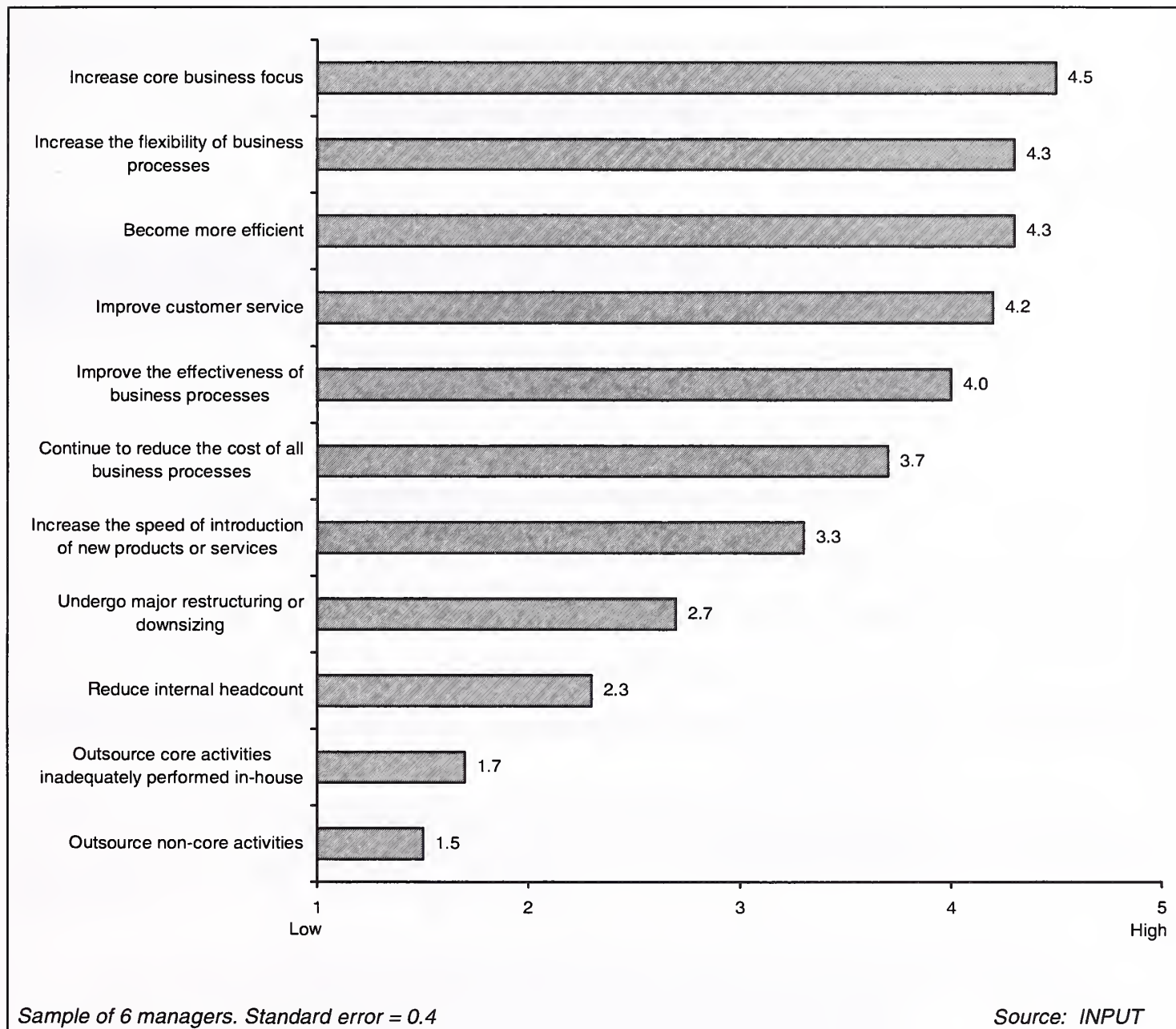
Principal Business Pressures: Insurance



Sample of 6 managers. Standard error = 0.4

Source: INPUT

Exhibit IV-12

Key Actions: Insurance

The level of need to improve customer service levels, the degree of competition for distribution channels and the level of need to introduce new services remain largely unchanged over the past year. However, the perceived level of cost competition has increased significantly, making this now the major business pressure faced by insurance companies.

Consequently, while improvements to customer service are still seen as important, they have overtaken by a desire to become more efficient and a need to increase the flexibility of business processes.

In the U.K., this change in emphasis reflects the greater visibility during the sales process of the cost of administering life assurance products.

The significance of each of a number of potential IT challenges facing the insurance sector is contrasted with the ability of IT departments to meet each of these challenges in Exhibit IV-13.

Exhibit IV-13

IT Challenges: Insurance

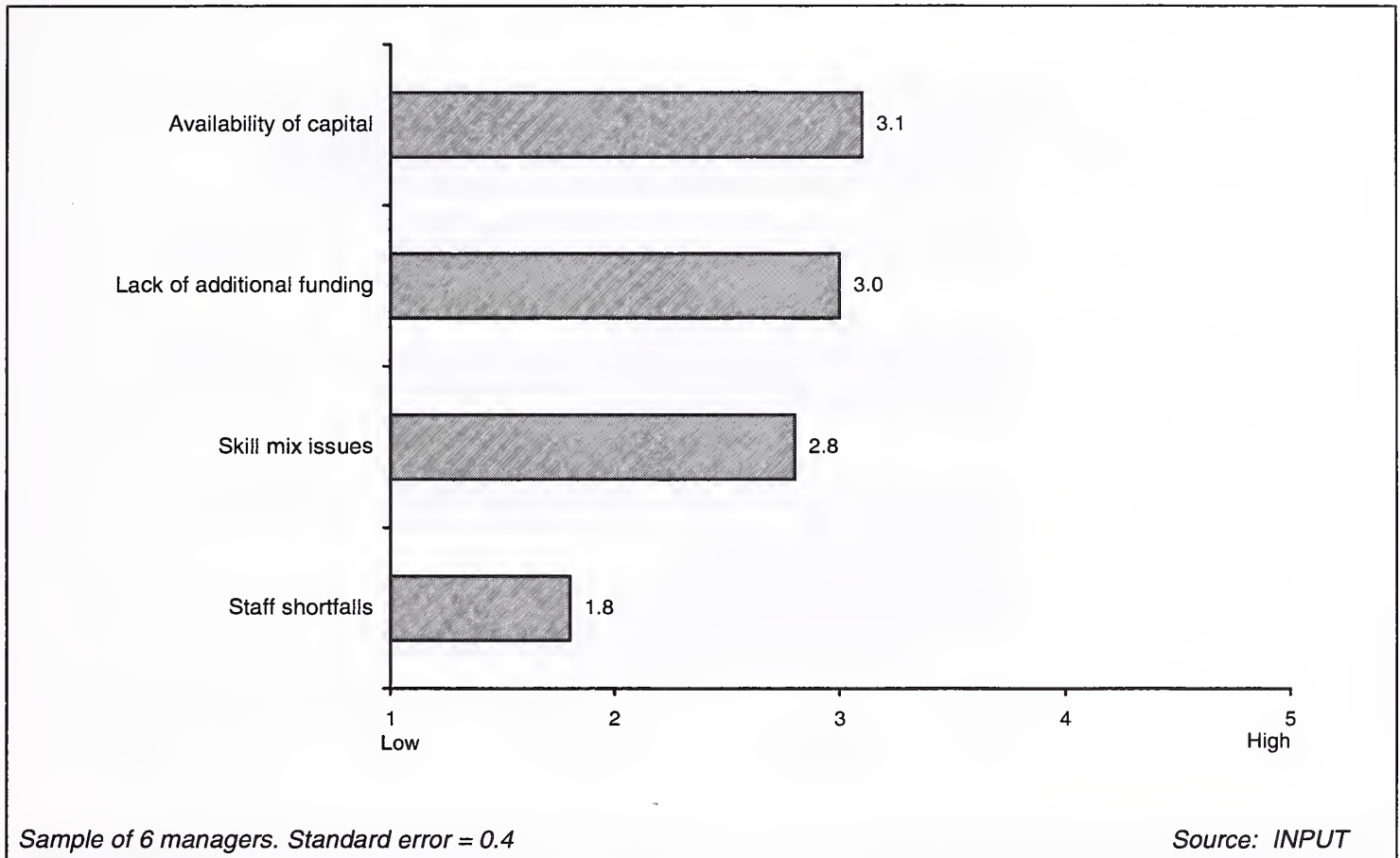
	Importance	Ability to cope	Difference
To reduce the time taken to implement new applications	4.3	3.1	1.1
To adopt a distributed IT architecture	4.0	3.0	1.0
To become more cost-effective in using IT	4.2	3.5	0.7
To improve focus on business needs	3.5	2.8	0.7
Updating internal skills	3.7	3.2	0.5
To move to a new generation of applications	4.2	3.8	0.4
To improve support for distributed and desktop systems	3.3	3.3	0.0
To become more pro-active in meeting business needs	3.2	3.3	-0.2

Source: INPUT

The insurance sector has traditionally been very conservative in its application of IT and has been slower than the banking sector to adopt distributed IT infrastructures. However, organisations in the insurance sector now perceive a need to accelerate this transition.

The extent to which each of a number of factors are perceived to inhibit IT departments in the insurance sector from achieving their goals is listed in Exhibit IV-14.

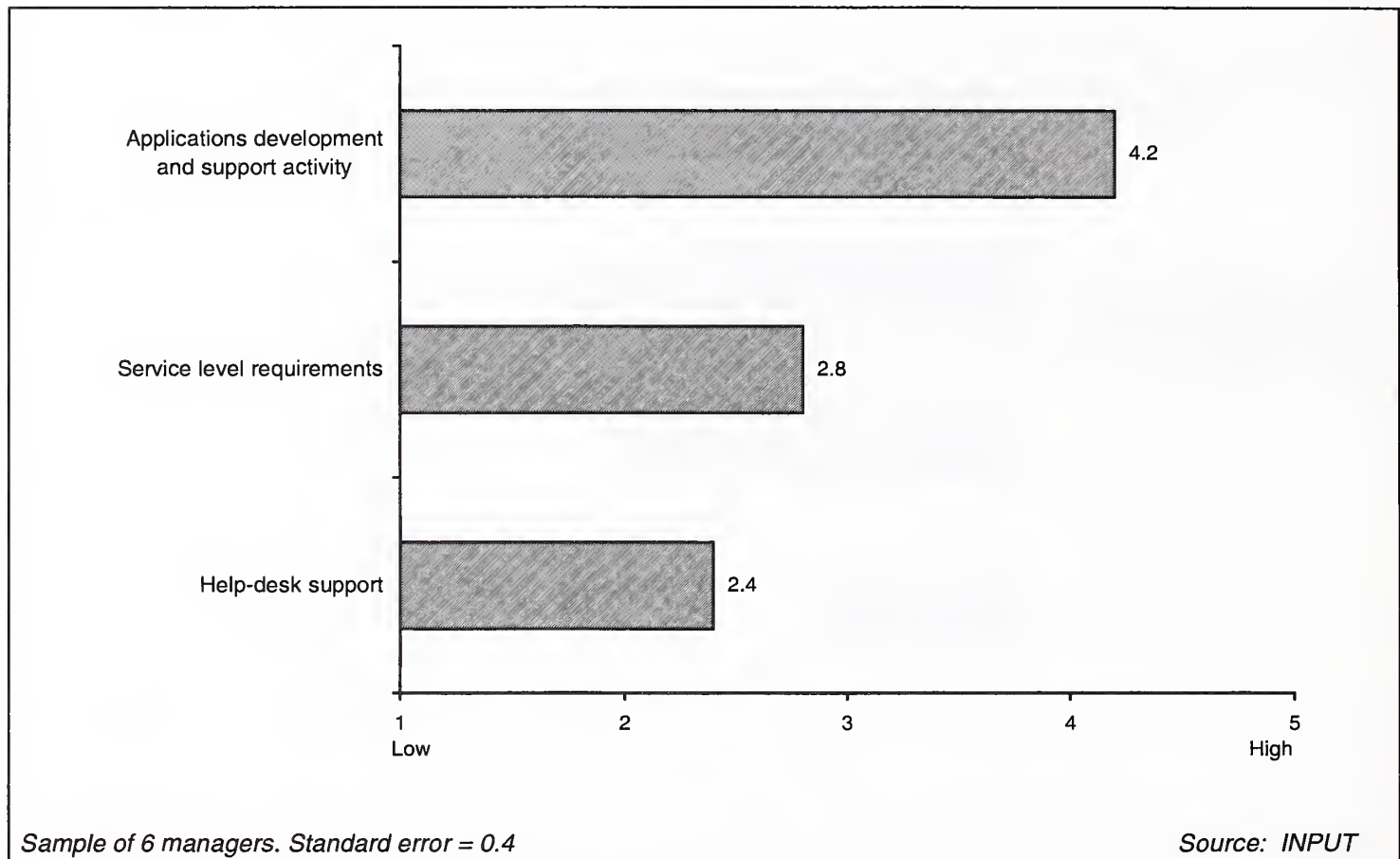
Exhibit IV-14

IT Inhibitors: Insurance

Lack of funding is perceived to be a greater concern in the insurance sector than in the banking sector which may create greater opportunities for outsourcing vendors.

The extent to which organisations in the insurance sector expect significant changes in IT activity over the next few years is listed in Exhibit IV-15.

Exhibit IV-15

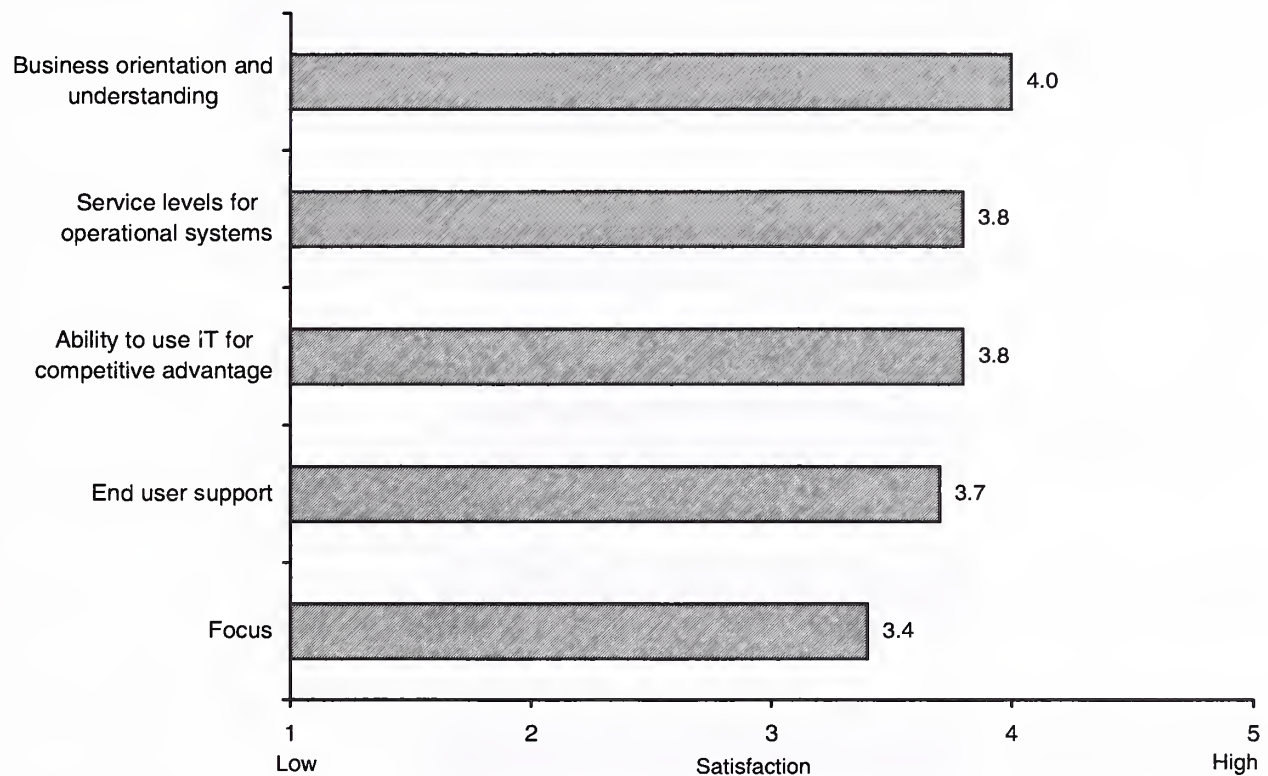
Changes in IT Activity: Insurance

The major change in IT activity in the insurance sector is perceived to be a considerable increase in applications development and support activity. At present there is considerable pressure on IT departments to speed up the introduction of new systems.

However there are currently not the same pressures for increased infrastructure and help-desk support within the insurance sector as were found in the banking sector. This may be because organisations in the insurance sector are at a later stage in the development of distributed systems architectures.

Exhibit IV-16 lists the most satisfactory attributes of IT departments belonging to organisations in the insurance sector while Exhibit IV-17 lists their least satisfactory attributes.

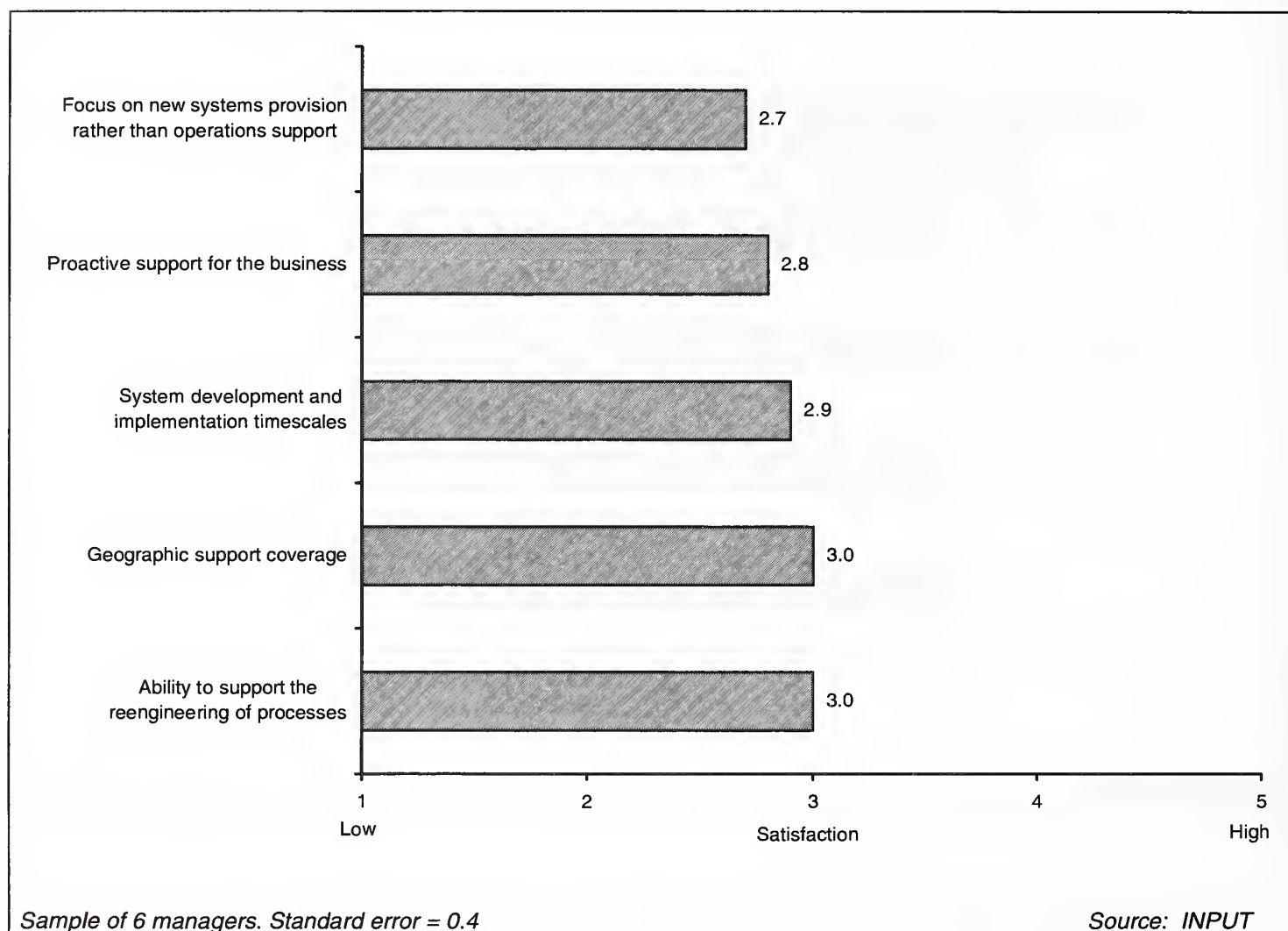
Exhibit IV-16

Areas of Highest Satisfaction: Insurance

Sample of 6 managers. Standard error = 0.4

Source: INPUT

Exhibit IV-17

Areas of Lowest Satisfaction: Insurance

Overall organisations within the insurance sector are currently quite satisfied with the in-house operational support, possibly reflecting the relatively highly centralised nature of IT infrastructures in this sector.

The main concerns relate to the ability of organisations to implement new systems rapidly. IT departments are again considered to have a high level of business understanding but need to develop greater business reengineering skills.

Exhibit IV-18 compares the perceived importance of a number of IT functions with the current level of satisfaction with their performance in-house.

Exhibit IV-18

Satisfaction with In-house Performance: Insurance

	Importance	Current Performance	Difference
New system development	4.8	3.2	1.6
Application selection and integration	4.4	3.3	1.1
Day-to-day support of local area networks	4.4	3.4	1.0
Provision and support for wide area connectivity	3.9	3.1	0.8
Day-to-day support of the desktop environment	4.0	3.3	0.8
Support of branch locations	4.8	4.1	0.7
Day-to-day operation of datacentres	3.8	3.6	0.2
Maintenance of well-established applications	3.6	4.1	-0.5

Source: INPUT

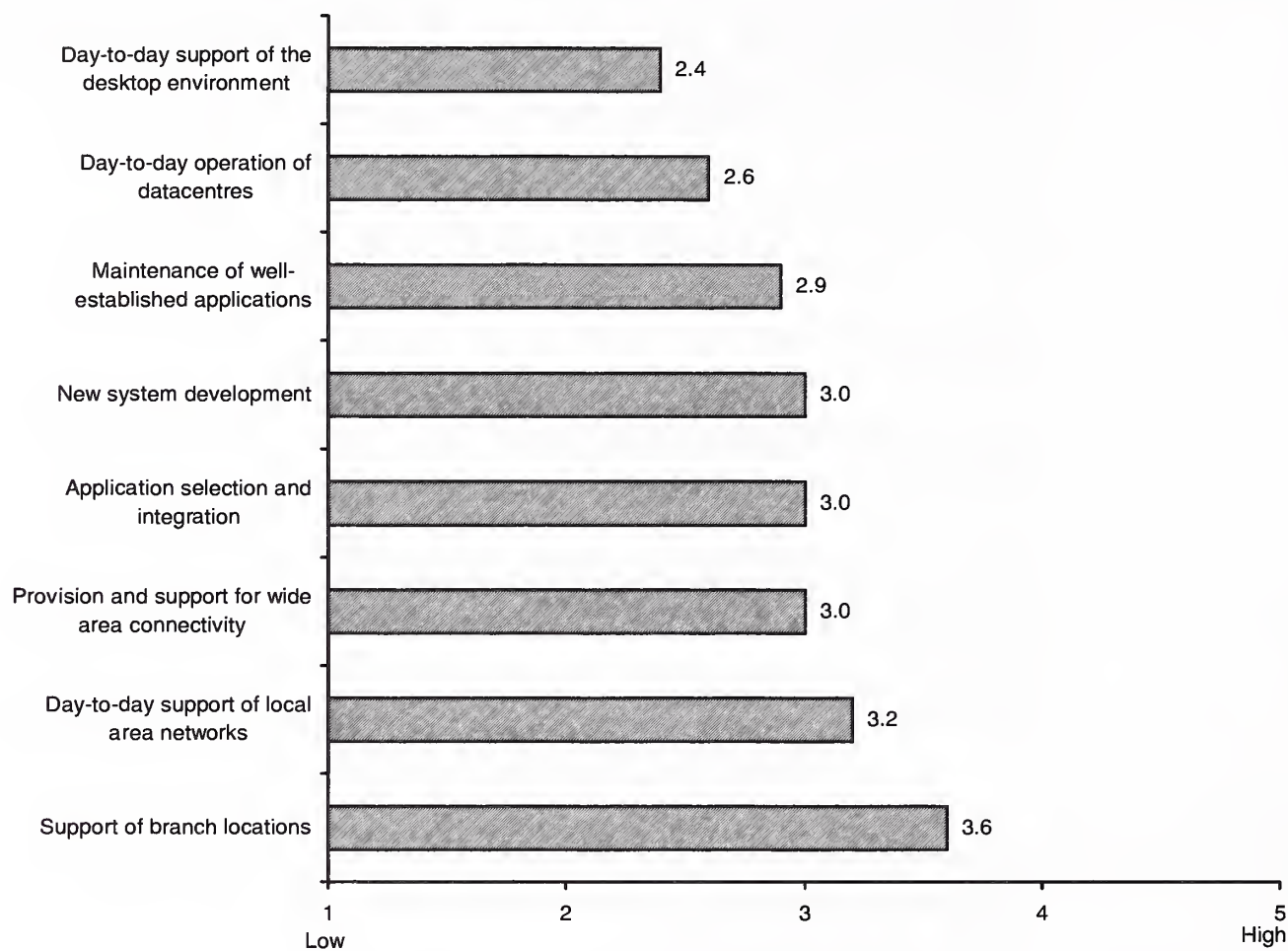
There is considerable pressure on IT departments in the insurance sector to make the transition from managing legacy systems to introducing new systems and infrastructures.

At present, the satisfaction with legacy activities, such as mainframe operations and application maintenance, is high. However, the levels of satisfaction with new system development and support for distributed systems is low.

This creates opportunities for outsourcing vendors in transformational outsourcing, particularly the introduction and support of new distributed IT infrastructures.

Exhibit IV-19 indicates the relative extent to which managers in the insurance sector perceive it is necessary to perform each of the IT functions in-house.

Exhibit IV-19

Perceived Necessity of Performing In-house: Insurance*Sample of 6 managers. Standard error = 0.4**Source: INPUT*

D

Discrete Manufacturing — Moving Towards Electronic Commerce

Exhibit IV-20 lists the principal business pressures on the European discrete manufacturing sector, and Exhibit IV-21 identifies key areas for action in this sector.

Exhibit IV-20

Principal Business Pressures: Discrete Manufacturing

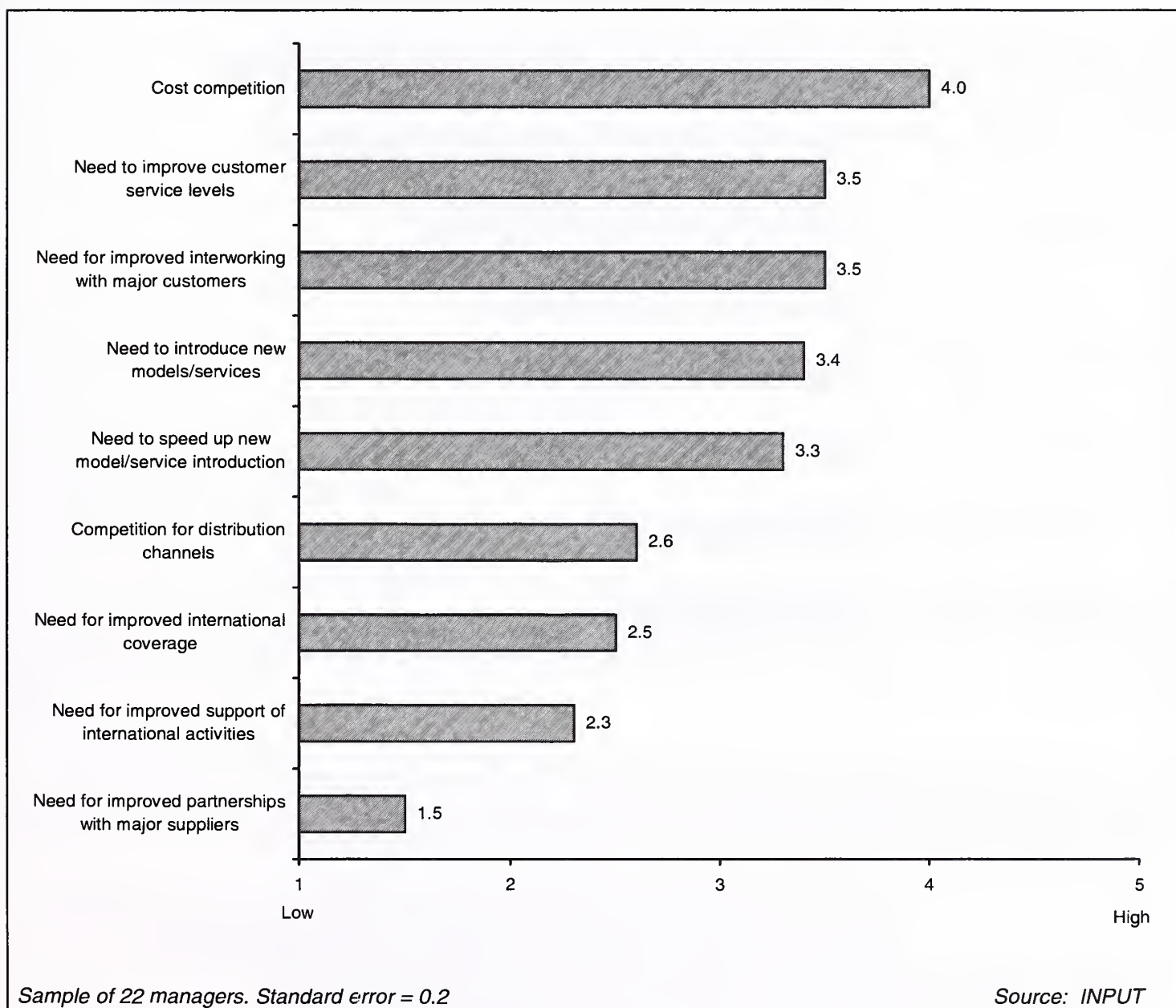
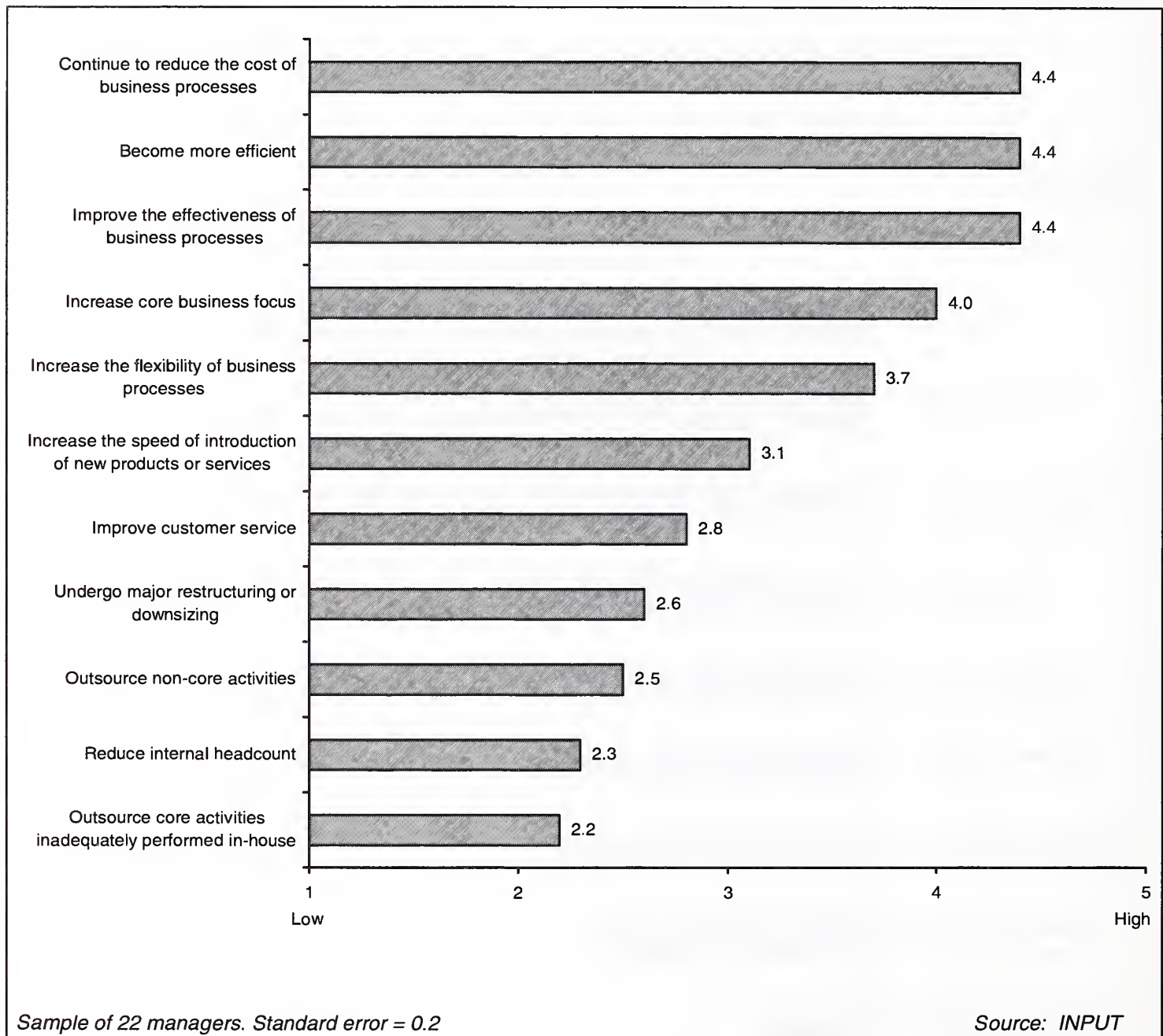


Exhibit IV-21

Key Actions: Discrete Manufacturing

The discrete manufacturing sector, driven by the sector's focus on cost reduction, has been arguably the major area of opportunity for outsourcing vendors in Europe over the past five years.

Again this situation remains little changed. Indeed the level of cost pressure in the discrete manufacturing sector appears to have increased over the last twelve months. Accordingly, while other sectors such as financial services are beginning to display a greater acceptance of outsourcing, strong demand from the discrete manufacturing sector will continue.

Along with cost competition, another major theme in the manufacturing sector is electronic commerce, with organisations turning to Intranet technology to strengthen their ties with major customers.

The significance of each of a number of potential IT challenges facing the discrete manufacturing sector is contrasted with the ability of IT departments to meet each of these challenges in Exhibit IV-22.

Exhibit IV-22

IT Challenges: Discrete Manufacturing

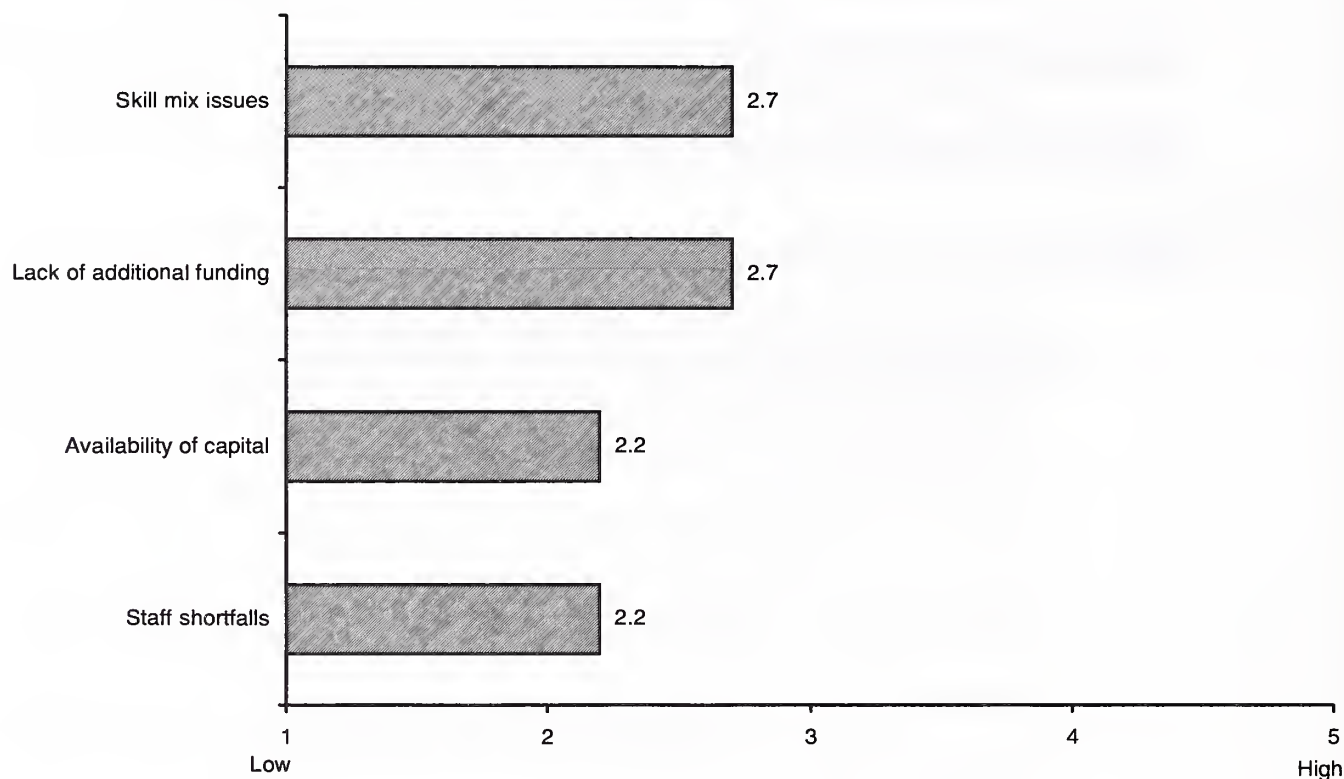
	Importance	Ability to cope	Difference
To become more cost-effective in using IT	4.0	3.2	0.8
To improve focus on business needs	3.9	3.2	0.6
To become more pro-active in meeting business needs	3.4	3.2	0.3
Updating internal skills	3.6	3.5	0.2
To adopt a distributed IT architecture	3.4	3.4	0.1
To reduce the time taken to implement new applications	3.4	3.3	0.1
To improve support for distributed and desktop systems	3.4	3.4	0.0
To move to a new generation of applications	3.6	3.7	-0.1

Source: INPUT

There is some emphasis within the discrete manufacturing sector on IT departments increasing their focus on business needs. However, there is less emphasis on reengineering and the introduction of new applications in this sector than the financial sector. Overall the main concern remains to become more cost-effective in using IT.

The extent to which each of a number of factors are perceived to inhibit IT departments in the discrete manufacturing sector from achieving their goals is listed in Exhibit IV-23.

Exhibit IV-23

IT Inhibitors: Discrete Manufacturing

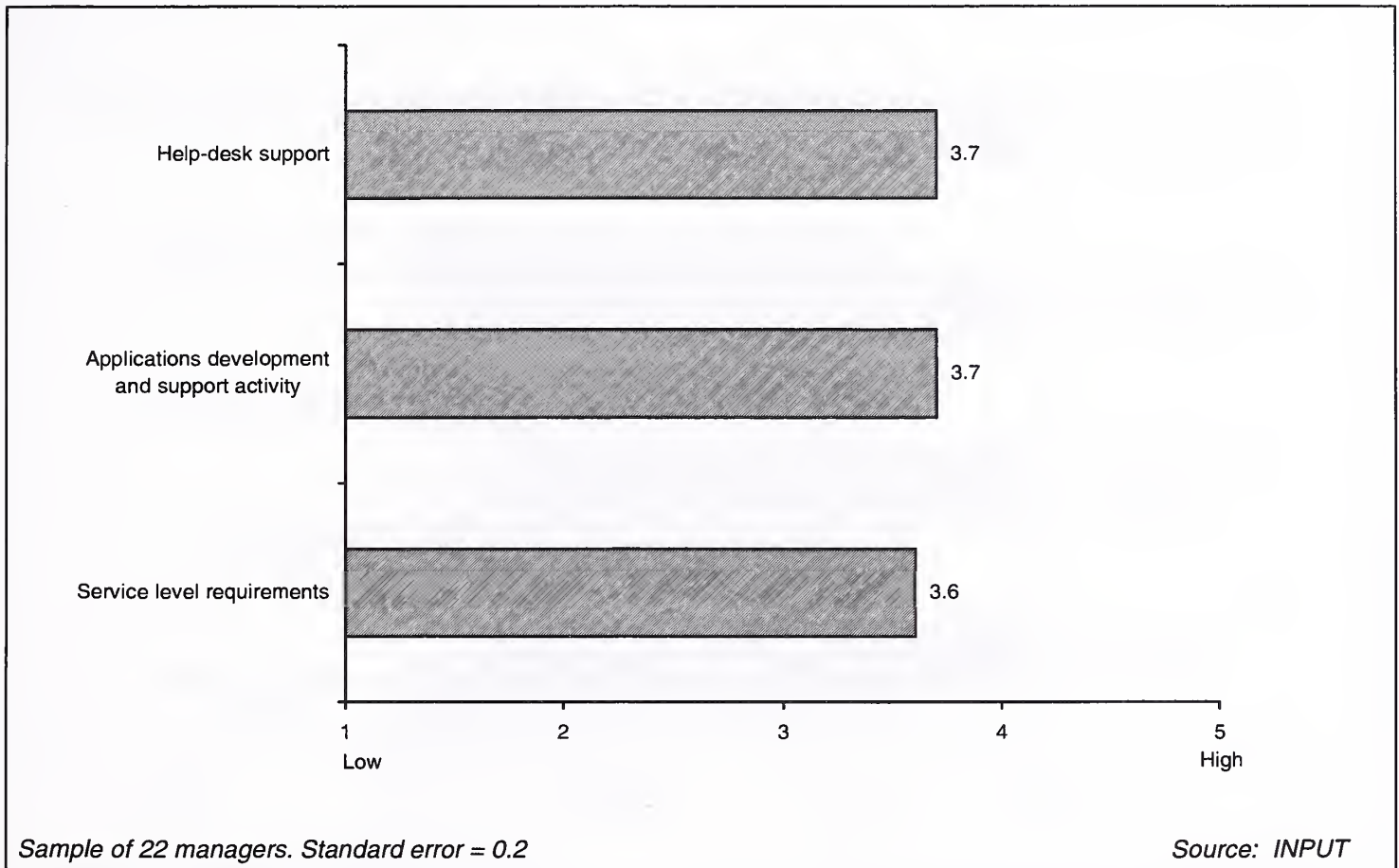
Sample of 22 managers. Standard error = 0.2

Source: INPUT

There are no severe inhibitors to the use of IT in the discrete manufacturing sector, reflecting the lack of emphasis in this sector in driving forward the business by application of IT.

The extent to which organisations in the discrete manufacturing sector expect significant changes in IT activity over the next few years is listed in Exhibit IV-24.

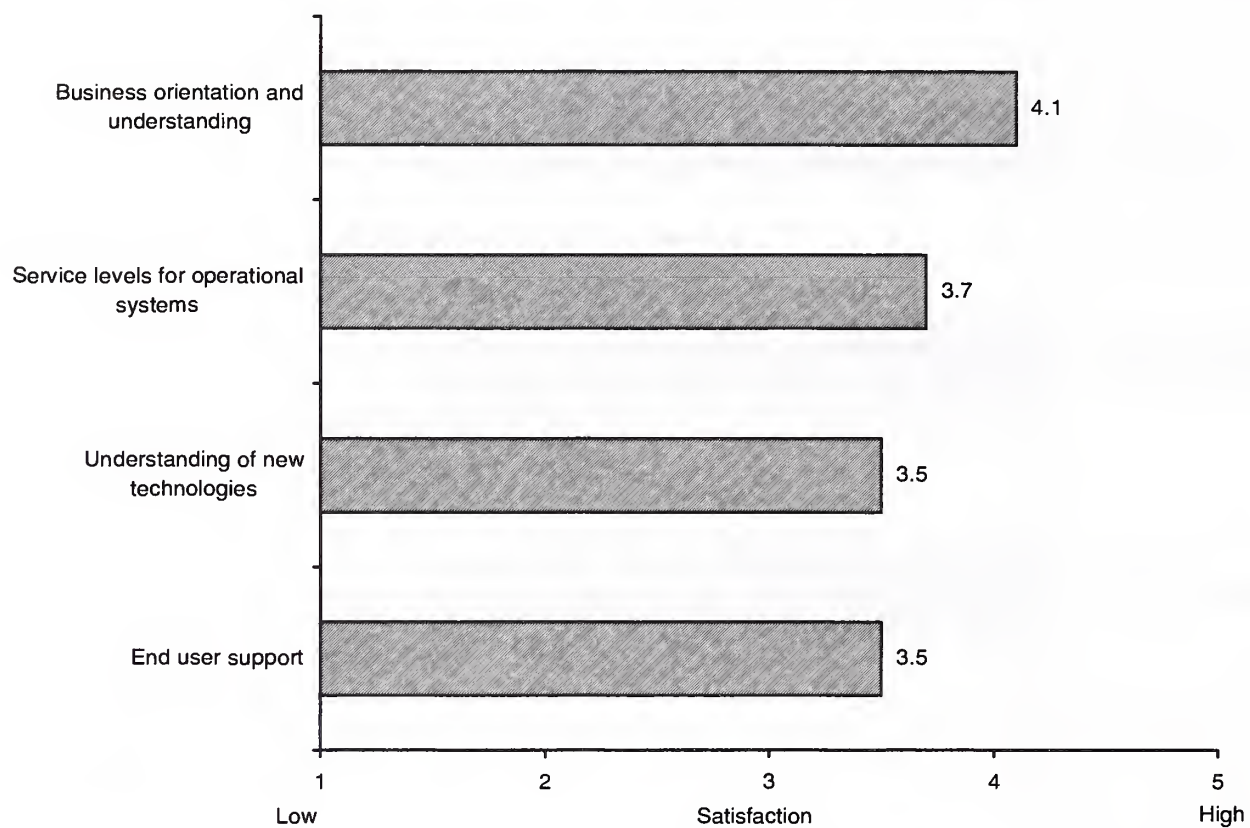
Exhibit IV-24

Changes in IT Activity: Discrete Manufacturing

Despite their traditional reluctance to place a high level of reliance on IT, organisations in the discrete manufacturing sector anticipate moderate increases in IT activity over the next few years.

Exhibit IV-25 lists the most satisfactory attributes of IT departments belonging to organisations in the discrete manufacturing sector while Exhibit IV-26 lists their least satisfactory attributes.

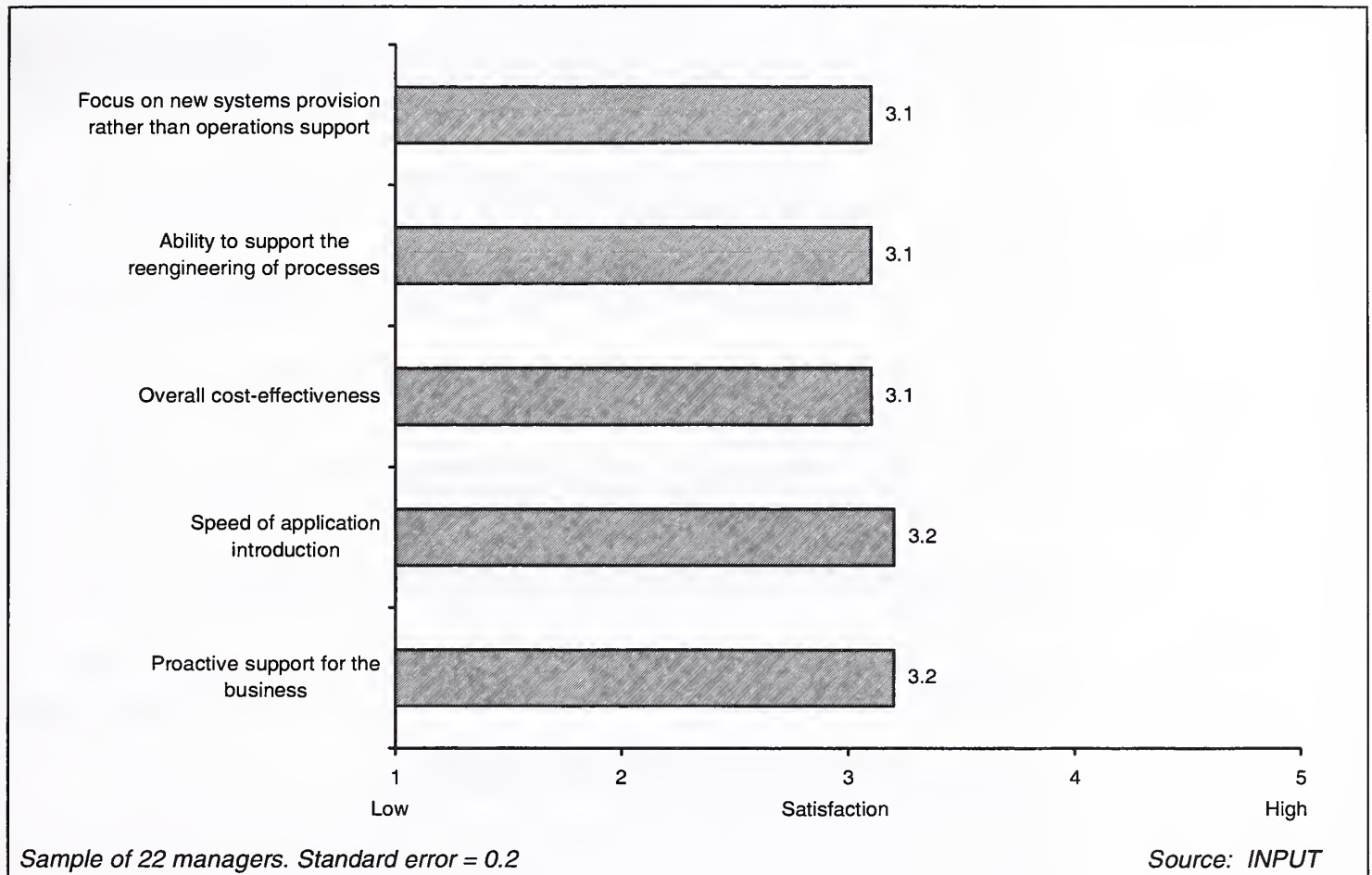
Exhibit IV-25

Areas of Highest Satisfaction: Discrete Manufacturing

Sample of 22 managers. Standard error = 0.2

Source: INPUT

Exhibit IV-26

Areas of Lowest Satisfaction: Discrete Manufacturing

IT departments in the manufacturing sector, as elsewhere, are perceived to have a strong understanding of existing forms of business within their organisation, but lack the more proactive, visionary skills to assist in reengineering business processes. However, the level of dissatisfaction in this sector is not as great as in the financial services sector which is under greater competitive pressure to transform its present ways of conducting business.

Exhibit IV-27 compares the perceived importance of a number of IT functions with the current level of satisfaction with their performance in-house.

Exhibit IV-27

Satisfaction with In-house Performance: Discrete Manufacturing

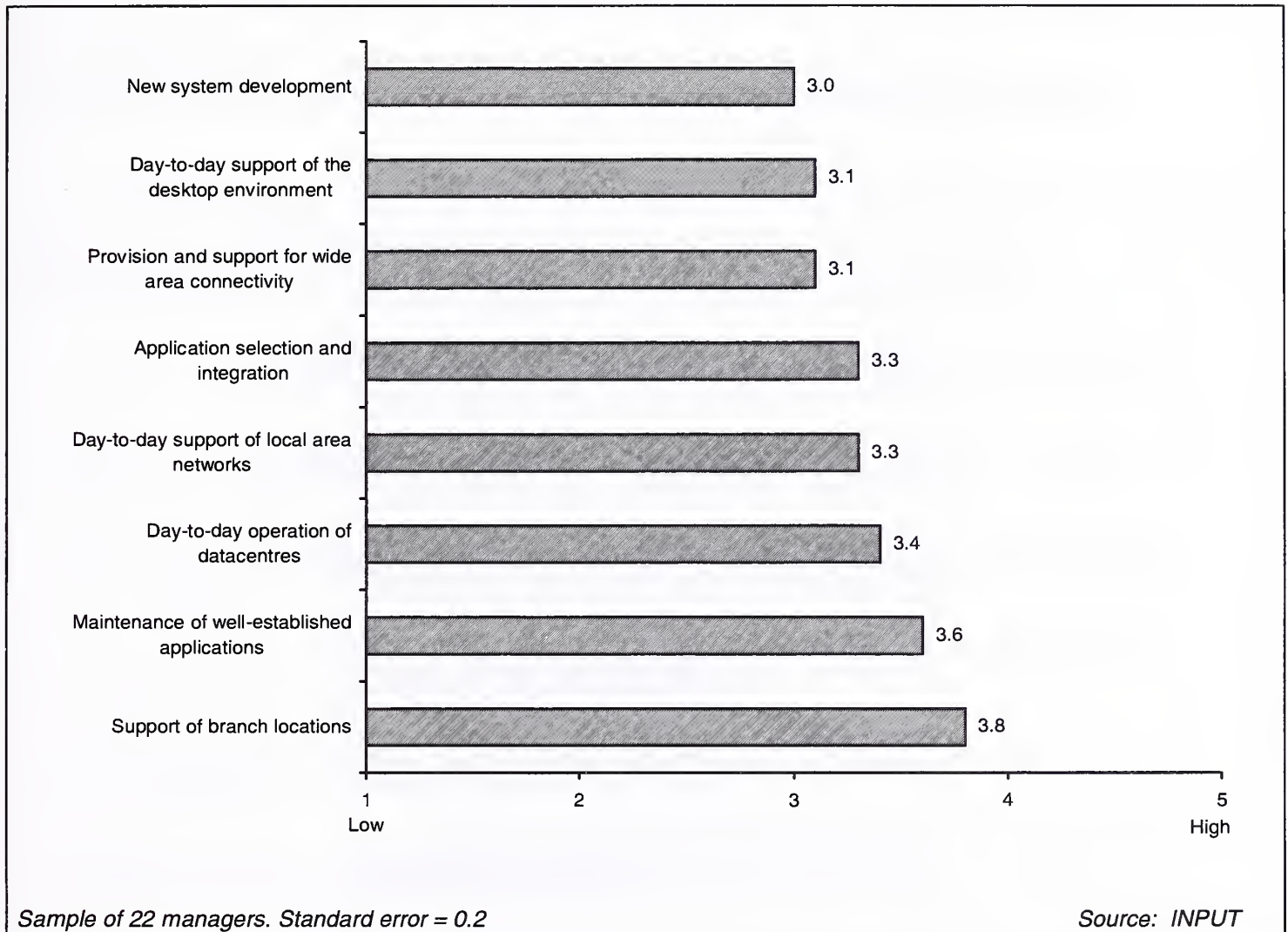
	Importance	Current Performance	Difference
Day-to-day support of local area networks	3.8	3.3	0.5
Provision and support for wide area connectivity	3.7	3.5	0.2
New system development	3.5	3.4	0.2
Maintenance of well-established applications	3.8	3.6	0.2
Support of branch locations	3.6	3.4	0.1
Day-to-day operation of datacentres	3.8	3.8	0.0
Day-to-day support of the desktop environment	3.4	3.4	0.0
Application selection and integration	3.6	3.6	0.0

Source: INPUT

The overall level of importance attached to IT functions is much lower in the discrete manufacturing sector than in the financial services sector. Accordingly there is a much lower level of requirement for service improvement. However there is a low level of need to improve the management of both local and wide area networks. Day-to day support for the desktop environment is still perceived to be of relatively low importance by managers in the discrete manufacturing sector.

Exhibit IV-28 indicates the relative extent to which managers in the discrete manufacturing sector perceive it is necessary to perform each of the IT functions in-house.

Exhibit IV-28

Perceived Necessity of Performing In-house: Discrete Manufacturing

E

Process Manufacturing — Extending Geographic Coverage

Exhibit IV-29 lists the principal business pressures on the European process manufacturing sector, and Exhibit IV-30 identifies key areas for action in this sector.

Exhibit IV-29

Principal Business Pressures: Process Manufacturing

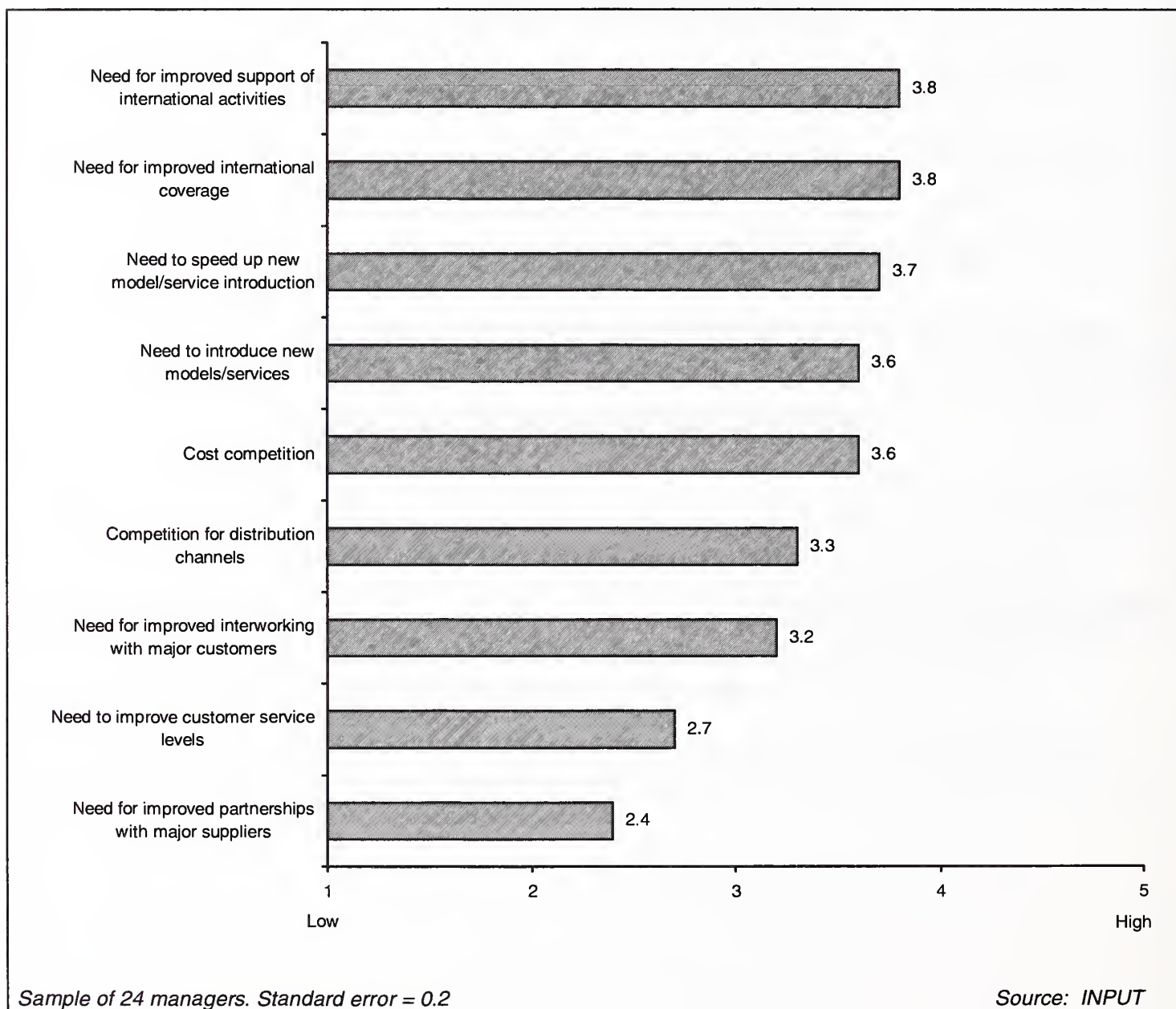
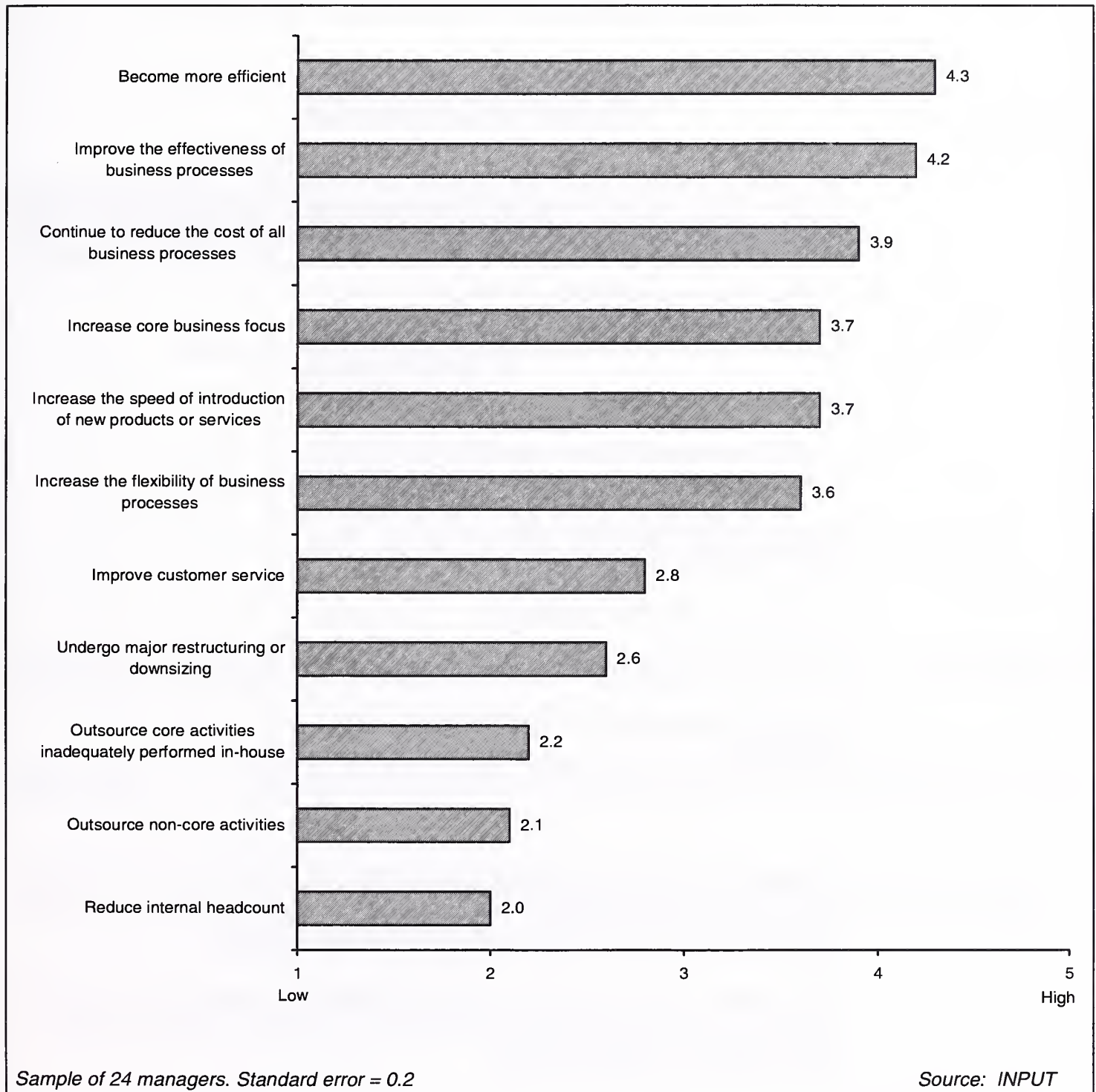


Exhibit IV-30

Key Actions: Process Manufacturing

Managers in the process manufacturing sector remain concerned about their ability to achieve global coverage for their products. Because of this widespread international coverage of many process manufacturing organisations, they have a relatively high level of need for support in distributed systems management.

The significance of each of a number of potential IT challenges facing the process manufacturing sector is contrasted with the ability of IT departments to meet each of these challenges in Exhibit IV-31.

Exhibit IV-31

IT Challenges: Process Manufacturing

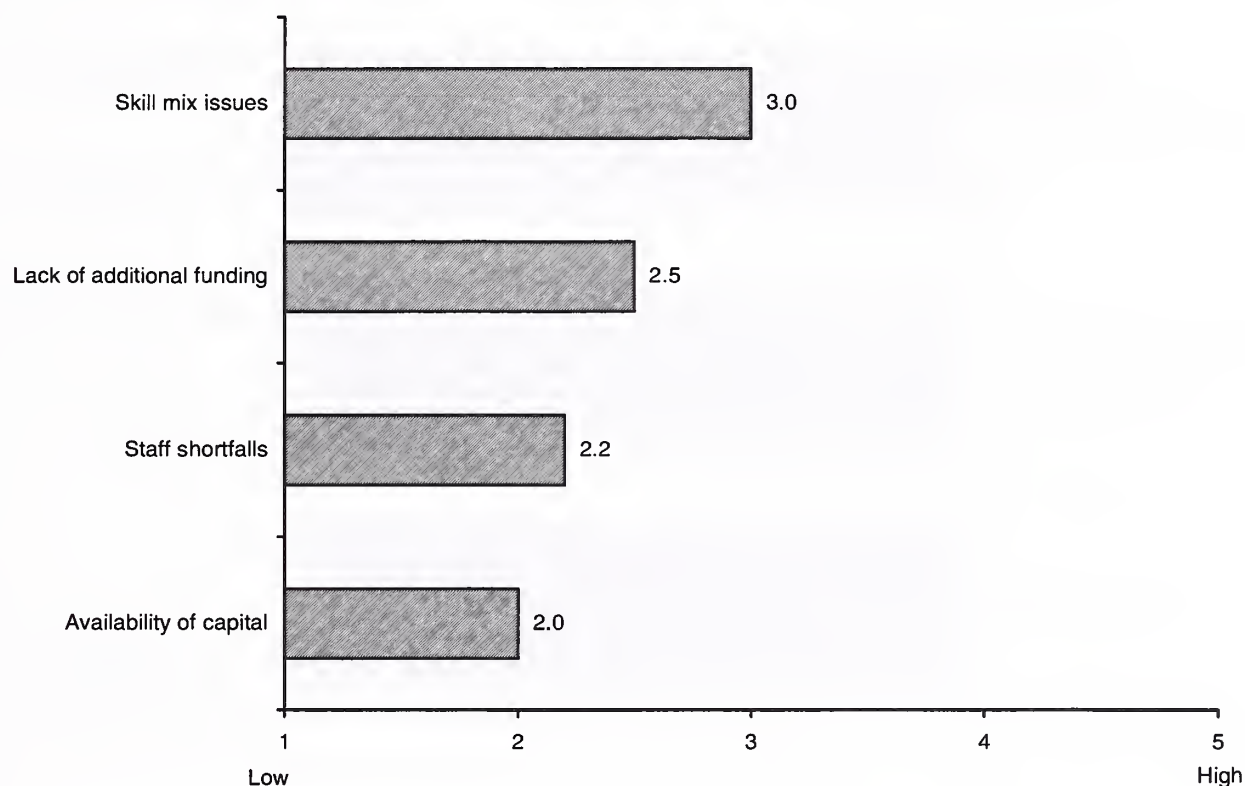
	Importance	Ability to cope	Difference
To become more cost-effective in using IT	4.0	3.3	0.8
To improve focus on business needs	4.0	3.5	0.6
Updating internal skills	4.0	3.4	0.6
To become more pro-active in meeting business needs	3.6	3.0	0.5
To improve support for distributed and desktop systems	3.6	3.4	0.2
To adopt a distributed IT architecture	3.4	3.4	0.0
To move to a new generation of applications	3.8	3.9	-0.1
To reduce the time taken to implement new applications	3.2	3.4	-0.2

Source: INPUT

Although the cost pressure on organisations in the process manufacturing sector is less severe, IT departments in this sector are under considerable pressure to become more cost-effective in their use of IT.

The extent to which each of a number of factors are perceived to inhibit IT departments in the process manufacturing sector from achieving their goals is listed in Exhibit IV-32.

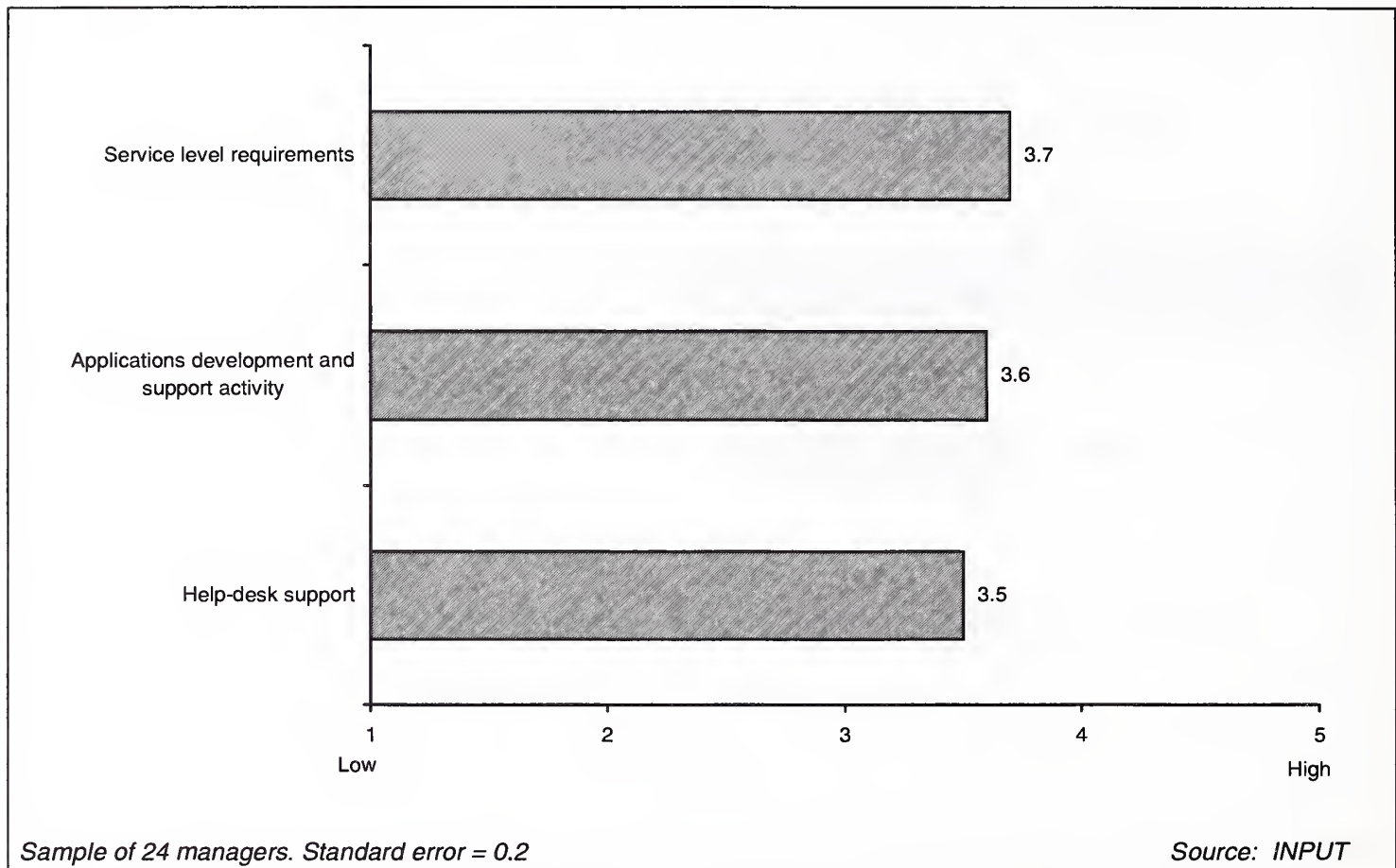
Exhibit IV-32

IT Inhibitors: Process Manufacturing*Sample of 24 managers. Standard error = 0.2**Source: INPUT*

There are perceived to be no major inhibitors to the application of IT in the process manufacturing sector, though skill mix issues remain a minor concern.

The extent to which organisations in the process manufacturing sector expect significant changes in IT activity over the next few years is listed in Exhibit IV-33.

Exhibit IV-33

Changes in IT Activity: Process Manufacturing

Some increase in applications development and support activity is anticipated by organisations in the process manufacturing sector, but the degree of pressure to introduce new applications is relatively low and internal resources appear to be adequate to meet the level of demand.

Exhibit IV-34 lists the most satisfactory attributes of IT departments belonging to organisations in the process manufacturing sector while Exhibit IV-35 lists their least satisfactory attributes.

Exhibit IV-34

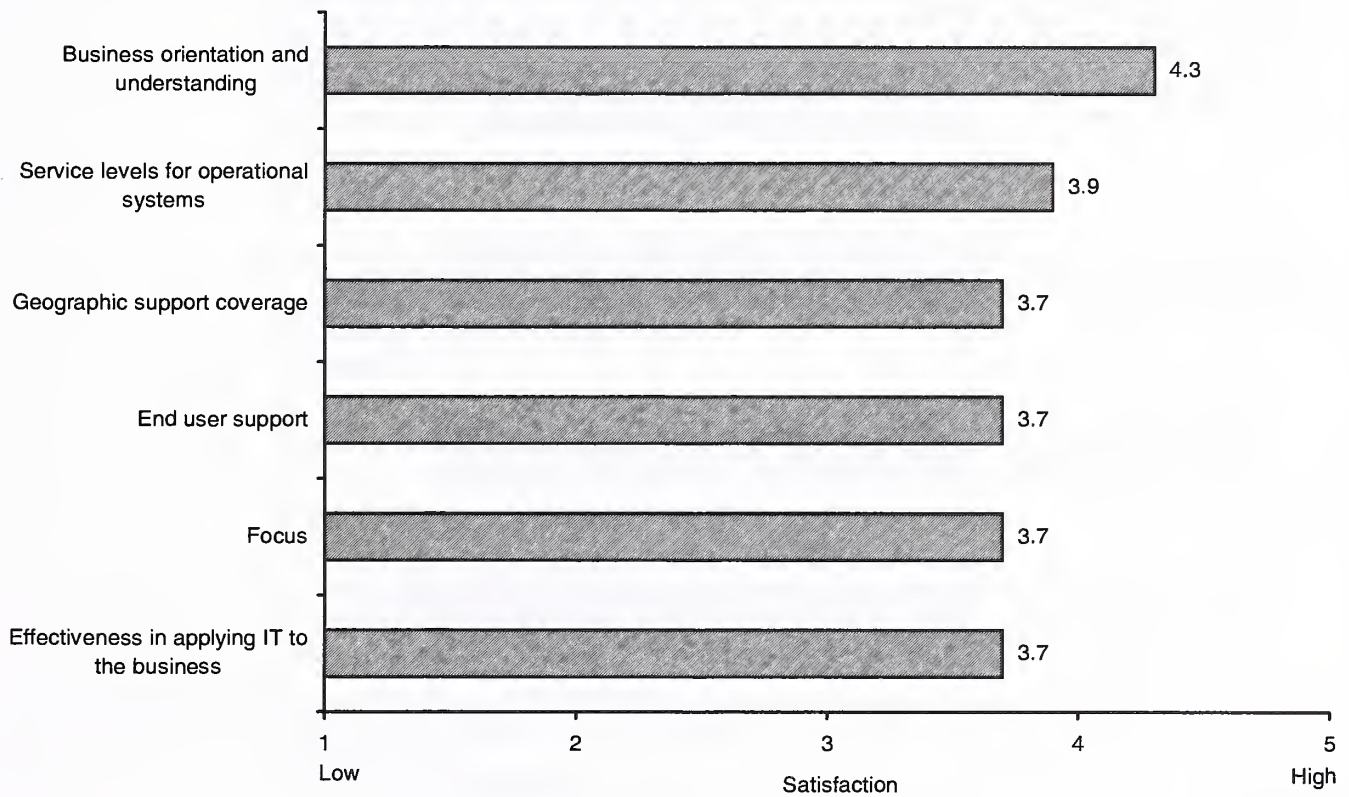
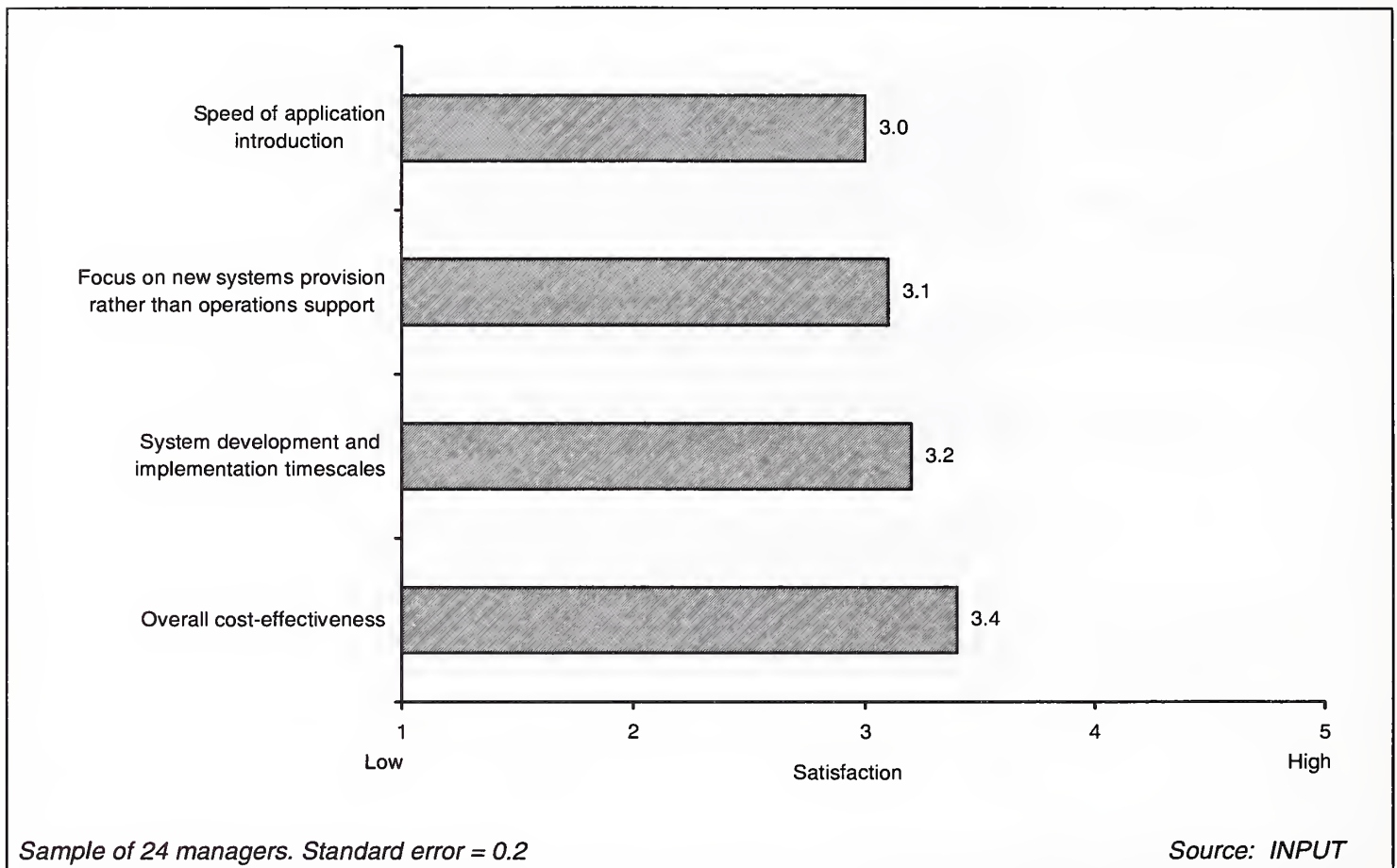
Areas of Highest Satisfaction: Process Manufacturing*Sample of 24 managers. Standard error = 0.2**Source: INPUT*

Exhibit IV-35

Areas of Lowest Satisfaction: Process Manufacturing

The level of satisfaction with the provision of existing IT services appears to be medium to high. The principal area of dissatisfaction is the speed with which new applications are introduced. However, the level of demand for new systems in this sector is relatively moderate.

Exhibit IV-36 compares the perceived importance of a number of IT functions with the current level of satisfaction with their performance in-house.

Exhibit IV-36

Satisfaction with In-house Performance: Process Manufacturing

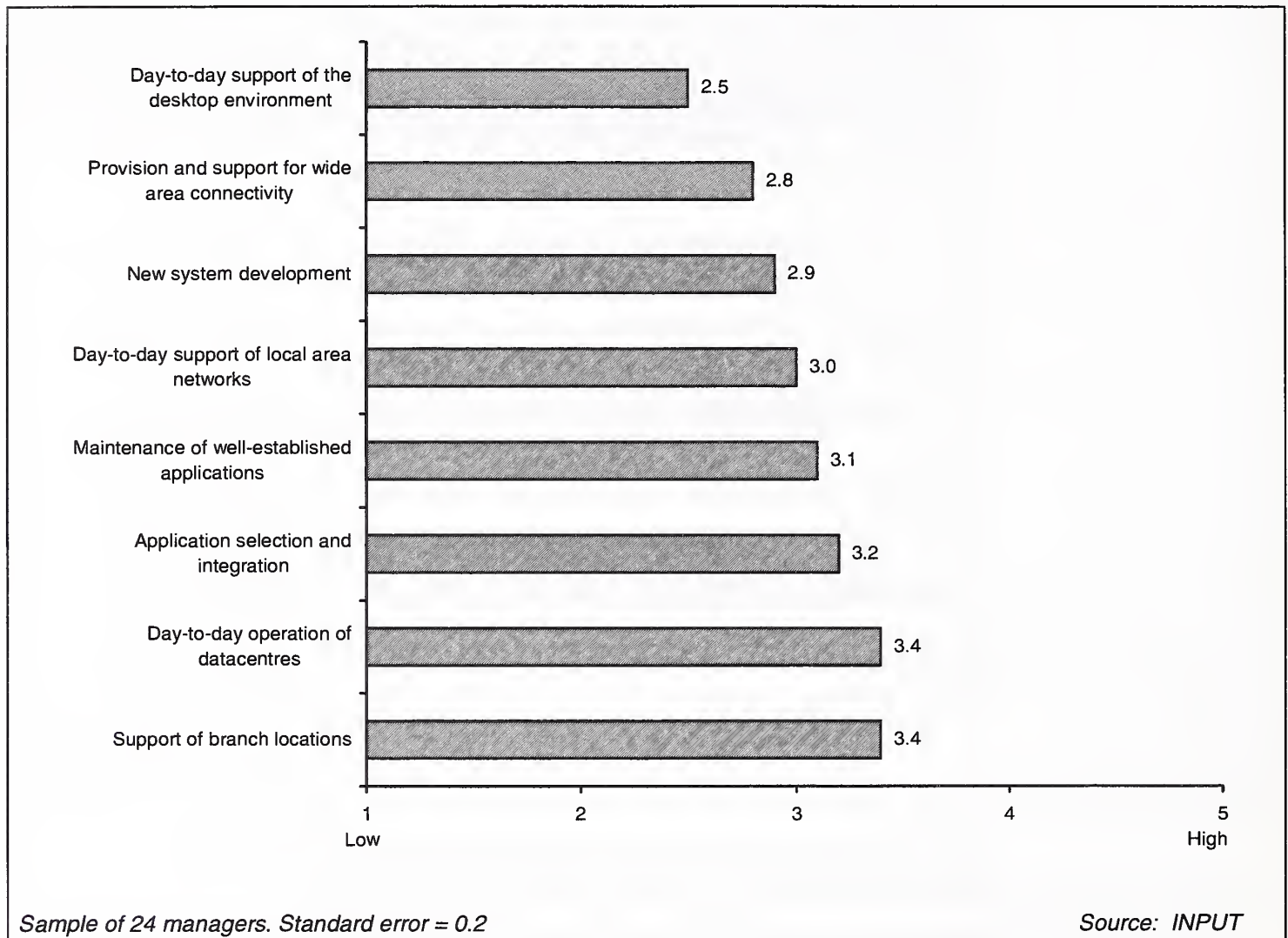
	Importance	Current Performance	Difference
Provision and support for wide area connectivity	4.1	3.6	0.6
Day-to-day support of local area networks	3.8	3.3	0.5
Maintenance of well-established applications	4.2	3.9	0.4
New system development	3.7	3.4	0.3
Application selection and integration	3.8	3.6	0.2
Day-to-day operation of datacentres	3.8	3.6	0.1
Support of branch locations	4.0	3.9	0.1
Day-to-day support of the desktop environment	3.1	3.4	-0.3

Source: INPUT

The main area where there is scope for improvement is in the management of both local and wide area networks.

Exhibit IV-37 indicates the relative extent to which managers in the process manufacturing sector perceive it is necessary to perform each of the IT functions in-house.

Exhibit IV-37

Perceived Necessity of Performing In-house: Process Manufacturing

F

Distribution — Increasing Customer Service

Exhibit IV-38 lists the principal business pressures on the European distribution sector, and Exhibit IV-39 identifies key areas for action in this sector.

Exhibit IV-38

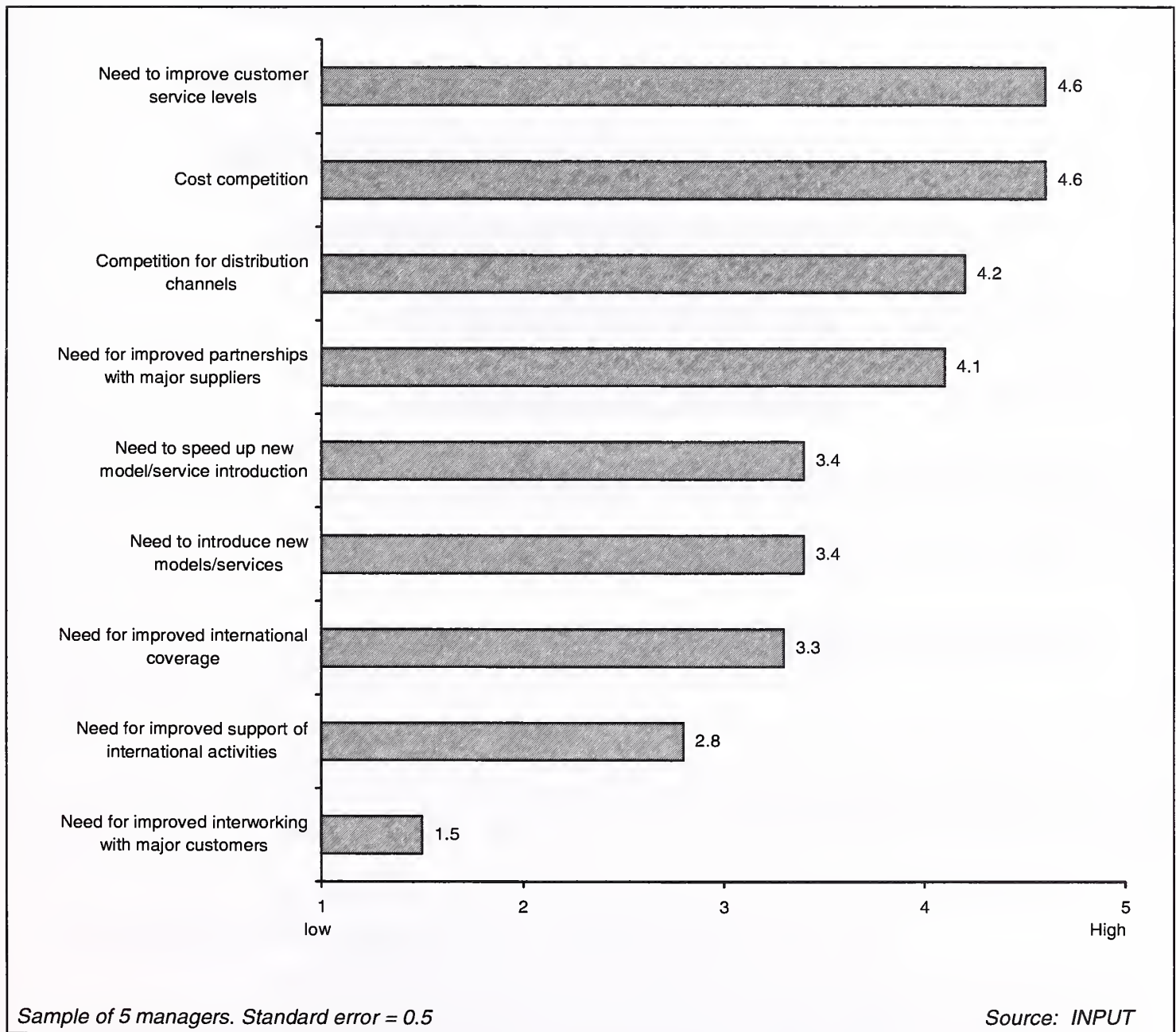
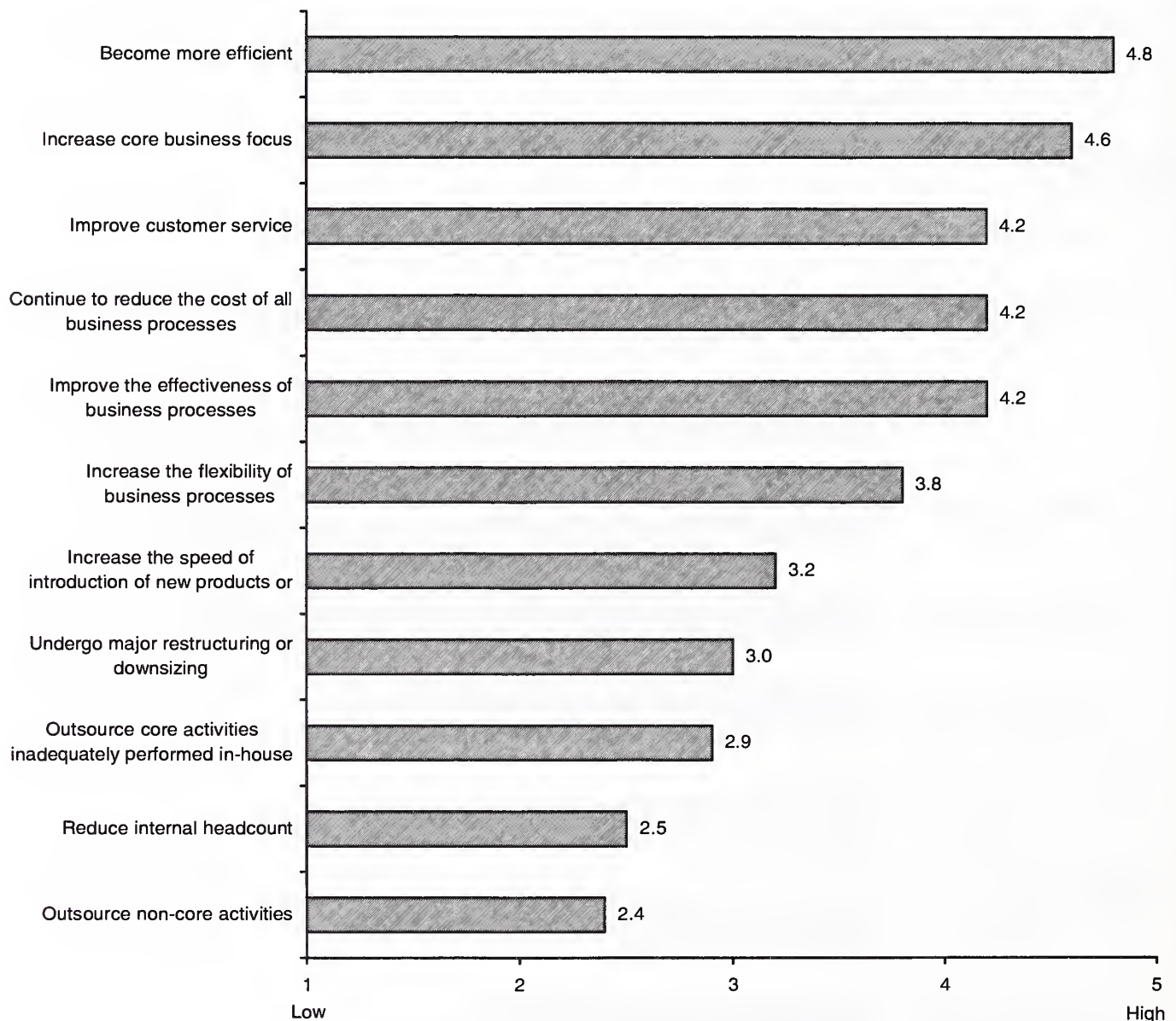
Principal Business Pressures: Distribution

Exhibit IV-39

Key Actions: Distribution

Sample of 5 managers. Standard error = 0.5

Source: INPUT

For the purposes of this report, the distribution sector is defined as the combination of retail and wholesale distribution.

The business pressures on the distribution sector are high. This sector traditionally operates on narrow profit margins and faces considerable cost competition. In addition the sector faces strong competition for its customers and needs to meet the demands for increasing levels of customer service. Improved partnerships with suppliers are a key means of improving customer service while simultaneously keeping costs down.

The significance of each of a number of potential IT challenges facing the distribution sector is contrasted with the ability of IT departments to meet each of these challenges in Exhibit IV-40.

Exhibit IV-40

IT Challenges: Distribution

	Importance	Ability to cope	Difference
To improve focus on business needs	4.7	3.1	1.6
To become more cost-effective in using IT	4.6	3.1	1.5
To improve support for distributed and desktop systems	3.8	2.6	1.1
To become more pro-active in meeting business needs	4.0	3.1	0.9
To move to a new generation of applications	4.0	3.2	0.8
Updating internal skills	3.7	3.7	0.0
To reduce the time taken to implement new applications	3.3	3.7	-0.3
To adopt a distributed IT architecture	2.9	3.5	-0.6

Source: INPUT

Overall IT departments in the distribution sector face considerable challenges.

Firstly, as within the financial services sector, new technology is creating innovative ways of delivering customer service in the distribution sector and IT departments are under pressure to become more proactive in delivering the benefits of IT to the business

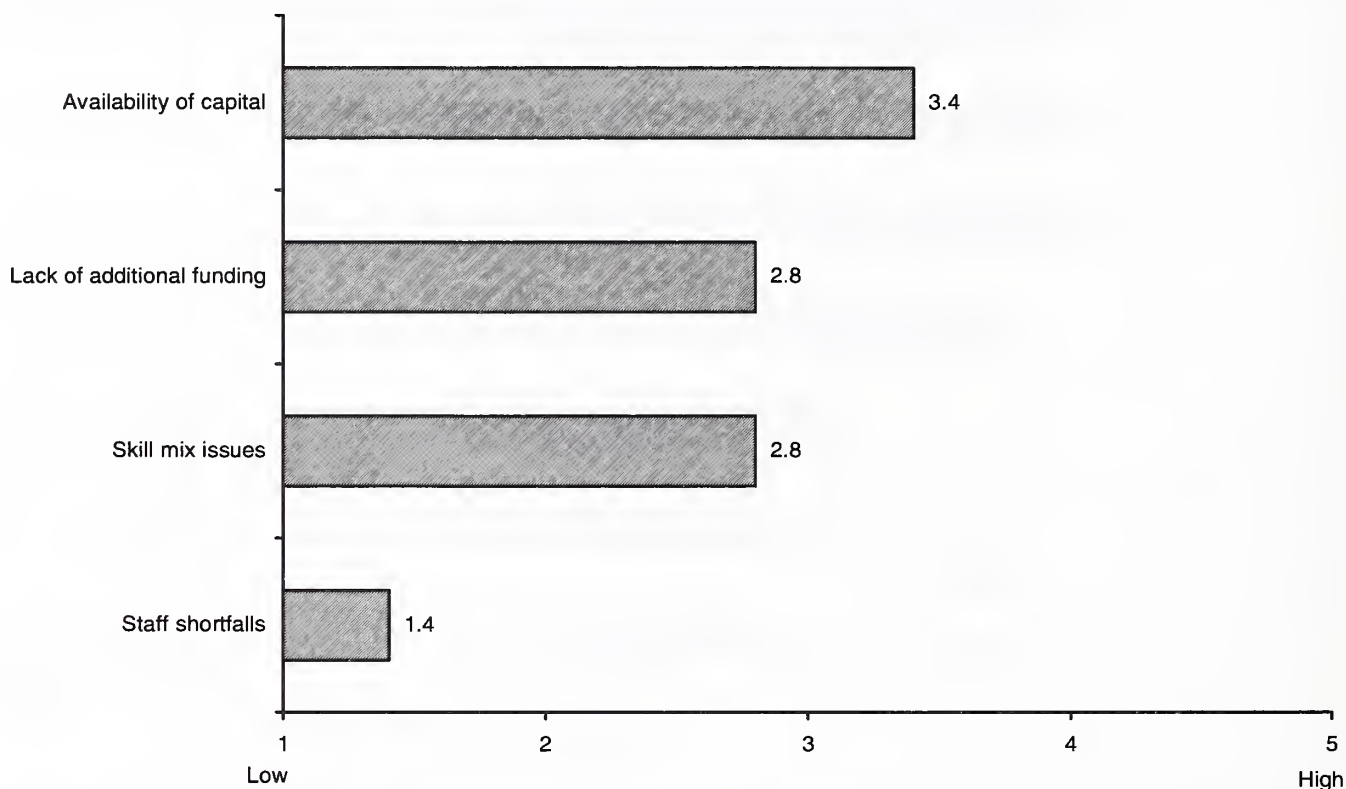
Secondly there is considerable pressure to achieve these goals cost-effectively.

Thirdly, organisations in the distribution sector are highly distributed in nature and already have distributed IT infrastructures. The level of support for these distributed systems now typically needs to be upgraded creating opportunities for vendors of distributed systems management services.

The extent to which each of a number of factors are perceived to inhibit IT departments in the distribution sector from achieving their goals is listed in Exhibit IV-41.

Exhibit IV-41

IT Inhibitors: Distribution



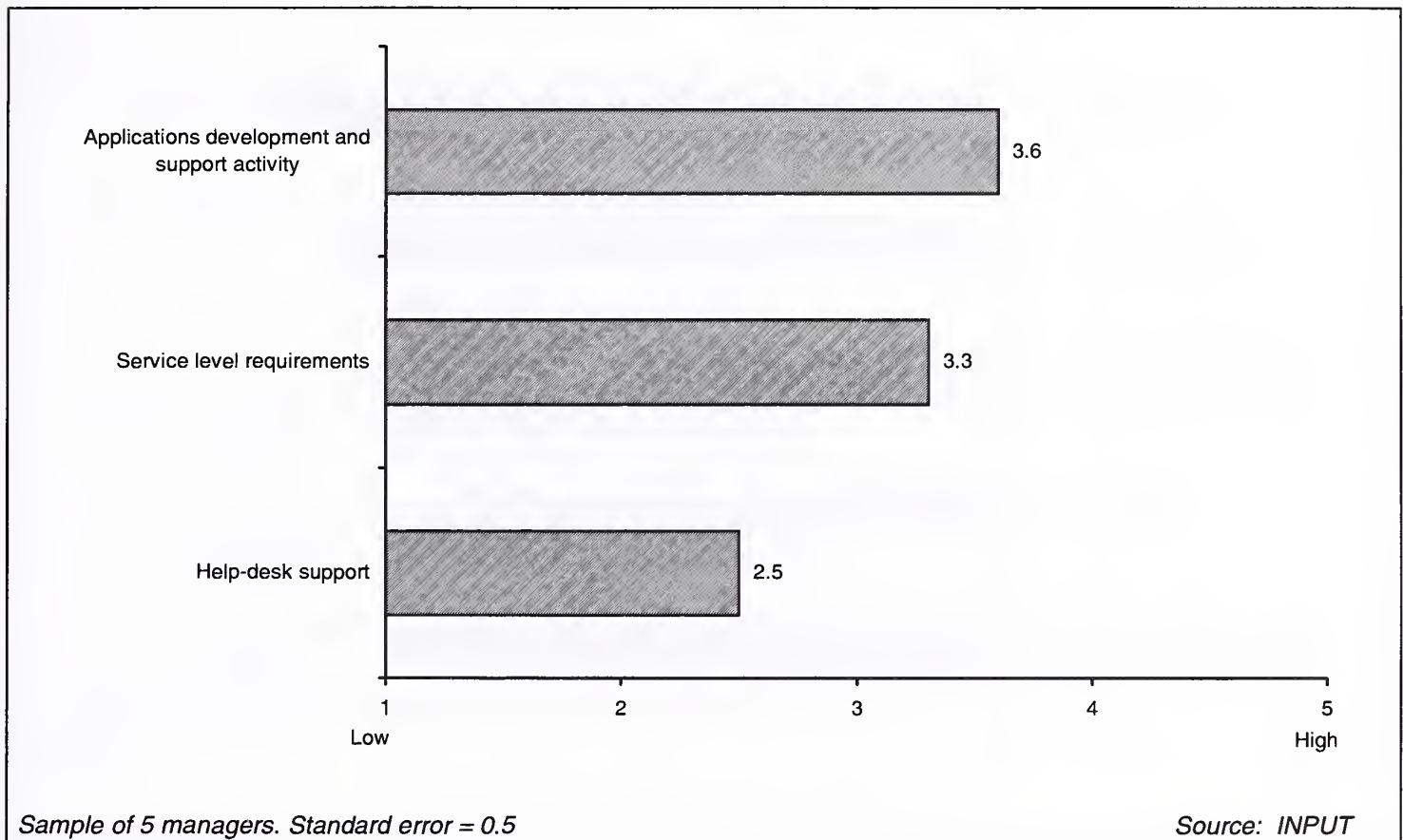
Sample of 5 managers. Standard error = 0.5

Source: INPUT

The availability of capital is an issue for some organisations in the distribution sector, creating opportunities for outsourcing vendors to purchase assets from the client organisation and supply services charged on a usage basis.

The extent to which organisations in the distribution sector expect significant changes in IT activity over the next few years is listed in Exhibit IV-42.

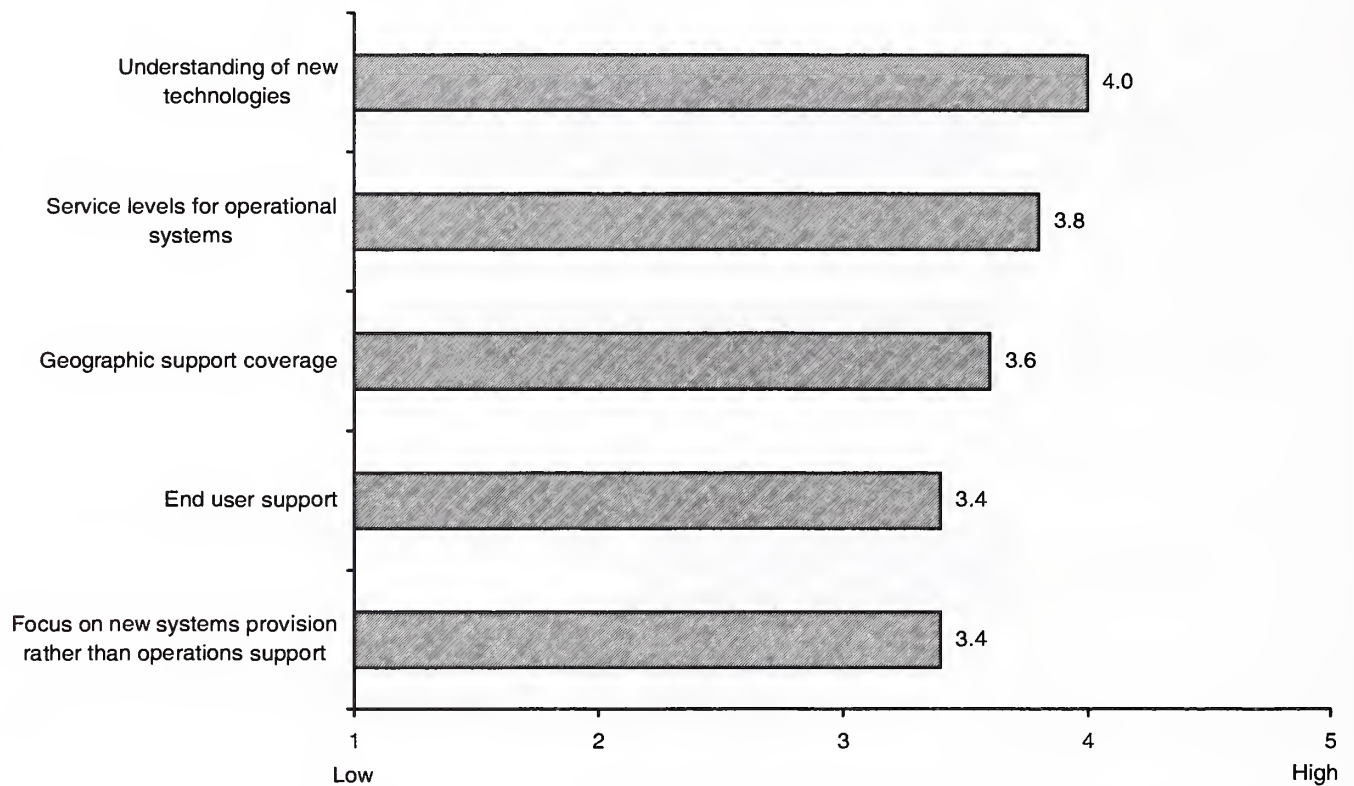
Exhibit IV-42

Changes in IT Activity: Distribution

Moderate increases in application development and support are anticipated.

Exhibit IV-43 lists the most satisfactory attributes of IT departments belonging to organisations in the distribution sector while Exhibit IV-44 lists their least satisfactory attributes.

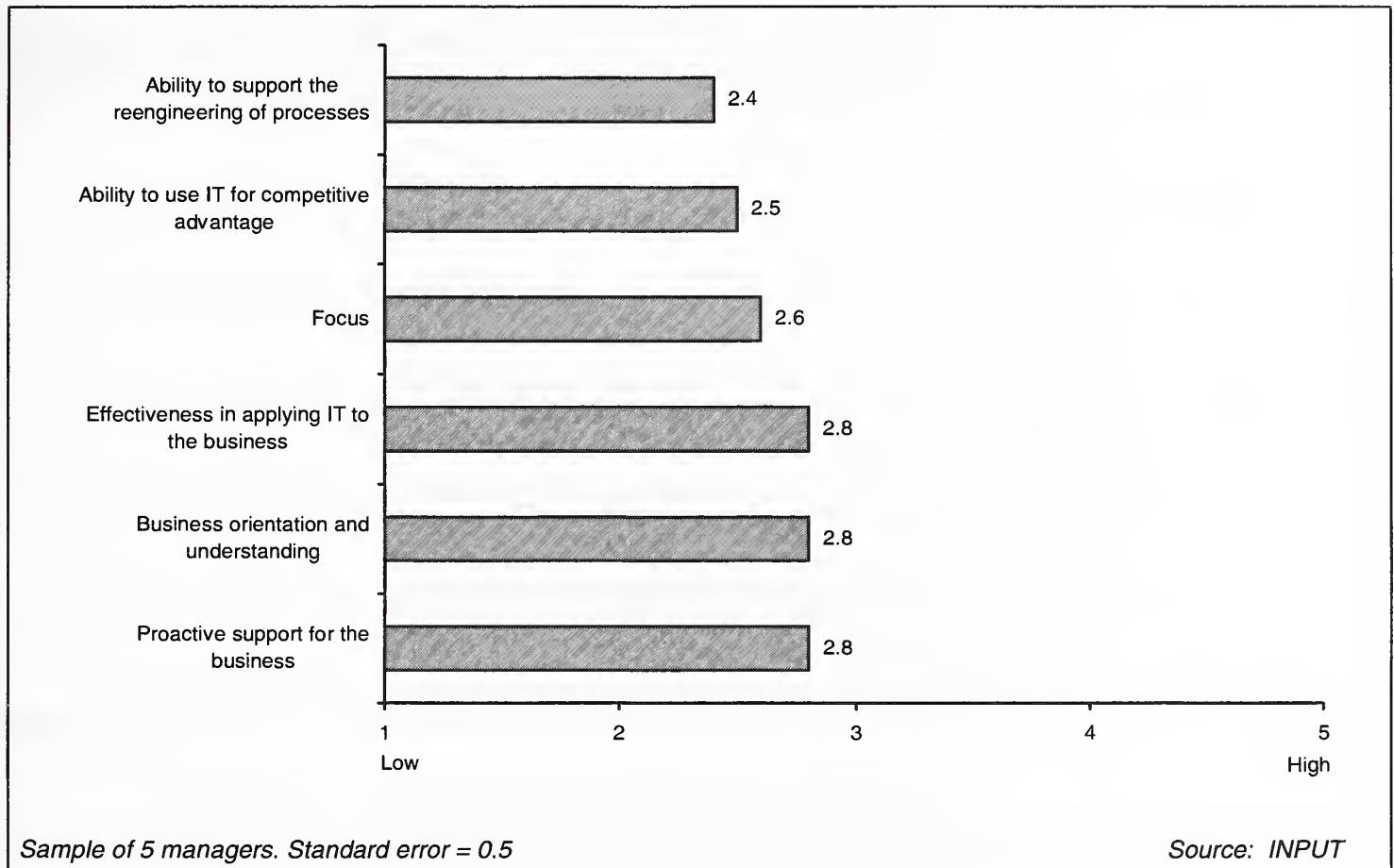
Exhibit IV-43

Areas of Highest Satisfaction: Distribution

Sample of 5 managers. Standard error = 0.5

Source: INPUT

Exhibit IV-44

Areas of Lowest Satisfaction: Distribution

The major challenge for IT departments in the distribution sector is to assist their organisations in adapting IT for the benefit of their organisations. Again creativity in the application of IT is a prime requirement.

Exhibit IV-45 compares the perceived importance of a number of IT functions with the current level of satisfaction with their performance in-house.

Exhibit IV-45

Satisfaction with In-house Performance: Distribution

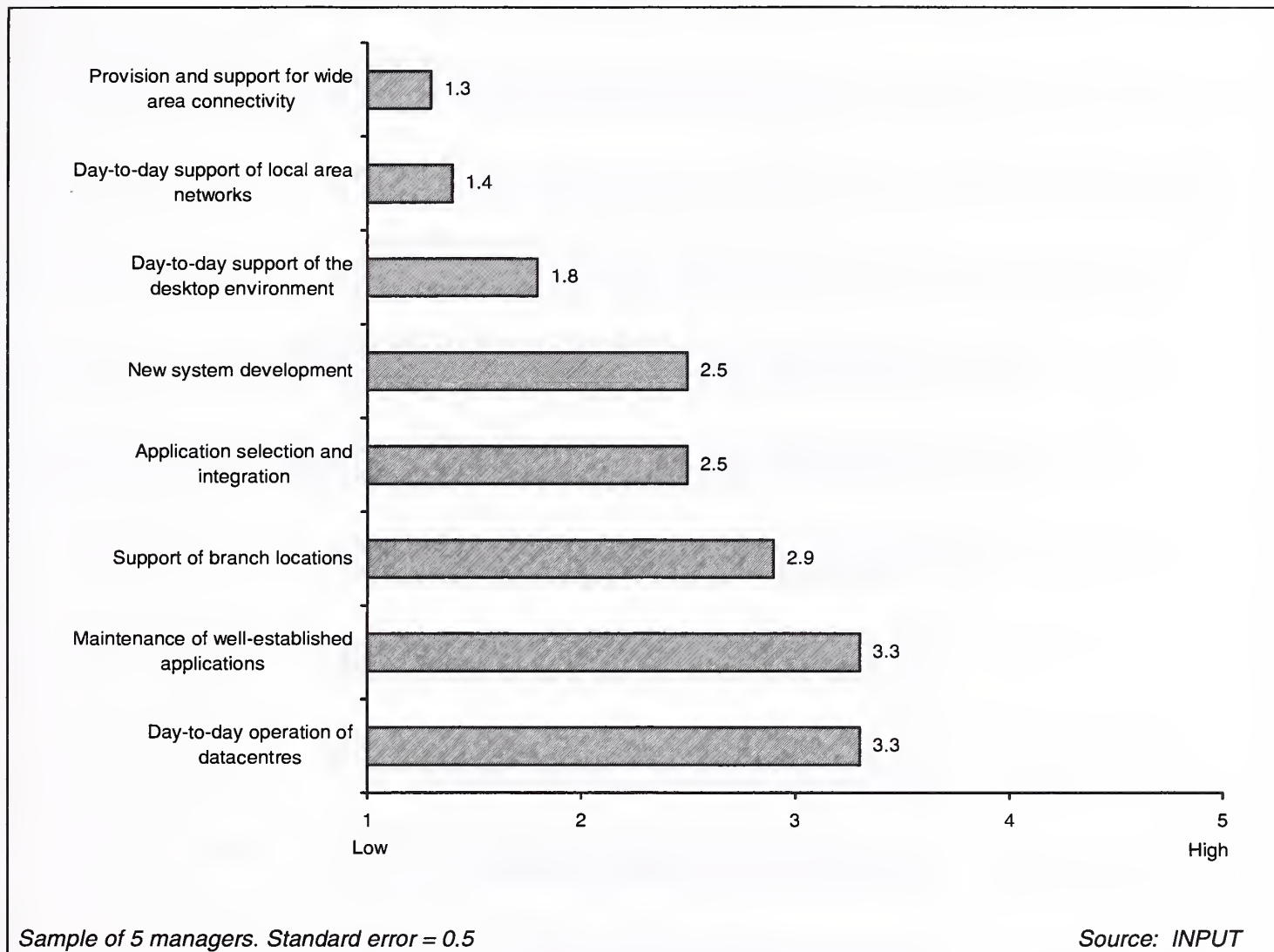
	Importance	Current Performance	Difference
Support of branch locations	4.6	3.0	1.6
Day-to-day support of local area networks	4.2	3.1	1.1
Provision and support for wide area connectivity	4.0	3.0	1.0
New system development	3.8	3.0	0.8
Maintenance of well-established applications	4.0	3.3	0.8
Application selection and integration	3.5	2.9	0.6
Day-to-day operation of datacentres	3.6	3.8	-0.2
Day-to-day support of the desktop environment	2.8	3.3	-0.5

Source: INPUT

Overall satisfaction levels with the in-house performance of IT functions is low within the distribution sector, potentially creating major opportunities for outsourcing vendors particularly in distributed systems management.

Exhibit IV-46 indicates the relative extent to which managers in the banking and finance sector perceive it is necessary to perform each of the IT functions in-house.

Exhibit IV-46

Perceived Necessity of Performing In-house: Distribution

G

Utilities — Increasing Efficiency through Shared Services

Exhibit IV-47 lists the principal business pressures on the European banking and finance sector, and Exhibit IV-48 identifies key areas for action in this sector.

Exhibit IV-47

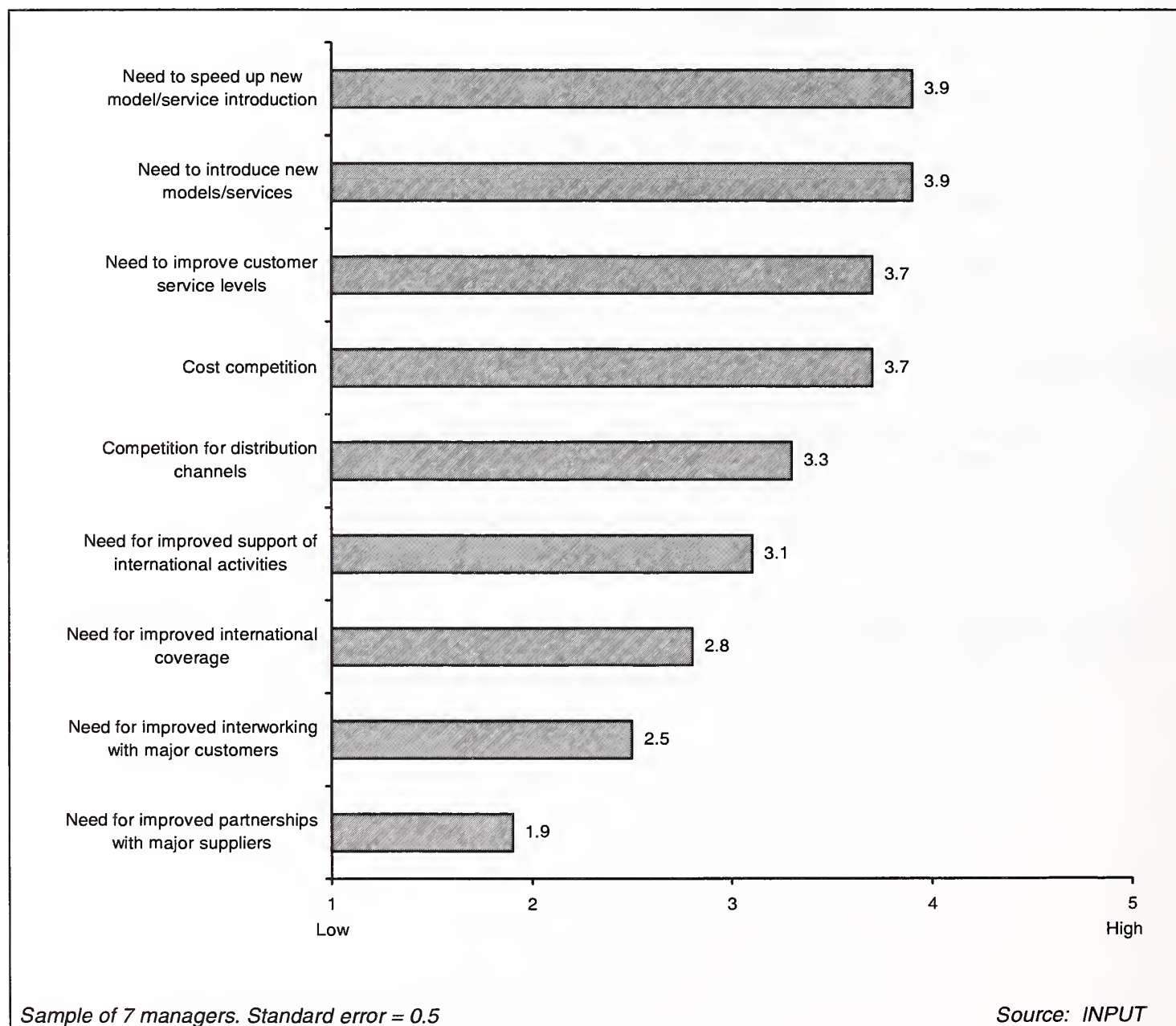
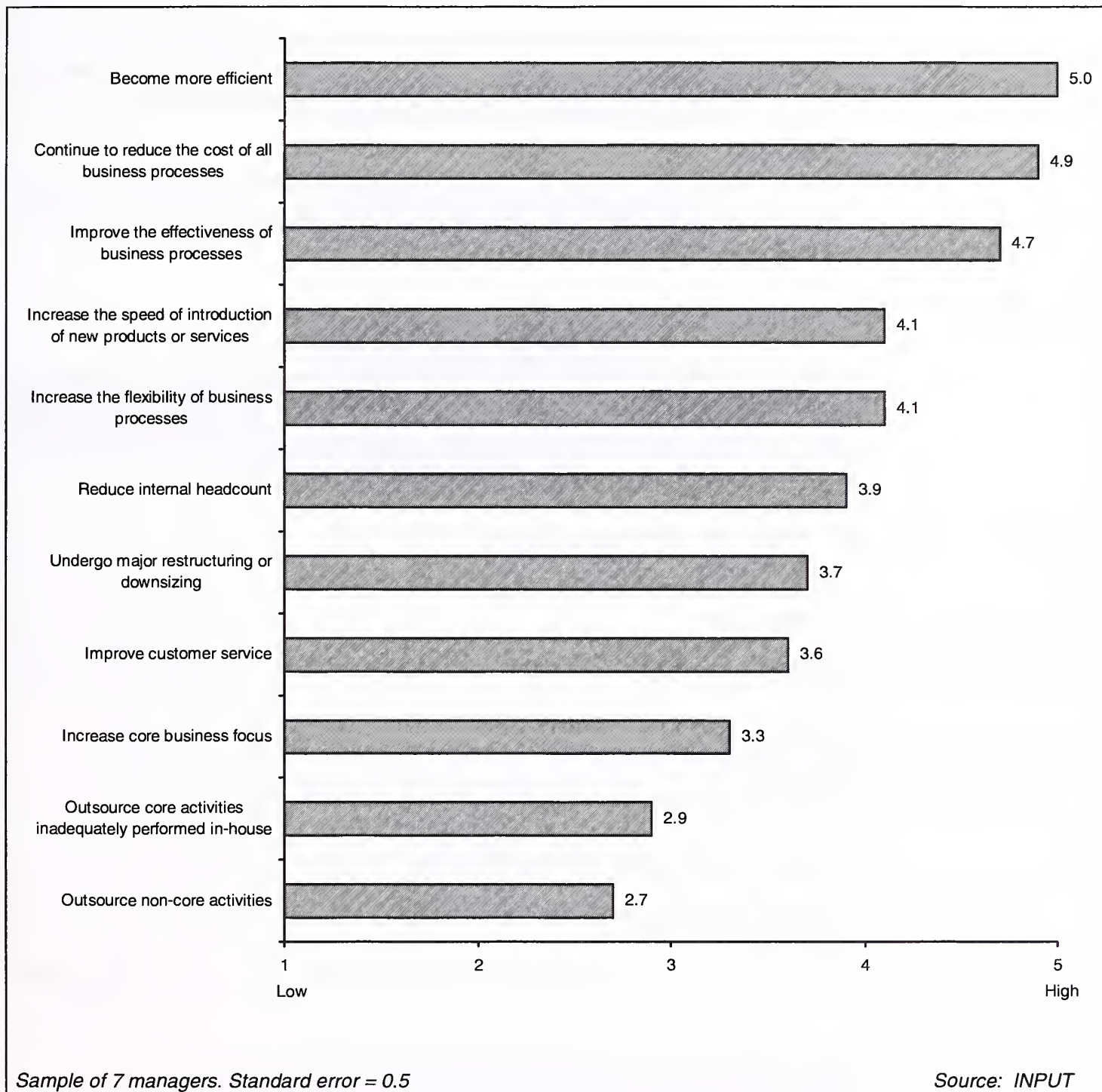
Principal Business Pressures: Utilities

Exhibit IV-48

Key Actions: Utilities

Utilities are faced with a need to improve customer service levels while reducing their costs. One way in which privatised utilities in the U.K. are seeking to reduce their costs is by sharing of administrative functions such as billing systems with other utilities.

To achieve this aim there has been considerable acquisition activity within the utilities sector to form so-called Super Utilities.

Other utilities have established managed services capability which they are actively marketing within the industry.

As utilities elsewhere in Europe are privatised, they will face similar pressures to those already experienced by utilities in the U.K. and begin to respond in a similar manner creating opportunities for outsourcing vendors.

The significance of each of a number of potential IT challenges facing the utilities sector is contrasted with the ability of IT departments to meet each of these challenges in Exhibit IV-49.

Exhibit IV-49

IT Challenges: Utilities

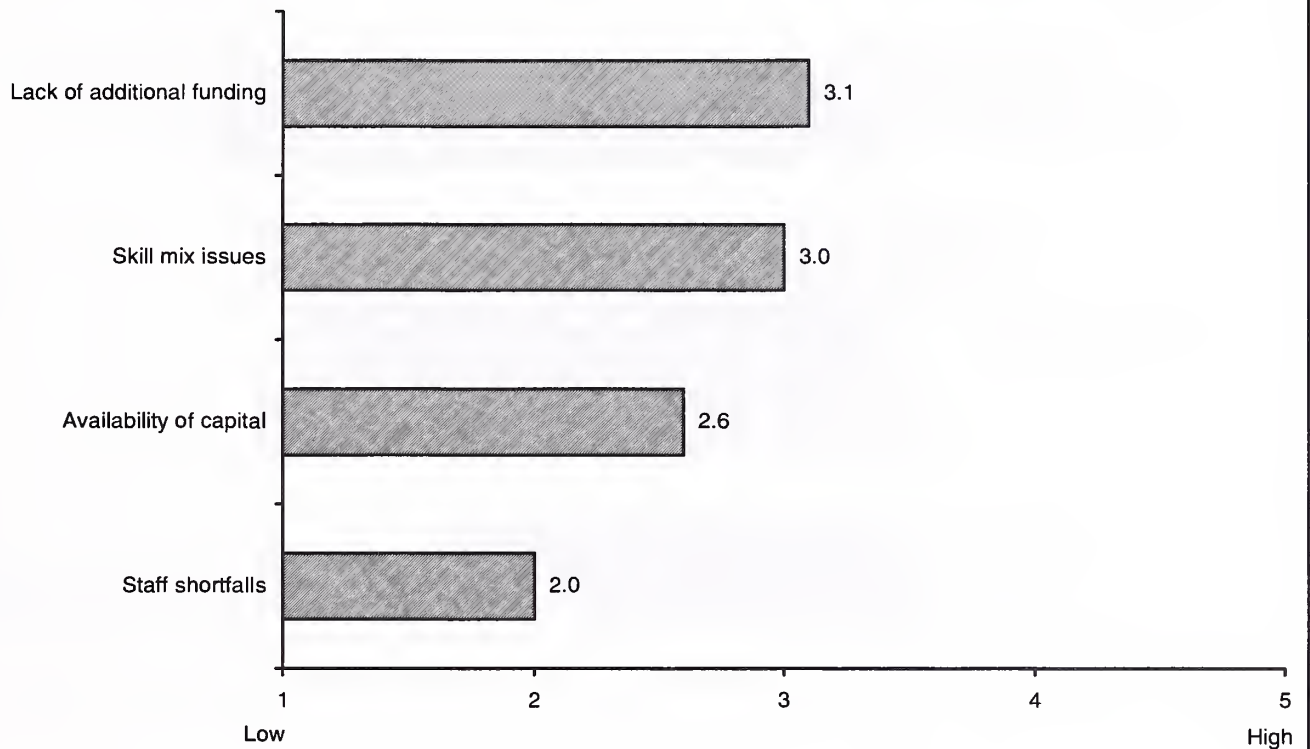
	Importance	Ability to cope	Difference
To become more cost-effective in using IT	4.7	3.1	1.6
To improve focus on business needs	4.3	2.8	1.5
To become more pro-active in meeting business needs	3.9	3.1	0.8
Updating internal skills	4.2	3.6	0.6
To improve support for distributed and desktop systems	3.9	3.4	0.4
To adopt a distributed IT architecture	3.1	3.1	0.0
To move to a new generation of applications	3.4	3.5	-0.1
To reduce the time taken to implement new applications	2.4	3.6	-1.2

Source: INPUT

Many utilities have recently introduced new billing and operational systems. However, there remains considerable pressure on the utilities to become more cost-effective in their use of IT.

The extent to which each of a number of factors are perceived to inhibit IT departments in the utilities sector from achieving their goals is listed in Exhibit IV-50.

Exhibit IV-50

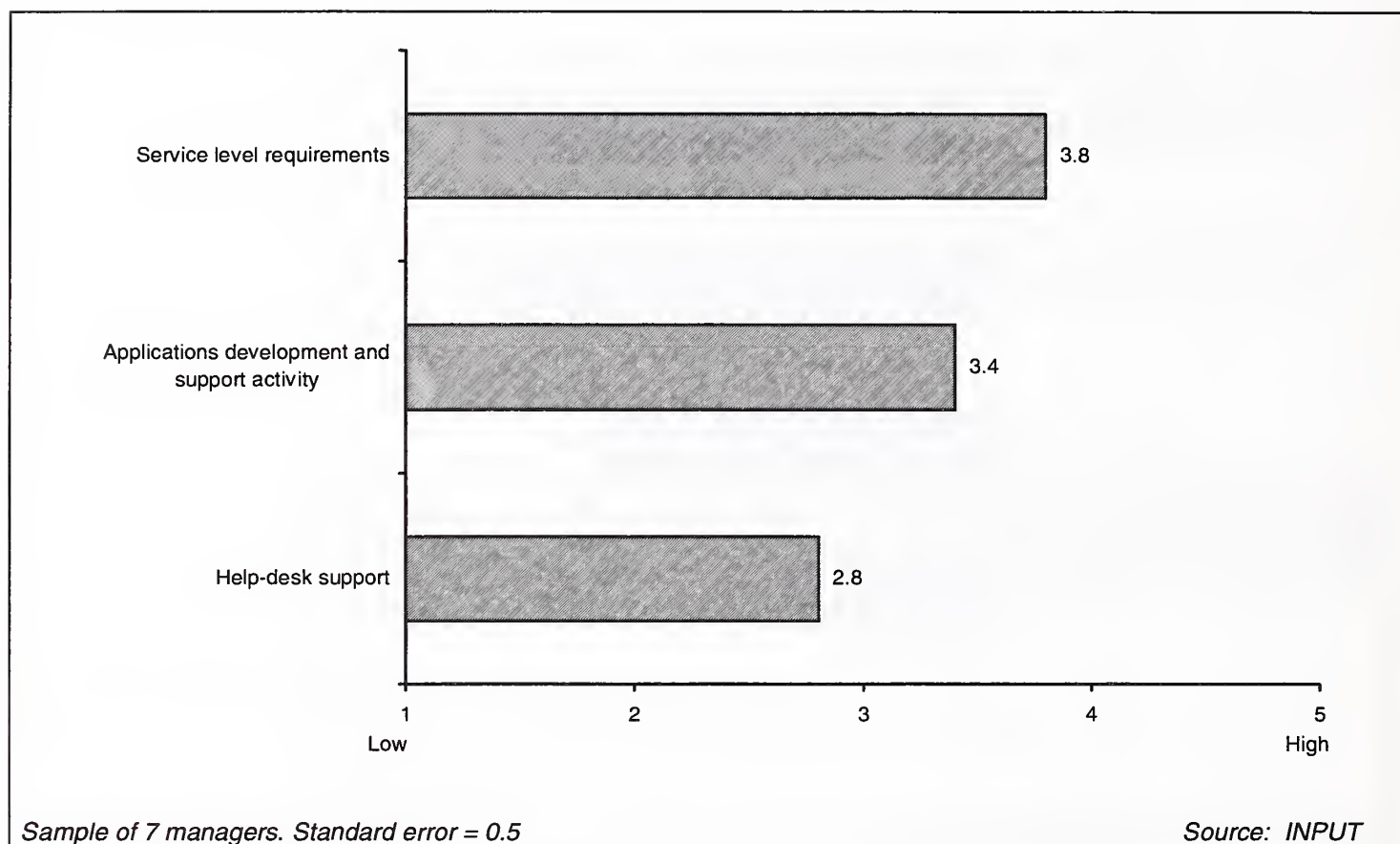
IT Inhibitors: Utilities

Sample of 7 managers. Standard error = 0.5

Source: INPUT

The extent to which organisations in the utilities sector expect significant changes in IT activity over the next few years is listed in Exhibit IV-51.

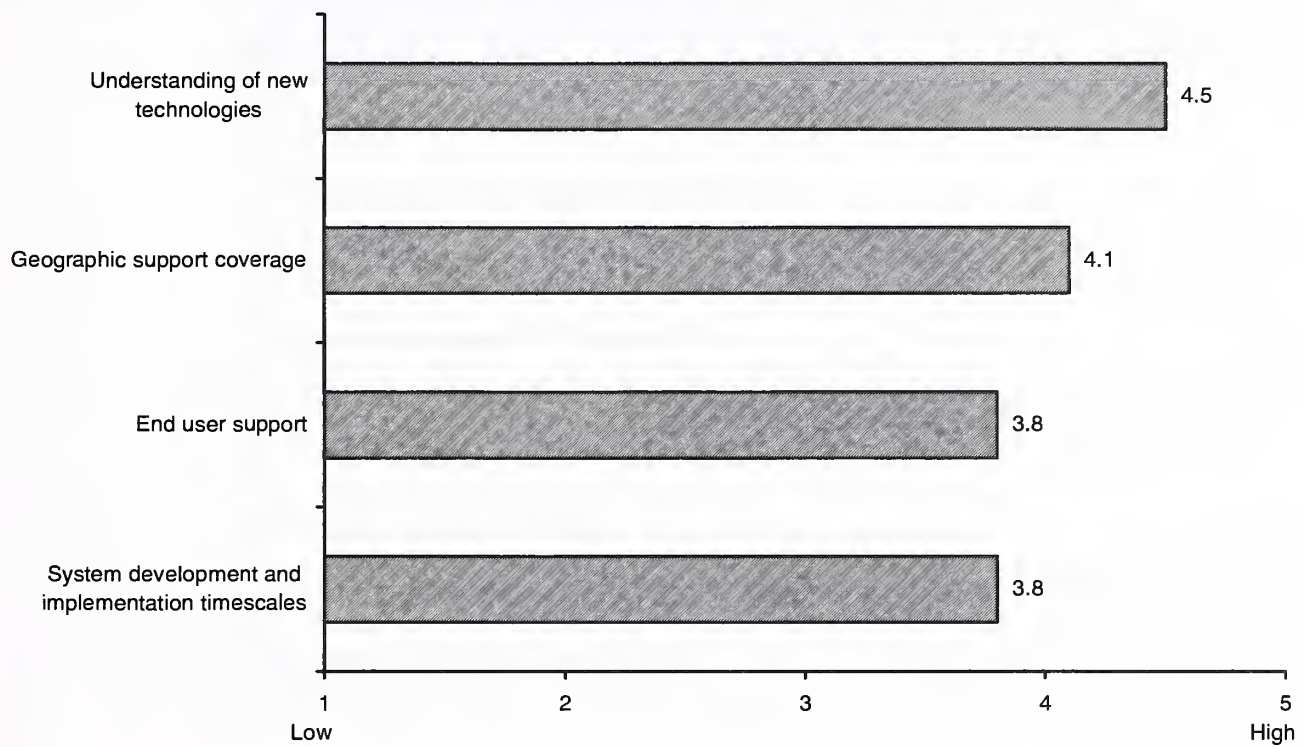
Exhibit IV-51

Changes in IT Activity: Utilities

A significant increase in operational service level requirements is anticipated in the utilities sector over the next few years.

Exhibit IV-52 lists the most satisfactory attributes of IT departments belonging to organisations in the utilities sector while Exhibit IV-53 lists their least satisfactory attributes.

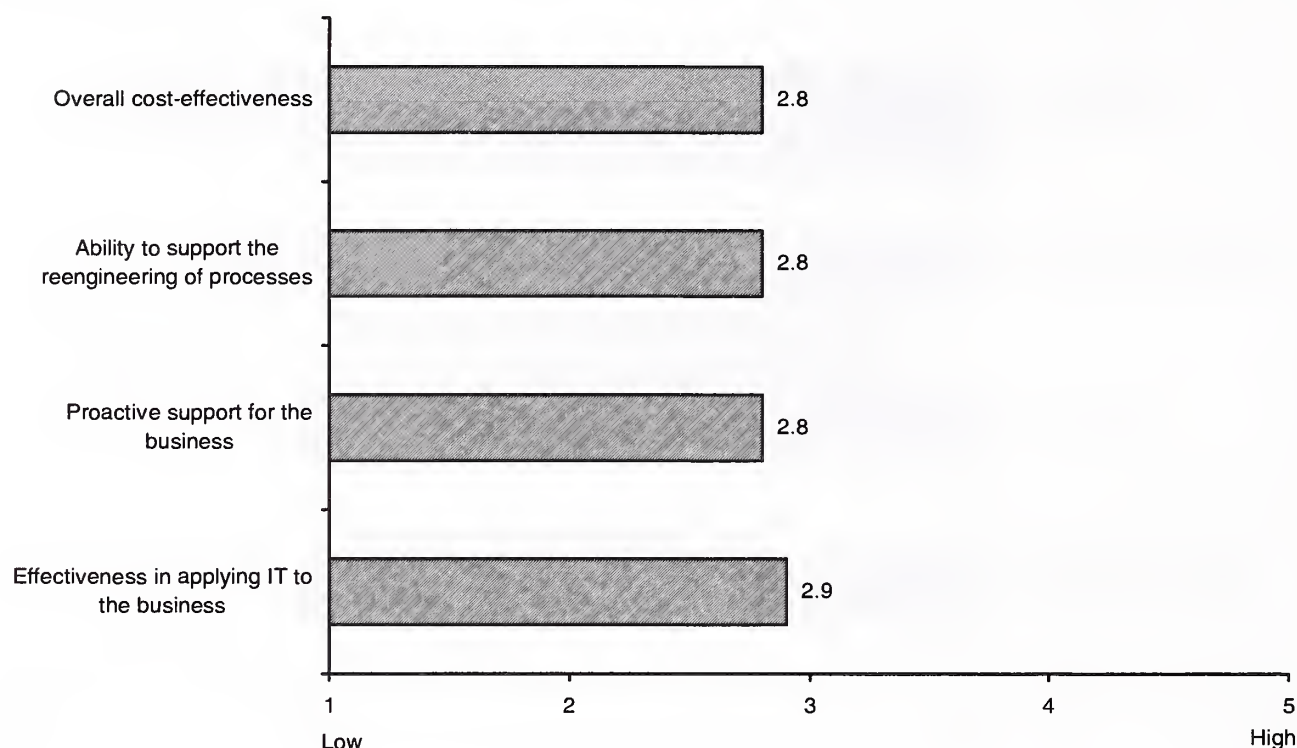
Exhibit IV-52

Areas of Highest Satisfaction: Utilities

Sample of 7 managers. Standard error = 0.5

Source: INPUT

Exhibit IV-53

Areas of Lowest Satisfaction: Utilities

Sample of 7 managers. Standard error = 0.5

Source: INPUT

IT departments in the utilities sector are perceived to be comparatively up-to-date in their knowledge of new technologies and to provide a good standard of support for their clients.

However, they are typically perceived to lack cost-effectiveness and to lack the skills required to support the reengineering of business processes. The utilities in the U.K. have already undergone one major phase of reengineering in the build-up to privatisation. However, there is still considerable change taking place within this sector in the U.K. as organisations seek to become still more price-competitive. Similar changes can be expected elsewhere in Europe as privatisation of utilities becomes increasingly adopted.

Overall this is initially leading to high levels of IT outsourcing followed, at a later stage, by increasing adoption of business operations outsourcing.

Exhibit IV-54 compares the perceived importance of a number of IT functions with the current level of satisfaction with their performance in-house.

Exhibit IV-54

Satisfaction with In-house Performance: Utilities

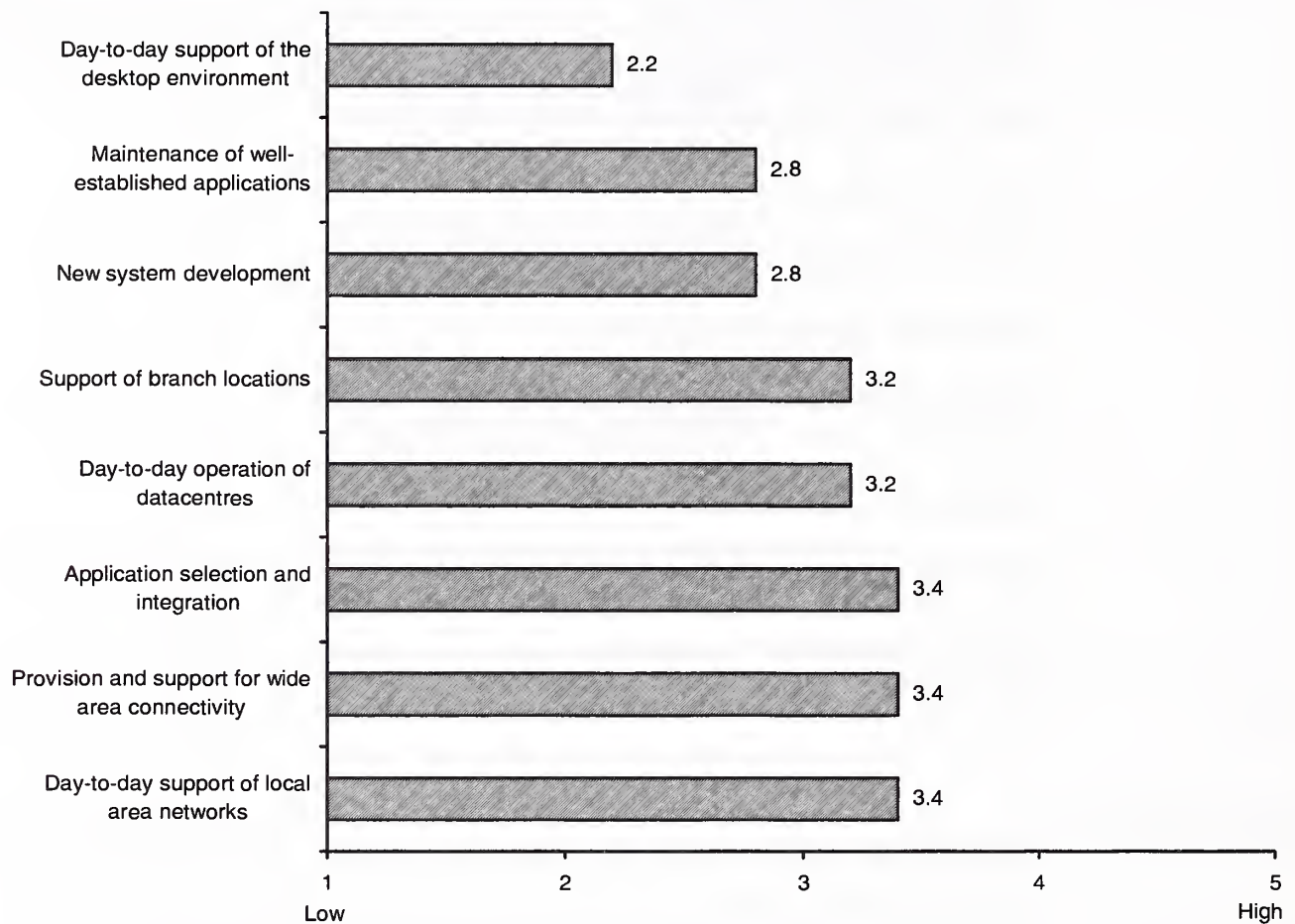
	Importance	Current Performance	Difference
New system development	4.1	2.8	1.4
Day-to-day support of local area networks	4.7	3.6	1.1
Application selection and integration	4.0	3.1	0.9
Day-to-day operation of datacentres	4.6	3.7	0.9
Provision and support for wide area connectivity	4.9	4.3	0.6
Support of branch locations	4.4	4.1	0.3
Maintenance of well-established applications	3.8	3.6	0.2
Day-to-day support of the desktop environment	3.6	3.9	-0.3

Source: INPUT

There is currently a very low level of satisfaction with in-house new system development in the utilities sector. This reflects the considerable pressure for change now taking place in that sector across Europe.

Exhibit IV-55 indicates the relative extent to which managers in the utilities sector perceive it is necessary to perform each of the IT functions in-house.

Exhibit IV-55

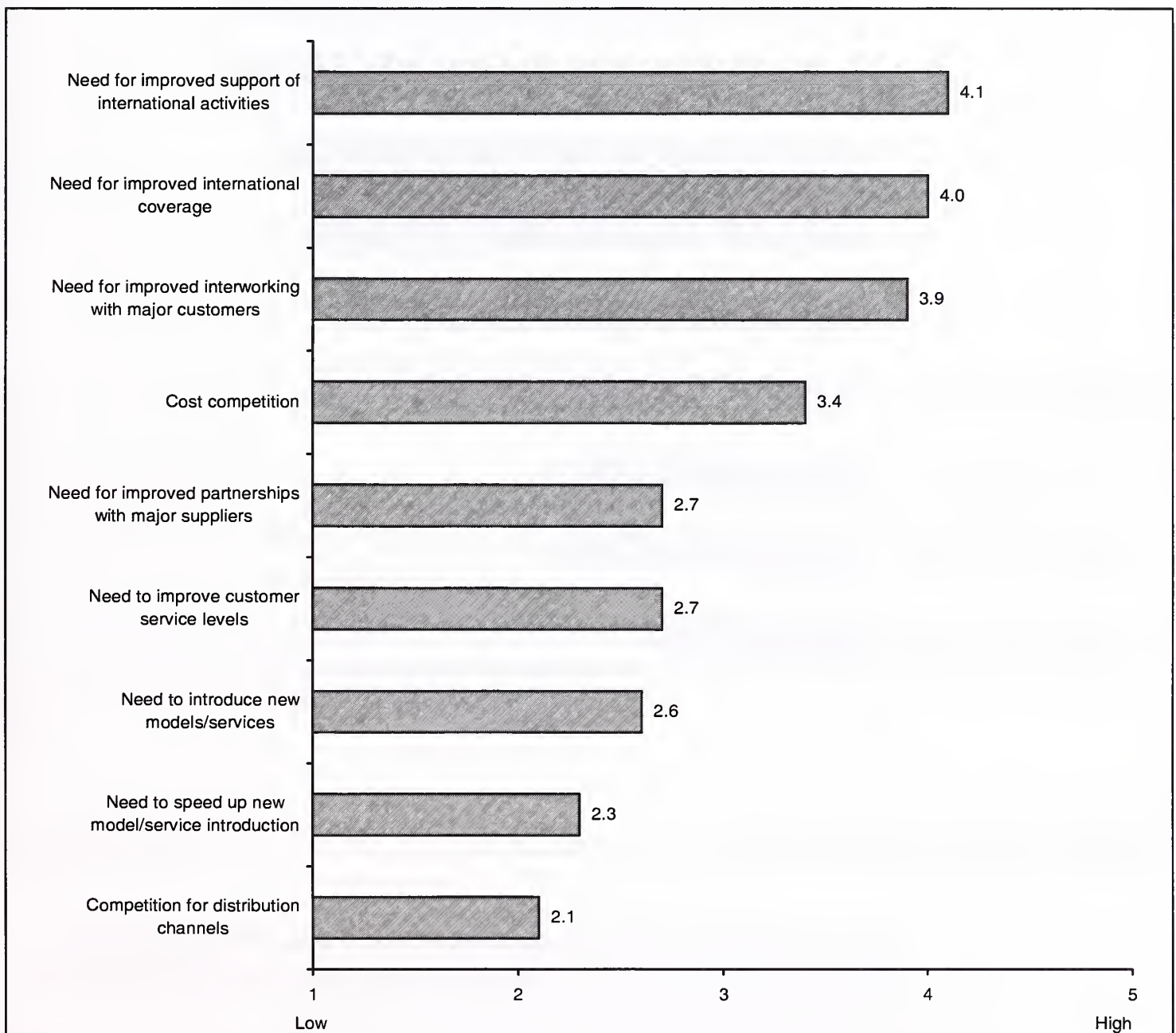
Perceived Necessity of Performing In-house: Utilities*Sample of 7 managers. Standard error = 0.5**Source: INPUT*

H

Business Services — Developing Global Service Coverage

Exhibit IV-56 lists the principal business pressures on the European business services sector, and Exhibit IV-57 identifies key areas for action in this sector.

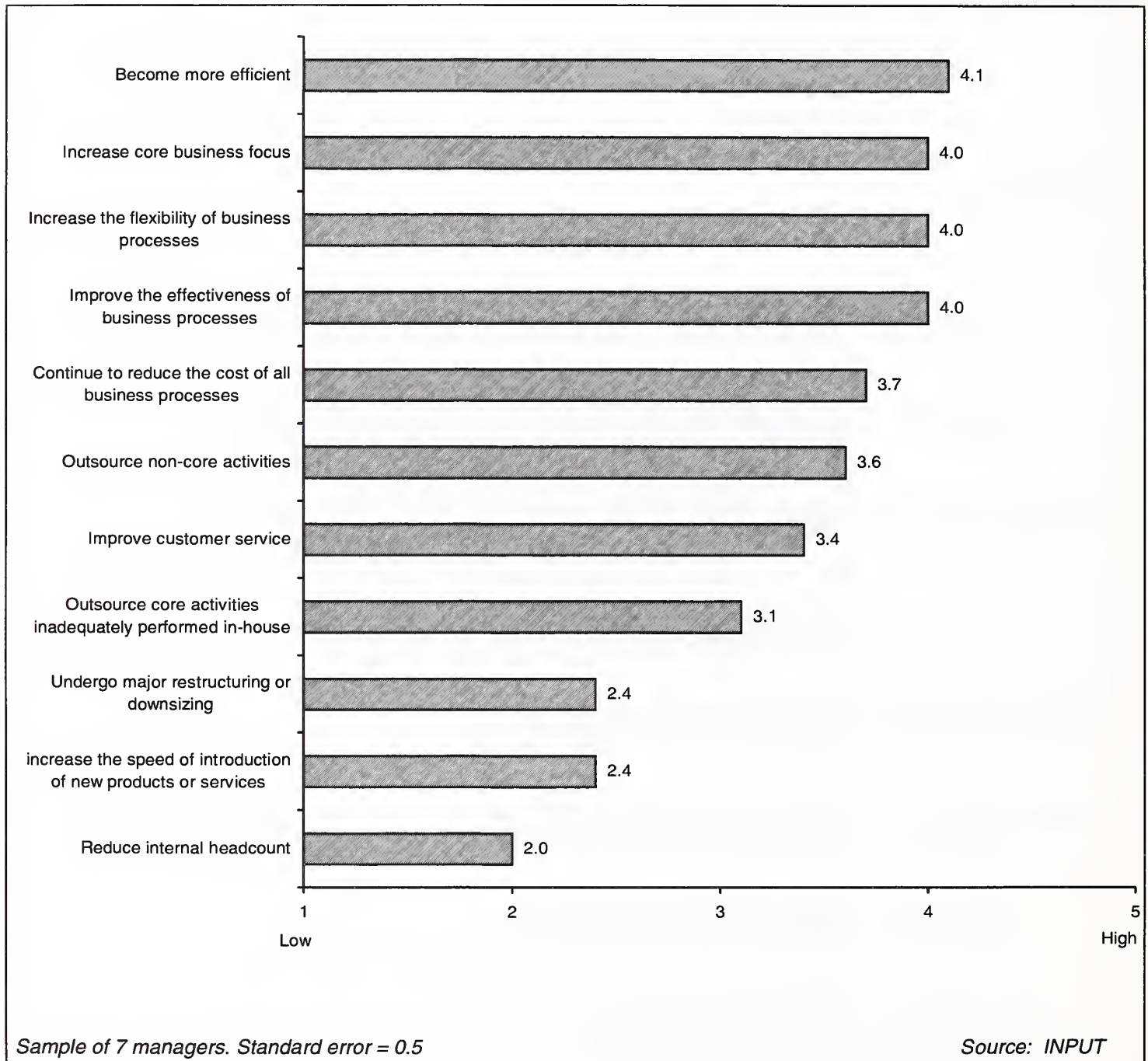
Exhibit IV-56

Principal Business Pressures: Services

Sample of 7 managers. Standard error = 0.5

Source: INPUT

Exhibit IV-57

Key Actions: Services

The cost pressure in the business services sector is less extreme than elsewhere, with much of the focus on developing improved international coverage and closer interaction with key customers.

The significance of each of a number of potential IT challenges facing the business services sector is contrasted with the ability of IT departments to meet each of these challenges in Exhibit IV-58.

Exhibit IV-58

IT Challenges: Services

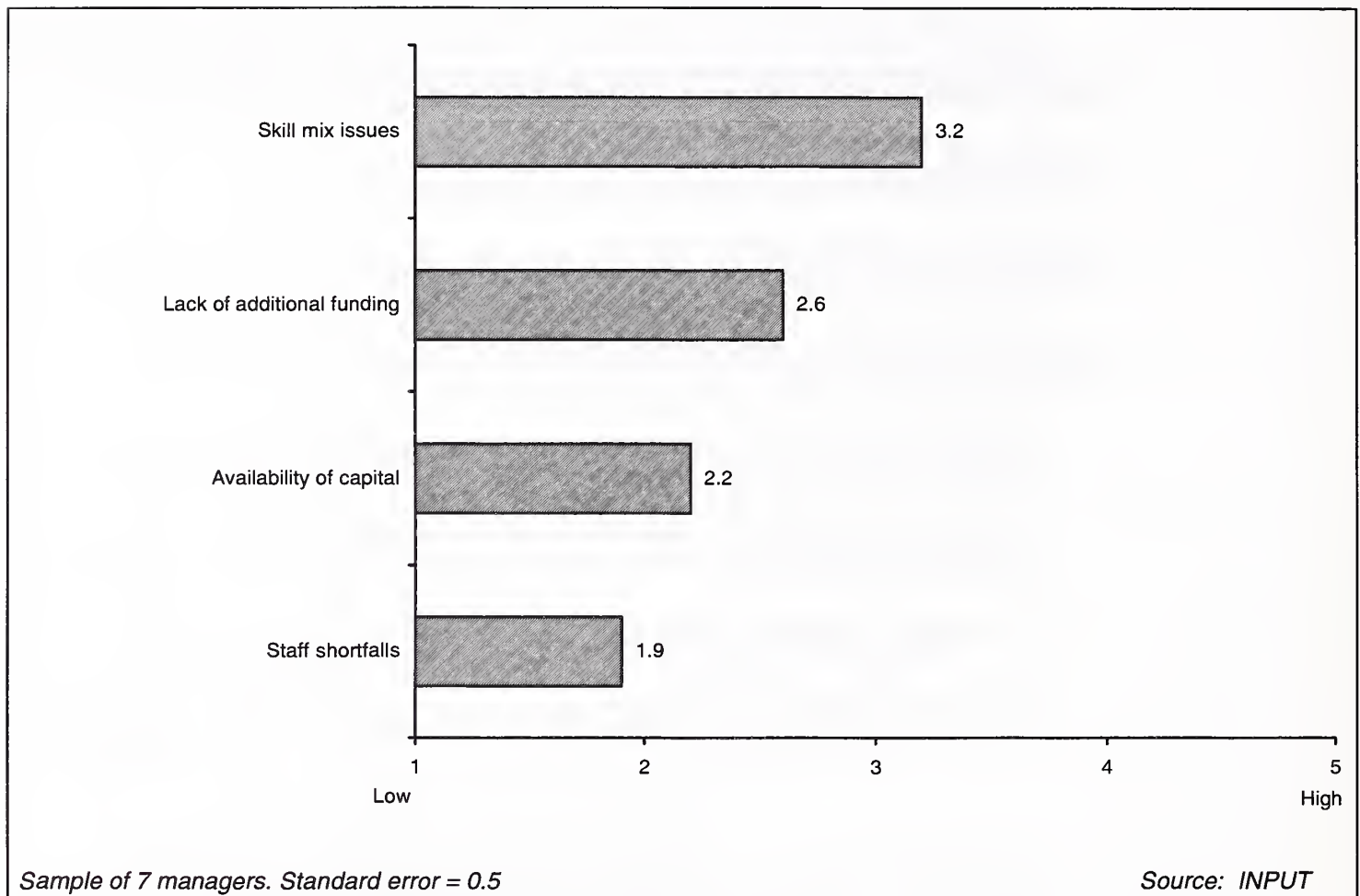
	Importance	Ability to cope	Difference
To improve support for distributed and desktop systems	4.7	3.7	1.0
To improve focus on business needs	4.0	3.5	0.5
To become more pro-active in meeting business needs	4.0	3.6	0.4
To reduce the time taken to implement new applications	3.6	3.2	0.4
To become more cost-effective in using IT	3.7	3.3	0.3
Updating internal skills	4.0	3.8	0.2
To move to a new generation of applications	3.8	4.0	-0.2
To adopt a distributed IT architecture	3.4	3.6	-0.2

Source: INPUT

A greater emphasis on support for distributed systems is required to support the international ambitions of major business services organisations.

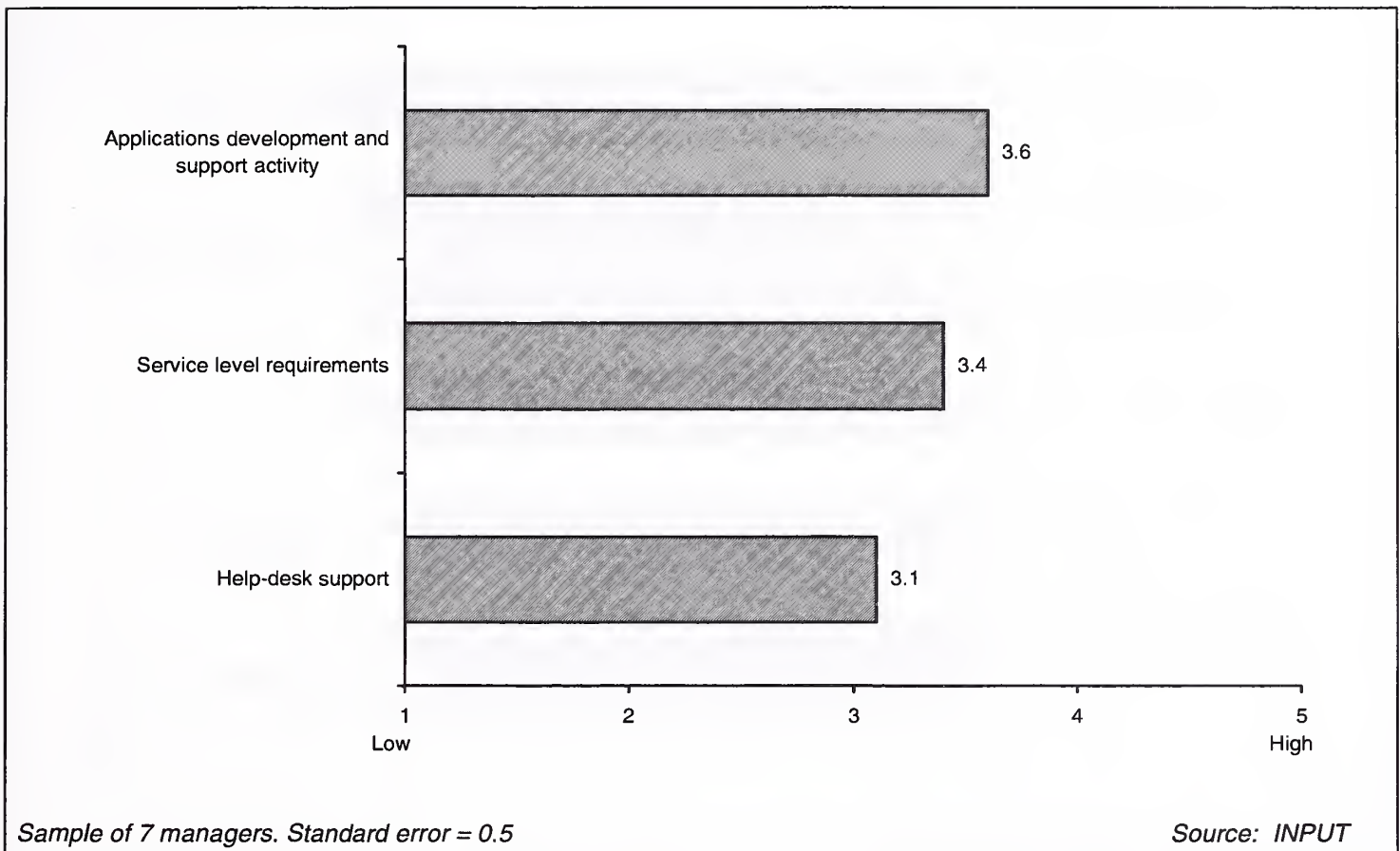
The extent to which each of a number of factors are perceived to inhibit IT departments in the business services sector from achieving their goals is listed in Exhibit IV-59.

Exhibit IV-59

IT Inhibitors: Services

The extent to which organisations in the business services sector expect significant changes in IT activity over the next few years is listed in Exhibit IV-60.

Exhibit IV-60

Changes in IT Activity: Services

Only a moderate increase in application development and support activity is anticipated in the business services sector.

Exhibit IV-61 lists the most satisfactory attributes of IT departments belonging to organisations in the business services sector while Exhibit IV-62 lists their least satisfactory attributes.

Exhibit IV-61

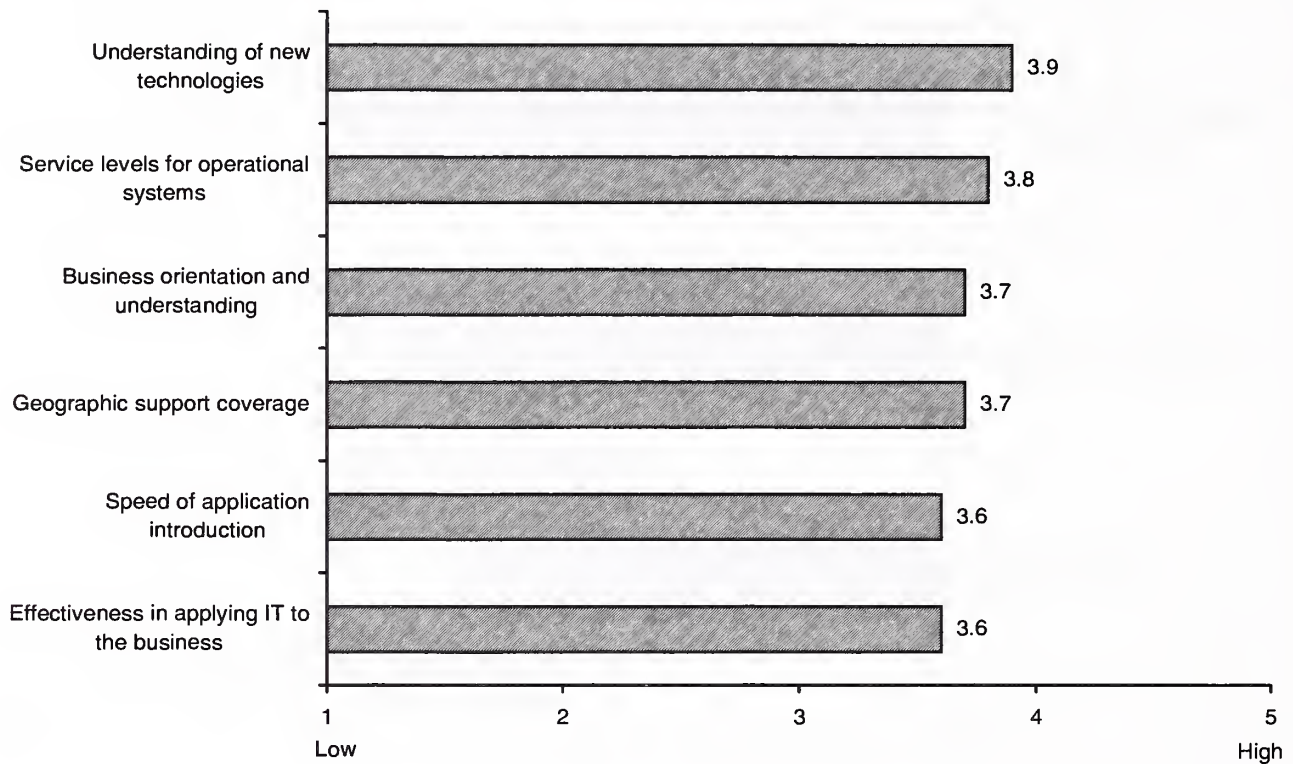
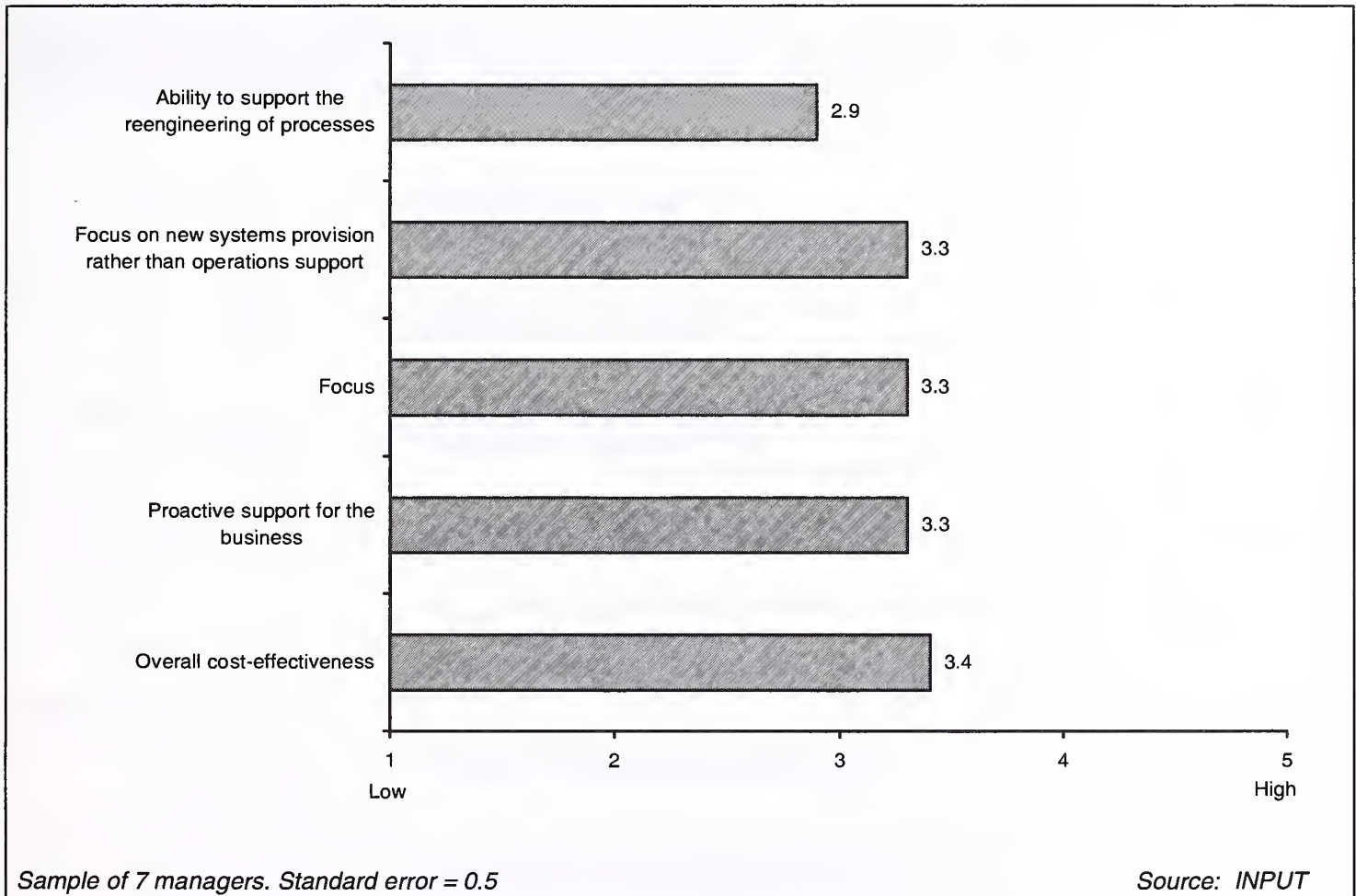
Areas of Highest Satisfaction: Services*Sample of 7 managers. Standard error = 0.5**Source: INPUT*

Exhibit IV-62

Areas of Lowest Satisfaction: Services

Overall the satisfaction with the performance of IT departments is comparatively high in the business services sector. The main issue for in-house IT departments is once again their relative inability to support the reengineering of business processes.

Exhibit IV-63 compares the perceived importance of a number of IT functions with the current level of satisfaction with their performance in-house.

Exhibit IV-63

Satisfaction with In-house Performance: Services

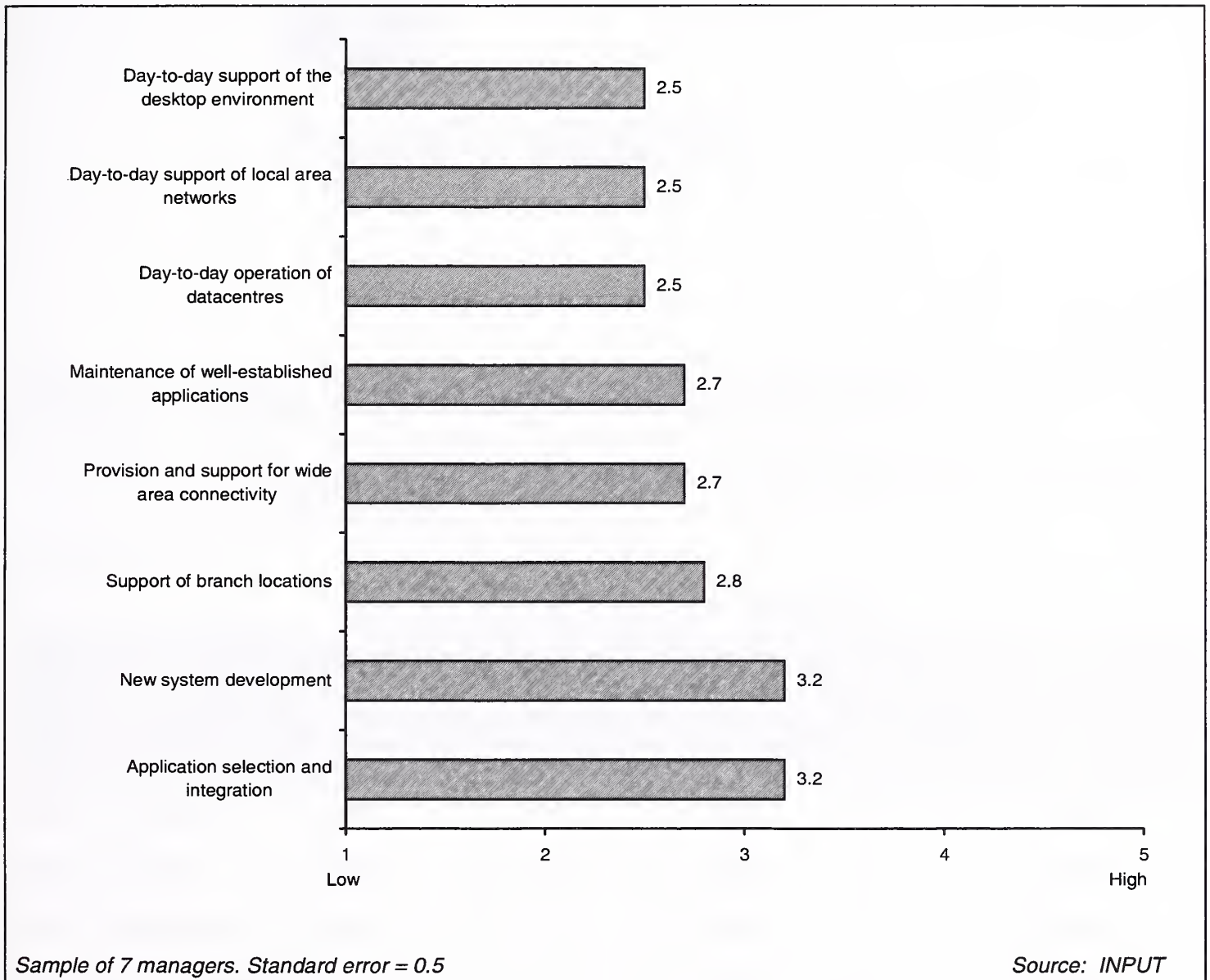
	Importance	Current Performance	Difference
Day-to-day support of the desktop environment	4.1	3.1	0.9
Day-to-day support of local area networks	4.3	3.4	0.8
Provision and support for wide area connectivity	4.3	3.4	0.8
Support of branch locations	4.3	3.7	0.5
Application selection and integration	4.1	3.9	0.2
New system development	4.1	3.9	0.2
Maintenance of well-established applications	3.9	4.0	-0.1
Day-to-day operation of datacentres	3.8	3.9	-0.1

Source: INPUT

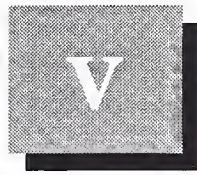
IT departments are seen to perform well in selecting and implementing new systems in the business services sector. However, interoperability is a major concern for professional services organisations working across wide geographic areas and greater levels of distributed systems support are required to support this environment.

Exhibit IV-64 indicates the relative extent to which managers in the business services sector perceive it is necessary to perform each of the IT functions in-house.

Exhibit IV-64

Perceived Necessity of Performing In-house: Services

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Country Markets

A

France — Vendors Begin to Target Business Operations

Exhibit V-1 provides a forecast of the outsourcing market in France by delivery mode.

Exhibit V-1

Outsourcing Market, France 1996-2001

	Market Forecast (FF millions)				
	1995	Growth 1995-1996 (%)	1996	Growth 1996-2001 (%)	2001
Platform Operations	1600	15	1800	18	4200
Desktop Services	500	35	680	31	2600
Network Management	1000	35	1400	36	6250
Applications Management	700	35	950	34	4000
Applications Operations	3000	18	3500	22	9500
Total IS Outsourcing	6800	23	8330	26	26500

Source: INPUT

Senior executives in France tend to exhibit a less positive attitude towards outsourcing than their counterparts in the U.K. and Germany. Consequently the outsourcing market in France has not developed as strongly as those in Northern Europe and the style of outsourcing contract has tended to be more selective.

However, growth in the desktop services segment is strong and the French application management market will be fuelled by the Year 2000 problem. In addition, the French IT services market has always had a strong emphasis on processing services particularly in the financial services sector, and a number of vendors are now beginning to extend these services to offer business operations services in areas such as billing.

Exhibit V-2 provides a forecast for the French outsourcing market by industry.

Exhibit V-2

Industry Sector Breakdown, France 1996-2001

	France FFm 1995	Growth 1995-1996 %	France FFm 1996	Growth 1996-2001 %	France FFm 2001
Government	550	9	600	30	2200
-Local	250	12	280	25	850
-Central	300	7	320	33	1350
Manufacturing	2300	24	2850	22	7600
-Discrete	1400	25	1750	21	4500
-Process	900	22	1100	23	3100
Financial Services	1650	32	2170	34	9500
-Banking&Finance	1100	32	1450	35	6500
-Insurance	550	31	720	33	3000
Distribution	950	11	1050	10	1700
Transportation	330	24	410	24	1200
Utilities	480	25	600	31	2300
Other	540	24	670	24	2000
Total Outsourcing	6800	23	8350	26	26500

Source: INPUT

Traditionally, the manufacturing sector has been the major source of outsourcing activity in France as in many emerging outsourcing markets.

As elsewhere in Europe, the major financial services institutions have so far been reluctant to enter into full-scale datacentre management and applications operations contracts with external vendors. However this is now beginning to change and the financial services sector is expected to be a major source of opportunity over the next few years.

One notable recent contract in this sector is Axime's formation of a long-term partnership with La Société des Bourses Françaises. The new entity, Axime Ségif, will provide processing services to the Paris Exchange. Axime has a 51% stakeholding in this joint venture.

Overall a number of the leading French outsourcing vendors are predominantly owned by major financial institutions. In particular, the financial services industry in France makes considerable use of processing services such as card processing and electronic funds transfer from vendors such as Sligos and Axime, and there is potential for these types of service to develop into business operations contracts involving a wider range of billing and revenue collection activities.

This is now beginning to happen and Axime is finding that the combination of billing services and IT outsourcing services can be attractive to start-up organisations.

In addition, a new company, Externance, has recently been created with a focus on administrative services such as billing, accounting and procurement. Initially the company is targeting smaller organisations which are expected to meet less opposition to outsourcing business functions from existing staff. However, the company will subsequently target large organisations once it has established its business with smaller organisations.

The government sector in France has so far yielded few opportunities for outsourcing vendors. However, the new French government may wish to follow some of the developments that have taken place in the U.K.. In particular, they may towards the end of the forecast period begin to use external vendors to improve the cost-effectiveness of IT in central government.

Historically, there have been higher levels of activity in the distribution and transportation sectors in France than in the other major European countries.

Exhibit V-3 shows the market shares of the leading outsourcing vendors in France.

Exhibit V-3

Leading Vendors: France - 1995

Vendor	Estimated 1995 Revenues (FF m)	Estimated Market Share (%)
EDS	1250	18
Cap Gemini	700	10
IBM/Axone	700	10
TS FM	500	7
GSI	500	7
Axime	300	4
Sligos	250	4
France Telecom	250	4
SG2	250	4
Perot Systems	200	3
Total listed	4900	72
Total market	6800	100

Source: INPUT

EDS France underwent a major re-organisation at the beginning of 1995 in order to strengthen its industry sector focus and emphasise its CoSourcing philosophy. Following this re-organisation, the company experienced relatively low levels of new business activity in France, principally winning a seven year systems management contract with Ferembal, a subsidiary of Continental Can Corporation.

Sema Group has lacked an outsourcing presence in France since the sale of its shareholding in Axone to IBM. This was potentially a major gap for a company intent on building a strong pan-European outsourcing presence. Following the breakdown earlier in the year of negotiations with CISI, Sema Group subsequently acquired 40% of TS FM (formerly

Télésystèmes), the France Télécom subsidiary in December 1995. Sema Group now has management control of TS FM complementing its outsourcing capabilities elsewhere in Europe.

Following this merger, Sema Group has recently signed outsourcing contracts to manage the IT infrastructures of Messier-Bugatti and Messier-Dowty.

Having initially established itself as a price-competitive supplier of datacentre services, Axone has recently been placing more emphasis on its desktop services and distributed systems management capabilities. In 1995 this change in emphasis was rewarded with a seven year outsourcing contract with the pharmaceutical company Rhone-Poulenc to manage the company's IT infrastructure including desktop, server and mainframe computers.

While the company has strong outsourcing delivery capability, Cap Gemini Sogeti has suffered in recent years from both apparently fragmented service offerings and from a lack of strong branding across national boundaries. The company has now taken steps to rectify this lack of consistent branding by adopting the Cap Gemini name across each of its national subsidiaries. The company is also endeavouring to further strengthen the links between Cap Gemini and Gemini Consulting to increase the emphasis on business rather than technical benefits.

B**Central Europe — SAP Outsourcing Provides Boost to Distributed Systems Management**

Exhibit V-4 provides a forecast of the outsourcing market in Germany by delivery mode.

Exhibit V-4

Outsourcing Market, Germany 1996-2001

	Market Forecast (DM millions)				
	1995	Growth 1995-1996 (%)	1996	Growth 1996-2001 (%)	2001
Platform Operations	350	17	410	15	820
Desktop Services	160	35	215	31	830
Network Management	130	32	170	35	760
Applications Management	160	35	220	32	860
Applications Operations	800	25	1000	25	3000
Total IS Outsourcing	1600	26	2015	26	6300
SAP Outsourcing	600	17	700	9	1100

Source: INPUT

Exhibit V-5 provides a forecast for the German outsourcing market by industry. The total outsourcing figure shown in this exhibit includes SAP outsourcing.

Exhibit V-5

Industry Sector Breakdown, Germany 1996-2001

	Germany DMm	Growth 1995-1996	Germany DMm	Growth 1996-2001	Germany DMm
	1995	%	1996	%	2001
Government	85	18	100	39	520
-Local	45	11	50	34	220
-Central	40	25	50	43	300
Manufacturing	900	13	1020	20	2500
-Discrete	570	14	650	18	1500
-Process	330	12	370	22	1000
Financial Services	770	36	1050	22	2850
-Banking&Finance	350	43	500	26	1600
-Insurance	420	31	550	18	1250
Distribution	110	18	130	20	320
Transportation	55	55	85	24	250
Utilities	200	15	230	31	880
Other	80	6	85	-1	80
Total Outsourcing	2200	23	2700	22	7400

Source: INPUT

The industry sector forecast for Germany includes an additional area: the SAP outsourcing activity there. While INPUT classifies much of the traditional SAP R/2 outsourcing activity as a processing service, SAP outsourcing is widely regarded as a form of outsourcing in Germany. Indeed the nature of SAP outsourcing has now changed from a mainframe-based processing service to a form of client/server systems management. The emphasis within SAP R/3 outsourcing contracts is typically on server management and administration rather than desktop management.

The initial R/3 outsourcing contracts in Germany arose out of organisations switching from non-SAP environments to R/3. However, the nature of the market has now evolved with significant numbers of organisations beginning to make the transition from R/2 to R/3 in earnest.

The manufacturing sector has tended to dominate the outsourcing market in Germany and, as elsewhere, still has considerable growth potential. However, as elsewhere, the financial services sector is becoming a more important source of outsourcing contracts.

For example, IBM has a major contract, valued at approximately \$700m over 10 years, with the insurance company Gothaer Versicherungen AG. In addition, in May 1996, IBM signed a five-year, DM10m contract with Advance Bank AG, a newly formed direct banking subsidiary of Bayerische Vereinsbank to implement and operate a new centralised information processing centre. This deal is characteristic of the style of outsourcing being adopted by start-up organisations that often do not wish to invest in their own IT infrastructures.

It is still unclear whether or not the German government will adopt outsourcing to improve the efficiency and effectiveness of IT within government departments. However, there are now signs that the government, like the private sector, may begin to outsource new activities to the private sector. Accordingly, the assumption made in the forecast shown above is that one major government department will outsource its IT by the year 2000.

Exhibit V-6 shows the market shares of the leading outsourcing vendors in Germany.

Exhibit V-6

Leading Vendors: Germany - 1995

Vendor	Estimated 1995 Revenues (DM m)	Estimated Market Share (%)
IBM	450	20
debis systemhaus	400	18
EDS	300	14
tds	105	5
Alldata	85	4
Sema Group	80	4
Siemens Business Services	70	3
Digital	45	2
AC Service	45	2
Origin	40	2
Total listed	1620	74
Total market	2200	100

Source: INPUT

The German outsourcing market is now poised to become arguably the most competitive large contract outsourcing market in Europe.

IBM, EDS and debis Systemhaus are already well-established in the market. In 1995 Examples of new outsourcing clients announced by EDS in Germany in 1994 and 1995 include Stadtverwaltung Cottbus, Fresenius and Didier.

In addition, these vendors are now being joined by Siemens Business Services, CSC Ploenzke and Sema Group, each of whom intends to establish themselves strongly both in Germany and across Europe.

CSC acquired Ploenzke to acquire the critical mass to target the German-speaking countries and is now beginning to win its first outsourcing contracts there. CSC Ploenzke has already won a major contract with

Deutsche Telekom AG and is strongly targeting the financial services and publishing sectors.

Following recent acquisitions in France and Italy, it is possible that Sema Group will now decide to strengthen its existing outsourcing presence in Germany with an acquisition there.

In response to this pressure from the major outsourcing vendors, a number of smaller, indigenous suppliers are repositioning themselves. For example, tds is now repositioning itself as a professional services vendor. tds has already sold its Paisy payroll processing business to ADP and is placing considerably less emphasis on its SAP outsourcing heritage.

Exhibit V-7 provides a forecast of the outsourcing market in Austria by delivery mode.

Exhibit V-7

Outsourcing Market, Austria 1996-2001

	Market Forecast (Sch millions)				
	1995	Growth 1995-1996 (%)	1996	Growth 1996-2001 (%)	2001
Platform Operations	70	16	80	14	160
Desktop Services	25	22	30	29	110
Network Management	30	30	40	33	160
Applications Management	35	25	45	28	150
Applications Operations	160	25	200	22	540
Total IS Outsourcing	320	23	400	23	1100

Source: INPUT

Exhibit V-8 shows the market shares of the leading outsourcing vendors in Austria.

Exhibit V-8

Leading Vendors: Austria - 1995

Vendor	Estimated 1995 Revenues (Sch m)	Estimated Market Share (%)
IBM	70	22
AI Informatics	70	22
EDS	50	16
Origin	45	14
Spardat	35	11
Total listed	270	84
Total market	320	100

Source: INPUT

A number of outsourcing contracts have already been signed with manufacturing organisations in Austria, and the Austrian manufacturing sector is unlikely to remain immune from cost pressures in the medium-term.

For example, ORIGIN already has a number of outsourcing contracts with manufacturing companies, and EDS has signed one contract with a textiles manufacturer experiencing financial pressures.

At present, the major outsourcing vendors are only just beginning to position their outsourcing offerings in Austria and they have yet to fully establish their presence.

It is likely that they will do so soon, both by winning major contracts and by acquiring local players. By 1999, it is probable that vendors such as IBM and EDS will dominate the Austrian outsourcing market, having overtaken local vendors who will find it difficult to organically develop the financial reengineering and business consulting skills necessary to win major contracts.

EDS is likely to follow a similar strategy to that taken by the company elsewhere in Europe and target a large CoSourcing contract with a major organisation in Austria while simultaneously seeking to acquire a leading Austrian vendor. Organisations serving the financial services community, such as Spardat, or Management Data, are prime prospects for acquisition in the medium-term.

Exhibit V-9 provides a forecast of the outsourcing market in Switzerland by delivery mode.

Exhibit V-9

Outsourcing Market, Switzerland 1996-2001

	Market Forecast (SF millions)				
	1995	Growth 1995-1996 (%)	1996	Growth 1996-2001 (%)	2001
Platform Operations	27	20	33	17	70
Desktop Services	12	25	15	31	60
Network Management	15	30	20	35	90
Applications Management	10	25	13	30	45
Applications Operations	80	35	105	24	310
Total IS Outsourcing	140	30	185	25	570

Source: INPUT

Exhibit V-10 shows the market shares of the leading outsourcing vendors in Switzerland.

Exhibit V-10

Leading Vendors: Switzerland - 1995

Vendor	Estimated 1995 Revenues (SF m)	Estimated Market Share (%)
IBM	30	21
EDS	15	11
Digital	15	11
Hewlett-Packard	12	8
AC Service	12	8
Total listed	84	59
Total market	142	100

Source: INPUT

However, the major recent contract in Switzerland is the strategic alliance between Swiss Bank Corporation (SBC) and Perot Systems. Within this alliance, Perot Systems has become SBC's worldwide partner for IT infrastructure management. In particular:

- Perot Systems has assumed responsibility for the management of the IT infrastructure of the SBC Warburg Division of SBC and around 700 IT staff world-wide are transferring from SBC Warburg to Perot Systems
- Perot Systems has taken a 40% stake in SBC's Swiss-based IT subsidiary, Systor AG

As a result of this contract, Perot Systems has created a new division, Perot Systems Global Financial Services, to target the financial services sector.

C

Great Britain — Business Operations Begins to Take-Off

Exhibit V-11 provides a forecast of the outsourcing market in the United Kingdom by delivery mode.

Exhibit V-11

Outsourcing Market, United Kingdom 1996-2001

	Market Forecast (£ millions)				
	1995	Growth 1995-1996 (%)	1996	Growth 1996-2001 (%)	2001
Platform Operations	300	15	350	13	640
Desktop Services	85	35	115	26	360
Network Management	400	45	580	36	2700
Applications Management	165	35	225	32	880
Applications Operations	700	30	910	24	2600
Total IS Outsourcing	1650	32	2200	27	7200
Business Operations	125	60	200	38	1000
Total Outsourcing	1775	35	2400	28	8200

Source: INPUT

In the past year, there have been significant breakthroughs in the business operations sector.

In the public sector, Capita has won contracts for the administration of newly emerging activities, including:

- The introduction of a voucher system for pre-school education covering responsibility for the processing of applications, the issue of vouchers, the construction and maintenance of databases covering eligible children and educational establishments and the preparation of weekly payment schedules
- Administration of the Driving Standards Agency's theory test at 140 test centres in the U.K.

In the private sector, Capita has formed a joint venture with Yorkshire Water Services to manage part of the utility's revenue collection activity and Andersen Consulting has formed a joint venture with Thames Water. The new company, Connect 2020, will initially provide supply chain management services to Thames Water with the aim of subsequently marketing purchasing and supply services more widely within the utilities sector.

In addition, Andersen Consulting has successfully introduced accounting services outside the oil sector by signing a contract with the Sears Group covering its IT and finance operations.

Exhibit V-12 provides a forecast for the U.K. outsourcing market by industry.

Exhibit V-12

Industry Sector Breakdown, United Kingdom 1995-2000

	UK £m 1995	Growth 1995-1996 %	UK £m 1996	Growth 1996-2001 %	UK £m 2001
Government	725	31	950	20	2400
-Local	200	10	220	28	750
-Central	450	44	650	18	1500
-Health	75	7	80	13	150
Manufacturing	500	30	650	26	2100
-Discrete	300	27	380	26	1200
-Process	200	35	270	27	900
Financial Services	330	42	470	43	2800
-Banking&Finance	250	40	350	42	2000
-Insurance	80	50	120	46	800
Distribution	85	18	100	25	300
Transportation	10	100	20	32	80
Utilities	100	30	130	14	250
Other	50	60	80	28	270
Total Outsourcing	1800	33	2400	28	8200

Source: INPUT

In local government, the deadlines for Compulsory Competitive Tendering are getting closer and this is attracting new entrants into the managed services market. Existing suppliers such as Capita and ITnet have now been joined by EDS and Siemens Business Services (SBS).

In 1995, EDS won a contract with Brent Council for revenue collection and benefits administration. Siemens Business Services, who have primarily been targeting PFI contracts in the central government sector, recently announced its intention to enter the local government managed services market.

In the private sector, much of the recent market activity has been in the financial services sector. Organisations, in this sector, still tend to outsource in a more selective manner than public sector organisations or organisations in the manufacturing sector. However, there is a growing trend for organisations in the financial services sector to outsource IT infrastructure management. Indeed, organisations in the financial services sector are now showing an increased propensity to outsource datacentre management, an activity they have previously preferred to retain in-house.

Examples of recent contracts in the financial services sector include:

- A contract between Sun Alliance and IBM to manage the company's datacentre operations
- A contract between TSB and Sema Group to manage a major part of TSB's mainframe and mid-range service delivery
- A contract between Sun Life and Sema Group to manage the organisation's IT infrastructure
- A contract between Willis Corroon and Sema Group to supply desktop services to the insurance broker.

Exhibit V-13 shows the market shares of the leading outsourcing vendors in the U.K.

Exhibit V-13

Leading Vendors: United Kingdom - 1995

Vendor	Estimated 1995 Revenues (£ m)	Estimated Market Share (%)
EDS	200	11
BT/Syncordia	190	11
Hoskyns	170	9
CSC	125	7
ICL/CFM	123	7
Sema Group	105	6
Racal	100	6
AT&T	85	5
Andersen Consulting	80	4
Data Sciences	75	4
Total listed	1253	70
Total market	1800	100

Source: INPUT

Organisations in the financial services sector are also under pressure to adopt new network technology in support of new services and means of delivery. This has led to a number of wide area network outsourcing contracts, notably BT/Syncordia's recent contracts with:

- NatWest Bank - the contract is valued at £350m
- Sun Alliance.

The company already had a similar contract with TSB.

In addition, Racal Network Services and Mercury recently signed a contract to supply voice and data service to Norwich Union.

Market consolidation has continued in the last twelve months with a number of vendors being acquired by the major, international outsourcing

vendors. For example, Data Sciences has now been acquired by IBM and CMS, the British Steel outsourcing subsidiary, has been acquired by Hoskyns (Cap Gemini).

Following its acquisition of Data Sciences, IBM has subsequently signed a five-year outsourcing contract with THORN Europe, Data Sciences' parent company prior to its management buy-out.

Hoskyns, now renamed Cap Gemini, won major contracts with:

- British Gas for the management of its legacy systems
- South Thames Regional Health Authority.

EDS and CSC have so far in 1996 not repeated the high levels of new business activity that occurred during 1994 and 1995.

Exhibit V-14 provides a forecast of the outsourcing market in Ireland by delivery mode.

Exhibit V-14

Outsourcing Market, Ireland 1996-2001

	Market Forecast (IR£ millions)				
	1995	Growth 1995-1996 (%)	1996	Growth 1996-2001 (%)	2001
Platform Operations	4	20	5	17	10
Desktop Services	1	25	1	30	5
Network Management	1	25	1	32	5
Applications Management	1	25	1	27	4
Applications Operations	6	20	7	24	20
Total IS Outsourcing	13	21	16	23	45

Source: INPUT

D**Southern Europe — Major Vendor Repositioning in Italy**

Exhibit V-15 provides a forecast of the outsourcing market in Italy by delivery mode.

Exhibit V-15

Outsourcing Market, Italy 1996-2001

	Market Forecast (Lira Billions)				
	1995	Growth 1995-1996 (%)	1996	Growth 1996-2001 (%)	2001
Platform Operations	150	100	300	19	700
Desktop Services	90	35	120	30	450
Network Management	70	30	90	33	375
Applications Management	60	30	80	32	310
Applications Operations	300	25	375	24	1100
Total IS Outsourcing	670	44	970	25	2900

Source: INPUT

Organisations in Italy have been comparatively slow to embrace the outsourcing concept compared to those in Northern Europe. However, vendors such as IBM and EDS have now become well-established in the Italian outsourcing market providing an impetus to the market there.

Initially, the majority of contracts were in the manufacturing sector but other sectors are now increasing in importance. In particular, opportunities now exist with the Italian railways and the Ministry of Education.

Exhibit V-16 provides a forecast for the Italian outsourcing market by industry.

Exhibit V-16

Industry Sector Breakdown, Italy 1996-2001

	Italy Lbn 1995	Growth 1995-1996 %	Italy Lbn 1996	Growth 1996-2001 %	Italy Lbn 2001
Government	180	31	235	23	675
-Local	100	20	120	22	325
-Central	80	44	115	25	350
Manufacturing	190	42	270	27	900
-Discrete	100	50	150	25	450
-Process	90	33	120	30	450
Financial Services	230	39	320	25	970
-Banking&Finance	130	31	170	27	570
-Insurance	100	50	150	22	400
Distribution	18	39	25	19	60
Transportation	17	312	70	7	100
Utilities	18	39	25	37	120
Other	17	47	25	25	75
Total Outsourcing	670	45	970	24	2900

Source: INPUT

Exhibit V-17 shows the market shares of the leading outsourcing vendors in Italy.

Exhibit V-17

Leading Vendors: Italy - 1995

Vendor	Estimated 1995 Revenues (L bn)	Estimated Market Share (%)
Finsiel	140	21
EDS	80	12
IBM	80	12
Olivetti	80	12
Integris/Bull	21	3
Total listed	401	60
Total market	670	100

Source: INPUT

The competitive environment in Italy is undergoing major change. Firstly STET and IBM announced a global alliance in 1995. Within this agreement, IBM and STET will form a new venture for outsourcing, this alliance considerably strengthening IBM's ability to offer network outsourcing services to organisations based in Italy.

In addition, IBM has recently signed a seven year agreement and joint venture with Italian bank technology company OSC to provide outsourcing services to banking concerns in Italy.

Secondly, Sema Group recently acquired Syntax Processing from Olivetti. This gives Sema Group a solid outsourcing contract base in Italy covering both Olivetti's mainframe processing and approximately 30 external contracts in Italy.

Finally, in reaction to the strong international competition from vendors such as EDS and IBM, four Italian organisations have formed a joint venture, called Ar@ncia to offer outsourcing services. The participants in Ar@ncia are Fiat Information Technology Services (ITS), Eltag Bailey Informatica, Cedacrinord and Enidata.

Exhibit V-18 provides a forecast of the outsourcing market in Greece by delivery mode.

Exhibit V-18

Outsourcing Market, Greece 1996-2001

	Market Forecast (Dra millions)				
	1995	Growth 1995-1996 (%)	1996	Growth 1996-2001 (%)	2001
Platform Operations	270	20	320	18	740
Desktop Services	90	22	110	30	400
Network Management	110	25	140	32	550
Applications Management	70	30	90	36	420
Applications Operations	660	20	800	22	2100
Total IS Outsourcing	1200	21	1500	24	4200

Source: INPUT

E**Scandinavia Shows High Desktop Services Potential**

Exhibit V-19 provides a forecast of the outsourcing market in Sweden by delivery mode.

Exhibit V-19

Outsourcing Market, Sweden 1996-2001

	Market Forecast (SK millions)				
	1995	Growth 1995-1996 (%)	1996	Growth 1996-2001 (%)	2001
Platform Operations	650	20	780	18	1800
Desktop Services	400	35	550	30	2000
Network Management	300	30	400	35	1700
Applications Management	250	30	325	32	1300
Applications Operations	1500	22	1800	22	5000
Total IS Outsourcing	3100	25	3900	25	12000

Source: INPUT

The outsourcing market in Sweden is now showing less emphasis on datacentre management and greater emphasis on infrastructure management, including desktop services and network management, and applications operations contracts.

Exhibit V-20 provides a forecast for the Swedish outsourcing market by industry.

Exhibit V-20

Industry Sector Breakdown, Sweden 1995-2000

	Sweden SKm	Growth 1995-1996	Sweden SKm	Growth 1996-2001	Sweden SKm
	1995	%	1996	%	2001
Government	1250	22	1530	27	5000
-Local	500	20	600	22	1600
-Central	430	28	550	32	2200
-Health	320	19	380	26	1200
Manufacturing	490	47	720	28	2500
-Discrete	270	48	400	30	1500
-Process	220	45	320	26	1000
Financial Services	160	88	300	46	2000
-Banking & Finance	100	100	200	48	1400
-Insurance	60	67	100	43	600
Distribution	850	6	900	8	1300
Transportation	200	25	250	10	400
Utilities	70	43	100	37	480
Other	80	25	100	26	320
Total Outsourcing	3100	20	3900	25	12000

Source: INPUT

Sweden is characterised by an industry breakdown more similar to that found in the UK with a considerable emphasis on public sector outsourcing. In particular, there is a significant market in the local government sector and the health sector .

Again the manufacturing sector represents a major opportunity now with the financial services sector slower to respond to the trend towards outsourcing. However, this sector remains a major source of opportunity over the next few years.

One of the characteristics of the Swedish outsourcing market is the relatively large size of the market in the distribution sector. In part, this is due to KF's considerable contract with EDS, but the market is not confined to this single contract.

Exhibit V-21 shows the market shares of the leading outsourcing vendors in Sweden.

Exhibit V-21

Leading Vendors: Sweden - 1995

Vendor	Estimated 1995 Revenues (SK m)	Estimated Market Share (%)
EDS	750	24
Sema Group	700	23
Enator	500	16
IBM	400	13
Cap Gemini	350	11
Total listed	2700	87
Total market	3100	100

Source: INPUT

The trend towards increased levels of outsourcing in the finance sector is again apparent. In 1995, Sema Group signed an outsourcing contract with Länsförsäkringsbolagens AB (LFAB). LFAB is owned by a consortium of 24 regional insurance companies. Sema Group will manage the organisation's IT infrastructure - datacentres, networks and PC support.

In addition, Cap Gemini has a transition outsourcing contract with Gotabank, facilitating the merger of Gotabank's activities with those of its new parent, Nordbanken.

Exhibit V-22 provides a forecast of the outsourcing market in Denmark by delivery mode.

Exhibit V-22

Outsourcing Market, Denmark 1996-2001

	Market Forecast (DK millions)				
	1995	Growth 1995-1996 (%)	1996	Growth 1996-2001 (%)	2001
Platform Operations	100	16	115	14	220
Desktop Services	30	35	40	29	140
Network Management	40	30	52	34	220
Applications Management	45	20	55	30	200
Applications Operations	185	17	215	19	510
Total IS Outsourcing	400	20	480	22	1300

Source: INPUT

Exhibit V-23 shows the market shares of the leading outsourcing vendors in Denmark.

Exhibit V-23

Leading Vendors: Denmark - 1995

Vendor	Estimated 1995 Revenues (DK m)	Estimated Market Share (%)
IBM	250	63
PBS	60	15
OK Data	15	4
Hewlett-Packard	12	3
Digital	10	3
Total listed	347	87
Total market	400	100

Source: INPUT

Exhibit V-24 provides a forecast of the outsourcing market in Finland by delivery mode.

Exhibit V-24

Outsourcing Market, Finland 1996-2001

	Market Forecast (FM millions)				
	1995	Growth 1995-1996 (%)	1996	Growth 1996-2001 (%)	2001
Platform Operations	120	16	140	15	270
Desktop Services	45	32	60	27	200
Network Management	42	30	55	35	240
Applications Management	50	25	63	31	240
Applications Operations	240	18	290	18	660
Total IS Outsourcing	500	20	600	22	1600

Source: INPUT

Exhibit V-25 shows the market shares of the leading outsourcing vendors in Finland.

Exhibit V-25

Leading Vendors: Finland - 1995

Vendor	Estimated 1995 Revenues (FM m)	Estimated Market Share (%)
Tietotehdas	100	20
Cap Gemini	70	14
IBM	70	14
EDS	50	10
Paakupunk	40	8
Total listed	330	66
Total market	500	100

Source: INPUT

IBM's outsourcing subsidiary in Finland, Responsor Oy, focuses primarily on IT infrastructure management and has approximately 80 contracts. Its major clients include:

- Helsinki Telecom
- Finnpap
- Kymmene
- ABB.

Exhibit V-26 provides a forecast of the outsourcing market in Norway by delivery mode.

Exhibit V-26

Outsourcing Market, Norway 1996-2001

	Market Forecast (NK millions)				
	1995	Growth 1995-1996 (%)	1996	Growth 1996-2001 (%)	2001
Platform Operations	90	15	105	16	215
Desktop Services	40	32	53	27	175
Network Management	33	30	43	32	170
Applications Management	27	25	35	30	125
Applications Operations	185	17	215	20	540
Total IS Outsourcing	375	20	450	22	1200

Source: INPUT

Much of the outsourcing market activity in Norway centres around the process manufacturing sector, particularly the oil sector.

Exhibit V-27 shows the market shares of the leading outsourcing vendors in Norway.

Exhibit V-27

Leading Vendors: Norway - 1995

Vendor	Estimated 1995 Revenues (NK m)	Estimated Market Share (%)
Fellesdata	70	19
IBM	40	11
Andersen Consulting	30	8
Teamco	25	7
WM-Data	20	5
Total listed	185	49
Total market	375	100

Source: INPUT

Andersen Consulting has a business operations contract for accounting services with BP Exploration in Norway and much of IBM's IT infrastructure management activity is also in the oil sector.

In addition, EDS has recently signed a contract with Hydro Agri Europe, the European agriculture division of the Norwegian energy and chemical group Norsk Hydro, to manage Hydro Agri's entire IT infrastructure.

F**Benelux**

Exhibit V-28 provides a forecast of the outsourcing market in Belgium by delivery mode.

Exhibit V-28

Outsourcing Market, Belgium 1996-2001

	Market Forecast (BF millions)				
	1995	Growth 1995-1996 (%)	1996	Growth 1996-2001 (%)	2001
Platform Operations	1300	16	1500	14	2850
Desktop Services	200	35	270	28	930
Network Management	300	30	390	41	2200
Applications Management	200	30	260	36	1200
Applications Operations	2000	15	2300	20	5700
Total IS Outsourcing	4000	18	4750	22	13000

Source: INPUT

The Belgian market remains very conservative in its approach to outsourcing and has not shown the high level of acceptance of the outsourcing concept evident in its neighbour, the Netherlands.

The main focus of the market remains the outsourcing of datacentres on behalf of multinationals in the manufacturing sector. The desktop services market remains at an embryonic stage in Belgium.

Exhibit V-29 shows the market shares of the leading outsourcing vendors in Belgium.

Exhibit V-29

Leading Vendors: Belgium - 1995

Vendor	Estimated 1995 Revenues (BF m)	Estimated Market Share (%)
IBM	1000	25
CSC	700	18
Olivetti	400	10
Cegeka	350	9
Origin	250	6
Total listed	2700	68
Total market	4000	100

Source: INPUT

CSC signed a five-year contract for datacentre management with Toyota Belgium in 1995.

Exhibit V-30 provides a forecast of the outsourcing market in the Netherlands by delivery mode.

Exhibit V-30

Outsourcing Market, Netherlands 1996-2001

	Market Forecast (Dfl millions)				
	1995	Growth 1995-1996 (%)	1996	Growth 1996-2001 (%)	2001
Platform Operations	110	18	130	17	280
Desktop Services	40	35	55	30	200
Network Management	45	30	60	37	280
Applications Management	55	30	72	32	285
Applications Operations	350	30	455	23	1300
Total IS Outsourcing	600	28	770	25	2300

Source: INPUT

Exhibit V-31 shows the market shares of the leading outsourcing vendors in the Netherlands.

Exhibit V-31

Leading Vendors: Netherlands - 1995

Vendor	Estimated 1995 Revenues (Dfl m)	Estimated Market Share (%)
Origin	100	17
EDS	80	13
IBM	80	13
AT&T	70	12
CSC	60	10
Total listed	390	65
Total market	600	100

Source: INPUT

Philips C&P has now merged with BSO/Origin, forming a new company called Origin. The ambitions of this new company are demonstrated by the recruitment, from EDS, of Geoffrey Carroll and Tom Butler as joint managing directors of the new concern.

In 1995, EDS won a major contract with the Dutch national railway.

G**Iberia**

Exhibit V-32 provides a forecast of the outsourcing market in Spain by delivery mode.

Exhibit V-32

Outsourcing Market, Spain 1996-2001

	Market Forecast (Ptas millions)				
	1995	Growth 1995-1996 (%)	1996	Growth 1996-2001 (%)	2001
Platform Operations	4300	18	5100	17	11000
Desktop Services	1500	22	1800	30	6800
Network Management	2500	25	3100	38	15500
Applications Management	3000	30	3900	30	14500
Applications Operations	8700	20	10500	24	30500
Total IS Outsourcing	20000	22	24400	26	78000

Source: INPUT

The outsourcing market in Spain shows a high level of activity, particularly in application management and desktop services.

Exhibit V-33 shows the market shares of the leading outsourcing vendors in Spain.

Exhibit V-33

Leading Vendors: Spain - 1995

Vendor	Estimated 1995 Revenues (Ptas m)	Estimated Market Share (%)
IBM	4000	20
Sema Group	2500	13
Eritel	2000	10
Andersen Consulting	1500	8
Centrista	1200	6
Total listed	11200	56
Total market	20000	100

Source: INPUT

Cap Gemini has been successful in targeting applications management and Spain and was recently awarded a four-year applications management contract with Banco de la Pequeña y Mediana Empresa.

Similarly, IBM has achieved success in targeting distributed systems management there. Recent contracts of this type include:

- A four-year agreement with Endesa covering the management of 10,000 desktop computers
- A five-year agreement with Schweppes.

Exhibit V-34 provides a forecast of the outsourcing market in Portugal by delivery mode.

Exhibit V-34

Outsourcing Market, Portugal 1996-2001

	Market Forecast (Esc millions)				
	1995	Growth 1995-1996 (%)	1996	Growth 1996-2001 (%)	2001
Platform Operations	500	20	600	18	1400
Desktop Services	200	22	245	30	900
Network Management	150	30	200	36	900
Applications Management	500	30	650	31	2500
Applications Operations	900	20	1100	21	2800
Total IS Outsourcing	2250	23	2795	25	8400

Source: INPUT

Cap Gemini has recently signed a four-year contract for applications maintenance management with the insurance company Companhia de Seguros Tranquilidade.

H

Eastern Europe — Slow to Adopt Outsourcing

Exhibit V-35 provides a forecast of the outsourcing market in Eastern Europe by delivery mode.

Exhibit V-35

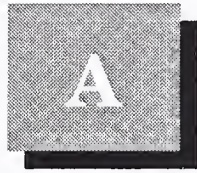
Outsourcing Market, Eastern Europe 1996-2001

	Market Forecast (US\$ millions)				
	1995	Growth 1995-1996 (%)	1996	Growth 1996-2001 (%)	2001
Platform Operations	7	35	10	25	30
Desktop Services	3	35	4	34	17
Network Management	3	30	4	30	15
Applications Management	3	20	4	30	13
Applications Operations	15	35	20	21	50
Total IS Outsourcing	30	33	40	25	125

Source: INPUT

While Eastern Europe has in recent years become one of the largest European markets for systems integration, the region has yet to develop a widespread acceptance of IS outsourcing.

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Market Forecasts in Local Currencies

Exhibits A-1 through A-17 present detailed IS outsourcing market forecasts for individual countries in their respective currencies. The exchange rates used are listed in Appendix E

Exhibit A-1

Information Systems Outsourcing Market, Austria 1996-2001

Delivery Modes	Sch Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	230	22	280	355	434	515	610	700	20
- Platform Operations	70	16	80	95	110	125	140	160	14
- Application Operations	160	25	200	260	325	390	470	540	22
Desktop Services	25	22	30	40	52	67	87	110	29
Network Management	30	30	40	50	65	90	120	160	33
Application Management	35	25	45	57	75	95	120	150	28
Total IS Outsourcing	320	23	400	500	630	770	935	1100	23

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. Source: INPUT

Exhibit A-2

Information Systems Outsourcing Market, Belgium 1996-2001

Delivery Modes	BF Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	3300	15	3800	4450	5250	6200	7200	8500	17
- Platform Operations	1300	16	1500	1750	2000	2300	2600	2850	14
- Application Operations	2000	15	2300	2700	3200	3900	4650	5700	20
Desktop Services	200	35	270	350	460	590	740	930	28
Network Management	300	30	390	510	735	1100	1500	2200	41
Application Management	200	30	260	360	530	740	960	1200	36
Total IS Outsourcing	4000	18	4750	5700	7000	8600	10500	13000	22

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. Source: INPUT

Exhibit A-3

Information Systems Outsourcing Market, Denmark 1996-2001

Delivery Modes	DK Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	285	17	330	410	500	570	650	740	17
- Platform Operations	100	16	115	140	165	180	200	220	14
- Application Operations	185	17	215	270	340	390	450	510	19
Desktop Services	30	35	40	57	77	100	120	140	29
Network Management	40	30	52	68	88	120	160	220	34
Application Management	45	20	55	75	100	130	160	200	30
Total IS Outsourcing	400	20	480	610	770	920	1100	1300	22

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. Source: INPUT

Exhibit A-4

Information Systems Outsourcing Market, Finland 1996-2001

Delivery Modes	FM Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	360	17	430	510	610	710	810	940	17
- Platform Operations	120	16	140	170	200	225	250	270	15
- Application Operations	240	18	290	345	410	480	570	660	18
Desktop Services	45	32	60	80	100	130	165	200	27
Network Management	42	30	55	75	100	140	190	240	35
Application Management	50	25	63	90	120	155	190	240	31
Total IS Outsourcing	500	20	600	750	935	1100	1400	1600	22

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. Source: INPUT

Exhibit A-5

Information Systems Outsourcing Market, France 1996-2001

Delivery Modes	FF Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	4600	17	5400	6900	8900	10500	12000	13700	21
- Platform Operations	1600	15	1800	2300	2900	3300	3800	4200	18
- Application Operations	3000	18	3500	4600	6000	7200	8300	9500	22
Desktop Services	500	35	680	950	1300	1700	2100	2600	31
Network Management	1000	35	1400	1900	2700	3700	4800	6250	36
Application Management	700	35	950	1400	1900	2600	3200	4000	34
Total IS Outsourcing	6800	23	8400	11000	15000	18500	22000	26500	26

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. Source: INPUT

Exhibit A-6

Information Systems Outsourcing Market, Germany 1996-2001

Delivery Modes	DM Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	1150	23	1410	1850	2400	2900	3400	3800	22
- Platform Operations	350	17	410	500	610	700	760	820	15
- Application Operations	800	25	1000	1350	1750	2200	2650	3000	25
Desktop Services	160	35	215	300	400	510	670	830	31
Network Management	130	32	170	230	320	470	610	760	35
Application Management	160	35	220	300	420	550	700	860	32
Total IS Outsourcing	1600	26	2000	2700	3511	4400	5354	6300	26

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. Source: INPUT

Exhibit A-7

Information Systems Outsourcing Market, Greece 1996-2001

Delivery Modes	Dra Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	930	20	1100	1400	1800	2100	2500	2900	21
- Platform Operations	270	20	320	400	500	580	660	740	18
- Application Operations	660	20	800	1000	1300	1500	1900	2100	22
Desktop Services	90	22	110	140	180	240	310	400	30
Network Management	110	25	140	180	250	340	440	550	32
Application Management	70	30	90	130	185	250	320	420	36
Total IS Outsourcing	1200	21	1500	1900	2400	3000	3600	4200	24

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. Source: INPUT

Exhibit A-8

Information Systems Outsourcing Market, Ireland 1996-2001

Delivery Modes	IP Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	10	20	12	15	20	22	28	30	21
- Platform Operations	4	20	5	6	7	8	9	10	17
- Application Operations	6	20	7	9	12	13	18	20	24
Desktop Services	1	25	1	2	2	3	4	5	30
Network Management	1	25	1	2	2	3	4	5	32
Application Management	1	25	1	2	2	3	3	4	27
Total IS Outsourcing	13	21	16	20	25	30	40	45	23

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. Source: INPUT

Exhibit A-9

Information Systems Outsourcing Market, Italy 1996-2001

Delivery Modes	Lira Billions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	450	50	675	900	1100	1300	1600	1800	22
- Platform Operations	150	100	300	400	470	540	620	700	19
- Application Operations	300	25	375	500	660	800	950	1100	24
Desktop Services	90	35	120	170	220	290	360	450	30
Network Management	70	30	90	130	190	240	300	375	33
Application Management	60	30	80	115	150	200	250	310	32
Total IS Outsourcing	670	44	970	1300	1700	2100	2500	2900	25

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. Source: INPUT

Exhibit A-10

Information Systems Outsourcing Market, Netherlands 1996-2001

Delivery Modes	Dfl Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	460	27	590	725	900	1100	1300	1600	22
- Platform Operations	110	18	130	160	190	220	250	280	17
- Application Operations	350	30	455	570	710	870	1100	1300	23
Desktop Services	40	35	55	73	100	130	160	200	30
Network Management	45	30	60	82	120	160	220	280	37
Application Management	55	30	72	100	140	180	230	285	32
Total IS Outsourcing	600	28	770	980	1300	1600	1900	2300	25

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. Source: INPUT

Exhibit A-11

Information Systems Outsourcing Market, Norway 1996-2001

Delivery Modes	NK Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	275	16	320	400	490	570	660	760	19
- Platform Operations	90	15	105	130	155	180	200	215	16
- Application Operations	185	17	215	270	340	400	460	540	20
Desktop Services	40	32	53	70	95	120	145	175	27
Network Management	33	30	43	58	78	100	132	170	32
Application Management	27	25	35	47	65	85	105	125	30
Total IS Outsourcing	375	20	450	580	730	880	1050	1200	22

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. Source: INPUT

Exhibit A-12

Information Systems Outsourcing Market, Portugal 1996-2001

Delivery Modes	Esc Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	1400	20	1700	2200	2700	3200	3600	4150	20
- Platform Operations	500	20	600	750	940	1100	1200	1400	18
- Application Operations	900	20	1100	1400	1800	2100	2400	2800	21
Desktop Services	200	22	245	330	460	600	750	900	30
Network Management	150	30	200	255	330	480	690	900	36
Application Management	500	30	650	910	1200	1600	2000	2500	31
Total IS Outsourcing	2250	23	2800	3600	4700	5900	7100	8400	25

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. Source: INPUT

Exhibit A-13

Information Systems Outsourcing Market, Spain 1996-2001

Delivery Modes	Ptas Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	13000	19	15500	20000	25300	30000	35000	42000	22
- Platform Operations	4300	18	5100	6300	7600	8750	9900	11000	17
- Application Operations	8700	20	10500	13500	17600	21000	25500	30500	24
Desktop Services	1500	22	1800	2500	3200	4200	5400	6800	30
Network Management	2500	25	3100	4500	6600	8900	12000	15500	38
Application Management	3000	30	3900	5500	7600	9600	12000	14500	30
Total IS Outsourcing	20000	22	24000	32500	43000	53000	64500	78000	26

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. Source: INPUT

Exhibit A-14

Information Systems Outsourcing Market, Sweden 1996-2001

Delivery Modes	SK Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	2150	21	2600	3400	4300	5100	5900	6800	21
- Platform Operations	650	20	780	1000	1200	1400	1600	1800	18
- Application Operations	1500	22	1800	2400	3100	3700	4300	5000	22
Desktop Services	400	35	550	760	1000	1300	1700	2000	30
Network Management	300	30	400	530	760	1000	1350	700	35
Application Management	250	30	325	470	660	860	1100	1300	32
Total IS Outsourcing	3100	25	3900	5150	6750	8300	10000	12000	25

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. Source: INPUT

Exhibit A-15

Information Systems Outsourcing Market, Switzerland 1996-2001

Delivery Modes	SF Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	105	31	140	180	220	270	320	380	22
- Platform Operations	27	20	33	40	50	55	65	70	17
- Application Operations	80	35	105	140	170	215	260	310	24
Desktop Services	12	25	15	20	27	35	45	60	31
Network Management	15	30	20	25	37	50	67	90	35
Application Management	10	25	13	17	25	30	38	45	30
Total IS Outsourcing	140	30	185	240	310	390	470	570	25

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. Source: INPUT

Exhibit A-16

Information Systems Outsourcing Market, United Kingdom 1996-2001

Delivery Modes	PS Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	1000	26	1250	1600	2100	2500	2900	3300	21
- Platform Operations	300	15	350	400	460	510	570	640	13
- Application Operations	700	30	910	1200	1700	2000	2300	2600	24
Desktop Services	85	35	115	150	190	250	300	360	26
Network Management	400	45	580	810	1100	1600	2100	2700	36
Application Management	165	35	225	330	470	590	730	880	32
Total IS Outsourcing	1650	32	2200	2900	3900	4900	6000	7200	27

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. Source: INPUT

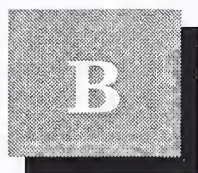
Exhibit A-17

Information Systems Outsourcing Market, Eastern Europe 1996-2001

Delivery Modes	USD Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	22	35	28	38	48	57	65	77	22
- Platform Operations	7	35	10	12	15	20	25	30	25
- Application Operations	15	35	20	25	32	37	42	50	21
Desktop Services	3	35	4	6	8	10	13	17	34
Network Management	3	30	4	6	8	9	12	15	30
Application Management	3	20	4	5	6	8	11	13	30
Total IS Outsourcing	30	33	40	55	70	85	100	125	25

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. Source: INPUT

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Market Forecasts in ECUs (Millions)

Exhibit B-1 presents the IS outsourcing market forecast for Europe in ECUs. Exhibits B-2 through B-18 present detailed IS outsourcing market forecasts for individual countries in ECUs. The exchange rates used are listed in Appendix E.

Exhibit B-1

Information Systems Outsourcing Market, Europe 1996-2001

Delivery Modes	ECU Millions (rounded)								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	6089	24	7549	9742	12429	14788	17166	19682	21
- Platform Operations	1904	22	2314	2830	3383	3847	4345	4833	16
- Application Operations	4185	25	5235	6912	9046	10942	12820	14850	23
Desktop Services	702	34	943	1281	1704	2213	2768	3409	29
Network Management	1420	39	1979	2754	3894	5395	7026	9108	36
Application Management	892	33	1190	1727	2409	3107	3886	4765	32
Total IS Outsourcing	9104	28	11662	15503	20436	25504	30846	36964	26

Source: INPUT

Exhibit B-2

Information Systems Outsourcing Market, Austria 1996-2001

Delivery Modes	ECU Millions (rounded)								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	19	22	23	29	35	41	49	56	20
- Platform Operations	6	16	7	8	9	10	11	13	14
- Application Operations	13	25	16	21	26	31	38	43	22
Desktop Services	2	22	2	3	4	5	7	9	29
Network Management	2	30	3	4	5	7	10	13	33
Application Management	3	25	4	5	6	8	10	12	28
Total IS Outsourcing	26	23	32	41	50	62	75	90	23

Source: INPUT

Exhibit B-3

Information Systems Outsourcing Market, Belgium 1996-2001

Delivery Modes	ECU Millions (rounded)								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	88	15	101	118	139	164	191	226	17
- Platform Operations	34	16	40	47	54	61	68	76	14
- Application Operations	53	15	61	71	86	103	123	150	20
Desktop Services	5	35	7	9	12	16	20	25	28
Network Management	8	30	10	13	20	28	40	57	41
Application Management	5	30	7	10	14	20	25	32	36
Total IS Outsourcing	106	18	125	151	185	227	276	340	22

Source: INPUT

Exhibit B-4

Information Systems Outsourcing Market, Denmark 1996-2001

Delivery Modes	ECU Millions (rounded)								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	40	17	47	58	71	80	92	104	17
- Platform Operations	14	16	16	20	23	26	29	31	14
- Application Operations	26	17	30	38	48	55	63	72	19
Desktop Services	4	35	6	8	11	14	17	20	29
Network Management	6	30	7	10	12	17	23	32	34
Application Management	6	20	8	11	14	18	22	28	30
Total IS Outsourcing	56	20	67	86	108	129	153	184	22

Source: INPUT

Exhibit B-5

Information Systems Outsourcing Market, Finland 1996-2001

Delivery Modes	ECU Millions (rounded)								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	68	17	80	96	115	133	153	176	17
- Platform Operations	23	16	26	31	38	42	47	51	15
- Application Operations	46	18	54	65	77	91	106	124	18
Desktop Services	8	32	11	15	20	24	31	37	27
Network Management	8	30	10	14	19	26	35	46	35
Application Management	9	25	12	16	22	29	36	45	31
Total IS Outsourcing	94	20	113	141	175	212	254	303	22

Source: INPUT

Exhibit B-6

Information Systems Outsourcing Market, France 1996-2001

Delivery Modes	ECU Millions (rounded)								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	734	17	858	1101	1413	1672	1923	2181	21
- Platform Operations	255	15	293	367	459	527	606	667	18
- Application Operations	478	18	565	734	954	1145	1317	1514	22
Desktop Services	80	35	108	151	203	265	331	413	31
Network Management	159	35	215	301	437	590	767	997	36
Application Management	112	35	151	219	306	413	516	645	34
Total IS Outsourcing	1085	23	1332	1771	2359	2940	3537	4237	26

Source: INPUT

Exhibit B-7

Information Systems Outsourcing Market, Germany 1996-2001

Delivery Modes	ECU Millions (rounded)								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	628	23	770	1017	1295	1575	1852	2101	22
- Platform Operations	191	17	224	280	336	376	414	447	15
- Application Operations	437	25	546	738	959	1199	1439	1654	25
Desktop Services	87	35	118	159	215	280	364	454	31
Network Management	71	32	94	127	177	257	334	418	35
Application Management	87	35	118	165	231	301	376	470	32
Total IS Outsourcing	874	26	1100	1469	1918	2412	2926	3443	26

Source: INPUT

Exhibit B-8

Information Systems Outsourcing Market, Greece 1996-2001

Delivery Modes	ECU Millions (rounded)								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	3	20	4	5	6	7	9	10	21
- Platform Operations	1	20	1	1	2	2	2	3	18
- Application Operations	2	20	3	4	4	5	6	7	22
Desktop Services	0	22	0	0	1	1	1	1	30
Network Management	0	25	0	1	1	1	2	2	32
Application Management	0	30	0	0	1	1	1	1	36
Total IS Outsourcing	4	21	5	6	8	10	12	15	24

Source: INPUT

Exhibit B-9

Information Systems Outsourcing Market, Ireland 1996-2001

Delivery Modes	ECU Millions (rounded)								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	13	20	15	19	24	27	34	39	21
- Platform Operations	5	20	6	8	9	10	12	13	17
- Application Operations	8	20	9	11	15	17	23	26	24
Desktop Services	1	25	2	2	3	4	5	6	30
Network Management	1	25	2	2	3	4	5	6	32
Application Management	1	25	2	2	3	3	4	5	27
Total IS Outsourcing	16	21	20	25	32	38	48	56	23

Source: INPUT

Exhibit B-10

Information Systems Outsourcing Market, Italy 1996-2001

Delivery Modes	ECU Millions (rounded)								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	222	50	333	442	555	654	772	887	22
- Platform Operations	74	100	148	192	231	265	305	351	19
- Application Operations	148	25	185	249	324	389	467	537	24
Desktop Services	44	35	60	84	109	142	177	221	30
Network Management	34	30	45	63	91	118	148	185	33
Application Management	30	30	38	56	75	98	122	153	32
Total IS Outsourcing	330	44	476	644	830	1012	1219	1446	25

Source: INPUT

Exhibit B-11

Information Systems Outsourcing Market, Netherlands 1996-2001

Delivery Modes	ECU Millions (rounded)								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	224	27	285	353	438	530	639	767	22
- Platform Operations	54	18	63	76	91	107	123	137	17
- Application Operations	171	30	222	277	347	423	516	630	23
Desktop Services	20	35	26	36	48	62	78	98	30
Network Management	22	30	29	40	58	78	106	137	37
Application Management	27	30	35	49	68	89	111	139	32
Total IS Outsourcing	293	28	375	478	612	759	934	1141	25

Source: INPUT

Exhibit B-12

Information Systems Outsourcing Market, Norway 1996-2001

Delivery Modes	ECU Millions (rounded)								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	34	16	40	49	61	71	82	94	19
- Platform Operations	11	15	13	16	19	22	24	27	16
- Application Operations	23	17	27	33	42	49	57	67	20
Desktop Services	5	32	7	9	12	15	18	21	27
Network Management	4	30	5	7	10	13	16	21	32
Application Management	3	25	4	6	8	10	13	15	30
Total IS Outsourcing	46	20	56	71	90	109	128	152	22

Source: INPUT

Exhibit B-13

Information Systems Outsourcing Market, Portugal 1996-2001

Delivery Modes	ECU Millions (rounded)								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	7	20	9	11	14	17	19	22	20
- Platform Operations	3	20	3	4	5	6	6	7	18
- Application Operations	5	20	6	7	9	11	13	15	21
Desktop Services	1	22	1	2	2	3	4	5	30
Network Management	1	30	1	1	2	3	4	5	36
Application Management	3	30	3	5	6	8	10	13	31
Total IS Outsourcing	12	23	14	19	25	31	37	44	25

Source: INPUT

Exhibit B-14

Information Systems Outsourcing Market, Spain 1996-2001

Delivery Modes	ECU Millions (rounded)								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	84	19	100	128	163	193	228	268	22
- Platform Operations	28	18	33	41	49	56	64	71	17
- Application Operations	56	20	67	88	114	137	164	197	24
Desktop Services	10	22	12	16	21	27	35	44	30
Network Management	16	25	20	29	42	57	77	100	38
Application Management	19	30	25	35	49	62	77	92	30
Total IS Outsourcing	129	22	157	209	275	339	417	505	26

Source: INPUT

Exhibit B-15

Information Systems Outsourcing Market, Sweden 1996-2001

Delivery Modes	ECU Millions (rounded)								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	253	21	307	400	508	602	698	797	21
- Platform Operations	77	20	92	119	143	165	186	209	18
- Application Operations	177	22	216	280	364	437	511	588	22
Desktop Services	47	35	64	89	120	156	195	234	30
Network Management	35	30	46	62	90	121	158	205	35
Application Management	29	30	38	56	78	101	126	152	32
Total IS Outsourcing	365	25	455	606	795	981	1177	1388	25

Source: INPUT

Exhibit B-16

Information Systems Outsourcing Market, Switzerland 1996-2001

Delivery Modes	ECU Millions (rounded)								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	72	31	94	121	150	184	218	258	22
- Platform Operations	18	20	22	28	33	38	43	48	17
- Application Operations	53	35	72	93	116	146	175	210	24
Desktop Services	8	25	10	14	19	24	31	39	31
Network Management	10	30	13	17	25	34	46	59	35
Application Management	7	25	9	11	16	21	26	31	30
Total IS Outsourcing	96	30	126	163	209	263	321	388	25

Source: INPUT

Exhibit B-17

Information Systems Outsourcing Market, United Kingdom 1996-2001

Delivery Modes	ECU Millions (rounded)								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	1212	26	1521	1970	2563	3032	3468	3967	21
- Platform Operations	364	15	418	481	553	619	694	777	13
- Application Operations	848	30	1103	1489	2010	2412	2774	3190	24
Desktop Services	103	35	139	181	235	306	367	440	26
Network Management	485	45	703	984	1378	1929	2508	3260	36
Application Management	200	35	270	405	567	709	886	1063	32
Total IS Outsourcing	2000	32	2633	3540	4743	5975	7228	8731	27

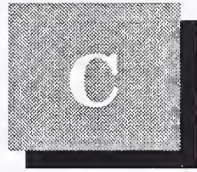
Source: INPUT

Exhibit B-18

Information Systems Outsourcing Market, Eastern Europe 1996-2001

Delivery Modes	ECU Millions (rounded)								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	27	35	36	48	61	73	85	99	22
- Platform Operations	9	35	12	16	20	26	31	37	25
- Application Operations	18	35	24	33	41	47	54	62	21
Desktop Services	4	35	5	7	10	13	17	22	34
Network Management	4	30	5	7	10	12	15	19	30
Application Management	4	20	5	6	8	11	14	17	30
Total IS Outsourcing	38	33	51	69	89	108	131	157	25

Source: INPUT



Market Forecasts in U.S. Dollars (Millions)

Exhibit C-1 presents the IS outsourcing market forecast for Europe in U.S. dollars. Exhibits B-2 through B-18 present detailed IS outsourcing market forecasts for individual countries in U.S. dollars. The exchange rates used are listed in Appendix E.

Exhibit C-1

Information Systems Outsourcing Market, Europe 1996-2001

Delivery Modes	US\$ Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	4800	24	5900	7600	9700	11500	13500	15500	21
- Platform Operations	1500	22	1800	2200	2600	3000	3400	3800	16
- Application Operations	3300	25	4100	5400	7100	8500	10000	11600	23
Desktop Services	550	34	750	1000	1300	1750	2150	2650	29
Network Management	1100	39	1550	2150	3000	4200	5500	7100	36
Application Management	700	33	930	1350	1900	2400	3050	3700	32
Total IS Outsourcing	7100	28	9100	12000	16000	20000	24000	29000	26

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. Source: INPUT

Exhibit C-2

Information Systems Outsourcing Market, Austria 1996-2001

Delivery Modes	US\$ Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	23	22	28	35	43	51	60	69	20
- Platform Operations	7	16	8	9	11	12	14	16	14
- Application Operations	16	25	20	26	32	39	46	53	22
Desktop Services	2	22	3	4	5	7	9	11	29
Network Management	3	30	4	5	7	9	12	16	33
Application Management	3	25	4	6	7	10	12	15	28
Total IS Outsourcing	32	23	39	50	62	76	93	111	23

Source: INPUT

Exhibit C-3

Information Systems Outsourcing Market, Belgium 1996-2001

Delivery Modes	US\$ Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	112	15	130	152	179	210	246	290	17
- Platform Operations	44	16	51	60	69	78	87	97	14
- Application Operations	68	15	78	92	110	132	158	193	20
Desktop Services	7	35	9	12	16	20	25	32	28
Network Management	10	30	13	17	25	36	51	74	41
Application Management	7	30	9	12	18	25	33	41	36
Total IS Outsourcing	136	18	161	193	237	291	354	436	22

Source: INPUT

Exhibit C-4

Information Systems Outsourcing Market, Denmark 1996-2001

Delivery Modes	US\$ Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	51	17	60	74	90	103	117	133	17
- Platform Operations	18	16	21	25	29	33	37	40	14
- Application Operations	33	17	39	49	61	70	81	93	19
Desktop Services	5	35	7	10	14	18	22	26	29
Network Management	7	30	9	12	16	21	29	40	34
Application Management	8	20	10	14	18	23	29	36	30
Total IS Outsourcing	72	20	86	110	139	166	197	235	22

Source: INPUT

Exhibit C-5

Information Systems Outsourcing Market, Finland 1996-2001

Delivery Modes	US\$ Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	84	17	98	118	141	163	188	216	17
- Platform Operations	28	16	32	38	46	52	57	63	15
- Application Operations	56	18	66	79	95	111	130	152	18
Desktop Services	10	32	14	18	24	30	38	45	27
Network Management	10	30	13	17	23	32	43	56	35
Application Management	12	25	14	20	27	35	44	55	31
Total IS Outsourcing	115	20	139	173	215	260	313	372	22

Source: INPUT

Exhibit C-6

Information Systems Outsourcing Market, France 1996-2001

Delivery Modes	US\$ Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	941	17	1100	1411	1811	2144	2466	2797	21
- Platform Operations	327	15	376	470	588	676	778	855	18
- Application Operations	613	18	724	941	1223	1468	1688	1942	22
Desktop Services	102	35	138	193	261	339	424	530	31
Network Management	204	35	276	387	560	757	984	1279	36
Application Management	143	35	193	280	392	530	662	828	34
Total IS Outsourcing	1391	23	1708	2271	3025	3770	4535	5433	26

Source: INPUT

Exhibit C-7

Information Systems Outsourcing Market, Germany 1996-2001

Delivery Modes	US\$ Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	804	23	986	1302	1657	2015	2370	2689	22
- Platform Operations	245	17	286	358	430	481	529	572	15
- Application Operations	559	25	699	944	1227	1534	1841	2117	25
Desktop Services	112	35	151	204	275	358	465	582	31
Network Management	91	32	120	162	227	329	428	534	35
Application Management	112	35	151	211	296	385	481	601	32
Total IS Outsourcing	1119	26	1408	1879	2455	3087	3744	4406	26

Source: INPUT

Exhibit C-8

Information Systems Outsourcing Market, Greece 1996-2001

Delivery Modes	US\$ Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	4	20	5	6	8	9	11	12	21
- Platform Operations	1	20	1	2	2	2	3	3	18
- Application Operations	3	20	3	4	5	7	8	9	22
Desktop Services	0	22	0	1	1	1	1	2	30
Network Management	0	25	1	1	1	1	2	2	32
Application Management	0	30	0	1	1	1	1	2	36
Total IS Outsourcing	5	21	6	8	10	12	15	18	24

Source: INPUT

Exhibit C-9

Information Systems Outsourcing Market, Ireland 1996-2001

Delivery Modes	US\$ Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	16	20	19	24	30	35	44	50	21
- Platform Operations	6	20	8	10	12	13	15	17	17
- Application Operations	10	20	12	14	19	22	29	33	24
Desktop Services	2	25	2	3	4	5	6	7	30
Network Management	2	25	2	3	4	5	6	8	32
Application Management	2	25	2	3	4	4	5	7	27
Total IS Outsourcing	21	21	25	32	41	49	62	72	23

Source: INPUT

Exhibit C-10

Information Systems Outsourcing Market, Italy 1996-2001

Delivery Modes	US\$ Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	283	50	425	564	708	835	985	1133	22
- Platform Operations	94	100	189	245	294	338	389	448	19
- Application Operations	189	25	236	318	414	497	596	685	24
Desktop Services	57	35	76	107	139	181	226	282	30
Network Management	44	30	57	80	116	151	189	236	33
Application Management	38	30	49	71	96	125	156	195	32
Total IS Outsourcing	421	44	607	822	1060	1292	1556	1847	25

Source: INPUT

Exhibit C-11

Information Systems Outsourcing Market, Netherlands 1996-2001

Delivery Modes	US\$ Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	288	27	366	453	561	679	819	983	22
- Platform Operations	69	18	81	97	117	137	157	176	17
- Application Operations	219	30	284	355	444	542	661	807	23
Desktop Services	25	35	34	46	62	80	100	125	30
Network Management	28	30	37	51	74	100	135	176	37
Application Management	34	30	45	63	88	114	142	178	32
Total IS Outsourcing	375	28	481	612	784	973	1196	1462	25

Source: INPUT

Exhibit C-12

Information Systems Outsourcing Market, Norway 1996-2001

Delivery Modes	US\$ Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	44	16	51	63	78	91	104	120	19
- Platform Operations	14	15	16	20	25	28	31	34	16
- Application Operations	29	17	34	43	54	63	73	86	20
Desktop Services	6	32	8	11	15	19	23	27	27
Network Management	5	30	7	9	12	16	21	27	32
Application Management	4	25	5	7	10	13	16	20	30
Total IS Outsourcing	59	20	71	91	116	139	164	194	22

Source: INPUT

Exhibit C-13

Information Systems Outsourcing Market, Portugal 1996-2001

Delivery Modes	US\$ Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	9	20	11	14	18	21	24	28	20
- Platform Operations	3	20	4	5	6	7	8	9	18
- Application Operations	6	20	7	9	12	14	16	19	21
Desktop Services	1	22	2	2	3	4	5	6	30
Network Management	1	30	1	2	2	3	5	6	36
Application Management	3	30	4	6	8	11	13	17	31
Total IS Outsourcing	15	23	19	24	32	39	48	57	25

Source: INPUT

Exhibit C-14

Information Systems Outsourcing Market, Spain 1996-2001

Delivery Modes	US\$ Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	107	19	128	165	209	247	292	344	22
- Platform Operations	36	18	42	52	63	72	82	92	17
- Application Operations	72	20	86	112	146	175	210	252	24
Desktop Services	12	22	15	20	27	35	45	56	30
Network Management	21	25	26	37	54	73	99	129	38
Application Management	25	30	32	45	63	79	99	118	30
Total IS Outsourcing	165	22	201	268	353	434	534	647	26

Source: INPUT

Exhibit C-15

Information Systems Outsourcing Market, Sweden 1996-2001

Delivery Modes	US\$ Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	324	21	394	512	650	771	893	1020	21
- Platform Operations	98	20	118	153	184	211	238	267	18
- Application Operations	226	22	276	359	466	560	655	753	22
Desktop Services	60	35	81	114	154	200	250	300	30
Network Management	45	30	59	79	115	155	202	263	35
Application Management	38	30	49	71	100	129	162	194	32
Total IS Outsourcing	468	25	583	776	1019	1256	1507	1777	25

Source: INPUT

Exhibit C-16

Information Systems Outsourcing Market, Switzerland 1996-2001

Delivery Modes	US\$ Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	91	31	120	154	191	235	278	330	22
- Platform Operations	24	20	28	35	42	49	55	62	17
- Application Operations	68	35	92	119	149	186	223	268	24
Desktop Services	10	25	13	18	24	31	40	50	31
Network Management	13	30	17	22	32	43	58	76	35
Application Management	9	25	11	15	21	27	33	40	30
Total IS Outsourcing	123	30	161	209	268	336	410	496	25

Source: INPUT

Exhibit C-17

Information Systems Outsourcing Market, United Kingdom 1996-2001

Delivery Modes	US\$ Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	1553	26	1949	2524	3284	3884	4443	5082	21
- Platform Operations	466	15	536	616	708	794	889	995	13
- Application Operations	1087	30	1413	1908	2575	3090	3554	4087	24
Desktop Services	132	35	178	232	301	391	470	564	26
Network Management	621	45	901	1261	1765	2471	3213	4177	36
Application Management	256	35	346	519	726	908	1135	1362	32
Total IS Outsourcing	2562	32	3373	4535	6076	7655	9260	11184	27

Source: INPUT

Exhibit C-18

Information Systems Outsourcing Market, Eastern Europe 1996-2001

Delivery Modes	US\$ Millions								
	1995	95-96 (%)	1996	1997	1998	1999	2000	2001	96-01 CAGR (%)
Systems Operations	21	35	28	38	48	57	66	77	22
- Platform Operations	7	35	9	12	16	20	24	29	25
- Application Operations	14	35	19	26	32	37	42	49	21
Desktop Services	3	35	4	6	8	10	13	17	34
Network Management	3	30	4	6	8	9	12	15	30
Application Management	3	20	4	5	6	8	11	13	30
Total IS Outsourcing	30	33	40	54	69	85	102	123	25

Source: INPUT



Forecast Reconciliation

Exhibit D-1 shows the reconciliation between the 1995 and 1996 forecasts for Europe. Exhibits D-2 through D-18 present detailed forecast reconciliations for each of the individual countries.

Exhibit D-1

Information Systems Outsourcing Market Forecast Reconciliation, Europe

US\$ Millions	----- 1995 Market -----				----- 2000 Market -----				1995	1996
Delivery Mode	1995 Report (Fcst)	1996 Report (Act)	Variance (Amount)	Variance (%)	1995 Report (Fcst)	1996 Report (Fcst)	Variance (Amount)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	3900	4755	-855	-22	9000	12500	-3500	-39	18	21
- Platform Operations	1200	1487	-287	-24	2000	3200	-1200	-60	11	16
- Application Operations	2700	3268	-568	-21	7000	9300	-2300	-33	20	23
Desktop Services	650	549	101	16	2150	2000	150	7	27	29
Network Management	610	1109	-499	-82	1250	5350	-4100	-328	15	36
Application Management	290	697	-407	-140	850	2900	-2050	-241	28	32
Total IS Outsourcing	5450	7110	-1660	-30	13300	22700	-9400	-71	19	26

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. Source: INPUT

In real terms, there is an increase of 25% between last year's IS outsourcing forecast for 1995 and this year's forecast. In addition, differences in exchange rates produce an apparent increase in the market of 5%, the net effect being an apparent increase in the size of the European IS outsourcing market of 30%.

The prospects for growth in the European IS outsourcing market have strengthened due to a combination of factors, including the impact of the Year 2000 problem. The growth rates for the forecast period have been revised upwards accordingly.

The principal adjustments that have been made to the 1995 forecast are:

- The size of the outsourcing market has been increased to provide a better reflection of the network management activities of organisations such as BT and AT&T
- The service type breakdown has been revised in the light of current information
- The overall size of the IS outsourcing markets in the U.K., Germany, Sweden, the Netherlands, Spain, Denmark and Finland have been increased following re-appraisals of 1995 vendor revenues in these countries

Exhibit D-2

Information Systems Outsourcing Market, Forecast Database Reconciliation, Austria

Sch Millions	----- 1995 Market -----				----- 2000 Market -----				1995	1996
Delivery Mode	1995 Report (Fcst)	1996 Report (Act)	Variance (Amount)	Variance (%)	1995 Report (Fcst)	1996 Report (Fcst)	Variance (Amount)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	195	230	-35	-18	430	610	-180	-42	17	20
-Platform Operations	52	70	-18	-35	90	140	-50	-56	12	14
-Application Operations	145	160	-15	-10	340	470	-130	-38	19	22
Desktop Services	55	25	30	55	180	87	93	52	27	29
Network Management	50	30	20	40	95	120	-25	-26	14	33
Application Management	22	35	-13	-59	57	120	-63	-111	21	28
Total IS Outsourcing	320	320	0	0	760	935	-175	-23	19	23

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. Source: INPUT

Exhibit D-3

Information Systems Outsourcing Market, Forecast Database Reconciliation, Belgium

BF Millions	----- 1995 Market -----				----- 2000 Market -----				1995	1996
Delivery Mode	1995 Report (Fcst)	1996 Report (Act)	Variance (Amount)	Variance (%)	1995 Report (Fcst)	1996 Report (Fcst)	Variance (Amount)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	3450	3300	150	4	7500	7218	282	4	17	17
- Platform Operations	1150	1300	-150	-13	2050	2568	-518	-25	12	14
- Application Operations	2300	2000	300	13	5500	4650	850	15	19	20
Desktop Services	260	200	60	23	880	741	139	16	28	28
Network Management	165	300	-135	-82	360	1492	-1132	-314	17	41
Application Management	115	200	-85	-74	365	961	-596	-163	26	36
Total IS Outsourcing	4000	4000	0	0	9150	10412	-1262	-14	18	22

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. Source: INPUT

Exhibit D-4

Information Systems Outsourcing Market Forecast Reconciliation, Denmark

DK Millions	----- 1995 Market -----				----- 2000 Market -----				1995	1996
Delivery Mode	1995 Report (Fcst)	1996 Report (Act)	Variance (Amount)	Variance (%)	1995 Report (Fcst)	1996 Report (Fcst)	Variance (Amount)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	195	285	-90	-46	390	650	-260	-67	15	17
- Platform Operations	70	100	-30	-43	125	202	-77	-62	12	14
- Application Operations	125	185	-60	-48	265	447	-182	-69	16	19
Desktop Services	70	30	40	57	220	119	101	46	25	29
Network Management	25	40	-15	-58	50	160	-110	-220	14	34
Application Management	30	45	-15	-50	70	159	-89	-128	20	30
Total IS Outsourcing	320	400	-80	-25	725	1089	-364	-50	18	22

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.

Source: INPUT

Exhibit D-5

Information Systems Outsourcing Market Forecast Reconciliation, Finland

FM Millions	----- 1995 Market -----				----- 2000 Market -----				1995	1996
Delivery Mode	1995 Report (Fcst)	1996 Report (Act)	Variance (Amount)	Variance (%)	1995 Report (Fcst)	1996 Report (Fcst)	Variance (Amount)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	340	363	-23	-7	675	814	-139	-21	15	17
- Platform Operations	127	120	7	5	225	249	-24	-11	12	15
- Application Operations	213	243	-30	-14	450	565	-115	-26	16	18
Desktop Services	33	45	-13	-38	88	163	-75	-86	22	27
Network Management	42	42	0	0	80	187	-107	-133	14	35
Application Management	8	50	-42	-549	20	192	-172	-860	20	31
Total IS Outsourcing	420	500	-80	-19	860	1356	-496	-58	15	22

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.

Source: INPUT

Exhibit D-6

Information Systems Outsourcing Market Forecast Reconciliation, France

FF Millions	----- 1995 Market -----				----- 2000 Market -----				1995	1996
Delivery Mode	1995 Report (Fcst)	1996 Report (Act)	Variance (Amount)	Variance (%)	1995 Report (Fcst)	1996 Report (Fcst)	Variance (Amount)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	4850	4600	250	5	9750	12058	-2308	-24	15	21
- Platform Operations	1770	1600	170	10	2900	3802	-902	-31	10	18
- Application Operations	3070	3000	70	2	6850	8256	-1406	-21	17	22
Desktop Services	700	500	200	29	2500	2073	427	17	29	31
Network Management	920	1000	-80	-9	2000	4810	-2810	-140	17	36
Application Management	350	700	-350	-100	1100	3237	-2137	-194	26	34
Total IS Outsourcing	6800	6800	0	0	15400	22178	-6778	-44	18	26

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.

Source: INPUT

Exhibit D-7

Information Systems Outsourcing Market Forecast Reconciliation, Germany

DM Millions	----- 1995 Market -----				----- 2000 Market -----				1995	1996
Delivery Mode	1995 Report (Fcst)	1996 Report (Act)	Variance (Amount)	Variance (%)	1995 Report (Fcst)	1996 Report (Fcst)	Variance (Amount)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	610	1150	-540	-89	1700	3389	-1689	-99	23	22
- Platform Operations	115	350	-235	-204	200	757	-557	-278	11	15
- Application Operations	495	800	-305	-62	1500	2633	-1133	-76	25	25
Desktop Services	145	160	-15	-10	570	665	-95	-17	31	31
Network Management	200	130	70	35	390	611	-221	-57	14	35
Application Management	45	160	-115	-259	140	688	-548	-391	26	32
Total IS Outsourcing	1005	1600	-595	-59	2800	5354	-2554	-91	23	26

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.

Source: INPUT

Exhibit D-8

Information Systems Outsourcing Market Forecast Reconciliation, Greece

Dra Millions	 ----- 1995 Market ----- 				 ----- 2000 Market ----- 				1995	1996
Delivery Mode	1995 Report (Fcst)	1996 Report (Act)	Variance (Amount)	Variance (%)	1995 Report (Fcst)	1996 Report (Fcst)	Variance (Amount)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	930	930	0	0	2100	2511	-411	-20	18	21
- Platform Operations	270	270	0	0	550	658	-108	-20	15	18
- Application Operations	660	660	0	0	1550	1853	-303	-20	19	22
Desktop Services	95	90	5	5	315	313	2	1	27	30
Network Management	165	110	55	33	315	439	-124	-39	14	32
Application Management	0	70	-70	-63536	0	324	-324	-119380	20	36
Total IS Outsourcing	1200	1200	0	0	2750	3588	-838	-30	18	24

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.

Source: INPUT

Exhibit D-9

Information Systems Outsourcing Market Forecast Reconciliation, Ireland

IP Millions	 ----- 1995 Market ----- 				 ----- 2000 Market ----- 				1995	1996
Delivery Mode	1995 Report (Fcst)	1996 Report (Act)	Variance (Amount)	Variance (%)	1995 Report (Fcst)	1996 Report (Fcst)	Variance (Amount)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	10	10	-1	-5	20	28	-7	-35	16	21
- Platform Operations	6	4	2	32	12	9	2	21	15	17
- Application Operations	4	6	-2	-67	9	18	-10	-114	19	24
Desktop Services	1	1	0	20	4	4	1	14	28	30
Network Management	1	1	0	9	2	4	-2	-89	14	32
Application Management	0	1	-1	-809	0	3	-3	-1163	20	27
Total IS Outsourcing	12	13	-1	-9	27	39	-12	-43	18	23

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.

Source: INPUT

Exhibit D-10

Information Systems Outsourcing Market Forecast Reconciliation, Italy

Lira Billions	----- 1995 Market -----				----- 2000 Market -----				1995	1996
Delivery Mode	1995 Report (Fcst)	1996 Report (Act)	Variance (Amount)	Variance (%)	1995 Report (Fcst)	1996 Report (Fcst)	Variance (Amount)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	480	450	30	6	1150	1567	-417	-36	19	22
- Platform Operations	130	150	-20	-15	225	619	-394	-175	11	19
- Application Operations	350	300	50	14	940	948	-8	-1	22	24
Desktop Services	90	90	0	0	300	359	-59	-20	28	30
Network Management	65	70	-5	-8	130	300	-170	-131	14	33
Application Management	33	60	-27	-82	80	248	-168	-210	20	32
Total IS Outsourcing	670	670	0	0	1700	2474	-774	-46	20	25

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.

Source: INPUT

Exhibit D-11

Information Systems Outsourcing Market Forecast Reconciliation, Netherlands

Dfl Millions	----- 1995 Market -----				----- 2000 Market -----				1995	1996
Delivery Mode	1995 Report (Fcst)	1996 Report (Act)	Variance (Amount)	Variance (%)	1995 Report (Fcst)	1996 Report (Fcst)	Variance (Amount)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	255	460	-205	-81	570	1310	-740	-130	17	22
- Platform Operations	95	110	-15	-16	185	251	-66	-36	14	17
- Application Operations	160	350	-190	-119	385	1058	-673	-175	19	23
Desktop Services	95	40	55	58	325	160	165	51	28	30
Network Management	33	45	-12	-36	65	216	-151	-233	14	37
Application Management	55	55	0	0	180	228	-48	-27	27	32
Total IS Outsourcing	435	600	-165	-38	1150	1914	-764	-66	21	25

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.

Source: INPUT

Exhibit D-12

Information Systems Outsourcing Market Forecast Reconciliation, Norway

NK Millions	----- 1995 Market -----				----- 2000 Market -----				1995	1996
Delivery Mode	1995 Report (Fcst)	1996 Report (Act)	Variance (Amount)	Variance (%)	1995 Report (Fcst)	1996 Report (Fcst)	Variance (Amount)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	250	275	-25	-10	490	659	-169	-35	15	19
- Platform Operations	105	90	15	14	185	196	-11	-6	12	16
- Application Operations	145	185	-40	-28	305	463	-158	-52	16	20
Desktop Services	65	40	25	38	200	144	56	28	25	27
Network Management	33	33	0	0	65	132	-67	-103	14	32
Application Management	28	27	1	2	70	104	-34	-48	20	30
Total IS Outsourcing	375	375	0	0	820	1039	-219	-27	17	22

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.

Source: INPUT

Exhibit D-13

Information Systems Outsourcing Market Forecast Reconciliation, Portugal

Esc Millions	----- 1995 Market -----				----- 2000 Market -----				1995	1996
Delivery Mode	1995 Report (Fcst)	1996 Report (Act)	Variance (Amount)	Variance (%)	1995 Report (Fcst)	1996 Report (Fcst)	Variance (Amount)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	1200	1400	-200	-17	2700	3640	-940	-35	17	20
- Platform Operations	480	500	-20	-4	960	1218	-258	-27	15	18
- Application Operations	725	900	-175	-24	1700	2422	-722	-42	19	21
Desktop Services	385	200	185	48	1250	749	501	40	27	30
Network Management	160	150	10	6	310	693	-383	-124	14	36
Application Management	500	500	0	0	1250	1996	-746	-60	20	31
Total IS Outsourcing	2250	2250	0	0	5500	7079	-1579	-29	19	25

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.

Source: INPUT

Exhibit D-14

Information Systems Outsourcing Market Forecast Reconciliation, Spain

Ptas Millions	----- 1995 Market -----				----- 2000 Market -----				1995	1996
Delivery Mode	1995 Report (Fcst)	1996 Report (Act)	Variance (Amount)	Variance (%)	1995 Report (Fcst)	1996 Report (Fcst)	Variance (Amount)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	9000	13000	-4000	-44	20900	35297	-14397	-69	18	22
- Platform Operations	4550	4300	250	5	8900	9890	-990	-11	14	17
- Application Operations	4450	8700	-4250	-96	12000	25407	-13407	-112	22	24
Desktop Services	960	1500	-540	-56	3300	5428	-2128	-64	28	30
Network Management	3200	2500	700	22	7000	11974	-4974	-71	17	38
Application Management	770	3000	-2230	-290	2000	11944	-9944	-497	21	30
Total IS Outsourcing	13900	20000	-6100	-44	33200	64643	-31443	-95	19	26

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.

Source: INPUT

Exhibit D-15

Information Systems Outsourcing Market Forecast Reconciliation, Sweden

SK Millions	----- 1995 Market -----				----- 2000 Market -----				1995	1996
Delivery Mode	1995 Report (Fcst)	1996 Report (Act)	Variance (Amount)	Variance (%)	1995 Report (Fcst)	1996 Report (Fcst)	Variance (Amount)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	2100	2150	-50	-2	4600	5923	-1323	-29	17	21
- Platform Operations	590	650	-60	-10	1200	1581	-381	-32	15	18
- Application Operations	1500	1500	0	0	3400	4342	-942	-28	18	22
Desktop Services	530	400	130	25	1600	1658	-58	-4	25	30
Network Management	165	300	-135	-82	360	1340	-980	-272	17	35
Application Management	160	250	-91	-57	410	1072	-662	-161	21	32
Total IS Outsourcing	2950	3100	-150	-5	6900	9994	-3094	-45	19	25

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.

Source: INPUT

Exhibit D-16

Information Systems Outsourcing Market Forecast Reconciliation, Switzerland

SF Millions	----- 1995 Market -----				----- 2000 Market -----				1995	1996
Delivery Mode	1995 Report (Fcst)	1996 Report (Act)	Variance (Amount)	Variance (%)	1995 Report (Fcst)	1996 Report (Fcst)	Variance (Amount)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	105	105	0	0	265	320	-55	-21	20	22
- Platform Operations	27	27	0	0	55	63	-9	-16	15	17
- Application Operations	78	78	0	0	210	257	-47	-22	22	24
Desktop Services	18	12	6	33	62	46	16	25	28	31
Network Management	12	15	-3	-24	23	67	-44	-188	14	35
Application Management	7	10	-3	-52	15	38	-23	-156	20	30
Total IS Outsourcing	142	142	0	0	370	472	-102	-27	21	25

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.

Source: INPUT

Exhibit D-17

Information Systems Outsourcing Market Forecast Reconciliation, United Kingdom

PS Millions	----- 1995 Market -----				----- 2000 Market -----				1995	1996
Delivery Mode	1995 Report (Fcst)	1996 Report (Act)	Variance (Amount)	Variance (%)	1995 Report (Fcst)	1996 Report (Fcst)	Variance (Amount)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	900	1000	-100	-11	2150	2861	-711	-33	19	21
- Platform Operations	245	300	-55	-22	380	572	-192	-51	9	13
- Application Operations	660	700	-40	-6	1780	2289	-509	-29	22	24
Desktop Services	110	85	25	23	325	303	22	7	24	26
Network Management	100	400	-300	-300	215	2069	-1854	-862	17	36
Application Management	60	165	-105	-175	170	731	-561	-330	24	32
Total IS Outsourcing	1200	1650	-450	-38	2900	5963	-3063	-106	20	27

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.

Source: INPUT

Exhibit D-18

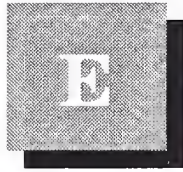
Information Systems Outsourcing Market Forecast Reconciliation, Eastern Europe

USD Millions	----- 1995 Market -----				----- 2000 Market -----				1995	1996
Delivery Mode	1995 Report (Fcst)	1996 Report (Act)	Variance (Amount)	Variance (%)	1995 Report (Fcst)	1996 Report (Fcst)	Variance (Amount)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	23	21	2	8	55	66	-11	-20	19	22
- Platform Operations	12	7	5	42	35	24	11	32	23	25
- Application Operations	11	14	-3	-30	22	42	-20	-94	15	21
Desktop Services	4	3	1	23	15	13	2	10	32	34
Network Management	3	3	0	0	7	12	-5	-76	17	30
Application Management	0	3	-3	-2509	0	11	-10	-3074	24	30
Total IS Outsourcing	30	30	0	0	80	102	-22	-28	21	25

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.

Source: INPUT

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Economic Assumptions

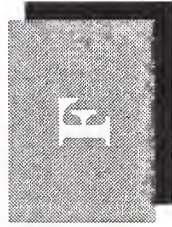
Exhibit E-1 lists the exchange rates used to prepare the forecasts in this report.

Exhibit E-1

US Dollar and ECU Exchange Rates: 1996

Country	Currency	US Dollar	ECU
Europe	\$	1	0.781
France	FF	4.89	6.27
Germany	DM	1.43	1.83
United Kingdom	PS	0.644	0.825
Italy	Lira (K)	1.59	2.03
Sweden	Sek	6.63	8.49
Denmark	DK	5.5	7.1
Norway	NK	6.32	8.09
Finland	FM	4.34	5.33
Netherlands	Dfl	1.6	2.05
Belgium	BF	29	38
Switzerland	SF	1.15	1.47
Austria	Sch	10.1	12.4
Spain	Ptas	121	155
Ireland	IP	0.624	0.8
Portugal	Esc	149	191
Greece	Dra	237	291
Eastern Europe	\$	1	0.781

Source: Financial Times January 1996



Key Indicators

Exhibits F-1 - F-7 summarize some of the key indicators discussed in Chapter IV.

Exhibit F-1

Principal Business Pressures

Banking & Finance	Insurance	Discrete manufacturing	Process Manufacturing	Distribution	Utilities	Business Services
Cost competition	Cost competition	Cost competition	Improved support of international activities	Improved customer service levels	Need to speed up new service introduction	Improved support of international activities
	Improved customer service levels		Improved international coverage	Cost competition	Need to introduce new services	Improved international coverage
				Competition for distribution channels		Improved Interworking with major customers
				Improved partnerships with major suppliers		

Source: INPUT

Exhibit F-2

Key Actions

Banking & Finance	Insurance	Discrete manufacturing	Process Manufacturing	Distribution	Utilities	Business Services
Become more efficient	Increase core business focus	Continue to reduce the cost of all business processes	Become more efficient	Become more efficient	Become more efficient	Become more efficient
Continue to reduce the cost of all business processes	Increase the flexibility of business processes	Become more efficient	Improve effectiveness of business processes	Increase core business focus	Continue to reduce the cost of all business processes	Increase core business focus
Increase the flexibility of business processes	Become more efficient	Improve effectiveness of business processes	Continue to reduce the cost of all business processes	Improve customer service	Improve effectiveness of business processes	Increase the flexibility of business processes
	Improve customer service	Increase core business focus		Continue to reduce the cost of all business processes	Increase the speed of introduction of new services	Improve effectiveness of business processes

Source: INPUT

Exhibit F-3

Most Important Gaps in In-house Capability

Banking & Finance	Insurance	Discrete manufacturing	Process Manufacturing	Distribution	Utilities	Business Services
To move to a new generation of applications	To reduce the time taken to implement new applications	To become more cost-effective in using IT	To become more cost-effective in using IT	To improve focus on business needs	To become more cost-effective in using IT	To improve support for distributed and desktop systems
To become more cost-effective in using IT	To adopt a distributed IT architecture	To improve focus on business needs	To improve focus on business needs	To become more cost-effective in using IT	To improve focus on business needs	To improve focus on business needs
To reduce the time taken to implement new applications	To become more cost-effective in using IT		Updating internal skills	To improve support for distributed and desktop systems	To become more proactive in meeting business needs	To become more proactive in meeting business needs
To improve focus on business needs	To improve focus on business needs		To become more proactive in meeting business needs	To become more proactive in meeting business needs	Updating internal skills	To reduce the time taken to implement new applications
	Updating internal skills			To move to a new generation of applications	To improve support for distributed and desktop systems	

Source: INPUT

Exhibit F-4

Areas of Highest Satisfaction

Banking & Finance	Insurance	Discrete manufacturing	Process Manufacturing	Distribution	Utilities	Business Services
Business orientation and understanding	Business orientation and understanding	Business orientation and understanding	Business orientation and understanding	Understanding of new technologies	Understanding of new technologies	Understanding of new technologies
Understanding of new technologies			Service levels for operational systems	Service levels for operational systems	Geographic support coverage	

Source: INPUT

Exhibit F-5

Areas of Lowest Satisfaction

Banking & Finance	Insurance	Discrete manufacturing	Process Manufacturing	Distribution	Utilities	Business Services
Focus on systems provision not operational support	Focus on systems provision not operational support	Focus on systems provision not operational support	Speed of application introduction	Ability to support the reengineering of processes	Overall cost-effectiveness	Ability to support the reengineering of processes
Ability to support the reengineering of processes	Proactive support for the business	Ability to support the reengineering of processes	Focus on systems provision not operational support	Ability to use IT for competitive advantage	Ability to support the reengineering of processes	Focus on systems provision not operational support
Speed of application introduction	System development and implementation timescales	Overall cost-effectiveness	System development and implementation timescales	Focus	Proactive support for the business	Focus
System development and implementation timescales	Ability to support the reengineering of processes	Speed of application introduction	Overall cost-effectiveness	Business orientation and understanding	Effectiveness in applying IT to the business	Proactive support for the business

Source: INPUT

Exhibit F-6

Largest Shortfalls: Importance vs Satisfaction

Banking & Finance	Insurance	Discrete manufacturing	Process Manufacturing	Distribution	Utilities	Business Services
New system development	New system development	Day-to-day support of local area networks	Wide area connectivity	Support of branch locations	New system development	Day-to-day support of the desktop environment
Support of branch locations	Application selection and integration		Day-to-day support of local area networks	Day-to-day support of local area networks	Day-to-day support of local area networks	Day-to-day support of local area networks
Maintenance of well-established applications	Support of distributed environment		Maintenance of well-established applications	Wide area connectivity	Application selection and integration	Wide area connectivity
Application selection and integration				New system development and application maintenance	Day-to-day operation of datacentres	Support of branch locationst

Source: INPUT

Exhibit F-7

Least Necessity to Perform In-house

Banking & Finance	Insurance	Discrete manufacturing	Process Manufacturing	Distribution	Utilities	Business Services
New system development	Day-to-day support of the desktop environment	New system development	Day-to-day support of the desktop environment	Support for wide area connectivity	Day-to-day support of the desktop environment	Day-to-day support of the desktop environment and LANs
Application selection and integration	Day-to-day operation of datacentres	Day-to-day support of the desktop environment	Support for wide area connectivity	Day-to-day support of the desktop environment	Maintenance of well-established applications	Operation of datacentres
New system development	Maintenance of well-established applications	Support for wide area connectivity	New system development	New system development	New system development	Maintenance of well-established applications
Support for wide area connectivity and the desktop environment	New system development	Application selection and integration	Day-to-day support of local area networks	Application selection and integration	Support of branch locations	Support for wide area connectivity

Source: INPUT

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