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CUSTOMER SERVICE PRICING IN EUROPE - 1987

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Customer Service Pricing In Europe - 1987

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Abstract

Customer Service Pricing in Europe - 1987 examines the response from the INPUT 1987 user survey on the movement of maintenance prices for mainframes and minicomputers during 1986 and the beginning of 1987, and customer expectations for the coming year in each of the European countries covered.

The later figures are extended with the overall trends from a base line of 1985 together with the relative satisfaction and importance ratings attached to maintenance costs for both hardware and software.

In addition, the changing scene of technology and marketplace is examined along with the key players therein, and lessons are drawn as to pricing strategy in this changing and competitive situation.

Comments from major suppliers of maintenance services are included, particularly in respect to the method of achieving premium pricing.

The report consists of 63 pages, including 44 exhibits.

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Introduction

I

Introduction

A

Objectives

Customer Service Pricing is produced by INPUT as part of the 1987 Customer Service Programme for Europe.

The definition of pricing issues which can affect a company's trading position in a competitive market is vital to continued good business health.

This report identifies the key issues from both the customer and vendor points of view and analyses the trends based on customer and vendor surveys.

From this trend analysis, recommendations as to likely successful strategies and tactics are discussed and put into an overall market context.

B

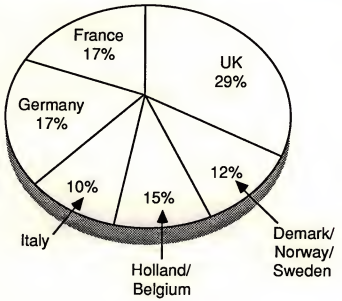
Methodology

The data for this report is extracted from the INPUT customer service programme which, during 1987, included nearly 1300 questionnaire-based interviews with customers and extensive face-to-face discussions with manufacturers, vendors, and TPM's.

The views expressed were collated and correlated to form a coherent base set of data from which to prepare this report. Exhibit I-1 shows the distribution of the respondents by country.

EXHIBIT I-1

SAMPLE DISTRIBUTION OF 1294 RESPONDENTS BY COUNTRY



For a more detailed breakdown of the customer response to market requirements, reference should be made to the INPUT report *Customer Service - User Requirements 1987*.

For more detailed breakdowns of responses by company and country, reference should be made to the 1987 edition of INPUT's *Customer Service in Europe*.

C

Report Structure

The remaining chapters of this report are organized as follows:

- Chapter II
  is an executive overview providing a summary of the entire report.

- Chapter III
  examines the changing technology and market scene and seeks to give a forecast of its effect on the service operation.

- Chapter IV
  looks at the interaction between the companies in the service industry and the market place itself and gives some leads on possible future strategies.

- Chapter V
  illustrates some of the possibilities in defined market and customer areas.

- Chapter VI
  gives the results of an analysis of the INPUT survey in 1987 and how these might affect the overall company strategy.

- Chapter VII
  examines the role that could be played by using a choice of 'balanced' services, and also the role of the more pertinent classic market strategies in today's environment.

- Chapter VIII
  evaluates the key opportunities open in the service maintenance market.

D

Acknowledgements

INPUT expresses its thanks to all those companies and individuals who participated in the research undertaken for the production of this report.

Enquiries and comments regarding this report, any related topics, and the provision of further copies are welcomed by INPUT.

Executive Overview

II

Executive Overview

A

Technology Changes

As the device technology improves, the same physical size of hardware has a greater processing power and a faster response; this facility has encouraged the software houses, and hence the users, to put more and more of their critical applications onto a computer.

State-of-the-art diagnostics have also allowed the incorporation of error logging software and, with some major companies, predictive or expert systems so that potential breaks are identified before they occur.

In addition, fault databases are being created to give on-line support to site engineers.

With the rapid growth in cheap micros, there will be a corresponding growth in networking into the mainframe or mini and in the networking of distributed systems.

EXHIBIT II-1

TECHNOLOGY CHANGES

- More bytes per buck - Users are upgrading their power
- More diagnostics - Predictives on the way for 100% uptime
- Fault databases - Fix times will be reduced
- Ported PCs will lead to more applications pressures
- Networking will be a key growth area - large and small

B

Market Changes

The rapid growth of applications, and also the unsatisfied demand evidenced by some surveys, are outstripping the growth of the major European economies as a whole.

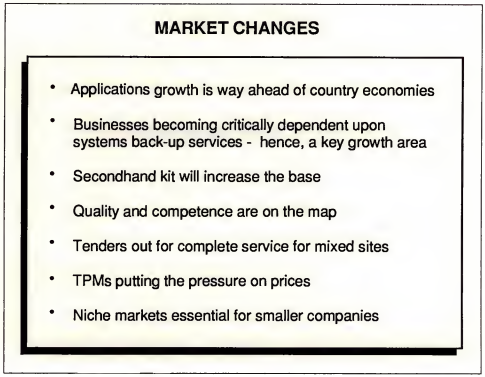
Financial and manufacturing industries are becoming critically dependant upon having '100% availability' in order to stay in business.

There are market entrants giving back-up services to maintain this availability, while some major players are deliberately pulling out of this area as non-economic.

Quality registration to BS5750 or ISO 9000 is being requested by government, and this is doing a lot to improve the organization, quality, and reliability of the participating firms.

Government is also putting some mixed sites out to competitive tender for maintenance, and this will necessarily affect the type, quality, and price of service contracts.

EXHIBIT II-2



Meanwhile, TPMs are amalgamating and continuing to to keep the pressure on prices, and smaller companies are having to find niche markets just to survive in the high technology, high-cost environment.

It is also expected that IBM will enter the second-hand sale lease and maintenance market which Atlantic has successfully pioneered.

C

The Players

There is little change in the players in the servicing marketplace, but there is renewed jockeying for position.

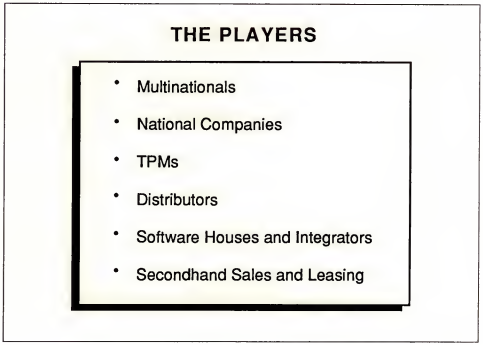
Distributors, in general, are being encouraged to feed back the maintenance contracts to the parent producer, and the TPMs are amalgamating to give the size necessary for commercial resilience.

Companies providing back-up services are finding niche markets in areas from which some major players are withdrawing.

Software houses are providing the add-on goodies and personal support at which the big players are not so good, but from which the latter reap the benefits of increased and subsequently tied sales.

With the increased profit potential of the repurchase, sale or lease, and subsequent maintenance of second-hand but good kit, there will be increased competition in this market between the manufacturers and niche firms.

EXHIBIT II-3



D

The Ball Game

In general, the customers believe that the engineer skills level does not match its required importance.

They also feel that spares are not available quickly enough when needed to mend a break.

In addition, there is a level of dissatisfaction with the standard of call-up and back-up support (escalation).

Hence, in the most critical area of customer support, i.e., when the machine is down, the service vendor is not meeting expectations.

It is essential that encounters between engineers and customers are always positive, as the next sale may depend upon the customer's perceptions of service.

All factors affecting system availability must be treated as critical, whether they are or not, as the customer will be evaluating the next expected response.

EXHIBIT II-4

THE BALL GAME

- Engineers' skill is seen as a key undersatisfied demand
- Spares availability is seen as lacking
- Call handling and back-up support below requirements
- All factors seen as affecting system availability

E

The Customer

At least two factors have had a major impact on customer knowledge and expertise:

- The fall from grace of the DP department and manager
- The proliferation of micros

Hence, today's user is generally more educated in computer affairs and has a clearer, and sometimes firmer, view of what is necessary for his organization.

But customer perceptions do not always accord with reality, nor, more critically, with what the supplier can provide for an economic price.

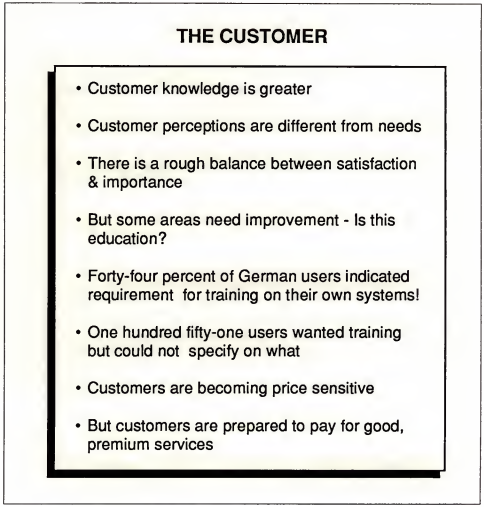
The user responses show that there is a rough balance between the importance attached to a service and in the supplier provision of that service, but the satisfaction is almost invariably less than the importance.

This could be an education issue; the vendor might need to be doing more customer education into what is possible and the related costs.

It is a rather astonishing figure that 44% of German users feel that they would like more training on their existing kit - an unrealized opportunity!

However, to balance the scale, there were also 15% of German respondents who wanted training but couldn't specify in what.

EXHIBIT II-5



The general observation is that customers are becoming price sensitive due either to the activities of the TPMs or the rising ratio of service to hardware costs, but all the evidence suggests that users are willing to pay for premium services tailored to their requirements, and a good percentage expect, and pay, annual increases.

F

The Sectors

While it is not proposed that the sample of users surveyed for the 1987 report is representative of the exact split of the business sectors obtaining in Europe at this time, it is indicative.

Manufacturing is still a key area for computerization, and several of the suppliers consulted indicated that they would treat it as strategically important.

In addition, CIM and project management are being treated as key growth areas by some of the bigger suppliers.

Distribution and service was the next biggest sector among the respondents, and this includes critical systems such as EFTPOS, warehousing, and distribution: this is one of the sectors where there is head-on competition as it is seen as a very visible market leader area.

The finance sector is also seen as a very 'sexy' business to be in, but, as can be seen from the fall-out from 'big-bang', failure is also highly visible.

The public sector, local government, and utilities are still major markets, but these projects need very careful specification in order to meet the time and cost criteria without falling into other bad publicity.

Building and construction historically have been the sector where new entrants could make a living but, as with other large industries, it is the larger contractors who usually cream off the biggest contracts. However, there is a deal of activity in bringing the small companies into the bottom end of the processing world.

In general, all but the major companies are looking for unchallenged specializations or secure niches–the latter very definitely for the smaller companies.

It is the view of INPUT that:

- Bigger companies will compete across all sectors
- Medium companies will seek specializations
- Small companies will seek sector niches

INPUT also believes that companies not conforming to the above will, in time, disappear or be taken over.

EXHIBIT II-6

THE SECTORS

	USER SAMPLE (Percent)
• Manufacturing still a key area	42
• CIM and Project Management key growth areas	33
• Distribution, retail, and service also key growth areas	10
• Banking, finance, and insurance growing rapidly	11
• Public sectors and utilities quite strong	4

- Construction and building growing at small end
- Some major players going for all major sectors
- Others going for differentiated response or for high-level specialization
- Smaller companies looking for niches

G

Pricing for Hardware Maintenance

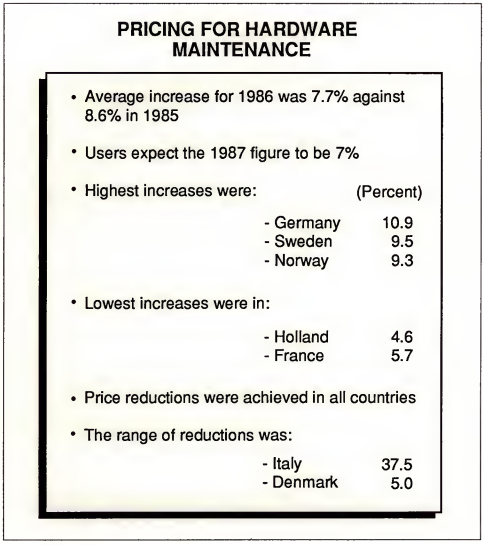
The average European price increase fell from 8.6% in 1985 to 7.7% in 1986, and the users expect a similar increase for 1987.

There was a large variation in increases across Europe, from 10.9% down to 5.7%, which indicates that suppliers are taking advantage of market differences.

There were also some massive reductions, up to 37% in one user in Italy, but reductions as a whole only accounted for a few percent of the total.

These price increases should be viewed against the levels of internal inflation, which are given in Exhibit VIII-1, and which amount to some 0.5% in Germany and 3.5% in France.

EXHIBIT II-7



The net increases are thus reduced to 2.5% in France and 9.1% in Germany; the relative real value increase in those two countries is therefore widened when inflation is taken into account.

It can be clearly seen from Exhibit II-8 that customers' expectations are carried over from past history, hence companies selling maintenance must beware of making the history equal to low prices or there will be a greater resistance to pricing at economic levels in future years.

EXHIBIT II-8

ACTUAL & EXPECTED CHANGES IN HARDWARE SERVICE PRICING: (Customers In Each Category)
(Percent)

	1986	1987	1988
INCREASE	44	45	40
NO CHANGE	32	31	29
DECREASE	5	5	4

H

Pricing for Software Maintenance

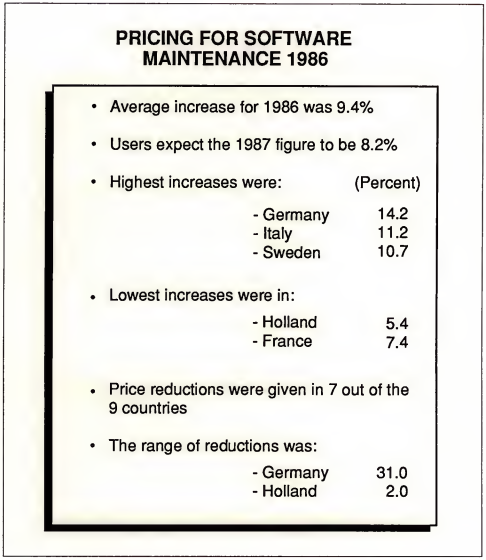
As can be seen from Exhibit II-9, the pattern for software maintenance increases has the same form as that for hardware, albeit with a slight change in countries involved.

However, the same comment as to inflation applies and with the same two countries: It is extremely important that the effects of the likely inflation rate in each country are taken into account when preparing the market analysis and strategic service plan.

Again, the range of decreases only affected relatively few users and generally were lower than with hardware; the levels were slightly less even though the rate of increases on software maintenance were quite a bit higher.

As there is still considerable unsupported demand for software and applications cover, and the apparent returns are quite high, this is an area of potential profitable expansion.

EXHIBIT II-9



With reference to Exhibit II-10 it can be seen that, with software maintenance, the customers expecting no change are in the majority, as opposed to those who expected an 'increase' with hardware.

EXHIBIT II-10

ACTUAL & EXPECTED CHANGES IN SOFTWARE SERVICE PRICING: (Customers In Each Category)
(Percent)

	1986	1987	1988
NO CHANGE	42	36	35
INCREASE	30	34	24
DECREASE	2	3	3

In Exhibit II-11 it can be seen that only some 20% of users feel that hardware maintenance prices are too high, and this falls to 10% for software maintenance. There would, therefore, appear to be an opportunity for the upward revision of prices to bring in at least another 10% in each category.

EXHIBIT II-11

CUSTOMER COMMENT ON HARDWARE & SOFTWARE PRICING
(Percent)

	HARDWARE	SOFTWARE
TOO EXPENSIVE	20	10
GOOD VALUE/FAIR	2	3
NO COMMENT	34	30
SATISFACTION/ IMPORTANCE	0.82	0.89

However, care must be taken as it can also be seen that there are only some 2% of customers who feel that the prices currently charged are 'fair'.

It is suggested that it would be pertinent to pricing levels to keep the ratio of fair value:too expensive under review as a measure of price-rise acceptability.

I Pricing Strategy

Exhibit II-12 lists some of the prime points for consideration in preparing a pricing strategy for 1987/88.

EXHIBIT II-12

PRICING STRATEGY

- Major players must provide balanced services
- With high MTBF kit, some users will demand T & M
- Criticallity is key to premium
- 100% availability does not mean 100% over 24 hours
- Hence, differential pricing for different time slots
- Cost-plus will be open to TPM competition
- Critical mass allows loss-leaders - for a time
- Penetration pricing depends on critical mass and/or market leader expertise
- Prices should not be geared to customer perceptions without 'educating' the customer
- Discounting should not be used if margins reduced
- Only 17% of users prefer bundling

To a large extent, to protect their reputation and 'image' in the marketplace, the large suppliers must provide an 'across the board' service or, at the very least, be able to direct their customers to a viable alternative (as with disaster recovery).

With the increase in equipment reliability, the tendency will be for non-critical application users to demand Time and Material contracts or an annual rebate for service not taken up.

As well as a 'basic' service at low cost, most big players will be providing a range of premium services, sometimes tailored to the application, in order to maintain their profit margins.

But it is the critical applications which will command the highest premiums, and the suppliers will be looking at how to build in criticality.

In some cases, it will pay to have different premiums for different time slots in order to maintain a differential 24-hour cover. There could also be an effective 24-hour system availability without having a 24-hour call-out contract.

Cost-plus pricing by the larger companies will always be open to TPM competition due to the larger overhead of the larger company, and it is suggested that this method
be used only:

- In oligopoly or monopoly situations
- In niche markets
- In technical excellence sectors

The larger companies, or at least the ones in profit, will be able to use their critical mass, or size, to fund loss leaders for a time in order to force their competitors to compete or withdraw.

One answer to this situation would be the creation of technical superiority in the relevant sector.

Any potential new entrant will also face the same type of barrier to entry, and penetration pricing may not be a correct strategy.

Prices can be geared to customer perceptions, but it might be more financially politic to use the market to drive the customer by spending some resources in 'customer education'.

Discounts should be, and apparently are, only used as a matter of policy where:

- A critical customer is involved
- There is justified volume
- It is a market entry situation
- Sixty-four percent of respondents preferred individual service pricing, while another 19% had no preference. The figures would show a 36% opportunity to sell bundled services against the 64% with different views; a careful choice of market sectors might give an extra profit potential.

J Pricing Trends

An examination of the figures for inflation for the different European countries demonstrates that while the situation is vastly improved over that of some five years ago, inflation can make a big impact on the real value of margins.

Taking a composite of previous INPUT surveys, and using 1980 as a base line with an index of 100, the real price charged, except for Germany, is falling year by year, and the customer expects this to continue.

EXHIBIT II-13

HW SERVICE PRICING TRENDS
(Real Returns)

SERVICE PRICING INDEX*	1986	1987	1988
ITALY	87	85	84
FRANCE	89	87	84
UK	89	89	88
GERMANY	90	93	95

* 1980 = 100

EXHIBIT II-14

SW SUPPORT PRICING TRENDS
(Real Returns)

SERVICE PRICING INDEX*	1986	1987	1988
ITALY	99	98	96
FRANCE	98	96	93
UK	99	98	98
GERMANY	101	104	107

* 1985 = 100

Exhibit II-13, and VIII-1 at the end of the report, show the extent of the problem.

In order for service suppliers to stay in profit, the efficiency of the operation has to increase at a greater pace than that of inflation.

K

Key Opportunities

As the take-up of computers into the business life of Europe continues, more and more businesses will be critically dependent upon data processing for their continued existence, and critical situations command premium rates.

Tailored contracts can give good customer satisfaction and good returns.

Less than five percent of customers expect a price reduction in 1987, and hence there is good scope for a planned and acceptable increase.

The INPUT survey clearly indicates that the respondents have unsatisfied needs for services, and areas where there is already supply-side expertise.

Remunerative service contracts can be secured for the maintenance of secondhand machines, which could be sold or leased at nominal values, but carry profitable maintenance contracts.

EXHIBIT II-15

KEY OPPORTUNITIES

- Critical systems command premium services
- Tailored contracts can give good returns
- Less than 5% of customers expect a price reduction in 1987
- Customer demand for services not yet fully exploited
- Profitable contracts over secondhand equipment

The Changing Market

III

The Changing Market

A

Technology

Technology is having a major effect on the pricing of customer service by virtue of both the equipment design and also the provision of quicker and more effective service.

Exhibit III-1 lists the areas in which technology is having a major impact on the hardware and service market, most of these being interdependent.

EXHIBIT III-1

TECHNOLOGY CHANGES

- More bytes per buck
- Faster transactions
- More remote diagnostics
- More hand-held diagnostics
- Better built-in diagnostics
- Predictive fault diagnosis systems
- Accessible fault databases
- Easier customer self-help
- More PCs = more computer awareness
- More ported PCs
- More power in smaller machines
- More networking and communications

In general, more computing power fits into a smaller box and the price per byte is lower. In addition, the information is processed more speedily and, with the correct use of software, more efficiently.

At the same time that the customer is becoming more computer educated, the software is becoming more user friendly, hence there is far more use of computing facilities in business as a whole.

One of the results of higher power is the increasing use of distributed computing, i.e., smaller boxes in more places, networked in real time or batch.

With the growth of the small micro market, more and more low-level applications, such as spreadsheets in accounts and planning, have been put onto PCs in the workplace, in many cases not ported into the mainframe or mini. Major facility vendors see this as a significant potential growth area.

The growth of networking among PCs and mainframes/minis will mean a buoyant market for communications and networking applications, which in itself will lead to business criticality and a greater demand for a rapid response and guaranteed service.

In this context, there will be a growing emphasis on diagnostics, whether remote hand-held or built-in, in order to give maintenance cost savings as well as greater systems availability.

To back up the diagnostics the larger firms are now developing two types of fault databases to facilitate repair:

- The fault database of recorded history with what symptoms determine what fault.
- The predictive (expert) system which runs on-line to monitor pre-breakdown error messages.

The latter type of system will also determine if any fault is a line problem as distinct from a hardware or software problem.

It should, however, be said that not all major players feel that remote and predictive diagnosis tools are cost or effectiveness justified–but they need to be seen to be in the 'ball game.'

As a mid-level back-up, built-in or line diagnostics are being used to flag up error codes to the customer who can then be guided, on the phone, to the correct repair or remedy solution.

Where appropriate, in the above context, local or remote software 'patches' may be applied.

B

Market

Pricing is also being significantly affected by the increasing competition in the market-place occasioned by both independent and vendor TPM activity and by the rapid growth of secondhand hardware sales via leasing companies (and perhaps also by IBM itself) and the subsequent maintenance of that equipment.

Exhibit III-2 lists the major areas in which there is change in the marketplace, and it is apparent that the service market is changing as rapidly as the supporting technology, albeit at a later stage.

EXHIBIT III-2

MARKET CHANGES

- The applications market is growing ahead of economies
- Some businesses are critically dependent on computers
- Hardware has lost its mystique with customers
- Software is becoming exposed to critical appraisal
- Trade-offs are taking place with service support
- Distributed computing gives resilience
- Disaster recovery and back-up systems are key areas
- Quality and competence are on the map
- Natural growth is extending the base
- The leasing of secondhand kit is increasing the base
- TPMs are causing cost efficiencies
- Supplier shake-out shakes customer confidence
- Finance, retail, and CIM growing fast
- Niche markets essential for smaller companies

The use of information technology to generate quicker business profits and more consistent business growth is growing very rapidly indeed and, while this opportunity and situation continues, so will the requirement for good service support.

The growth is so rapid that it is clearly outperforming individual country economies and it is an opportunity for service sales to make good margins–if the correct service is chosen and properly priced and marketed.

While it is a common statement that the ratio of service cost to hardware and software system price is falling due to improved technology, some companies, such as ICL, are **increasing** their relative revenue by the strategic pricing of premium services (this aspect is discussed later in the report).

As mentioned above, businesses which are integrating the computing and communication facilities with their business operation, rather than running them as a batch adjunct, are becoming, and have become, critically dependent upon a very quick response time for service maintenance.

There is, therefore, a rapidly growing requirement for guaranteed availability and a quick and guaranteed repair response. This type of 'insurance' can be sold at a high premium but may, with the growing equipment reliability and sophisticated repair techniques, cost very little extra to provide.

With the greater awareness of software and computer facilities among the workforce as a whole, the dominance of the computer central facility has given way to independent departmental control of separate facilities or interdepartmental specification of the total facility.

The user has, therefore, lost his fear of the unknown and challenges the gobbledegook of the MIS manager but, at the same time, has exposed himself to inefficient practices which gives a real market opportunity to the computer and application salesman.

On the software side, the user has more knowledge via spreadsheets and financial packages, so that he is able to formulate very clearly how friendly he wants the VDU to appear and what information he needs to be able to manipulate.

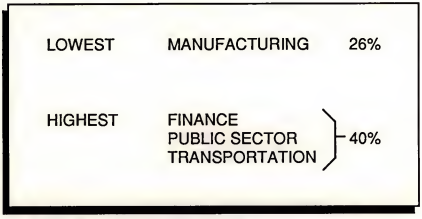
As the applications packages tend to be relatively standard (in covering the same areas), one of the chief deciding elements to go for a particular supplier is the complete hardware, software, and service package, of which the latter is very important to the potential customer.

However, with the smaller installations where the equipment is reliable and the application noncritical, there is a tendency to move to TPM or Time & Material contracts to save maintenance cost.

The level of cost saving that it has been possible for users to achieve with TPMs is shown in Exhibit III-3, but it should also be noted that only 46% of the sample gave price as the determining factor.

EXHIBIT III-3

MAINTENANCE COST SAVINGS BY USING TPMS



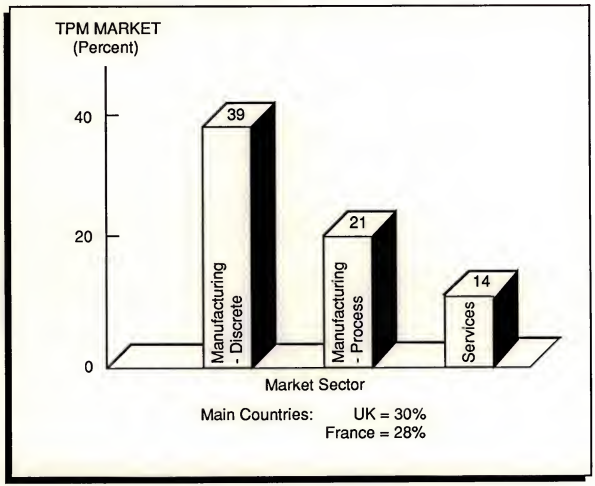
NB:1. Only 46% of respondents gave price as a criteria for choosing TPM

2. Sample Size 71 (TPMs)

Exhibit III-4 shows the main areas of TPM activity; in addition, it should be noted that the 39% of activity in the manufacturing area was directed at 25% of the surveyed market.

EXHIBIT III-4

MAIN AREAS OF TPM ACTIVITY



Hence, there is a trade-off between the relative cost, to the user, of down-time as against the higher cost and slower response of time and materials calls.

With the higher instance of ported PCs and distributed computing, there is also a higher system resilience, such that the user is able to hold back-up files in operational mode in diverse locations; the feeling of 'comfort' so given mitigates against the selling of premium services.

But, for the applications where continued operation needs to be guaranteed, there is an increasing demand for mobile back-up systems and for file recovery expertise. These systems are provided by the initial vendors and also by market niche-dedicated companies.

The increasing emphasis on reliability and quality of both product and service has led to an increasing pace of registration of service maintenance and service centers covered by ISO9000.

Government departments already specify conformance to quality standards in their contract documents, and it will soon be a significant disadvantage not to have the registration.

It should be borne in mind that registration can well take 12 months to obtain and entails a complete review of both operating practices and procedures.

Linked with the above requirement, there is also a clear customer perception that engineers, in general, are not well enough trained and that engineers should be conversant with both hardware and software problem rectification. This is not the view of some major computer suppliers who are, as a matter of strategy, keeping the two disciplines separate, although there may be a 'superengineer' at base.

Over the last few years there have been some notable companies with severe financial problems, which have caused major buyers to opt for the 'safe' company, i.e., the company that will be around for the life of the product. Hence, it is essential for players in this market to have a blue chip reputation, or they will lose market share.

The greatest pace of growth is in the finance and retail sectors with manufacturing following with emphasis on CIM and assorted automation such as warehousing and distribution. It is the belief of INPUT that these trends will continue, varied only by the state of the relative European economies.

With the greater funding available to the big players, the pressure is on the smaller firms to aim for a 'fringe' market sector and a niche market; such an instance is computer disaster recovery.

The effect on the third-party maintenance companies is to squeeze out the small concern and cause amalgamations which can take advantage of size and geographical spread to compete with the bigger manufacturers and vendors.

However, there are very real market opportunities still existing, and it is noted that some government departments are putting complete sites of mixed equipment out to tender for the service maintenance contract.

EXHIBIT III-5

IN-HOUSE MAINTENANCE
(Percentage of respondents performing)

	HW	SW
Manufacturing	1	17
Services*	4	29
Distribution	1	24
Overall	1	20

*Business Services

With reference to Exhibit III-5 it can also be seen that there is a large section of software maintenance to be tapped, in which context the government is also reported to be shutting down some in-house facilities and putting the work out.

The Service Arena

IV

The Service Arena

A

The Players

The hardware market, and, to some extent, the service support market, is dominated by the multinationals, which are able to allocate and switch resources in order to optimize their opportunities.

These companies are also able to make life difficult for their smaller competitors by:

- Occasional loss-leader price competition
- Undeclared discounting
- Upgrade tactics
- Low priority on spares supply
- Lack of access to fault database

The mid-range hardware supplier, who does not have the resources to allocate to an 'across the board approach', is tending to concentrate on technical excellence and and niche expertise; this also gives them a market edge for selling the maintenance.

The smaller end of the market tends to be PC-centered, although it should be noted that Olivetti, with a high revenue in service and software, is dominant in PCs.

It should also be noted that, with the increase of PC sales and customer awareness, the porting of micros into minis and mainframes is becoming a key growth area and is attracting the big players.

In this environment, the TPM is being squeezed to produce better facilities or response at a lower price, and the maintenance technology cost may well mean that amalgamations will be key to survival. INPUT has covered the area of TPM activity in its 1987 report *TPM in Europe - 1986 to 1992*.

It is also becoming obvious both in equipment markets and the service sector that there is a critical mass, or size, below which it is virtually impossible to stay in existence due to the expense of the rapidly changing technology and to the necessity of having financial resource sufficient to see the business over any short-term market problems (severe price competition, for instance).

The individual software houses or niche market software suppliers, sometimes doubling as hardware agents for the big companies, will come under increasing pressure as the main hardware manufacturers expand their involvement in software applications in order to maintain overall revenue (and profit) levels.

As in the past, their continued existence may be dependent on being able to give the customer that personal service which the bigger companies find hard to organize and which will be centered on applications software at the front end of business development, interfacing with the standard packages.

An additional service which these suppliers are more ready and able to provide is the selling of the source code for their in-house packages.

Properly managed, this type of strategy can lead to extra future business as when the source code is modified by the user he is unable to take any of the standard upgrades, and these can then be sold at a premium.

B

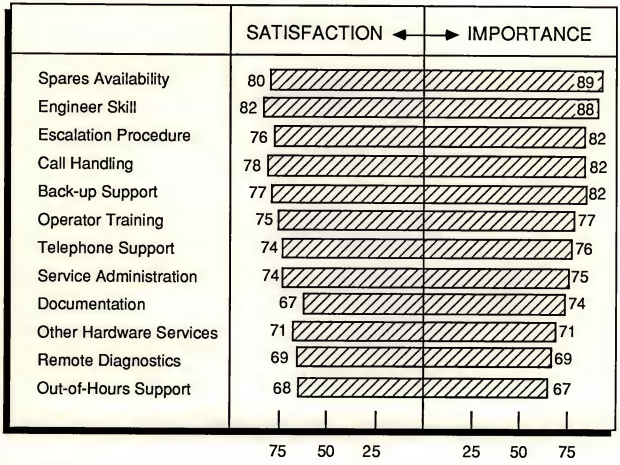
The Ball Game

Very few of the options, and very few of the rules, are changing in the marketing and sales of service maintenance, but what is changing more rapidly, and could change more rapidly still, is the customer perception of what he needs and what it should cost.

Exhibit IV-1 shows the services that the customers are most interested in in 1987 and the levels of satisfaction and importance attached to these by the user.

EXHIBIT IV-1

DEGREE OF SATISFACTION AND IMPORTANCE ATTACHED TO SPECIFIED HARDWARE SERVICES BY USER



Ratings out of 100

To a great extent, too little attention is given to the education of the customer into what he 'ought' to be expecting, and conversely, more of a service is often supplied than he expects.

Exhibit IV-2 gives a list of the more frequently mentioned aspects of education and training from the 1987 survey. An interesting facet is that 151 of the respondents indicating a need for training did not know what they wanted training in - a remarkable opportunity for a keen sales force!

EXHIBIT IV-2

USER REQUIREMENTS FOR TRAINING
(Wanting Specific Service)
(Percent)

	Sample Size	SOI*	Software	On Their Computer	General	Programming
UK	377	6.5	17	4	7	6
France	226	7.2	14	15	26	12
Italy	129	7.9	23	4	16	18
Norway	46	7.2	17	7	4	22
Denmark	23	7.5	13	13	9	30
Sweden	74	7.1	19	-	12	34
Holland	98	7.5	24	16	16	17
Belgium	94	7.9	24	16	17	6
Germany	223	7.1	22	44	9	12
Overall	1,290	7.1	19	14	13	13

* SOI = Strength of Interest (out of 10)

The highest scoring four responses are shown but, on an individual country basis, other training needs can score higher, and fuller details are given in the INPUT survey *Customer Service - User Requirements 1987*.

Although many engineers are put through their company customer relations course or 'charm' school, it is evident that many customers regard the service engineer as lacking in ability, and the comment shows that he is not 'selling' his company in an effective way.

Besides which, the majority of the big players are training and keeping the 'super' systems engineer at base and sending out separate hardware and software (lower level) engineers to the customer. This means the customer is seeing:

- Two points of contact
- Two points of view?
- Two versions of what went wrong?

Exhibit IV-3 lists the areas seen as offering pricing strategy opportunities.

EXHIBIT IV-3

TOP SERVICE OPPORTUNITIES

- Bundled or Unbundled Maintenance
- Longer or Shorter Warranty
- Customer Participation or Self-Help
- Remote Diagnostics
- Built-In Diagnostics
- Remote Patches
- Upgrades
- System Productivity
- Staff Productivity
- Disaster Recovery & Machine Back-Up
- Union Switch-Off Recovery
- Out-Of-Hours Prime Shift
- 24-Hour Cover
- Guaranteed System Up-Time
- Charges Graded to Business Application
- Discounts Against Perquisites
- Training in System Use and Maintenance
- Consultancy
- Education
- New Applications
- Industry Trend Service

C

What the Ball BoysThink

The highest importance scores are given to the items having an immediate impact on failure resolution, i.e., availability and engineers skills. It is a measure of the success of the major players that these two balls have not been dropped as they also get the highest customer satisfaction ratings.

However, it should also be noted that these two items, along with escalation procedures, carry the highest discrepancy between importance and satisfaction. There is still work to be done, be it on improvement of spares availability and skills or in the education of the customer on what to expect or how good the performance really **has** been.

For existing software services, Exhibit IV-4 shows the degree of interest expressed by the users in existing services they already have; the ratio of interest to possession is taken as a measure of attached importance.

EXHIBIT IV-4

DEGREE OF INTEREST IN EXISTING SERVICES
(Percent)

	RESPONDENTS HAVING	DEGREE OF INTEREST	RATIO
Training	100	71	0.71
Media Supplies	48	51	1.06
Environmental Planning	50	54	1.08
Configuration Planning	54	59	1.09
Consultancy	57	63	1.11
Capacity Planning	52	60	1.15
Software Evaluation	40	60	1.50
Problems Management	33	52	1.57
Disaster Recovery	41	69	1.68
Network Planning	33	58	1.76
Network Management	32	57	1.78
Facilities Management	20	40	2.00

There is clearly market opportunity if one can carry over the degree of interest to those potential customers who do not yet have these facilities; facilities management, network planning, and network management are clear front runners.

In this context, several of the top players are putting significant resource into these services.

The Customer

V

The Customer

A

Overall Comment

Exhibit V-1 shows the major activities of the INPUT survey respondents in 1987 (reference should also be made to Exhibit I-1 at the beginning of this report). Exhibit V-2 lists respondents' main activities by country.

EXHIBIT V-1

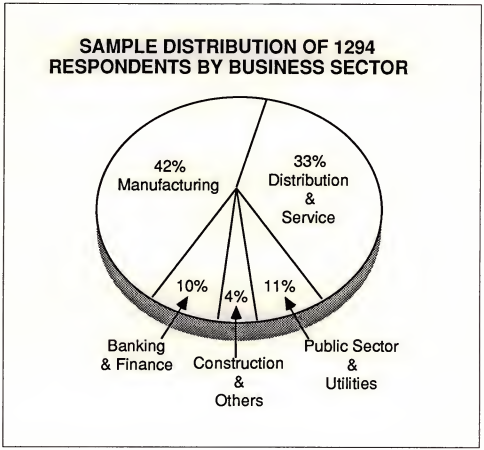
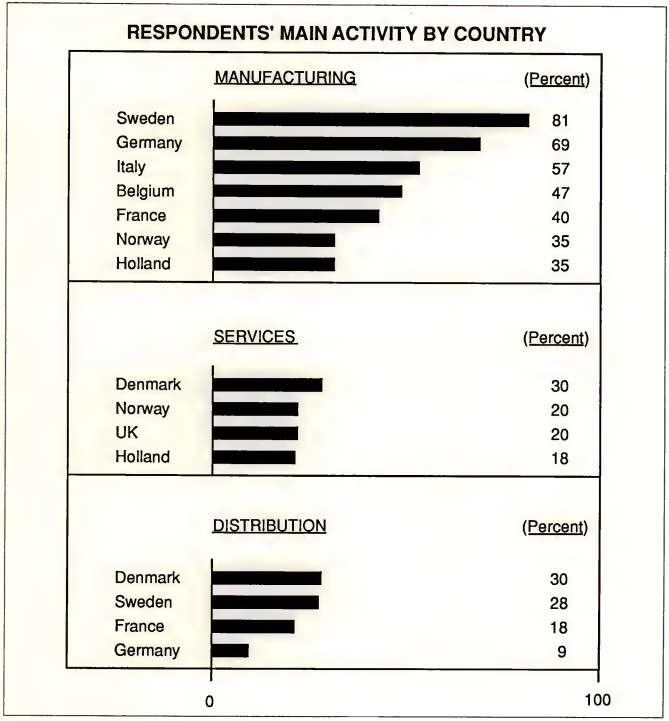


EXHIBIT V-2



From a variety of sources, including the figures for liquidations of firms within one year of some catastrophe which involved the loss of their computer or database, it is evident that the computer is a vital and critical part of a company keeping competitive and in business.

While bank customers may be irate if a cash dispenser will not give out money for two or more days, the same downtime in an integrated factory could mean a severe loss in revenue.

Likewise the market makers on the stock exchange could lose a potential for millions of pounds of profit (or loss) over the same period.

The business managers themselves are beginning to realize the criticality of this fact, and making tactical and strategic plans to mitigate the effects.

Part of this strategy will be, in future, to ensure they place the hardware and software (applications) order with a reputable company that will be on the scene for the next five to ten years and that they will supply good support and upgrades to keep up with the business environment.

And, most likely, the service contract will be with this supplier. The order will not be placed unless there is the reputation, credibility, and ability to supply and maintain a complete package.

Another aspect is that it may not be the correct thing to do, or the correct timing, to sell a consultancy package on 'how to work with extended down-time' at the same time that one is selling an extensive and complicated hardware and software system, but there is surely a niche for a company to sell such a service, perhaps linked to disaster recovery.

B

Distribution and Commerce

The strong growth areas are in retail, warehousing plus distribution, and travel (holiday/airline booking systems, etc.) and while they are in working hours, these systems are critical.

It follows that the customer can be sold a premium service, but it also follows that the contracted level of service MUST be provided, or there will be very loud and public customer complaints.

One way to provide such a service at minimum cost is to ensure that the delivered product is bench-marked and reliable and, in this context, the ability to conform to BS5750 or ISO9000 will have two major advantages:

- The product itself will be better
- The client will believe that the product is better

C

Finance

After the strong growth in cash dispensers there is likely to be a trend towards the cashless society, but main emphasis is still liable to be in the development of the stock and money market areas, with particular emphasis on quick number crunching and system resilience.

Clients with this type of system are going to be extremely concerned that they have a guaranteed system availability and will be very open to suggestions of a premium service.

D

Manufacturing

Many factories are still operating in the semi batch mode and have not realized the full benefits of mechanization.

Of those that run MRP (material requirements planning) systems, only a small number have achieved Class A operational status, and there is still great skepticism over the benefits.

Primarily, this is a people problem which could be solved by the manufacturers via consultancy and education services.

Most of the above systems run in real-time during the day and batch update the files overnight and are noncritical applications for which it is not easy to sell a premium service.

However, with an integrated factory incorporating automatic warehousing and CIM, the application becomes critical and liable again to deployment of the premium principle.

Moreover, if the vendors were to improve the sales back-up to include integration experts, then it might be possible to encourage the integration of accounts so that there is automatic updating through the ledgers with any movement of material or product.

In such ways the system application could be made critical and the customer made more willing to accept a premium charge for service maintenance.

VI

Price Trends

VI

Price Trends

A

Hardware Maintenance Pricing

Exhibits VI-1 and VI-2 respectively show the expected increases and reductions in prices; figures for 1985 and 1986 are actuals (1985 rounded).

EXHIBIT VI-1

HARDWARE MAINTENANCE
ACTUAL AND EXPECTED PRICE INCREASES
1985 - 1988
(Percent)

	1985	1986	1987	1988
UK	9.0	7.7	6.6	6.5
France	7.0	5.7	6.1	6.7
Italy	12.0	8.0	6.5	6.6
Norway	-	9.3	9.6	9.5
Denmark	-	7.8	7.7	7.7
Sweden	9.0	9.5	7.1	7.3
Holland	8.0	4.6	4.0	4.2
Belgium	-	7.1	7.1	7.2
Germany	6.0	10.9	9.8	9.9
Average	8.6	7.7	7.0	7.2

EXHIBIT VI-2

HARDWARE MAINTENANCE
ACTUAL AND EXPECTED PRICE REDUCTIONS
1986 - 1988
(Percent)

	1986	1987	1988
UK	16.0	16.6	7.3
France	14.0	25.0	23.5
Italy	37.5	9.2	15.4
Norway	10.0	7.0	9.0
Denmark	5.0	20.0	20.0
Sweden	20.0	7.5	7.5
Holland	9.7	13.2	15.0
Belgium	16.9	10.2	10.2
Germany	22.4	17.2	17.9
Average	17.7	15.7	14.9

Exhibit VI-3 shows the percentage of respondents in each category, i.e., increase, decrease, and no change.

EXHIBIT VI-3

PERCENTAGE OF CUSTOMERS IN EACH CATEGORY FOR HARDWARE

	1986			1987			1988		
	I	D	NC	I	D	NC	I	D	NC
UK	49	5	25	54	2	22	53	2	22
France	43	6	32	41	6	34	18	4	30
Italy	47	2	37	45	5	34	46	4	31
Norway	67	4	4	59	7	13	61	4	11
Denmark	48	4	35	57	9	22	52	9	17
Sweden	45	1	16	41	3	23	42	3	19
Holland	47	3	24	42	6	24	42	5	26
Belgium	35	9	35	27	11	39	23	12	32
Germany	32	9	51	40	4	48	40	4	48
Average	44	5	32	45	5	31	40	4	29

I = Increase

D = Decrease

NC = No Change

It can be seen that roughly nine times as many users accepted price increases as against those who obtained decreases, and that these expectations are carried forward to successive years.

It should also be noted that the 32% of users who had no change to their service pricing also expect to have no change for the next two years, and this may pose a challenge to the major vendors.

The levels of reduction are, in general, some twice as large as the level of increases and, taking into account inflation, these are very significant amounts.

The 1986 figures for Germany and Holland are a long way from the mean figure for Europe, and may represent opportunities for competition and price hikes, respectively.

Any company which is supplying a service from a single country headquarters, across several countries, some of which are not in the EEC, may find it advantageous to consider payment in a single standard (strong) currency.

It would appear from these figures that, since a large percentage of customers **are** expecting increases, then by the application of the 'criticality' technique it should be possible to raise the overall level.

General customer satisfaction with pricing is dealt with later but, with reference to Exhibit VI-4, it can seen that only some 20% of users overall feel that the service is too expensive.

EXHIBIT VI-4

COMMENT ON HARDWARE MAINTENANCE PRICING
(Percent)

	Too Expensive	Expensive but Justified	Good Value	Use as an Insurance	Old Kit	No Comment
UK	13	2	1	-	1	42
France	15	8	3	5	3	53
Italy	16	9	2	-	1	8
Norway	33	15	4	9	2	4
Denmark	13	-	13	4	-	4
Sweden	30	7	-	4	1	1
Holland	38	6	5	-	-	27
Belgium	11	4	1	2	-	65
Germany	29	7	2	-	2	28
Overall	20	6	2	2	1	34

There may, however, be a problem in Holland and Norway with the pricing some 65% and more over the mean for Europe.

The comments given are the only ones with significant response levels, with values below 1% treated as of marginal significance.

B

Software Maintenance Pricing

Exhibits VI-5 and VI-6 respectively show the expected increases and reductions in prices; figures for 1986 are actuals.

EXHIBIT VI-5

SOFTWARE SUPPORT
ACTUAL AND EXPECTED PRICE INCREASES
1986 - 1988
(Percent)

	1986	1987	1988
UK	8.0	7.0	7.2
France	7.4	6.6	7.7
Italy	11.2	9.7	10.7
Norway	10.3	9.6	14.7
Denmark	10.4	8.4	-
Sweden	10.7	8.2	8.2
Holland	5.4	4.9	5.0
Belgium	8.3	5.0	9.6
Germany	14.2	12.6	11.2
Average	9.4	8.2	8.4

EXHIBIT VI-6

SOFTWARE SUPPORT
ACTUAL AND EXPECTED PRICE REDUCTIONS
1986 - 1988
(Percent)

	1986	1987	1988
UK	12.1	12.4	6.4
France	25.0	23.0	23.0
Italy	15.0	10.4	10.4
Norway	-	2.5	5.0
Denmark	10.0	15.0	15.0
Sweden	-	15.0	15.0
Holland	2.0	21.7	2.5
Belguim	13.0	10.0	11.0
Germany	31.0	16.9	16.9
Overall	19.6	14.4	12.9

Exhibit VI-7 shows the percentage of respondents in each category, i.e., increase, decrease, and no change.

As with hardware maintenance prices, there are many more users with increases than those with decreases but the ratio starts at 15:1 and reduces to 8:1.

But, again, the decrease figures are some twice as big as the increases, and both increases and decreases with software support are higher than with hardware.

As there is a strong demand for software and applications support, it may well be possible to maintain this higher differential, or even to increase it.

As with hardware, expectations are carried forward into 1987 and 1988, although not quite as consistently.

EXHIBIT VI-7

PERCENTAGE OF CUSTOMERS IN EACH CATEGORY FOR SOFTWARE

	1986			1987			1988		
	I	D	NC	I	D	NC	I	D	NC
UK	39	2	34	46	2	27	37	1	28
France	16	1	47	15	2	45	7	2	38
Italy	42	1	44	43	4	38	19	4	36
Norway	46	-	22	54	4	15	15	2	15
Denmark	35	4	43	57	9	22	-	9	22
Sweden	32	-	31	39	1	22	39	1	20
Holland	28	1	31	29	3	24	28	2	26
Belgium	23	2	38	17	6	39	13	5	31
Germany	24	3	63	29	3	58	27	3	57
Average	30	2	42	34	3	36	24	3	35

I = Increase

D = Decrease

NC = No Change

The significant difference is that the number of users expecting an increase in the software support price is 14% less than with hardware; this represents a challenge as normally market economics would indicate that a strong demand goes with high pricing and not vice versa.

With reference to Exhibit VI-8 it can be seen that the level of response on software is about half of that on hardware and that only some 10% feel that the pricing is too expensive.

EXHIBIT VI-8

COMMENT ON SOFTWARE SUPPORT PRICING
(Percent)

	Too Expensive	In-House	Not Satisfied	Fair Price	No Comment
UK	7	4	3	2	36
France	1	18	4	2	44
Italy	12	8	2	2	9
Norway	15	2	-	9	2
Denmark	22	9	-	-	-
Sweden	16	1	27	8	1
Holland	22	1	-	5	8
Belgium	2	4	-	1	67
Germany	14	2	2	7	33
Overall	10	6	4	3	30

Within this figure, however, there are wide country variations which represent both challenges and opportunities but which, in any event, should be made the subject of investigation and market strategy for optimum revenue.

It is also noteworthy that there are significant amounts of in-house software support in France, Denmark, and Italy, and these might be susceptible to penetration given the 'right' package.

C

Pricing Importance and Customer Satisfacton

Exhibits VI-9 and VI-10 respectively give the measure of the importance attached to 'correct' pricing of maintenance against the degree of satisfaction with the current pricing offered.

The degree of dissatisfaction is taken as the ratio of satisfaction to importance, and the ratios are shown for each country in Exhibit VI-11.

There are, of course, at least two ways of looking at this ratio:

- Is the importance not being satisfied by the vendor and the package must be increased or the price decreased?
- Does the difference between importance and satisfaction reflect an opportunity to raise current price levels?

EXHIBIT VI-9

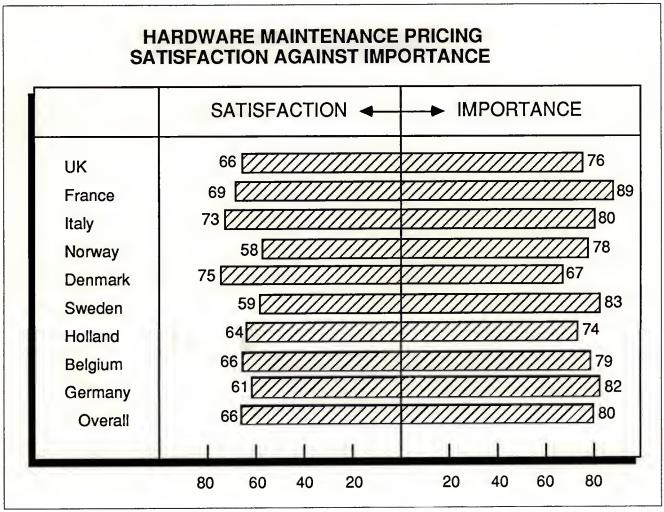
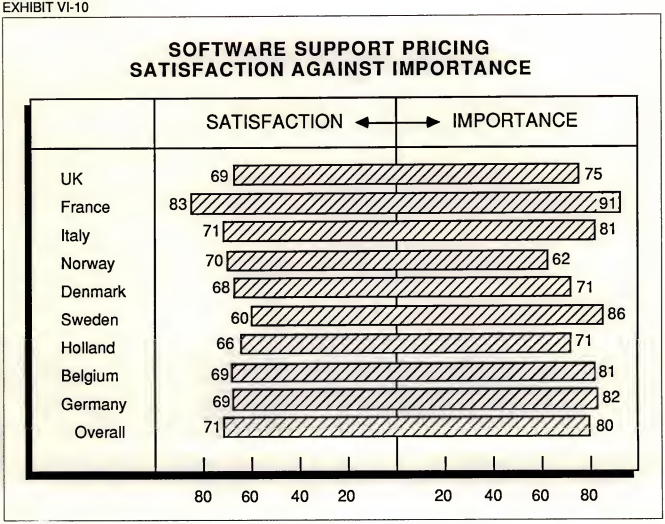


EXHIBIT VI-10



The use of the second interpretation would require, in the view of INPUT, a very carefully prepared marketing strategy and customer approach, but could very well succeed.

Looking at Exhibit VI-11 it can be seen that the software ratio is significantly below that of hardware which corresponds with the figures shown in Exhibits VI-3 and VI-7, i.e., less increase equals less dissatisfaction!

EXHIBIT VI-11

DEGREE OF DISSATISFACTION WITH HARDWARE AND SOFTWARE PRICING
(Percent)

	HW	SW
UK	13	8
France	24	9
Italy	9	12
Norway	26	(13)
Denmark	(12)	4
Sweden	29	30
Holland	14	10
Belgium	16	15
Germany	26	16
Overall	17	11

( ) = Degree of Satisfaction

D

Bundling

Major vendors have stated a preference for bundling in order to be able to:

- Maintain a full set of facilities
- Give a higher chance of service satisfaction
- Use existing facilities more economically
- Increase the market base
- Obtain more revenue and profit

INPUT

With reference to Exhibit VI-12, it can be seen that the preference for individual pricing as against bundling ranges from about 12:1 in the UK to 1.5:1 in Belgium.

EXHIBIT VI-12

RESPONDENT PREFERENCES ON BUNDLING
(Percent)

	Individual Pricing	Bundled	No Preference
UK	83	7	10
France	36	18	46
Italy	50	30	20
Norway	72	15	13
Denmark	52	30	18
Sweden	65	24	11
Holland	52	35	13
Belgium	45	29	26
Germany	83	10	7
Overall	64	17	19

Although national culture may be viewed as a significant factor, in the view of INPUT it is not dominant, and the figures would appear to show that there has been a difference of marketing approach.

It should, therefore, be possible to review this approach in at least the UK, Germany, and Norway.

There are also large proportions of users in France, Italy, and Belgium who, stating no preference, are or should be more open to persuasion.

Pricing Strategy

VII

Pricing Strategy

A

Choice of Balanced Services

From previous exhibits and discussion it is seen that there is a wide choice of services that can or could be marketed and sold at a profit.

The choice of a particular range of services to be marketed by a company should be split into two:

- Those services which the company **must** provide in order to stay in, or be seen to stay in, a specific competitive environment

- Those services which the company **desires** to provide in order to gain competitive advantage or dominance in a market niche.

Having decided what the overall objective is, then the level of that provision must also be decided, as well as the means of achieving that level of service.

Part of this 'route planning' must take into account the position from which the company is starting, not least:

- Skill resource
- Training resource
- Financial resource
- Organizational dynamics
- The opportunity (time) window

The overall service provided must accord with the product technology and 'image' in the marketplace; if these were to get out of balance, according

to the customer perception, it could lead to an underlying distrust of the company package and a drop-off in future sales of the hardware.

In this sense, the range of services offered should give the appearance of 'balance' and coherence so that the potential user has a feeling of confidence and will not equivocate too much on price and seek to 'de-bundle' certain parts of the package.

It is also important to get the internal company balance of resources right so that the actual provision of the services can be provided to targeted specification without bottlenecks or stresses within the service organization.

And, finally, the costing of each service must be done correctly and the pricing strategy decided; this latter may be critically dependant upon the level of revenue and profit obtained from the hardware and software sales.

B

Cost-Plus Pricing

The success of any strategy of cost plus will depend on the adequacy of cost control in the service organization, and the level of overhead, if any, fed back from the company headquarters.

It is a perfectly reasonable strategy in a monopoly situation, or where a premium can be demanded for a (perceived) critical service.

However, if the price levels are not continually monitored against any competition, it is possible to lose market share quite quickly or to cause grave internal operating problems if a quick change is made to another strategy.

C

Competitive Pricing

Competitive pricing may be market or company driven: The market leader will normally be the company which has the most efficient and productive service organization, which can also imply the most efficient technology.

On the other hand, a large company has a greater resource to fund a 'loss-leading' service in order to get a greater market share or to force out the smaller players.

In the latter circumstances, it is also possible for the large company to use technology innovation to price, say, the smaller TPMs out of the marketplace. This is happening with fault predictive systems and fault databases, where the TPM has neither the expertise nor the resource to fund similar facilities.

Evidence from most of the INPUT user surveys demonstrates that price of service is not the determining factor with the potential customer when he is buying product; rather it is the overall solution.

In these cases, some large companies are incorporating part of the service cost into the solution price as the customer does have a very strong perception of what he feels the ratio of service cost to hardware cost ought to be. Hence, the service price is very competitive and can drive down the margins for companies who do not employ similar strategies or have premium services.

D

Perceived Value Pricing

In previous surveys there were few companies adopting the approach of pricing to the customers' perceived need, but this situation is changing rapidly as companies identify the areas in which the customer has a high perceived need to remain operational.

Typical instances are stock-broking and cash transfer systems or an automated factory, where the continued existence of the business may be at risk if the computing facility is down for an extended period.

Premiums charged for guaranteed system availability are reported as from 35% to 65% and are giving service to hardware ratios of greater than 15% at a time when the basic service/hardware price ratio is anywhere down to 4%.

The maintenance of this size of return is dependent upon several factors:

- Keeping abreast of movements in technology
- Correct interpretation of market trends
- A monitoring of the economy
- Continued customer perception surveys
- A strategy of opportunistic tactics

E

Differential Pricing

Bearing in mind that most manufacturers are committed to a 10- to 20-year service base, and that the service returns on the older equipment can be the most remunerative, it is possible to have a range of service offerings, some of which are more profitable than the others, and these should be vigorously sold rather than the less cost effective ones.

In this type of pricing it is important to ensure that the 'packaging' of the individual services is based on surveyed customer perceptions, so that the automatic choice is the one giving the best return.

F

Penetration Pricing

In circumstances where a company wants to break into a new market, it may need to employ a 'loss-leading' strategy unless it can package its service in a quality or innovative manner.

This strategy may take the form of providing a quick and basic service, based on the high reliability of the original manufacturers equipment, this service being priced aggressively low.

Once there has been good performance over an extended period, the onset of customer loyalty gives the opportunity for straight price hikes or further premium services.

G

Discounting

There continues to be a mixed strategy among the vendors regarding discounts, as detailed in the INPUT report for 1986.

For service contracts sold at the time of product purchase it is unlikely that any discount will sway the potential customer, as the latter is more interested in the ability of the product to do the required tasks and its ability to stay available.

However, the customer is likely to do the calculation of service price to product price as a rough guide to whether or not the vendor is 'greedy', and it is as well to ensure that there is either an unbundled package giving at least one cheap basic service price or a small discount to make him happy that he has 'won' a negotiating point.

On the question of discounts for customer self-help, the attitude of one major vendor is that this helps the customer to get back on-line more quickly, and the overall pricing takes this self-help into account anyway, hence no discount.

On the other hand some companies offer a discount for customer participation which, by implication, is offset elsewhere.

Similarly, discounts for remote diagnostics are approached by different companies in the same manner as for customer self-help, with some vendors even charging a premium for that service.

In general, customers expect a discount for multiple equipment since it entails less separate visits per item, and most firms are willing to give this.

There is also a move among the users for a 'no claims discount', which has been exploited by at least one company offering a 'gold and silver' service at the low end of the market whereby there can be an effective 85% no-claims discount on a years' trouble-free 'service'.

Summary

VIII

Summary

A

Key Opportunities

As the take-up of computers into the business life of Europe continues, more and more businesses will be critically dependent upon data processing for their continued existence. Critical situations command premium rates.

Tailored contracts can give good customer satisfaction and good returns, and several major players are exploiting this opportunity.

With a proper marketing and sales strategy, and bearing in mind the increased reliability of computing equipment, it is possible to sell maintenance contracts at the time of hardware sales and to obviate the costs of warranty.

Other suppliers are taking the opposite view and are tying in their customers with extended warranties. In the view of INPUT, this is a viable but unnecessary approach which alleviates proper pressure points in at least two ways:

- On manufacturing, to get it right first time
- On sales, to actively sell premium services.

Less than five percent of customers expect a price reduction in 1987, and, hence, there is good scope for a planned and acceptable increase.

Where there is a disparity between the importance and satisfaction ratings given to a service by the user, there is the opportunity to give a better service and capture more market, probably at a reasonably low cost, as most of the problems are susceptible to customer relations exercises and education.

The INPUT survey clearly indicates that the respondents have unsatisfied needs for services, and in areas where there is already supply-side exper-

tise; further evaluation of this potential market would pay dividends in revenue. A list of key opportunities is given in Exhibit VIII-1.

EXHIBIT VIII-1

KEY OPPORTUNITIES

- More systems are going to real time working
- Critical systems command premium services
- Tailored contracts can give good returns
- Warranty can be dispensed within 'proper' package
  Less than 5% of customers expect a price reduction in 1987
- Satisfaction levels do not meet importance ratings in key areas:
  - Engineer skills
  - Spares availability
  - Back-up support
- Customer demand for services not yet fully exploited
- Software and operations training drew over 680 mentions
- Profitable contracts over secondhand equipment

Remunerative service contracts can be secured for the maintenance of second-hand machines, which could be sold or leased at nominal values but carry profitable maintenance contracts, given that there is a proper costing of the service and a cost-efficient method of supplying the spare parts and depot repairs.

Another unrealized opportunity is represented by the 680 (53% of respondents) mentions of requirements for extra training; again, this should take a relatively small marginal increase in costs out of revenue to produce a healthy return.

B

Pricing Trends

Examination of Exhibits VIII-2 and VIII-3 will indicate that inflation is keeping ahead of price increases in three of the major European countries, with only Germany bucking the trend.

EXHIBIT VIII-2

INFLATION
(Percent)

Inflation	1973-77	1978-82	1983-85	1986	1987	1988
ITALY	17.6	16.4	10.8	6.7	5.0	5.0
UK	15.4	12.0	4.5	4.9	4.5	4.5
FRANCE	10.4	11.3	6.7	3.2	3.5	3.5
GERMANY	5.5	4.4	1.9	1.8	0.5	0.5

OECD Figures to 1986
Economist 1987/1988

It is recommended that service vendors carefully assess their capability with living with this trend as against:

- Selling more premium service
- Costing the product to produce the right return
- Getting increased prices onto more of the existing contracts (a 31% opportunity)

In addition, the different country markets must be assessed individually in order to produce the right return in each market.

EXHIBIT VIII-3

PERCENTAGE REAL RETURN ON SERVICE PRICES - HARDWARE
(Percent)

Service Pricing Index*	1986	1987	1988
ITALY	87	85	84
FRANCE	89	87	84
UK	89	89	88
GERMANY	90	93	95

* 1980 = 100

PERCENTAGE REAL RETURN ON SERVICE PRICES - SOFTWARE
(Percent)

Service Pricing Index*	1986	1987	1988
ITALY	99	98	96
FRANCE	98	96	93
UK	99	98	98
GERMANY	101	104	107

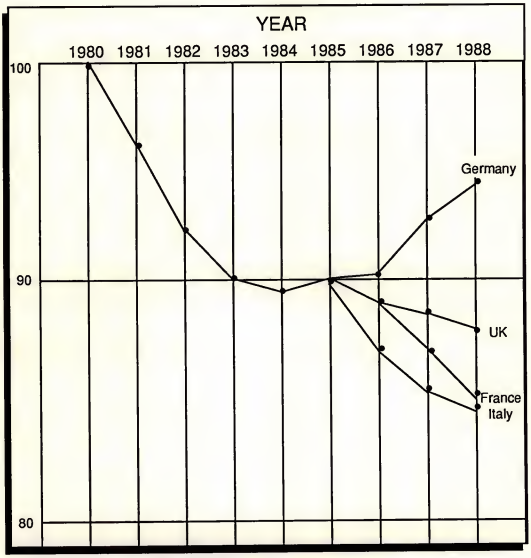
* 1985 = 100

Exhibits VIII-4 and VIII-5 show, on an extended scale, the effects of inflation on the increases put on to the 1986 prices and the effect this has on customer's expectations, and supplier's revenues, in 1987 and 1988.

The negative effect is high because, although there were some reasonably sizable increases, when these were spread across all the customers the net increase was more than halved.

EXHIBIT VIII-4

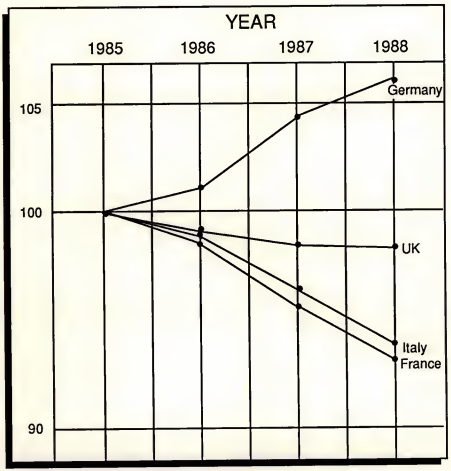
INDEX OF HARDWARE SERVICE MAINTENANCE PRICES
(CORRECTED FOR INFLATION)



Assumptions:
1. OECD figures for inflation
2. Inflation will fall slightly 1986 - 1988
3. Composite figures to 1985
4. 1980 = 100

EXHIBIT VIII-5

INDEX OF SOFTWARE SUPPORT PRICES
(CORRECTED FOR INFLATION)



Assumptions:
1. OECD figures for inflation
2. Inflation will fall slightly 1986 - 1988
3. 1985 = 100

However, there is keen unsatisfied demand for services in software, and opportunity should be taken to put these into profit by at least expanding the customer base or coverage.

There is opportunity, and there is profit to be made, but it will need careful planning and organization.