F-SMA · Letter Original

January 13, 1987

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Dear
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:

Enclosed is the final deliverable in the Software Service and Support module of INPUT's 1986 Customer Service Program. This report, Software Support Service Market Analysis, provides a detailed analysis of current software support issues and forecasts service growth over a five-year forecast period.

In addition, a standard Introduction section has been included, which updates and replaces the current Introduction in Section I.

Also, an Executive Summary, summarizing the year's research in presentation format, has been included to be filed in Section II.

It has been our pleasure to work with you in providing research products and services in 1986. Please feel free to call me directly with any questions or comments.

Sincerely,

Rick Brusuelas
Program Manager, Customer Service Program

RB:ml

Enclosure

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## ANALYSIS OF SOFTWARE SERVICE AND SUPPORT

## CONTENTS

## ANALYSIS OF SOFTWARE SERVICE AND SUPPORT

## EXHIBITS

# I INTRODUCTION

- This module, Analysis of Software Service and Support, is a part of INPUT's 1986 Customer Service research which also encompasses Large Systems Maintenance Service, Small Systems Maintenance Service, Telecommunications Maintenance Service, and Third-Party Maintenance Service. It analyzes the support services market for applications and data base management software only (the support services offered for systems software being covered in the respective Systems Maintenance modules and in the Third-Party Maintenance module).

- This binder is divided into seven sections:

  - I - Introduction: describing the methodology and scope of the research.

  - II - Executive Summary: providing a management overview, in presentation format, of the key points found in the report.

  - III - User Service Requirements: examining the user requirements for applications software maintenance and support and measuring their levels of satisfaction with the vendors' services.

  - IV - Service Vendor Profiles: giving a detailed profile of some of the major suppliers of applications software and their approaches to support service, organization, and future service directions.

- V - Service Market Analysis: detailing the main components of the 1986 market for the above services, examining the trends, and forecasting the development of the market to 1991.

- VI - Appendices: containing reference material such as questionnaires used in the research, definitions, etc.

- VII - About INPUT: describing the services offered by INPUT.

- There is no doubt that the support requirements of software are key in several respects, with revenue generation, user satisfaction, installed base growth, and vendor image creation/development being the most important. It is also true that, to date, many software vendors have not maximized the potential benefits available to them in this area. Failure to focus adequate attention on software support services has a long-term deleterious effect on vendors' development.

## A. SCOPE

- This module focuses on the support services available to users of software packages purchased from a third party (software vendor, computer equipment manufacturer, or turnkey systems vendor).

- Specifically excluded from this module's analysis are systems software packages, utility software, operating systems, and customized software developed for a single user. All but the support service revenue from customized software has been included in the System Maintenance service analyses. Customized software support is either provided directly by the end user or counted under professional services in INPUT's information services market analysis service.

- The main components of independent software support examined in this module are:

  - Software support services (e.g., on-site or remote support of installed package users).

  - Education/training and documentation.

  - Professional services (including package tailoring, installation, and related consulting services provided on a fee basis).

## B. METHODOLOGY

- The principal sources of research data were:

  - One hundred ninety-five end-user interviews, generally with the MIS director or equivalent, covering satisfaction with support provided by the vendor (on-site, phone and remote, documentation, training, and consulting), product defect resolution, and potential for support price increases.

  - Ten vendor interviews with the director of support services examining organization, revenue size, mix and growth, software engineer population, and productivity issues.

  - Secondary research from published materials, annual reports, 10Ks, and other publicly available data.

  - INPUT's own analyses and publications on the software market executed as part of the information services market research.

- As usual, INPUT welcomes users comments and queries on this material. They should be addressed to Rick Brusuelas at INPUT, 1943 Landings Drive, Mountain View, CA 94043 or by phoning (415) 960-3990.

## II EXECUTIVE SUMMARY

- This Executive Summary is provided as a convenient overview of the main points of the entire contents of the Analysis of Software Service and Support module contained in this binder. Its format is that of a short presentation (seven charts composed of slides and the accompanying text provided opposite each slide). This is to facilitate their use as a means of disseminating the information contained in this binder and as a management summary of the results of this research.

- INPUT has, in the past, covered the market for systems software support services within the hardware support and maintenance services research it executes each year. To date, little attention had been paid to the support services provided to purchasers of applications and data base management software. For the first time, INPUT has researched user requirements and vendor performance in this area.

- What emerges is an exciting market opportunity, experiencing high growth, constrained by few standards and, to date, relatively unconcerned by competition. In this arena many of the standard concepts of service value pricing, account management, and user responsiveness apply in the self-same way as they do in other markets.

## A. SOFTWARE PRODUCTS SUPPORT SERVICES, 1986-1991

- Software support services are those post-sale customer assistance activities that are offered by most vendors (hardware manufacturers and software vendors alike) to assist the user in installing, implementing, and using their software products. Allied to these services are related activities of customer education, training, and documentation aimed at transmitting the knowledge essential to the use of the product from the vendor to the user. All are fee generating, except where the vendor decides otherwise.

- In 1986, INPUT estimates the market for software support services at $2.3 billion, encompassing services offered for all kinds of software (see Exhibit II-1). To date, the largest share of these revenues--$1.1 billion--has been generated by systems software products (the major part of which is received by the systems hardware manufacturers).

- Over the course of the next five years there will be a complete change in this picture due to a number of conflicting trends:

  - Systems software vendors, IBM leading, are gradually reducing their software support prices. The main reason seems to be that the competition for hardware systems sales has been extended to include the systems software which is an integral part of the basic system.

  - Applications software vendors, who compete in far narrower markets, are under no such pressure and have begun to realize the profit opportunity contained in the support services arena. As a result, prices should gradually rise.

  - The volume of applications software packages in use is gradually catching up with the volume of systems software purchased. This has been a long, slow process, but the applications software is now well established.

EXHIBIT II-1

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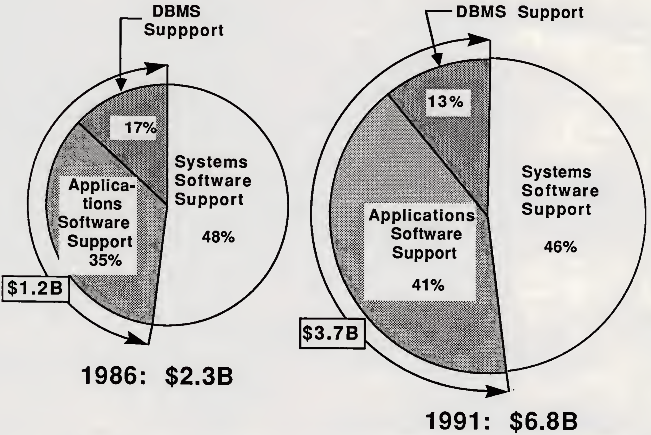
## SOFTWARE PRODUCTS SUPPORT SERVICES



## B. INDEPENDENT SOFTWARE SERVICES COMPONENTS

- Under the title "software support services" a number of different services are grouped which require totally different skills:

  - The so-called software maintenance services, which in reality are support services and have little to do with maintenance.

  - Installation and tailoring services, which adapt the package sold to the specific requirement of the user.

  - Consulting services, which include counseling the end user in the overall systems design that will most closely resemble the need.

  - Education and training plus the relevant documentation, which supports the operational staff in the use of the software after installation.

- Based on the revenue obtained by vendors in 1986, the distribution of support services is as given in Exhibit II-2. The vast majority of revenues are obtained from maintenance and support services which, on average, produce 17% of the overall company revenue. This dominance is expected to continue, and by 1991 the contribution will rise to 22% of total software vendor revenue.

- The remaining three categories of services are all relatively small revenue sources, ranging from 3% to 5% with minor changes through 1991. However, combined they represent a greater percentage of the total vendor revenue (12%) than average profit in 1986. To minimize their importance would, therefore, be a mistake.

EXHIBIT II-2

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## APPLICATIONS/DBMS SOFTWARE SERVICES

| COMPONENTS | PERCENT OF COMPANY REVENUE 1986* | AVERAGE 1991 |
|---|---|---|
| Software Maintenance | 17% | 25% |
| Installation and Tailoring | 3% | 2% |
| Consulting | 4% | 3% |
| Education, Training & Documentation | 5% | 6% |

*Source: Public Software Company Data

## C. INDEPENDENT SOFTWARE SERVICE MIX, 1986-1991

- Taken as a whole, the installed base of software is supported mainly by the vendor community, but to a degree less than would be automatically assumed. To begin with, vendor support is not available for the totality of the applications software in use at user sites (whereas it is for most of the data base management systems installed).

- Exhibit II-3 shows INPUT's estimates for the total installed base. In 1986, only 76% of the installed software in the U.S. was supported by vendors, the remaining 24% being supported by the end users themselves either by choice (16%) or because no vendor support is available (8%), the originator of the system either having gone under or is no longer willing to support the product used.

- INPUT estimates that if current trends continue, by 1991 closer to 30% of the total installed base of software will be supported by the end user, mostly by choice (20%). Nevertheless, the proportion of the total software supported will drop from 76% (1986) to 70% (1991).

- Vendors must attempt to reverse this trend by:

  - Being more responsive to users requirements.

  - Demonstrating a better relationship between the support service charges and the value of the services received by the end user.

  - Being more aggressive in marketing and selling the services available to the user.

EXHIBIT II-3

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## APPLICATIONS/DBMS SOFTWARE SERVICE MIX, 1986-1991

| | 1986 | | 1991 | |
|---|---|---|---|---|
| | Vendor Supported | User Supported | Vendor Supported | User Supported |
| Vendor Support Available | 76% | 16% | 70% | 20% |
| No Vendor Support Available | - | 8% | - | 10% |

Source: INPUT Estimates

## D. PRICING: STILL AN AREA OF OPPORTUNITY

- Market forces have been at work some time now in the field of maintenance and support services to drive down the end users' costs. This began in 1983 with a hardening of user attitudes toward the (then) yearly increases in service pricing.

- It continued in 1984 with the increasing competition from third-party maintenance vendors, and was further extended in 1985 and 1986 by the cuts in price implemented by system manufacturers.

- While it is true that these same pressures are beginning to be felt at the systems software level, they do not apply to the applications software market. As one of the last markets to be pressured by such factors, it remains an area of significant opportunity for applications/DBMS software vendors.

- As Exhibit II-4 shows, typical support service prices range from 10-25% of license fees, typically at the lower end of the spectrum around 12%. These same support services generate revenue in the 28-36% range (as a percent of total vendor revenues generated from applications/DBMS software activities).

- By raising the average support service price from 12% of license fees to 17% (not an unreasonably high level), revenue contribution from these activities can be increased by 40%, which in turn will result in a 13% increase in total revenue.

EXHIBIT II-4

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# PRICING: STILL AN AREA OF OPPORTUNITY

- Typical Support Service Pricing Range: 10%-25% of License Fee
- Average Price, 1986: 12%
- Typical Contribution of Services to Revenue: 28%-36%

| |
|---|
| Raise of 5% in Support Service Price = 13% Revenue Increase |

## E. REMOTE SUPPORT SERVICES: LIMITED ROLE

- In 1986, the trend toward remote support services (RSS) increased and became the norm among software vendors. There is no doubt that RSS has a significant role to play in the overall spectrum of end-user services.

- However, it is important to recognize that the role of RSS should be limited to a specific range of activity and not assumed to be acceptable to all kinds of end users in all kinds of markets. To do so would endanger the long-term growth of the user base.

- As summarized in Exhibit II-5, clearly RSS is an excellent way of providing end users with directions on how to solve minor problems such as documentation use or supplier ordering or for providing fast response to known software problems. It also provides the vendor with immediate feedback of product performance in the field simply by monitoring the levels of calls and analyzing their content.

- However, some vendors have jumped to the conclusion that RSS can replace in-field support. Others have gone one step worse by installing recorded voice support directories which callers have to go through in order to reach a human being.

- There is no substitute for person to person, vendor/user contact at regular intervals, even when product performance is good. Only in this way can the vendor assure himself of continued sensitivity to user requirements and user satisfaction.

EXHIBIT II-5

INPUT®

## REMOTE SUPPORT SERVICES: LIMITED ROLE

| | |
|---|---|
| • Best Application: | Fast response to known problems or directing users on how to use documentation, order supplies, contact rep. etc. |
| • Side Benefit: | Immediate notification of problems, real or perceived. |
| Misuse: | Use of RSS as barrier between user and vendor; "computerized support." |

## F. USER SELF-MAINTENANCE: A DANGEROUS MYTH

- There is worse yet: in parallel to systems manufacturers of a self-supporting user base with no need for hardware maintenance and support services, some software vendors have begun moving toward user self-maintenance for software support services.

- This has been institutionalized by the PC software vendors (who often hide behind an all-encompassing disclaimer they audaciously call "warranty").

- However, some of the 800-number support services are between RSS and user self-maintenance in practice because the level of support available is so minor. These are valid where the cost of the software is below $1,000, if the user opts for such services for a reduction in price (for software costing in excess of $1,000), or where the user has significantly personalized or customized the software.

- Given the profit potential and the long-term strategic value of support services, it would be a mistake to do so where the majority of end users employ standard packages. (There are few enough profit opportunities as it is.) While user self-maintenance may appear as an opportunity to cut costs, it is more likely to cut profit and growth.

- Vendors must realize that the idea that users find self-maintenance as attractive as they themselves do is a myth. It is usually nothing more than vendors projecting onto the users what they would like to hear them say.

EXHIBIT II-6

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# USER SELF-MAINTENANCE: A DANGEROUS MYTH

- **Use for:** Personalized, customized user packages, low-cost packages (e.g. PC software), or if user selects this option.

- **Do Not Use for:** Standard packages, developing/ upgrading customer bases, cost-cutting.

| More Attractive to Vendors than to Users. |
|---|

## G. KEYS TO SUCCESSFUL SUPPORT SERVICES

- As summarized in Exhibit II-7, there are five major components to successful support services. All are concerned with the long term.

- To begin with, each vendor must review and clearly articulate the goal it wishes to attain in the marketplace and the kind of image necessary to sustain that goal. It may be that, for example, as a software publisher, the vendor has no responsibility for product quality and is principally driven by volume and price considerations. User self-maintenance and/or RSS may be consistent with this goal.

- For the majority of software vendors, however, user base development, account growth, competition, and profit are the dominant concerns, along with an image of quality and responsiveness. For most vendors this translates into keeping the price down and hoping that market share increases will grow the revenue at projected rates.

- While it is necessary to be aware of competitive moves and market share issues, it is also necessary to realize that support pricing is a function of the user's perception of the quality of support services, i.e., pricing should be value-in-use-oriented, not competition driven.

- Quality and responsiveness ultimately decide the market share battle, not the price. Cutting prices has two negative effects--it reduces revenue and lulls management into the belief that they are being competitive.

EXHIBIT II-7

INPUT®

# KEYS TO SUCCESSFUL SUPPORT SERVICES

- Personalized Account Management
- Value-Oriented Pricing of Services
- Profit-Oriented, Revenue Growth-Driven
- Competitive, Responsive
- Consistent with Vendors' Image, Goal

# V SOFTWARE SUPPORT SERVICE MARKET ANALYSIS

## A. OVERVIEW

- In the software products marketplace, 1986 has not been a hugely successful year. As demand for new/additional hardware systems has fallen off, so has the demand for software products. As a result, many software vendors are looking for ways of improving their competiteveness.

- There are many variables that affect the competitive profile of a software vendor, including:

  - Features.

  - Price.

  - Quality.

  - Availability.

  - Support services.

  - Functional integration.

  - Portability.

  - Innovation.

- Features, availability, price, portability, innovation, and functional integration are not subjects for this report, but quality and support services are. Quality concerns not just completeness, ease of use, and accurate targeting of user requirements, it also includes freedom from error (both overt/apparent and covert/insidious).

- The perfect software product would require no support. It would be easy to install, obvious to use, "bug"-free, self-documenting, and self-optimizing with regard to performance. It would be proactive in its error messages (e.g., "you are not using this feature correctly, choose from the following options. . .") and in backing up master files and be capable of automatic recovery from hardware failures (which it would monitor intermittently, predict, and avoid).

- Unfortunately, we are a long way from such a product. Users are not uniform in their knowledge/experience levels and for the foreseable future will require substantial hand holding. Hence, the future for software support services is assured.

## B. INDEPENDENT SOFTWARE SUPPORT SERVICES MARKET

- In 1986, the independent software support services market was worth $1.1 billion, a 29% increase over 1985. The principal components of this market are:

  - So-called software maintenance (or more precisely user software support).

  - Installation and package tailoring services.

  - Consulting (which includes analysis of a user's needs, feasibility studies, systems design, and evaluation).

  - Education, training, and documentation.

- Depending on the whim of the software vendor, these activities are unbundled, bundled, charged for, or partially free. The use of support service "give-aways" to secure the sale is just as prevalent in the software products market as it is in the hardware market.

- The recognition of revenue (or how and when the charges for these services are taken into the vendor's books) is a complex subject, ranging from when the warranty runs out to physical delivery of the product and the acceptance (by the user) of the functioning product on his system.

- For example, many vendors offer a 30-day trial as a means of engaging the user's interest and getting the product in the door. On expiration of the 30-day trial, the user may sign an acceptance, at which time 100% of the license fee is recognized. However, there are enormous variances:

  - ISSCO takes 60% of the license fees at the time of issuance of the license, and the remainder on completion of installation.

  - American Software takes 80% of the fee on delivery of the documentation, 10% on software delivery, and the last 10% on product installation.

- Support (or so-called "maintenance") agreements for revenue recognition is equally erratic:

  - Some vendors take 100% of the maintenance revenue at the time of agreement signature.

  - Others take 100% on the anniversary of the software products' acceptance signature.

  - More correctly, most recognize the revenue incrementally as the maintenance contract progresses toward expiration.

- Other fees, (e.g., consulting, training, and documentation) are generally taken into the revenue stream correctly, i.e., as the activity is accomplished or as the product is delivered (e.g., documentation).

## I. MARKET FORECAST, 1986-1991

- Growth of these form component markets is expected to be extremely uneven to 1991 (see Exhibit V-1). Least active is consulting, which frequently is offered free as a means of gaining the prospect's confidence, demonstrating the vendor's expertise, or resolving operational difficulties that may arise. Moderate growth of 11% per annum is expected on a base of $175 million in 1986.

- Similarly, installation and tailoring revenues are often impacted by sales "give-aways." Nevertheless, it is becoming a standard in the industry to charge the equivalent of one month's license fees as an installation charge.

- Tailoring of the package is sometimes included in this charge when it consists mainly of personalizing the software to the specifics of the user's system configuration. Otherwise a standard daily person rate is charged, limited by an estimate. INPUT expects the market to double through 1991 from a 1986 base of $110 million.

- Education and training (E&T) charges and, to a certain extent, documentation are affected by the industry practice of including a certain number of "credits" for these services within the license fee or purchase price of the software.

- Several manweeks of E&T are often included as is a defined number of sets of documentation. The need for user staff to be regularly updated on the products' capabilities and the trend for vendors to charge for all documentation will drive the growth of this market from $237 million in 1986 to $660 million by 1991.

EXHIBIT V-1

## INDEPENDENT SOFTWARE SUPPORT SERVICES MARKET, 1986-1991

| COMPONENT | $ MILIONS | | AAGR (Percent) |
|---|---|---|---|
| | 1986 | 1991 | |
| Software Maintenance | $645 | $2,500 | 31% |
| Installation and Tailoring | $110 | $200 | 13% |
| Consulting | $175 | $290 | 11% |
| Education, Training, and Documentation | $237 | $660 | 23% |
| Totals | $1,167 | $3,650 | 26% |

- The largest software support service market is the so-called software "maintenance" activity. An average of 17% of all software vendor revenue came from this activity in 1986 and was worth $645 million. INPUT expects revenue from this source to expand rapidly, growing at 31% per annum and producing $2.5 billion by 1991.

- Overall, the independent software support services market will grow from a base of $110 million in 1986 to $3.5 billion by 1991, a 26% per annum growth rate.

## 2. PROBLEM RESOLUTION PERFORMANCE - THE USER VIEW

- Matching user requirements against vendor performance is an ongoing process whereby vendors measure the services they believe are needed against the user's own perception of his needs.

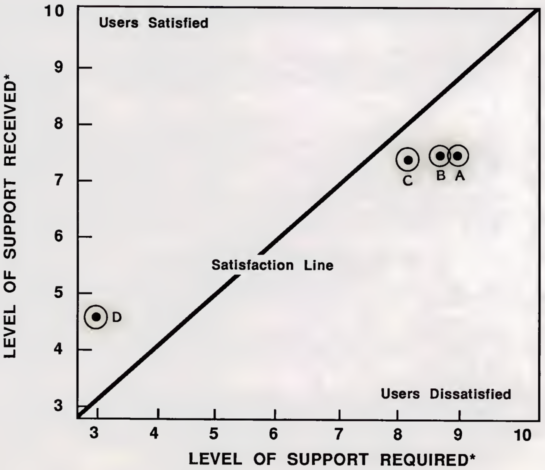
- Typically, the content and scope of these services are determined empirically by the vendor with no research into user needs. Then, as the base grows (and the user group becomes more vocal), services are slowly altered, prices modified, and attempts made to mollify the user group.

- It is common to find user groups that perceive the vendor as insensitive to their requirements, whereas the vendors are almost unanimous in believing that they are doing a good job. Exhibit V-2 charts the software vendor support received (as measured by the user on a satisfaction scale of 1 = low, 10 = high) against the support required (again measured by the users and on the same scale).

- The diagonal line in the exhibit is the theoretical point where user requirements meet the support received. Four elements of support were graded by users in this year's interviews. The interviews were conducted on a selection of users from ten different vendors, and the individual results are found in Section III of this binder. The combined results are provided in Exhibit V-2.

EXHIBIT V-2

## INDEPENDENT SOFTWARE SUPPORT PERFORMANCE




A: Error Fixes

B: Upgrades/Revisions

C: SW Engineer Skill Level

D: On-Site Support

* Rating: 1 = Low, 10 = High

- Taken as a whole, the performance of the vendor community in fixing errors and providing timely, responsive upgrades and revisions of released products, as well as the quality of the software engineers used to support the products in the field, all fall below the satisfaction line. On-site support service is better appreciated.

### 3. SOFTWARE SUPPORT SERVICE DELIVERY MODES

- While it is true that users are more than ever sensitive to EDP budget expenditures, particularly those spent on outside services, it is also true that where a need exists and a quality service is matched to that need, there is very little resistance to making the "buy" decision.

- Competition for software products and for the support services that are sold with them is steadily intensifying. There are two possible responses to this tightening of market conditions:

  - Respond at the price level, on the assumption that users will not pay more than that which is charged by the competition.

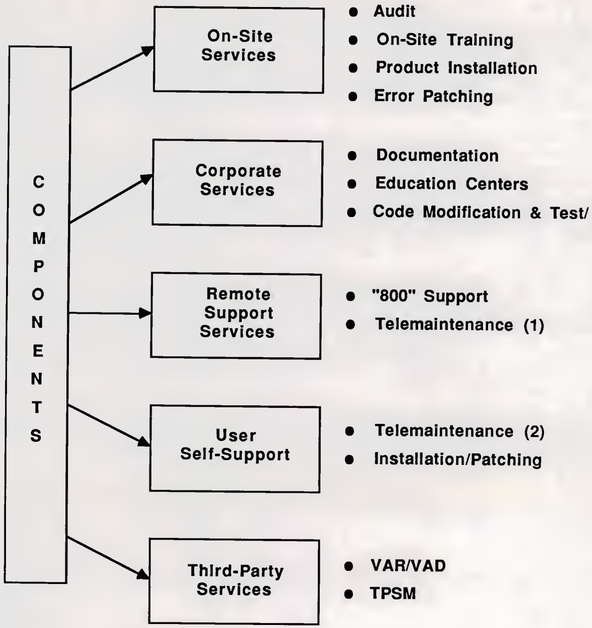
  - Respond at the service quality level, on the assumption that users will pay for what they need if that need is satisfied.

- At this point, each software vendor must determine, according to the product market it is aiming for and the end-user needs which arise from the cross-section of capabilities of the typical buyer, how to optimally support its products in the field.

- Exhibit V-3 summarizes the five main groups of support service delivery modes that can be used and the ways in which they can be applied:

EXHIBIT V-3

SOFTWARE SUPPORT SERVICE
DELIVERY MODES



- On-site service should be the mainstay of user support for performance audit, how the user is using the product, which version is installed, who uses it, and their competence level/training need, plus emergency patching of major package errors.

- Corporate services are those provided at the corporate offices and include documentation development and production, education centers for new user/new release training, and new product development/code modification and test.

- Remote support services (RSS) are difficult to separate from user self-support because they are complementary, particularly in the implementation of telemaintenance. RSS is best used for "first level" or minor support based on "800" number telephone centers.

- Third-party services may be used for vertical (or foreign country) market support of packages. Value-added resellers (VARs) and value-added distributors (VADs) are frequently given support service responsibility as well as sales and marketing rights to packages.

- Third-party software maintenance (TPSM) is not easily found in the U.S., particularly for applications software. It is an opportunity that software vendors should not ignore, however. For example, if a software vendor runs into financial difficulties, it is usually as a result of a downturn in sales. Providing there is a meaningful installed base of end users under support service contracts, it would make eminent sense to purchase the support group (and assisted business).

• There are sufficient numbers of software vendors in difficulty to offer a fertile ground for searching for such opportunities and, like the corresponding hardware situation (where a manufacturer goes out of business), some lucrative user bases can be found. What is more, it is usually harder for these end users to abandon the use of the product if it is an applications software package than, say, if it is a printer.

4. REMOTE SUPPORT SERVICES (RSS)

- The trend today is for vendors to stress RSS as much as possible. We have already discussed the role that RSS should play (and the dangers for the vendor inherent in hiding behind RSS). However, there is no doubt that RSS is an integral part of support services, both today and in the future.

- As the mix of software products in the field ages and increases, the likelihood exists that much of the knowledge necessary to continue to maintain the user base will be gradually lost (through vendor personnel promotions, mobility, and other causes). Today's DBMS decision is likely to be for a 20-year or more usage period. How many of the orignial developers will be around by the middle (let alone the end) of that period?

- To avoid that predicament and to generally improve the productivity of the RSS group, INPUT believes that it will become rapidly necessary to build an expert system front end/problem resolution data base that collects crucial knowledge on a corporate-wide basis.

- The expert system front end has several roles:

  - Interpret the natural language queries as they come in from the end users and correlate them with the problem data base.

  - Expect all relevant data on the problem, suggest a cure, and present a (formatted) solution for approval to the RSS service personnel.

  - Update the data base statistically and/or for new action data according to the action taken.

- The object of such an expert system/problem data base combination is to:

- Improve productivity of the RSS staff.

- Isolate the vendor from the effects of personnel turnover.

- Shorten response time and problem resolution delays.

- Support, intelligently, RSS staff with the best historic/reference data the company has, independent of the staff on duty or on call at the time.

- Exhibit V-4 suggests a possible RSS system design for consideration by vendors.

## C. SOFTWARE SUPPORT SERVICES

- The composition of each of the four support service categories discussed in this section represents INPUT's recommendations rather than a statistical abstract of vendor activities in 1986. Most software product vendors organize their support services along historical lines (how it happened is more important to the structure of the service organization than logic).

### 1. SOFTWARE MAINTENANCE

- This activity covers a mixture of support services that span internally-oriented activities as well as externally offered services (see Exhibit V-5).

- The internal activities themselves are generally the responsibility of the software development group and can be semi-accurately described as "software maintenance" (i.e., error correction and test, followed by field test and pre-release of the modified code). In practice, the actual activities extend beyond maintenance to include development of new versions of existing software as well as new products.

EXHIBIT V-4

## REMOTE SUPPORT SERVICES, 1991

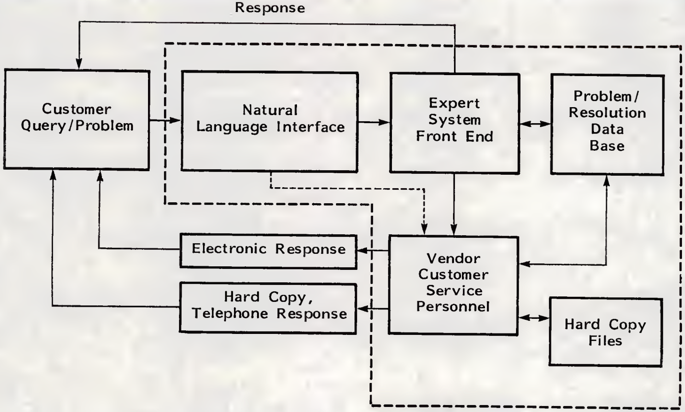
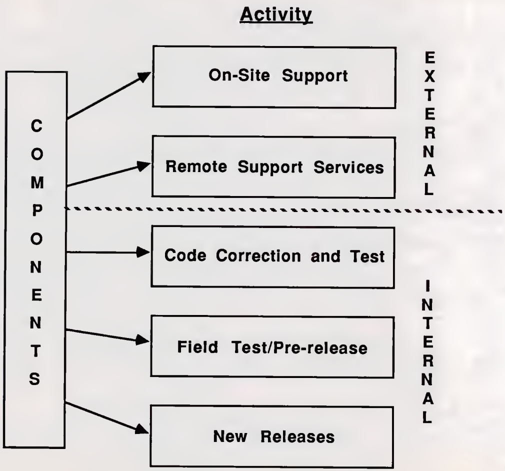


EXHIBIT V-5

## SOFTWARE MAINTENANCE



- The external support services, usually sold under the same name of "software maintenance," cover on-site and RSS delivery of customer support. These services are the biggest generator of support service revenues and in many software companies generate over half the gross profit.

- For most software vendors, the same operational budget supports both the internal and external software maintenance activities, but in two separate groups of people with different skills. Internal developers and code generators do not make good customer support representatives and are not interested in generating the marketing packages needed for new releases.

## 2. INSTALLATION AND PRODUCT TAILORING

- All post-sale support services should be generators of revenue and carry their own costs and overhead. This is usually true about software installation (charged for in over half the software vendors interviewed), but only if the installation is carried out by the vendor.

- Product tailoring, while nearly always executed on-site by the vendor, often is not charged for. The justification for this seems to be "if the product needs to be tailored before the customer can use it, it is the vendor's problem, not the user's."

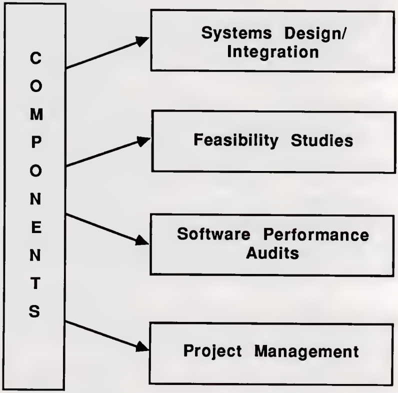
- When charged for, installation and tailoring is billed at a rate equivalent to a month's license fee or rental. This is the same rate as that charged for hardware installation by most system manufacturers.

## 3. CONSULTING SERVICES

- Consulting services are far easier to perceive, both by users and vendors, as activities that are fee-based. These include feasibility studies executed for the customer, systems design, and integration of the vendor's package into the software environment of the user (see Exhibit V-6).

EXHIBIT V-6

## CONSULTING SERVICES



- Other activities that are sold under the "consulting" tag include executing an audit of the software performance that the user is obtaining from his current products prior to, and after, the installation of the vendor's product. Project management is occasionally used for large, integrated systems projects run by the software vendor, particularly if the vendor's product is the keystone of the project, e.g., for data base vendors or network software vendors.

## 4. EDUCATION, TRAINING, AND DOCUMENTATION

- These activities are grouped together because they represent a single function--transferring information about the vendor's product(s) from the vendor to the user.

- Education usually refers to the variety of tools offered at the vendor's facilities (formal classroom instruction, computer-based training (CBT), recorded videos, labs). Training is often used interchangeably with education, but can also distinguish those services offered at the user's site(s) (e.g., hands-on training).

- Documentation, particularly that which is sold to the user, consists of user-oriented reference manuals and operations documents. In an increasing number of smaller software products, the first level help is integrated into the package itself. At the other end of the spectrum (very large integrated systems) consideration is being given to using CD ROM as the delivery vehicle. This is very attractive when the product itself concerns CD ROM since so much storage space is available in CD ROM.

- As previously noted, some vendors use documentation delivery as the key to taking substantial percentages of the product revenue into the company revenue stream. The value of the documentation to the vendor takes on a new meaning in this context.

## D. SOFTWARE SUPPORT SERVICE PRICING

- It is important for vendors to avoid the trap of regarding software support services as a competitive pricing issue. If marketing has its way in matters of software and hardware maintenance and support, all such services would be free. Additionally, support service costs, if high, are a good excuse for reduced levels of sales or, alternatively, a good target for concessions at the bargaining table.

- Software support services must be conceived as the tool for vendor/user relations development, account development, and market image development. At the same time, they must generate healthy profits and revenue growth, which in turn must fund ongoing R&D, product improvements, and new releases for the same market niche that generated the revenues and give the company a good return on its investment.

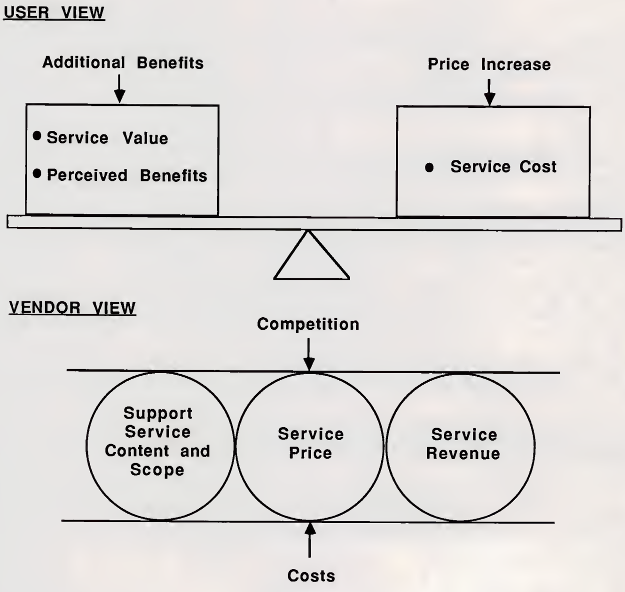
### 1. VALUE PRICING

- This immediately raises the issue of "value-pricing." Essentially, this refers to the equilibrium that exists between what a user perceives is the benefit to him of a given service and its cost. It is acceptable to raise prices as new services are added, provided they have a perceived benefit to the user (i.e., not just in the eyes of the vendor).

- The average vendor's own perception is very different (see Exhibit V-7). He sees the main determinant of any price as being what the competition charges. This determines the level of revenue that can be obtained and, as a direct result, the amount of money which can be spent on those same services. In consequence, the type, quality, and extent of the services offered are a product of competition and the vendor's ingenuity in doing the best he can within those constraints.

EXHIBIT V-7

## VALUE PRICING



## 2. PRICING STRATEGY

- To deal with the (valid) concern that service and support costs can affect the outcome of a competitive sales situation, there are a number of options.

- The first is to keep support service prices low in the hope that the lost revenue will be made up by the volume. In classical market theory, in an elastic price environment, the lower the price the higher the sales volume. This approach does not deal with the fact that the minimal level of support needed by the product may not be compatible with the revenue generated by prices that are believed to be competitive.

- The second is to ensure that, in users' eyes, the services offered are a necessary adjustment to the product itself and that the price charged is equal to the benefit received. It is unlikely that user requirements will be uniform, so this approach requires that several optional levels of increased responsiveness and support be available to choose from.

- This requires the vendor to be aware of and sensitive to the end-user requirements and to be willing to revise his views based on user impact rather than his own preconceptions. If the vendor can be seen to be doing this, the user base will be reassured.

## 3. TIMING PRICE INCREASES

- There is no doubt that the timing adopted for price increases has a critical role to play in implementing the price changes with the least amount of disruption and the greatest benefit to the software vendor.

- Presumably, at the moment of product launch, much attention will have been paid to ensuring that the package price and performance are competitive. Thereafter, as new versions are developed, they will not only respond to features required by the user competitive moves and the shortcomings of the earlier version but will also incorporate performance improvements.

- In today's market, most packages will have price/performance ratios steadily erode, either because the price has to be dropped to stay competitive or because performance has to be improved, or both. Service pricing, on the other hand, should follow a different track (see Exhibit V-8).

- It may be necessary to implement a service/support pricing policy that is very competitive for the product launch phase. It is likely that during the product's market penetration phase support pricing will want to continue to be competitive, so that early-year price increases should be kept low. As the end-user base develops and market penetration is achieved, vendor knowledge of actual end-user support needs increases and so should the variety, complexity, and price of those support services deemed to be necessary.

- At product maturity, service price increases should be at their highest:

  - To leverage the highest user base revenue volume possible.

  - To fund new product launch.

  - To emphasize the quality of service and support to the largest group of users possible and enhance company image.

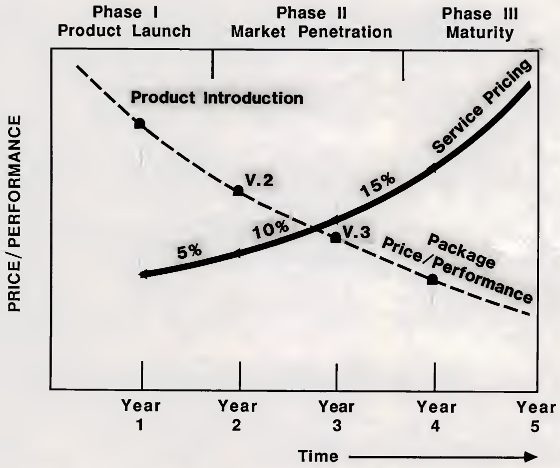
  - To encourage user conversion to new products.

## 4. USER EXPECTATIONS

- INPUT's research revealed that, within reason, users expect support service prices to rise as time goes by. The expected range is 5-10% per annum for constant quality of service. The research did not show what users would be prepared to pay if service quality was increased because "quality" is related to a specific product for a specific user type (no "overall" value is possible).

EXHIBIT V-8

## PRICE INCREASE TIMING



- Discounting of support services is a hot topic. In an increasing number of cases, the whole first year of support of the package is free (see Exhibit V-9). Half of the vendors interviewed start the support contract one year after the customer acceptance (anniversary date).

- Other discounts expected include corporate-wide licenses or a volume discount for multiple-site licenses for support akin to the discounts now expected for multiple-site package licenses.

## E. RECOMMENDATIONS AND SUMMARY

- Exhibit V-10 summarizes the recommendations that INPUT has for support services strategies over the next five years.

- First, it is essential that revenue growth and support service growth go hand in hand. Essentially, the moderator is market penetration: as it grows, so should the service revenue volume received from each account (not just as a result of bases growth). This should be measured regularly.

- To assist this growth, not only should prices be raised steadily, but service/support features that are available should be marketed to the base via telemarketing. The optimal mix of on-site, RSS, and self-maintenance services should be sought, depending on the product type and user audience.

- To develop a service and support image, the vendor should stress service reliability and continuity. The user should perceive the services provided and their evolution and development as a continuum with a visible, common thread linking the services with a common strategy.

- The guiding light in all of this is the customer base. It is important to stay in tune and in step with the customers needs. To get ahead of the need is worse than to be behind it.

EXHIBIT V-9

## SOFTWARE SUPPORT SERVICE PRICING

| | PERCENT OF LICENSE FOR SUPPORT | COMMENTS |
|---|---|---|
| ADR | 10 - 15% | First Year Free |
| Boole & Babbage | 20% | |
| Candle | 20% | |
| Comserv | 12% | |
| Cullinet | 15% | First Year Free |
| MSA | 8 - 10% | First Year Free |
| NCA | 12% | |
| Pansophic | 15% | First Year Free |
| Sterling | 12 - 15% | |
| UCCEL | 12 - 18% | First Year Free |

EXHIBIT V-10

## RECOMMENDATIONS AND SUMMARY

- Increase Support Service Prices, Increase Support
- Emphasize Features Available
- Maintain Optimal Mix between On-Site, RSS, and Self-Maintenance
- Stress Reliability, Stability
- Stay In Tune and In Step with Customer Needs

- If the service offered is ahead of the need it will not sell, which may convince the vendor the need is not there (whereas it may only be delayed).

- If the service is not offered, the customer may become dissatisfied (and a revenue opportunity is lost).

• In both cases service revenue is reduced instead of maximized. Staying in step with the customer base requires being in tune with it.