9/1/87

REPORT PRINTER READY CHECK LIST

DATE: 3/25/88 PROJ. CODE: MAVR-PA

REPORT NAME: PLANNING & ANALYSIS

AUTHOR: ____________________

✓ 1. TITLE PAGE

✓ FRONT - REPORT TITLE:

✓ BACK - COPYRIGHT STATEMENT:
- Report Pages on copyright paper

NO 2. ABSTRACT

✓ 3. ~~TITLE~~ CONTENTS PAGE

✓ 4. LIST OF EXHIBITS

✓ 5. CHAPTER TITLE PAGES/COLOR SEPARATORS

✓ 6. APPENDIXES

NO 7. EXECUTIVE OVERVIEW

8. ~~TRANSMITTAL LETTER~~

9. ~~PRESS RELEASE~~

10. ~~PRINTERS SPECIFICATION FORMS~~

✓ 11. SOFTBOUND/STITCHED REPORTS

✓ 12. REPORTS FILED IN BINDERS

✓ 13. 'ABOUT INPUT'

***

Market
Analysis and
Planning
Services
(MAPS)

U.S. Information Services Industry-Specific Markets 1987-1992

Planning and Analysis Sector

INPUT®

1280 Villa Street, Mountain View, CA 94041 (415) 961-3300

MARCH 1988

U.S. INFORMATION SERVICES INDUSTRY-SPECIFIC MARKETS 1987-1992

PLANNING AND ANALYSIS SECTOR

INPUT®

1280 Villa Street, Mountain View, California 94041-1194
(415) 961-3300

Published by
INPUT
1280 Villa Street
Mountain View, CA 94041-1194
U.S.A.

Market Analysis and Planning Services (MAPS)

U.S. Information Services Industry-Specific Markets, 1987-1992
Planning and Analysis Sector

MAVR-PA • 443 • 1988

Table of Contents

Table of Contents (Continued)

Exhibits

I

Issues, Trends, and Events

A Introduction

The applications included in the Planning and Analysis sector forecasts are:

- Spreadsheets (e.g., Lotus 1-2-3, SuperCalc, Excel)
- Decision support systems (DSS) (e.g., System W)
- Financial modeling tools
- Budgeting and forecasting tools
- Project management
- Integrated software (e.g., Symphony and Framework)
- Operations research

"Decision support systems" (DSS) is a somewhat flexible term that can mean a number of different things. For the purposes of this report, decision support systems include:

- Spreadsheets, such as Lotus 1-2-3 and SuperCalc

- Financial modeling and analysis tools

- All-in-one integrated software; i.e., Symphony and Framework

- "Traditional" DSS tools, such as Express IFPS, and System W, that include all or most of the following: data base capabilities, report generator, graphics, query facility, programming language, "what-if" capability, and statistical analysis capability

Clarifications to the planning and analysis applications included in this sector's forecasts are as follows:

- Cross-industry DSS tools are included while industry-specific DSS tools are not, since the latter are contained in each vertical market sector forecast of user expenditures.

- Excluded from the analysis and forecasts are analysis systems related to CAD/CAM/CAE.

- The majority of expert systems and expert system generators are excluded from the forecasts and analysis in this section. The great majority of expert systems will be developed for industry-specific applications or for specific cross-industry applications, such as accounting or human resources, and, as such, are included in each relevant section. In addition, expert system generators are considered to be application development tools and are included in that sector.

- On-line data bases are not included in either the forecasts or analysis for this sector. Rather, they are forecast in their own section.

A number of factors are contributing to the health of the Planning and Analysis sector:

- Technology advances in both hardware and software are enabling previously simple planning/analysis systems to evolve into not only decision support systems, but also decision-making systems. Continued advances in artificial intelligence techniques will enable both knowledge-based and expert systems to become increasingly commonplace by the late 1980s.

- The overwhelming success of Lotus 1-2-3 has introduced over two million users to the power of microcomputing, with the attendant market potential for selling add-on products and services.

- User demand for micro-mainframe links has resulted in numerous hardware and software offerings that make it easier to extract data from a central data base and download it to a PC for local analysis.

B

Decision Support Systems

"Decision Support Systems" means different things to different people. On the narrow end, DSS is defined as an interactive, computer-based system that supports executives and managers in making unstructured decisions. On the other end of the spectrum, DSS has been defined as any system that supports decisions. The primary objective of DSS is to achieve higher-quality decision making.

Traditional DSS products are for computer users who have outgrown their spreadsheets or need ready access to mainframe data files. Although DSS packages and financial modeling programs have a very solid niche in the Fortune 1000, these sophisticated products will never take over the market because although they may provide greater performance and functionality, the majority of computer users have become very attached to products such as Lotus 1-2-3.

An area that continues to intrigue vendors is executive information systems (EIS). The need for corporate executives to know is among the driving forces behind executive information systems, a promising market that has not yet fully developed. The process of installing an EIS system uncovers issues of data ownership and data management that corporations never realized existed. Such complexities seem to have a slowing effect on the penetration of EIS into corporate America.

Further, this market has been held back by the reluctance of executives to embrace computer technology, a situation partially due to the lack of systems that truly address their needs. These needs include:

- Timely access to data from a variety of sources
- Data manipulation and reporting capabilities
- Customized graphics
- Timely distribution of information
- Convenient and personalized access
- Pushbutton access to analysis, "what-if," and ad hoc reporting

The main trends in traditional DSS include:

- The merger of DSS and data bases which will provide greater access to information contained in various corporate data bases. This greater integration will allow DSS to become more widely used, as opposed to the relatively isolated usage it has found to date. Traditional DSSs handle importing data from data bases much more easily and capably than spreadsheets.

- The range of solutions offered by DSS has expanded beyond the financial modeling systems that have historically defined this category, and the range of users seeking to tap into automated aids to decision making is growing as well.

- The movement from the mainframe to the PC continues with the most successful products being those well-designed implementations of a mainframe version that allow the PC and mainframe to share data and processing load easily.

- Mainframe systems are enjoying a resurgence in popularity, spurred by the need to tie in to large data bases, the need for more graphics, and easier-to-use interfaces for mainframe products.

- The ease of use and user interface of DSS products have been improving.

In the spreadsheet market, a number of new products have been released, but none has successfully challenged Lotus's hegemony in the market. Although Lotus still dominates the micro spreadsheet market, it is being seriously challenged by three types of competitors: those that are significantly less expensive than 1-2-3, no-frills spreadsheets, and Lotus clones. The challengers include:

- Low-cost clones of 1-2-3, such as VP-Planner from Paperback Software. These work-alikes have had a negligible impact on sales of 1-2-3. Priced in the $100-150 range, they have been beset with bugs, sloppy implementations, and a genuine concern on the part of customers about the financial viability of the companies supplying these products.

- Microsoft's Excel, developed for the Macintosh. This has been widely touted as the "best" spreadsheet available (with some validity) for any personal computer, including the IBM PC. While it quickly developed into the best-selling spreadsheet for the Macintosh (easily leaving Jazz and Crunch in its wake), it still only maintains sales that are a fraction of 1-2-3's.

- Javelin, although it has generated a great deal of excitement for its elegant and innovative design, has failed to generate a commensurate level of sales. This product, which the company describes as a "business analysis and reporting tool," has carved out a strong niche among certain segments of the spreadsheet market, such as financial analysts and other sophisticated users who are involved with developing complex financial models. There is no danger that Javelin will displace Lotus 1-2-3 in the market for general purpose spreadsheets.

- So-called "three-dimensional" spreadsheets from such vendors as Boeing Computer Services and Martin Marietta Data Systems. These products allow multiple spreadsheets to be linked easily and efficiently. Although these products definitely fulfill a need among a number of users in large corporations, such as for consolidating spreadsheets from a number of divisions or product lines, the market they address has been slow to respond.

Although it is inevitable that Lotus will lose some market share, the decline will be gradual at most. In fact, Lotus has a rock-solid hold on the spreadsheet market for at least the remainder of the decade. The reasons that Lotus 1-2-3 will maintain the position of being the most entrenched product in the history of microcomputing (with the possible exception of MS-DOS) include:

- The recently released and upcoming products and services from Lotus that are designed to support the use of 1-2-3.

- A historically strong management team that has been made even stronger and deeper.

- The support of hundreds of third-party developers who develop useful add-on products for 1-2-3.

- The reluctance of users to convert to another product, primarily due to the critical mass of Lotus 1-2-3 usage that has been developed in corporations. Users have made very sizeable investments in training, the creation of data files, and the creation of worksheets and templates.

- Most intriguing, the introduction of HAL. HAL, a natural language interface for 1-2-3 released by Lotus in the fall of 1986, has the potential to lock out the majority of competing spreadsheet vendors from the market completely. HAL provides Lotus 1-2-3 with an interface that offers a combination of functionality and ease of use that will remain unmatched by any microcomputer software product for some time to come.

Though smaller in number, the mainframe spreadsheet is gaining acceptance among end users as a legitimate alternative to its PC counterpart. Mainframe-based spreadsheets offer three key advantages over PC-based spreadsheets: the ability for users to access mainframe data bases directly, the virtually unlimited capacity of a spreadsheet using mainframe resources, and the capability for mainframe users to share information and spreadsheet models from a common source.

C

Project Management

Project management software has made significant strides in recent years. Programs are easier to learn and use; speed, capacity, and graphics have been improved; and connectivity issues are being addressed by most vendors.

However, the market for project management software has not taken off because of users' misconceptions of what the program can do and the complex training issues involved. Making effective use of project management software requires considerable learning of both the science of project management and the software's functions. In brief the "fear of flying" has kept this market grounded.

Connectivity will continue to be a major concern. In most information environments the data in a typical data base is shared with other data bases. Vendors have responded by developing software with import and export capabilities.

End users are increasingly looking at "one-vendor solutions" for their choice of project management software. Traditional vendors who have offered mainframe-based software have responded by introducing PC-based versions.

Trends that favor the growth of project management systems include:

- A broadening awareness of project management techniques brought about by the availability of micro-based project management software.

- Relatively low penetration of project management systems in some key user industries.

- Project management techniques that are beginning to spread to organizations that have not historically been managed under a project-oriented structure and that are being applied to smaller-scale projects. This widening of applications can be attributed to the availability of powerful micro-based project management software.

- A few years after the first limited-function microcomputer project management packages were introduced, more sophisticated, higher-cost microcomputer packages were introduced by vendors such as Primavera and Strategic Software Planning Corporation. These higher performance microcomputer packages have attracted many users away from mainframe and minicomputer solutions.

- One of the biggest problems with using micro-based project management has been the inability to get data from applications such as dBase III and Lotus 1-2-3. Consequently, a number of microcomputer software project management vendors are providing a direct interface with these applications. Examples of programs that have recently added this capability include Timeline, Primavera, and the Total Project Manager.

Trends that will slow the growth of the market include:

- One of the problems in selling project management is that it requires a face-to-face selling effort to sell the package effectively.

- There are few new applications that have large projects to make up for the growing saturation in the aerospace/defense and other large-project markets.

- The need to educate customers on project management techniques.

- Long selling cycles—six to eight months for large systems; several months for micro-based systems.

II

Market Forecasts

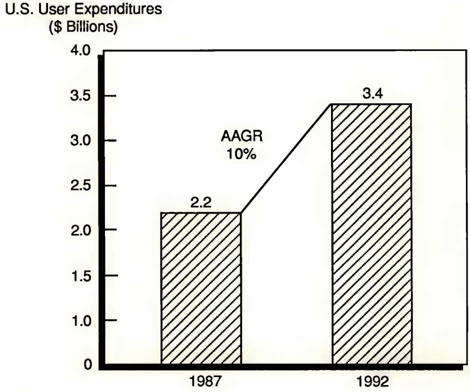
A

Introduction

User expenditures for cross-industry planning and analysis applications will grow at a moderate 10% average annual growth rate through 1992, increasing from $2.2 billion in 1987 to $3.4 billion in 1992, as shown in Exhibit II-1.

EXHIBIT II-1

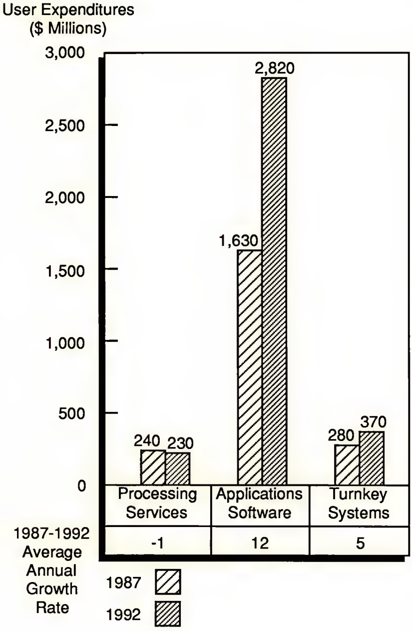
**PLANNING AND ANALYSIS SECTOR
INFORMATION SERVICES MARKETS, 1987-1992**



Forecasts for user expenditures by delivery mode are shown in Exhibit II-2.

EXHIBIT II-2

PLANNING AND ANALYSIS SECTOR INFORMATION SERVICES MARKETS BY DELIVERY MODE, 1987-1992



Appendix PA-A contains the forecast data base for each year from 1986 through 1992 by delivery mode.

Positive factors influencing this market include:

- More powerful microcomputer hardware
- Improved micro-mainframe links for easier access to large data bases and for faster dissemination of results
- Improved integration of planning and analysis systems with transaction processing systems

Negative factors influencing this market are:

- Users are unwilling to learn new systems if their current system is believed to be adequate.
- The increased "verticalization" of most general purpose planning and analysis applications, such as DSS and project management, while certainly a positive trend for vendors, has a negative implication for INPUT's cross-industry planning and analysis forecasts. The move to industry-specific applications means that the growth areas in the market will not appear in the forecasts for planning and analysis; rather, they will be shifted to the appropriate vertical market.

B

Processing Services

The proliferation of fully featured, competitively priced, PC-based DSS packages has had a dramatic impact on remote computing services. PC-based DSSs have provided a ready alternative to remote computing services for small firms or new users just entering the market for a DSS. It's easier than ever before for a small- to medium-sized company to buy a small decision support system.

Processing service vendors are moving increasingly to provide on-line data base services in conjunction with their DSS services. Note: The growth in the market for on-line data bases is part of a separate forecast and is not included in the Planning and Analysis market forecast.

About 10 remote processing service companies offer project management services, but most have de-emphasized this service in the wake of declining sales.

C

Spreadsheets

The factors contributing to the growth of user expenditures for spreadsheets include:

- New users who will be attracted by the HAL natural language interface
- Templates, add-ons, custom consulting services, and other services for 1-2-3 that will extend its life
- The ability of "clone" vendors to sell to users who desire their own copy of a spreadsheet rather than being forced to "share" a copy of 1-2-3
- Micro-mainframe links that increase the usefulness of PC-based spreadsheets

The factors that negatively impact user expenditures for spreadsheets include:

- Saturation in the market
- Downward pricing pressures from low-priced clones
- Site licensing plans which lower the per-unit price of software
- Increased sales of all-in-one integrated software that reduces the need to buy a separate spreadsheet

Consequently, the net result will be flat sales for spreadsheets in the U.S. with the only growth coming from overseas markets. However, related add-on products and services for spreadsheets (primarily Lotus 1-2-3) offered by either Lotus or other firms will continue to show strong growth.

D

Decision Support Systems

The main factor spurring growth of traditional DSS software is the increased development of connected computing systems in the form of micro-mainframe links, LANs, and distributed processing networks. Greater access to data will drive greater demands for tools to analyze the data.

Other factors positively impacting the market for traditional decision support systems include:

- Artificial intelligence technologies to improve the power and ease of use, and consequently the attractiveness, of current DSS applications. Most of the current product development in DSS with respect to artificial intelligence is taking place in the user interface area with natural language interfaces, particularly in ad hoc data retrieval applications.

- Improved networking and micro-mainframe communications, which will stimulate the growth to larger-scale, organization-wide DSS applications.

The main factor slowing growth of traditional DSS software is that users are reluctant to learn new systems.

Other factors negatively impacting the market for traditional decision support systems include:

- Because of constantly improving price/performance of all ranges of hardware and increased power of applications software, remote computing services and batch processing will continue to lose ground to in-house solutions. However, market opportunities still exist for the processing of very large data bases with their attendant retrieval and analysis requirements.
- The market is becoming mature.

E

Project Management

The aerospace and defense industries have been behind much of the brisk growth of project management turnkey systems growth. However, this market is reaching saturation. Areas where there is still room for growth include contract construction, high technology manufacturing, and management of R&D labs. These untapped opportunities exist because micro-based project management systems make the use of project management techniques in smaller projects more feasible.

The growth in traditional turnkey systems, as well as mainframe and minicomputer software, has slowed while growth in micro-based project management continues to grow rapidly.

III

Competitive Developments

A Introduction

The vendors offering products and services in the planning and analysis arena range from leading software vendors like Microsoft and Lotus to smaller companies such as Metier Management Systems and Project Software and Development that are major vendors in a market niche. Many vendors have used alliances and marketing agreements with other vendors, and to a lesser extent mergers and acquisitions as strategies to penetrate this market.

B Vendor Profiles

1. AGS Management Systems, Inc. (880 First Avenue, King of Prussia, Pennsylvania 19406)

a. Products/Services

AGS Management Systems, a division of AGS Computers, Inc., provides micro- and mainframe-based project management software, and planning, training, and consulting services. The company's product line includes PAC I, PAC II, PAC III, PC/70, and WINGS project management systems, and SDM/70 and SDM/STRUCTURED methodologies.

b. Company Strategy

The company leverages the expertise of AGS Computers in custom programming to provide extensive support services, including integrated installation planning, product-specific and skills-development training, and consulting.

c. Recent Activities

In February 1987, AGS Management Systems announced a new release of its WINGS project management software.

In April 1987, the company announced MULTI/CAM, a micro/mainframe-based computer-aided systems engineering (CASE) workstation.

2. Ashton-Tate Corporation (20101 Hamilton Avenue, Torrance, California 90502)
Revenue (FYE 1/31/87): $210.8 million

a. Products/Services

Ashton-Tate develops and markets microcomputer software products. The company markets the following programs: dBase III Plus, dBase Mac, Rapidfile and dBase Direct/36 in data base management systems, Multimate Advantage II and Multimate Advantage II LAN in word processing, the Master Graphics Series in business graphics, Framework II in integrated software, and Byline in desktop publishing.

b. Company Strategy

Ashton-Tate's strategy is to diversify horizontally and add new products to its product line. The company anticipates that revenues from data base products will decline as a percentage of total revenues, while revenues from other application areas will increase.

c. Recent Activities

In 1987 Ashton-Tate released several new products and new versions of its current products. These include dBase Mac, a data base management system for the Apple Macintosh; Multimate Advantage II; and RapidFile.

In June 1987, Ashton-Tate and Dun & Bradstreet (New York, NY), in a joint venture, introduced Dun's Sale Search, a data base management program for analyzing sales and tracking accounts.

In July 1987, Ashton-Tate introduced its Master Graphics Presentation Pack, a software package that combines three graphics management functions—Chart-Master, Sign-Master, and Diagram Master with a common menu interface.

In August 1987, the company announced Byline, an IBM PC desktop publishing software product.

In September 1987, Ashton-Tate introduced Multimate Advantage II LAN, a local area network (LAN) version of its word processing product.

In October 1987, Ashton-Tate unveiled dBase Direct/36, a connectivity software package that links dBase III Plus with the IBM System/36.

d. Future Direction

The company claims that growth will come from internally developed products, as opposed to acquired software. The challenge before Ashton-Tate is to develop versions of its software products for a new generation of operating systems and machines including OS/2 operating system and computers based on Intel's 80386 microprocessor.

In five years Ashton-Tate plans to be a solutions-oriented company with revenues of $1 billion.

3. Computer Associates International, Inc. (711 Stewart Avenue, Garden City, New York 11530)

Revenue (FYE 3/31/87): $309.3 million

a. Products/Services

Computer Associates International develops and markets a wide range of systems software, applications software, data base management systems, and microcomputer software products for mainframes, minicomputers, and microcomputers.

Computer Associates is organized into four divisions: Systems Products Division, Applications Products Division, Micro Products Division, and International Products Division. The Micro Products Division offers software products in five categories: project management, spreadsheet, word processing, data base management systems, and financial accounting.

b. Company Strategy

Computer Associates' business strategy is to address the needs of corporate data processing with a broad range of software products with emphasis on product integration.

c. Recent Activities

In May 1987, Computer Associates acquired BPI Systems, Inc. (Austin, TX). BPI markets business management software for microcomputers.

Also in May 1987, Computer Associates acquired L & L Software, Inc. (McLean, VA), a vendor of minicomputer-based job cost accounting systems.

In July 1987, Computer Associates introduced project management software products for Apollo workstations. The company also announced a cooperative marketing agreement calling for the joint merchandising of Computer Associates graphics and project management software packages that have been specifically developed for Apollo's workstations.

In August 1987, Computer Associates acquired one of its major competitors, UCCEL Corporation (Dallas, TX). UCCEL is a major vendor of systems software and banking applications software. The merger established Computer Associates as the biggest independent software vendor.

d. Future Direction

The merger of Computer Associates and UCCEL has created a software giant. Yet according to Computer Associates chairman Charles B. Wang, "We still think of ourselves as a small company. We want to be a one-stop software company." Wang adds that he doesn't have a grand design to move into specific markets. What he does have is a grand model. If a company fits in, it becomes an acquisition possibility.

4. Comshare, Inc. (3001 South State Street, Ann Arbor, Michigan 48108)

Revenue (FYE 6/30/87): $70.2 million

a. Products/Services

Comshare develops and markets management productivity software and services. The company's major software products are System W for decision support systems and management accounting applications, Commander for executive information systems, and Profiles for human resource information systems.

Comshare's major product lines are focused on the needs of business managers and executives, and enable users to analyze financial and operating data for performance analysis and decision making.

System W is used for management accounting applications such as budgeting, planning, modeling, forecasting, analysis, and reporting.

Commander EIS (executive information systems) is designed for the information needs of senior managers and executives.

b. Company Strategy

Comshare is continuing its transition from timesharing services that in fiscal 1982 accounted for 92% of revenues. In fiscal 1987, software products and professional services accounted for 56% of revenues (2% in fiscal 1982) with timesharing processing providing 43% of revenues.

c. Recent Activities

In June 1987, Comshare announced the Commander Executive, a PC-based software product for managers and executives. Commander Executive is an addition to the Commander EIS product line.

In September 1987, Comshare and Dow Jones News/Retrieval (New York, NY) announced a joint marketing and development agreement that will provide Comshare's Commander EIS with easy access to Dow Jones News/Retrieval's business and financial information services.

d. Future Direction

Comshare will focus its efforts on serving the executive information and decision support markets.

5. Execucom Systems Corporation (9442 Capital of Texas Highway North, Austin, Texas 78759)

a. Products/Services

Execucom designs and markets decision support systems software for nontechnical business professionals. The company focuses on senior managers and executives in the areas of finance, corporate planning, information centers, and data processing.

Execucom offers software products for mainframes, minicomputers, and microcomputers. The company's products includes IFPS/Plus, IFPS/Personal, Corporate Decision Support System, Impressionist, and Mind-Sight.

b. Company Strategy

Execucom intends to maintain its leadership position in the decision support arena by continuing to enhance IFPS and to develop applications for a wider range of hardware platforms.

c. Recent Activities

In January 1987, Execucom and Digital Equipment Corporation established a joint marketing program to promote Execucom's financial planning and decision support software and Digital's hardware.

In February 1987, Execucom announced the release of IFPS/Plus 3.0, a version of its corporate decision support software. This version features a natural language interface and integrates artificial intelligence with business planning functions.

In November 1987, Execucom and Natural Language Incorporated (Berkeley, CA) announced a joint marketing agreement calling for Execucom to incorporate NLI's Data Talker natural language technology in Execucom's product line.

6. Lotus Development Corporation (55 Cambridge Parkway, Cambridge, Massachusetts 02142)
Revenue (FYE 12/31/86): $282.9 million

a. Products/Services

Lotus develops and markets a line of software products and information services focused primarily on the needs of personal computer users. In addition to its well-known spreadsheet software product 1-2-3 and Symphony, Lotus offers over 20 other products.

b. Company Strategy

Lotus is implementing a building-block approach to acquisition and internal development that leverages the success of 1-2-3 and opens up new products and markets.

c. Recent Activities

In March 1987, Lotus and MCI Communications Corporation (Washington, DC) announced the first shipment of Lotus Express for MCI Mail, a communications software product that enables personal computer users to exchange messages and send telexes.

In April 1987, Lotus announced versions of 1-2-3, Symphony, Freelance Plus, and Lotus Express for the IBM Personal System/2 series of personal computers. Also in April 1987, Lotus and IBM signed a ten-year joint marketing and development agreement for a series of Lotus and IBM products for use on both microcomputer and mainframe systems.

The first such product will be 1-2-3/M, a mainframe-based version of Lotus 1-2-3, which will be marketed by both companies but sold exclusively by IBM.

In addition to cooperating on spreadsheet applications, Lotus and IBM will explore a range of business applications, including data base applications compatible with the industry standard Structured Query Language (SQL).

In May 1987 Lotus and Toshiba America, Inc. (Tustin, CA) signed a joint marketing agreement to sell Lotus's Symphony with Toshiba's 3100-20 portable personal computer.

In July 1987, Lotus announced that it would acquire Datext (Woburn, MA), a provider of business reference information delivered on optical disk (CD ROM) storage media.

In August 1987, Lotus completed the acquisition of Computer Access Corporation (Belmont, CA), a maker of text-search and retrieval software for microcomputers.

In October 1987, Lotus began shipping Lotus Graphunter II, an automated charting system for producing charts created from spreadsheet or data base data.

Also in October 1987, Lotus announced that it would develop a new version of 1-2-3 for Apple's Macintosh family of personal computers.

In November 1987, the company introduced Lotus Agenda, software designed to help users manage personal information such as notes, messages, reminders, and addresses. Lotus hopes to establish a new application area, personal information management.

d. Future Direction

Lotus will continue to expand its product line to include a portfolio of software products that work as a system that will address the needs of individuals, work groups, and departments. The company will expand its spreadsheet product line to support new operating systems, offer new applications to tie together its various products, and adapt 1-2-3 to mainframe and other large-system computing environments.

7. Metier Management Systems, Inc. (2900 North Loop West, Suite 1300, Houston, Texas 77092)
Revenue (FYE 12/31/86): $85.2 million

a. Products/Services

Metier Management Systems, a subsidiary of Lockheed Corporation (Calabasas, CA) develops and markets turnkey systems, software, and consultancy services for project management applications. The company markets its products and services primarily to the petroleum industry followed by the aerospace, defense, engineering, and construction industries.

The company offers project management software under the trade name Artemis, for minicomputers, mainframes, and microcomputers.

b. Company Strategy

Metier plans to expand into less traditional project management-oriented industries.

c. Recent Activities

The company has announced development of new applications for Unisys computers. These include Contractor Performance Analysis System (CPAS) and Risk Analysis. CPAS allows users to analyze a contractor's cost performance reports, and Risk Analysis is a scheduling application using probability analysis. These products are due to be released in mid-1988.

d. Future Direction

Metier will expand into new areas including pharmaceuticals, telecommunications, finance, and high technology industries.

8. Microsoft Corporation (16011 North East 36th Way, Redmond, Washington 98073)

Revenue (FYE 6/30/87): $345.9 million

a. Products/Services

Microsoft designs and markets systems software, applications software, languages, and peripherals for microcomputers. The company offers over 40 microcomputer products, including MS-DOS, OS/2, Xenix, Word, Multiplan, Excel, Chart, and Project. The company's applications software products provide for word-processing, spreadsheet, file management, and project management capabilities.

b. Company Strategy

Microsoft plans to extend its leadership in microcomputing operating systems by setting a new software standard with OS/2.

c. Recent Activities

In January 1987, Microsoft announced an alliance with Hewlett-Packard (Palo Alto, CA) and Aldus Corporation (Seattle, WA) to promote a Microsoft windows-based solution for the desktop publishing market.

In April 1987, Microsoft announced the development of OS/2, an operating system for microcomputers that provides for multitasking and exploits the capabilities of Intel's 80286 and 80386 microprocessors.

In June 1987, Microsoft announced a $1 million minority equity investment and product licensing agreement with Natural Language Incorporated (Berkeley, CA). Natural Language's product Data Talker is an English-language interface that allows users to access data bases in plain English.

Also in June 1987, Microsoft announced Quick C, a compiler and interactive debugger.

In July 1987, Microsoft acquired Forethought, Inc. (Sunnyvale, CA), a developer of personal computer graphics-based applications software.

In August 1987, Microsoft and Altos Computer Systems (San Jose, CA) announced a technology exchange agreement for the development of UNIX/XENIX operating system software.

In September 1987, Microsoft announced Microsoft Windows/386, a version of windows operating environment for 80386-based computers.

In October 1987, Microsoft introduced QuickBASIC 4.0, a software product that combines the features of a compiler and interpreter.

In November 1987, Microsoft announced the release of Microsoft Pageview, a page preview and graphics integration program that works with Microsoft Word to let users preview their documents on screen before printing them.

Also in November 1987, Microsoft announced the shipment of Microsoft Works for the IBM PC. Works is designed for users who perform a variety of general business tasks.

d. Future Direction

Over the next year Microsoft will introduce a variety of new products. The company's goal is to build market acceptance for these products, while preparing the market for the advances represented by OS/2.

9. Project Software & Development, Inc. (20 University Road, Cambridge, Massachusetts 02138)

a. Products/Services

Project Software & Development (PSDI) provides software, consulting, and support services for project management systems. The company focuses on corporations that manage and control large, complex projects.

PSDI's flagship product Project/2 is a comprehensive mainframe and minicomputer project management software product. The company also offers a plant and facilities maintenance software product.

b. Company Strategy

In response to user needs, PSDI has adapted its products for departmental project management. (See Recent Activities.)

c. Recent Activities

In April 1987, PSDI introduced Quiknet Professional, a project management software program for the IBM personal computer.

In August 1987, PSDI announced that it would offer Project/2 at a lower price, for limited users. Although Project/2 was traditionally priced at $260,000 for unlimited users, a new price of $99,200 was announced for two concurrent users making the product attractive for departmental project management. The software in the repriced package includes Project/2 along with Oracle's (Belmont, CA) relational data base.

d. Future Direction

PSDI's growth has been hampered by a failure to penetrate new markets. Though strong in the utilities and aerospace sectors, PSDI has found it difficult to convince potential users in other markets such as financial services, communications, and pharmaceuticals. The company has become an official supplier of project management software to the 1988 Winter Olympic Games at Calgary, Canada and hopes to leverage this "coup" to penetrate newer markets.

10. Software Publishing Corporation (1901 Landings Drive, Mountain View, CA 94039)

Revenue (FYE 9/30/87): $38.6 million

a. Products/Services

Software Publishing develops and markets business productivity software for personal computers. The company offers several products under its PFS Series including WRITE, FILE, GRAPH, First Choice, First Publisher, and Professional Series. Software Publishing also offers Harvard Graphics and Harvard Total Project Manager II.

b. Company Strategy

The year 1986 was one of transition for Software Publishing. The company's revenues fell to $23.7 million from $37.2 million the previous year. Software Publishing had traditionally sold strongly to small-business users through retail channels and employed only a minimal sales force for direct sales. The company decided to differentiate the market into two segments: traditional consumers and corporate customers. The company created a new product line called the Professional Series to cater to managers and executives. In early 1987 the company launched an advertising and promotional campaign directed toward corporate users. These measures resulted in a rebound for the company, which had revenues of $38.6 million for 1987.

c. Recent Activities

In February 1987, Software Publishing announced Harvard Total Project Manager II, a microcomputer-based project management system that allows users to plan projects on-screen.

In April 1987, the company announced shipment of the Harvard Professional Publisher, a microcomputer-based desktop publishing program.

d. Future Direction

The company will continue its emphasis on the corporate market segment and will strive to increase market penetration.

IV

Conclusions and Recommendations

Decision Support Systems: There is ample room for improving today's decision support systems. DSS should be more powerful, more flexible, and more intelligent. Tomorrow's decision support systems should exploit developments in artificial intelligence, data base technologies, and fourth-generation languages.

Executive Information Systems: The EIS market today is in an embryonic stage with few competitors. The major vendors focus on the Fortune 500 with products that cost over $100,000. This leaves opportunities for software vendors to develop micro- and minicomputer-based applications for smaller firms.

Spreadsheets: Spreadsheets should be compatible across micros, minis, and mainframes and should support networks.

Users are looking for more flexible spreadsheets that can be customized for specific applications such as vertical market applications. Software vendors are faced with the dilemma of meeting those needs without diluting their product offerings.

Project Management: Vendors should address the different connectivity aspects. This includes communication between PC and mainframe products from the same vendor, communication between PC and mainframe products from different vendors, and communication between PC products from different vendors.

The market for project management software includes new users, which suggests a broadening appeal to this market. Promising areas are pharmaceutical companies, financial institutions, research and development labs, software development companies, and law offices. Vendors should convince potential users that the real value of project management comes as the experience of the user builds.

A

Appendix: Forecast Data Base: Planning and Analysis Sector

This appendix contains the following forecast information:

- Market size by delivery mode for each year from 1986 to 1992
- Market growth rates for 1986 through 1987
- Average annual growth rate (AAGR) for each delivery mode for the five-year period 1987-1992

EXHIBIT A-1

PLANNING AND ANALYSIS SECTOR CROSS-INDUSTRY USER EXPENDITURE FORECAST, 1987-1992

SEGMENTATION BY DELIVERY MODE	1986 ($M)	1986-1987 Growth	1987 ($M)	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	AAGR 1987-1992 (%)
Remote Computing/ Batch Services	235	0	235	239	235	234	232	229	-1
Applications Software									
Mainframe/Mini	663	11	735	838	944	1,050	1,164	1,273	12
Micro	775	16	896	1,012	1,121	1,306	1,444	1,546	12
Total Applications Software	1,438	13	1,631	1,850	2,065	2,356	2,608	2,819	12
Turnkey Systems	266	7	284	299	321	342	353	370	5
Cross-Industry Total	1,939	11	2,150	2,388	2,621	2,932	3,193	3,418	10

B

Appendix: Forecast Reconciliation

This appendix contains the following information:

- The changes made in this year's forecast as compared to last year's.
- An explanation of any significant changes that were made to the forecasts.
- The forecasts for turnkey systems were reduced because users increasingly prefer using existing or industry-standard hardware to give them greater flexibility in choosing a software vendor.

EXHIBIT B-1

PLANNING AND ANALYSIS SECTOR—DATA BASE RECONCILIATION OF MARKET FORECAST, BY DELIVERY MODE

DELIVERY MODE	1986 MARKET			1991 MARKET			1986-1991 AAGR Forecast in 1986 Report (Percent)	1986-1991 AAGR Forecast in 1987 Report (Percent)
	1986 Forecast ($ Millions)	1987 Report ($ Millions)	Variance as a Percent of 1987 Report	1986 Forecast ($ Millions)	1987 Forecast ($ Millions)	Variance as a Percent of 1987 Forecast		
Remote Computing/ Batch Services	250	235	6	225	232	-3	-2	-1
Applications Software								
Mainframe/ Mini	663	663	0	1,076	1,164	-8	10	12
Micro	775	775	0	1,445	1,444	0	13	12
Total Applications Software	1,438	1,438	0	2,521	2,608	-3	12	12
Turnkey Systems	266	266	0	425	353	20	10	5
Cross-Industry Segment Total	1,954	1,939	1	3,171	3,193	-1	10	10

About INPUT

INPUT provides planning information, analysis and recommendations to managers and executives in the information processing industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions. Continuing services are provided to users and vendors of computers, communications, and office products and services.

The company carries out continuous and in-depth research. Working closely with clients on important issues, INPUT's staff members analyze and interpret the research data, then develop recommendations and innovative ideas to meet clients' needs. Clients receive reports, presentations, access to data on which analyses are based, and continuous consulting.

Many of INPUT's professional staff members have nearly 20 years experience in their areas of specialization. Most have held senior management positions in operations, marketing, or planning, This expertise enables INPUT to supply practical solutions to complex business problems.

Formed in 1974, INPUT has become a leading international planning services firm. Clients include over 100 of the world's largest and most technically advanced companies.

Offices

NORTH AMERICA

Headquarters
1280 Villa Street
Mountain View, CA 94041
(415) 961-3300
Telex: 171407
Fax: (415) 961-3966

New York
Parsippany Place Corp. Center
Suite 201
959 Route 46 East
Parsippany, NJ 07054
(201) 299-6999
Telex: 134630
Fax: (201) 263-8341

Washington, D.C.
8298C, Old Courthouse Rd.
Vienna, VA 22180
(703) 847-6870
Fax: (703) 847-6872

EUROPE

United Kingdom
41 Dover Street
London W1X3RB
England
01-493-9335
Telex: 27113
Fax: 01-629-0179

ASIA

Japan
FKI
Future Knowledge Institute
Saida Building,
4-6, Kanda Sakuma-cho
Chiyoda-ku,
Tokyo 101,
Japan
03-864-4026
Fax: 011-03-864-4114

INPUT®
Planning Services for Management