Market Analysis
Program (MAP)

Industry Sector Markets 1989-1994

Wholesale Distribution

Forecast Update

INPUT®

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

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INDUSTRY SECTOR MARKETS 1989-1994

WHOLESALE DISTRIBUTION

FORECAST UPDATE

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Wholesale Distribution Sector

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Introduction

A

Purpose

The purpose of this Forecast Update is to provide the 1989 INPUT forecasts for this market, together with commentary on recent market and competitive issues. This update should be used in conjunction with the vertical industry report issued in December 1988. Forecasts contained in this Forecast Update are reconciled to the data in that report.

B

Environment and Market Changes

INPUT identified the following changes to the wholesale distribution environment and market:

The growth of the wholesale distribution information services market is linked to regional and sector performance in the industry. 1989 was a difficult year for distributors of oil/gas-related products. By the same token, it was a good year for distributors of high technology products.

For the largest wholesale distribution firms, growth in sales and profits outpaced growth in overall retail sales. Specifically, through the third quarter of 1989, sales and profits for publicly-held food, drug, and industrial goods wholesale distributors changed as follows:

Change—First 3 quarters of 1989 versus 1988 (Percent)

Industry group	Sales	Profits
Food distributors	+ 19	+ 11
Drug distributors	+ 13	+ 17
Industrial products distributors	+ 7	+ 5

Source: *Business Week*

1. Large Wholesale Distributors

Pharmaceutical distribution and food retailing is continuing to emphasize the use of electronic data interchange (EDI) to improve service and delivery, while maintaining sufficient inventory levels to support the volume of business.

Large wholesalers are using the following information technologies or services:

- POS
- Bar coding systems
- Material handling/warehouse automation systems
- Application software products for:
  - Business planning
  - Delivery route scheduling
  - Customer and product profitability analysis
  - Inventory control

In general, large wholesale distribution firms are implementing an organization model built around customer service. In this integrated model, information about the customer's order is linked with internal information and provided to the warehouse for picking, packing, and shipping. The model provides information to the customer service department for follow-up, if necessary.

Larger wholesale firms are also implementing a wholesale distribution inventory replenishment model similar to the just-in-time (JIT) model used in manufacturing.

Major wholesale distributors are adding employee training to build a viable workforce. Like other industries, wholesalers are having difficulty finding qualified entry-level employees. To remain competitive, these firms must invest in staff training.

2. Small Wholesale Distributors

Small wholesale distributors are investing more in automation. More family-owned firms are adding personal computer-based systems as a first step toward automation. Microcomputer-based application software packages improve the following key business functions:

- Order entry
- Inventory
- Accounts receivable
- Monitoring backorder conditions
- Monitoring "pull dates" for perishable goods

It is critical that smaller wholesale firms manage inventory and accounts receivable carefully. These firms cannot tie up too much capital in inventory and, since cash flow is the lifeblood of any small business, they must get paid promptly.

C

Events in the Wholesale Distribution Sector

As in other industry sectors, merger and acquisition activity in wholesale distribution remained strong in 1989. During the first two quarters of 1989, 97 mergers and 25 divestitures took place, according to *Mergers & Acquisitions,* compared to 100 mergers and 29 divestitures in the same period in 1988.

Although no large wholesale distributors were acquired or divested during the first two quarters of 1988 or 1989, the dollar value of all M&A activity in wholesale trade is considerable, ranking fifth among all industry sectors, according to the same source. Medium and small firms are most involved in wholesale trade consolidations.

II

Market Forecast

A

1989-1994 Forecast

1. Total Wholesale Distribution Sector

Between 1988 and 1989, user expenditures in the wholesale distribution sector grew 15%, from $1.6 billion to nearly $1.9 billion. Between 1989 and 1994, user expenditures will grow at a compound annual growth rate of 15% to $3.7 billion.

The 15% growth rate is driven by expenditures for:

- Network application services, such as EDI
- Workstation/personal computer application software products
- Processing systems operations and systems integration services

2. Processing Services

Expenditures in 1989 for processing services totaled $360 million and will grow at an 11% compound annual rate to $605 million in 1994.

User expenditures for processing services are driven by wholesale distributors' constant need to control costs. More large distributors are using third-party vendors for operating and managing data centers, defined as processing systems operations. Given the cost-driven environment in wholesale distribution, the use of processing systems operations will nearly triple over the next five years.

3. Network/Electronic Information Services

Expenditures for all network/electronic information services grew from $140 million in 1988 to $180 million in 1989, a 27% increase.

Large and medium wholesalers are using on-line market research data for early identification of consumer trends, so they can broaden the range of products supplied to retailers. A high percentage of new products are imported, resulting in a more international aspect to wholesale distribution.

Expenditures for network applications grew 30% in 1989 to $130 million. Over the five-year forecast period, user expenditures will grow 33% annually to $540 million in 1994. Companies with geographically dispersed distribution operations will use third-party networks; many of them will switch to internal networks when economically justified.

4. Application Software Products

Between 1988 and 1989, user expenditures in wholesale distribution for application software products grew 16%, from $390 million to $455 million. Between 1989 and 1994, user expenditures for packaged application software will grow at a compound annual growth rate of 15% to $920 million. Large wholesale distributors are emphasizing application software products for the following areas of their companies:

- Business planning
- Customer and product profitability analysis
- Delivery route scheduling systems

Application software products running on mainframes and minicomputers will grow at less than the rate forecast for workstations/PCs. During the next five years, unit shipments of mainframes and minicomputers will slow to 3-5% and 8-10%, respectively. The value of application software installed will be slightly greater than the overall unit growth rate, due to relatively more expensive software for integrated applications—accounting and payroll; order entry and inventory management.

User expenditures for workstation/PC-based application software of $105 million in 1989 will grow at a robust 28%, reaching $365 million in 1994. A key driving force is strong spending by distributors of all sizes for PC-based software products for the following key applications:

- Inventory control
- Accounts receivable
- Order entry
- Monitoring "pull dates" for perishable goods

5. Turnkey Systems

Users spent $415 million in 1989 for wholesale distribution-oriented turnkey systems, an increase of 14% from 1988. Over the next five years, users expenditures will grow 10% annually, reaching $670 million.

Wholesalers of expensive goods—automobiles, trucks, automotive and truck parts, lumber/building materials, and furniture—are driving sales of turnkey systems. Triad Systems Corporation (Livermore, CA) has sold turnkey systems to about 80% of the large and medium-sized auto parts wholesalers. Single and multiuser PC-based turnkey systems for small local and regional wholesalers of high value items are a good opportunity.

6. Systems Integration

User expenditures in wholesale distribution for systems integration grew 20% to $130 million in 1989 and will grow at 18% compounded through 1994, reaching $300 million.

Systems integration activities affect only the largest wholesale distributors of automobiles, jewelry, industrial chemicals, food products, drugs, paper products, and construction materials. Services to link computers, communications, systems software, and application software will be used by large national or regional distributors.

7. Professional Services

User expenditures for professional services—$325 million in 1989—will grow at 13%, reaching $600 million in 1994, due to steady demands for specialized consulting and software development services. As the level of automation in wholesale distribution increases, more professional services, especially software development, will be contracted to third-party vendors.

III

Competitive Developments

A

Events in Wholesale Distribution

During 1989, Volt Information Sciences, Inc. (New York, NY) attempted to acquire Triad Systems, Inc. (Livermore, CA). The acquisition was not completed.

B

Vendor Profiles Related to Wholesale Distribution

The following information services vendors selling to the wholesale distribution sector are profiled:

- Distribution Sciences, Inc.
- Effective Management Systems, Inc.
- Logisticon, Inc.
- MCBA, Inc.
- National Distributor Systems, Inc.
- Triad Systems Corporation

Each profile contains the following information:

- The company
- Key products and services
- Industry markets
- Geographic markets
- Computer hardware and software

DISTRIBUTION SCIENCES, INC.
1700 Higgins Road
Des Plaines, IL 60018
(312) 699-6620

Stephen R. Smith, President
Private Company
Total Employees: 30
Total Revenue, Fiscal Year End
6/30/89: $3,500,000*

*INPUT estimate

The Company

Distribution Sciences, Inc., founded in 1969, provides IBM mainframe application software, processing services, and professional services consulting to manufacturers, retailers, and distributors to help control transportation expenses. The company's products are designed to be integrated with other logistics applications to allow firms to develop a fully automated approach to logistics.

INPUT estimates Distribution Sciences' fiscal 1989 revenue reached $3.5 million, a 20% increase over fiscal 1988 revenue.

Key Products and Services

Approximately 60% of Distribution Sciences' fiscal 1989 revenue was derived from application software products, 30% from processing/network services, and 10% from professional services consulting.

Distribution Sciences offers the following software products for IBM 43xx, 9370, and 30xx computers:

- Match Pay™ is a freight rating auditing and freight bill payment system.
- PreShipment Planning™ is an order consolidation carrier selection system.
- Base Rate™ is a freight rating and carrier selection system.
- Distribution Sciences currently has approximately 40 installations of its software products.

The following processing/network services are provided by Distribution Sciences through a third-party service bureau supported by an IBM 3083:

- Frate Bank™ is an online service offering access to various transportation data bases and software, such as freight rating, carrier selection, distribution analysis, and analysis of carrier tariffs. Frate Bank is accessed through TYMNET or directly via phone lines.

- There are currently approximately 20 customers using this service.

Distribution Sciences provides consulting services for transportation applications to its clients. Projects range in length from two weeks to one year.

Industry Markets

Approximately 70% of Distribution Sciences fiscal 1989 revenue was derived from the manufacturing industry, 20% from retailers, and 10% from distributors.

Geographic Markets

Approximately 95% of Distribution Sciences' fiscal 1989 revenue was derived from the U.S. and 5% from Canada.

Over 98% of revenue is derived from direct sales, with the remainder from distributors.

EFFECTIVE MANAGEMENT SYSTEMS, INC.
12000 West Park Place
Milwaukee, WI 53224
(414) 359-9800

Michael D. Dunham, President
Private Corporation
Total Employees: 130 (11/88)
Total Revenue, Fiscal Year End
11/30/88: $15,000,000

The Company

Effective Management Systems, Inc. (EMS) markets and supports DEC-based turnkey systems and provides consulting, project management, and education and training professional services primarily to repetitive and job shop manufacturers and distributors, including vending and food services companies. EMS is a DEC Systems Cooperative Marketing Partner (SCMP).

- EMS was founded in 1978 and by year-end the company had five customers and $100,000 in sales.
- During 1986, EMS received $1.5 million in venture capital from Wind Point Partners Inc. and Wisconsin Venture Capital Fund.
  - The funding was used to establish a network of joint ventures with entrepreneurs and small start-up companies in various locations around the U.S. for the distribution of EMS' products.
  - EMS currently has 13 joint venture partners in 13 states. EMS retains an interest in their operations, receiving a percentage of their sales. In turn, EMS provides corporate services, such as on-line telephone assistance; training, consulting, and project management support services; and marketing from its Wisconsin headquarters.
  - The company currently has over 500 installations of its systems nationwide.

Fiscal 1988 revenue reached approximately $15 million, a 25% increase over fiscal 1987 revenue of $12 million. A five-year revenue summary follows:

EFFECTIVE MANAGEMENT SYSTEMS, INC.
FIVE-YEAR REVENUE SUMMARY
($ millions)

	FISCAL YEAR				
ITEM	11/88	11/87	11/86	11/85	11/84
Revenue	$15.0	$12.0	$10.0	$6.5	$4.7
• Percent increase from previous year	25%	20%	54%	38%	N/A

EMS management attributes the company's growth to its vertical market focus and product quality.

EMS is currently organized into five operating units in addition to its joint venture relationships.

- Effective Management Systems, Inc., EMS-Wisconsin, Inc., EMS-Illinois, Inc., and EMS-Michigan, Inc. market and support turnkey business and operational (plant) systems for manufacturers.

- EMS Vending provides turnkey systems for business management to food services, office coffee, and vending company operators.

As of November 30, 1988, EMS had approximately 130 employees. The company currently has 150 employees, segmented as follows:

Marketing/sales	20
Research and development	10
Customer support	35
Training	6
Other professional services	49
Computer operations	5
General and administrative	25
	150

EMS competitors include ASK Computer Systems, Pilot Data Services, and System Software Associates.

Key Products and Services

Approximately 60% of EMS' fiscal 1988 revenue was derived from turnkey systems, 10% from software only sales, and 30% from customization, consulting, and education and training professional services. Fiscal 1988 revenue is further segmented as follows:

Turnkey systems	
- Hardware	20%
- Software	30%
- Customer support	10%
	60%
Software only sales	10%
Professional services	
- Customization	10%
- Consulting	10%
- Education and training	10%
	30%
Total	100%

EMS turnkey systems are targeted to job shop and repetitive manufacturers and wholesale distributors. The systems are designed to run on the DEC VAX family of computers and generally include multiterminal computers and networks of computers. Software modules are available for operational and financial management applications.

- The EMS Manufacturing System is targeted to plants and facilities that range from 30 to 1,000 employees and annual sales volume of $3 million to $100 million.

  - Available software modules include:

    - Customer Order Processing
    - Sales History and Booking History
    - Electronic Data Interchange
    - Material Requirements Planning
    - Master Production Scheduling
    - Inventory Management
    - Inventory Kardex System
    - Shop Floor Control
    - Capacity Requirements Planning
    - Scheduling
    - Labor Performance Reporting
    - Job Costing
    - Estimating
    - Shop Floor Data Collection
    - Bill of Materials
    - Manufacturing Routings
    - Standard Product Costing
    - General Ledger
    - Accounts Receivable

- Accounts Payable
- Payroll
- Spreadsheet, word processing, and electronic messaging capabilities

- EMS Manufacturing System modules range in price from $1,500 to $4,500, depending on the hardware platform and number of users licensed. The average complete system price is $30,000 (software only). There are currently over 380 systems installed.

- The EMS Distribution System is targeted to distributors with over three employees and annual sales of over $5 million.

  - Software modules include:

    - Distribution Customer Order Processing
    - Sales History and Booking History
    - Kitting (Bill of Materials)
    - Distribution Inventory Management
    - Inventory Kardex System
    - Purchase Order and Receiving
    - Purchasing History
    - Property and Depreciation
    - General Ledger
    - Accounts Receivable
    - Accounts Payable
    - Payroll
    - Word processing, spreadsheet, graphics, and electronic mail applications

  - EMS Distribution Systems modules range in price from $1,500 to $4,500, depending on the hardware platform and number of users licensed. Most EMS Distribution Systems are sold as part of EMS Manufacturing Systems. There are currently over 100 systems installed.

EMS also offers specialized turnkey systems based on DEC or Compaq computers for vending, food service, office coffee, music, and games operators.

- A complete Vending Operations Control System consists of several independent and separately priced subsystems, including:

  - Base Vending
  - Profitability Analysis
  - ROI History

- Route and Machine Service Analysis
- Food Preference Analysis
- Food Labels
- Machine & Vehicle Maintenance
- Music and Games
- Sales History
- Office Coffee Management

- Prices are based on the hardware selected and the number of users licensed.

- There are currently approximately 200 systems installed.

Professional services provided by EMS include customization of EMS software, project management, consulting, and training.

- Hotline telephone support is provided during business hours.

- EMS offers a series of training seminars at its training center in Milwaukee or at client sites. The seminars address the implementation, features, and functions of EMS software products, as well as training on certain word processing and data management applications that interface with EMS turnkey systems.

Industry Markets

Approximately 90% of EMS' fiscal 1988 revenue was derived from the discrete manufacturing industry and 10% from the distribution industry.

EMS clients include Auto-trol, DEC, Union Tank Car, Airmold (a division of WR Grace), TEC Systems (a division of WR Grace), Gibson Greetings, Dorner Manufacturing, Vernay Labs, Pfauter, and Maag.

Geographic Markets

Approximately 98% of EMS' fiscal 1988 revenue was derived from the U.S. and 2% from Canada.

EMS currently has 13 joint ventures/affiliates in 13 states that market EMS sytems.

EMS has clients in 38 U.S. states, with the majority of its clients located in the Midwest.

Canadian clients are located primarily in the province of Ontario.

Computer Hardware and Software

EMS has the following computers installed at its data center in Milwaukee for product development and customer support:

- 2 DEC MicroVAX IIs, VMS
- 2 DEC MicroVAX-2000s, VMS
- 1 VAXstation-2000, VMS
- 6 VAXstation-3100s, VMS
- 1 VAXstation-3500, VMS
- 1 MicroVAX 3500, VMS
- 1 MicroVAX 3300, VMS
- 1 VAXServer-3300, VMS
- 1 DEC PDP-11/83
- 2 DEC PDP-11/73s

LOGISTICON, INC.
4001 Burton Drive
Santa Clara, CA 95054
(407) 988-3811

Fred C. Laccabue, President and CEO
Private Company
Total Employees: 60
Total Revenue, Fiscal Year End
12/31/88: $6,000,000*

* INPUT estimate

The Company

Logisticon, Inc. provides turnkey systems for materials handling and warehousing to the wholesale distribution and manufacturing industries.

Logisticon currently employs about 60 people.

Key Products and Services

Logisticon develops, markets, and distributes the DISPATCHER™ System for material management functions.

The DISPATCHER System is a turnkey, real-time materials management system that controls material handling operations. The DISPATCHER System incorporates data processing hardware, data collection devices including bar code readers, radio data terminals, and communications interfaces for user host computers and machine controllers.

- The DISPATCHER System runs on HP 9000 hardware running HP-UX and DEC VAX hardware running VMS.
- The DISPATCHER System has approximately 40 installations.

Industry Markets

Logisticon targets its sales to manufacturing, wholesale and retail distribution, and warehousing industries.

Geographic Markets

Logisticon's products are available throughout the U.S. and in the U.K.

- Logisticon's sales are concentrated in the eastern U.S.

Logisticon has sales offices in Boston (MA), Milwaukee (WI), Grand Rapids (MI), and Santa Clara (CA).

Computer Hardware

Logisticon develops its products on Hewlett-Packard and DEC hardware.

MCBA, INC.
425 West Broadway
Glendale, CA 91204-1269
(818) 242-9600

Stina Hans, Chairman and CEO
Private Corporation
Total Employees: 146
Total Revenue, Fiscal Year End
3/31/89: $11,500,000

The Company

MCBA, Inc. (MCBA), established in 1974, originally developed and marketed accounting software for minicomputers. Currently, MCBA provides accounting, distribution, and manufacturing application software for mincomputers and also offers professional services.

Revenue increased 15% from $10 million in fiscal 1988 to $11.5 million in fiscal 1989. A five-year revenue summary follows:

MCBA, INC.
FIVE-YEAR REVENUE SUMMARY
($ millions)

	FISCAL YEAR				
ITEM	3/89	3/88	3/87	3/86	3/85
Revenue	$11.5	$10.0	$9.0	$8.1	$7.7
• Percent increase from previous year	15%	11%	11%	5%	5%

As of March 31, 1989, MCBA had 146 employees, segmented as follows:

Marketing and sales	52
Customer support (software)	23
Professional services	20
Development/operations	21
General and administrative	30
	146

Key Products and Services

MCBA offers 19 software packages, as shown in the exhibit. Application software accounted for approximately 85% of MCBA's fiscal 1989 revenue.

EXHIBIT

MCBA, INC.
SOFTWARE PRODUCTS

PRODUCT NAME	NUMBER INSTALLED
• Accounts Payable	10,000
• Accounts Receivable	10,000
• Bill of Materials Processor	500
• Customer Order Processing	1,500
• Fixed Assets and Depreciation	1,000
• General Ledger	10,000
• Inventory Management	1,500
• Job Costing	600
• Labor Performance	100
• Mailing List *(a)*	900
• Master Scheduling *(b)*	100
• Material Requirements Planning	250
• Payroll	9,000
• Purchase Order and Receiving	900
• Report Writer	150
• Sales History *(a)*	900
• Shop Floor Control	400
• Standard Product Costing	250
• Standard Product Routing	250

(a) Available for Wang VS Series only.

(b) Available for Wang VS Series and IBM PC/AT only.

- MCBA software operates on Hewlett Packard 3000, DEC PDP and VAX series, Wang VS series, and Texas Instruments 990 or Business Systems microcomputers running PC-DOS, MS-DOS, UNIX, or XENIX operating systems.

- Each package ranges in price from $900 to $1,700 for the microcomputer versions, and from $2,000 to $9,000 for the minicomputer versions.

- Report Writer is available in the minicomputer versions only and is priced from $750 to $1,000.

- MCBA claims to have over 30,000 installations of its application software products.

- Approximately 90% of MCBA's application software sales are for minicomputer platforms the remaining 10% are designed for microcomputers.

Approximately 15% of MCBA's 1989 revenue was derived from its professional services division.

- MCBA's professional services include custom programming and industry consulting primarily to the discrete manufacturing and wholesale distribution industries.

- MCBA also provides optional education and training services for its software packages at its headquarters location.

Industry Markets

The primary industries served by MCBA are wholesale distribution and discreet manufacturing, but MCBA's accounting software is marketed across industry segments.

MCBA targets its products at mid-range companies with revenue in the $5 to $100 million range annually.

Geographic Markets

Approximately 88% of fiscal 1989 revenue was derived from the U.S., 5% from Europe, 5% from Asia, and the remaining 2% from Canada.

Computer Hardware

MCBA has more than 30 computers installed including DEC PDP and VAX series, Wang VS, HP 3000, TI Business System, IBM PC/XT and PC/AT, NCR, Altos, Intel, and Motorola computers.

NATIONAL DISTRIBUTOR SYSTEMS, INC.
959 Main Street
Stratford, CT 06497
(203) 378-6010

John Hillgen, President and CEO
Private Company
Total Employees: 11
Total Revenue, Fiscal Year End
10/31/88: $3,200,000

The Company

National Distributor Systems, Inc. (NDS), founded in 1982, provides the CONTROL™ family of minicomputer-based turnkey systems and professional services exclusively for the wholesale food distribution industry.

Total fiscal 1988 revenue reached $3.5 million, a 17% increase over fiscal year 1987 revenue of $3 million. A three-year revenue summary follows:

NATIONAL DISTRIBUTOR SYSTEMS, INC.
THREE-YEAR REVENUE SUMMARY
($ millions)

	FISCAL YEAR		
ITEM	10/88	10/87	10/86
Revenue	$3.5	$3.0	$2.0
• Percent increase from previous year	17%	50%	15%

NDS management attributes the increases in revenue to a steady increase in both sales of new equipment and annual support contracts, and to maintenance of high customer satisfaction with previous support contracts.

As of October 31, 1988, NDS had approximately 10 employees, segmented as follows:

Marketing and sales	1
Customer support	6
Research and development	1
Computer operations	1
General and administrative	1
	10

NDS currently has 11 employees.

NDS' major competitors include IBM and Distribution Management Systems, Inc. (DMS).

Key Products and Services

Approximately 60% of NDS' fiscal 1988 revenue was derived from turnkey systems, and the remaining 40% from professional services. This revenue breakdown was basically the same for fiscal 1987 and 1986 revenues.

- Approximately 50% of the fiscal 1988 revenue for turnkey systems was derived from equipment, and the remaining 50% from packaged software.

- Approximately 90% of the fiscal 1988 revenue for professional services was derived from education and training, and the remaining 10% from software development. All of this revenue was derived from the wholesale distribution industry.

CONTROL™, introduced in 1975, is NDS' integrated turnkey system that is designed for wholesale food distributors. CONTROL systems are modularly designed and operate on DEC PDP-11 series minicomputers running the CTS 300 operating system and DEC VAX series minicomputers running the VMS operating system.

There are currently more than 200 CONTROL turnkey system installations.

- CONTROL system modules include the following:

  - The Order Processing System is the foundation of CONTROL. System capabilities include accounts receivable, invoicing, inventory control, order entry, picking, pricing, and purchasing; sales commissions and analysis; and transportation routing.

  - Optional order-processing modules include salesperson remote order entry and parametized bid system.

- The Manufacturing-Bill of Materials System, introduced in 1988, is designed for food manufacturers/processors as a front end for the Order Processing System. It allows manufacturers to project their materials requirements, relieve raw inventory, and update finished goods.

  - The Manufacturing-Bill of Materials System is priced at $15,000, including installation and training. The system currently has 3 installations in the U.S.

- The Accounts Payable System monitors and controls incoming vendor invoices, liability and discounts, check and voucher preparation, expense and vendor analysis, and maintains historical data with optional check reconciliation and detailed vendor payment history. The system can support up to nine different companies and can be integrated with the General Ledger System.

- The Payroll System provides automatic gross-to-net preparation of payroll checks and earnings stubs for up to nine companies. The system can be integrated with the General Ledger System.

- The General Ledger System provides financial reporting on a departmental, consolidated, summary, budgeted, or comparative basis. Up to nine companies can be supported, and the system interfaces with Payroll, Accounts Payable, and Order Processing.

- The Vehicle Cost and Maintenance Scheduling System is a stand alone software module designed to inform the user when vehicles are due for scheduled maintenance and to capture costs by repair codes and vehicles.

  - The system is built around four information files, including Vehicle Master, Repair Master, Preventive Maintenance Master, and Repair History.

CONTROL software prices include installation and training. The Order Processing System price ranges from $20,000 to $65,000. Accounts Payable, Payroll, General Ledger, and Vehicle Cost and Maintenance Scheduling are priced at $2,000 each. Maintenance fees range from $2,600 to $4,700 annually. There are over 200 systems currently installed.

The CONTROL turnkey system software is based on DIBOL source code. It operates on DEC PDP-11 computer systems running under CTS-300 OS as well as DEC VAX computer systems running under VMS OS.

PC INTERFACE TO CONTROL™, introduced in 1988, allows CONTROL users to access, download, and manipulate minicomputer-based data from a microcomputer using off-the-shelf commercial microcomputer applications software. Compatible microcomputer software categories include spreadsheets, desktop publishing, word processing, and others.

- RoadNet™, a UPS proprietary routing system application, is a compatible PC application with PC interface to CONTROL. RoadNet is priced from $10,000 to $30,000.
- The PC interface to CONTROL runs on IBM and compatible microcomputers and ranges in price from $1,000 to $3,000. There are currently 150 installations in the U.S.

Industry Markets

Virtually 100% of NDS' fiscal 1988 revenue was derived from the wholesale distribution industry, primarily from food, tobacco and candy, and paper distributors.

Geographic Markets

Approximately 99% of fiscal 1988 revenue was derived from the U.S., with the remaining 1% derived from Canada.

Computer Hardware and Software

NDS has the following computers installed at its data center in Stratford (CT) in support of its services and products:

- 3 DEC PDP-11s, CTS-300.
- 1 DEC VAX, VMS.
- 1 IBM PC, IBM DOS.

TRIAD SYSTEMS CORPORATION
3055 Triad Drive
Livermore, CA 94550
(415) 449-0606

William W. Stevens, Chairman
James R. Porter, President and CEO
Public Corporation, OTC
Total Employees: 1,378
Total Revenue, Fiscal Year End
9/30/88: $127,410,000

The Company

Triad Systems Corporation, founded in 1972, develops, manufactures, markets, and supports turnkey systems in three vertical markets: the automotive parts aftermarket, retail hardgoods dealers, and dentists. The company also provides automotive parts pricing and catalog updating data base services.

- Triad also provides lease financing to many of its turnkey system clients through it wholly owned, nonconsolidated subsidiary, TSC Leasing Corporation.

- In June 1987 Triad began providing on-site third-party maintenance services for Altos Computer national value-added resellers and their customers.

Fiscal 1988 revenue reached $127.4 million, a 9% increase over fiscal 1987 revenue of $117.3 million. Net income rose 29%, from approximately $6.4 million in fiscal 1987 to over $8.3 million in fiscal 1988. A five-year financial summary follows:

TRIAD SYSTEMS CORPORATION
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

	FISCAL YEAR				
ITEM	9/88	9/87	9/86	9/85	9/84
Revenue	$127,410	$117,268	$111,676	$107,278	$120,433
• Percent increase (decrease) from previous year	9%	5%	4%	(11%)	33%
Income (loss) before taxes and extraordinary credit	$13,726 (a)	$9,591 (a)	$5,484	$(8,713)	$6,998
• Percent increase (decrease) from previous year	43%	75%	163%	(225%)	161%
Net income (loss)	$8,315	$6,427 (b)	$3,181	$(5,507)	$4,807
• Percent increase (decrease) from previous year	29%	102%	158%	(215%)	124%
Earnings (loss) per share	$0.93	$0.77	$0.41	$(0.74)	$0.66
• Percent increase (decrease) from previous year	21%	88%	155%	(212%)	128%

(a) Includes gains of $297,000 and $590,000 for fiscal 1988 and fiscal 1987, respectively, from the sale of land adjacent to the company's new headquarters facility in Livermore and of its former headquarters in Sunnyvale.

(b) As a result of the gain described above, during fiscal 1987 Triad recognized an income tax benefit from capital loss carryforwards as an extraordinary credit of $509,000. Net income in fiscal 1987 before the extraordinary credit, the gain, and a related effective tax rate benefit was approximately $5.5 million.

Triad management attributes fiscal 1988 results primarily to the following:

- Hardgoods Division revenues rose 15%, or $2.9 million, reflecting a continuing strong demand for the division's products. Triad also benefited from its joint marketing agreement with Cotter & Company, the nation's largest distributor of hardgoods.

- Automotive Division revenues increased 8%, or $3.1 million. During the year international sales improved and warehouse system sales more than doubled to over $1 million due to the release of a new IBM-based product and the sale of two units

during the fourth quarter. Slight increases in domestic sales were attributed to market conditions and competitive pressures.

- Dental Division sales decreased 38%. A lawsuit filed during the year by American Dental Office Systems, Inc. (which was subsequently dismissed) slowed the growth of the dealer network that was begun in late 1987.

- Customer services revenue, reflecting a continued increase in the installed turnkey system base, rose 6%, or $3.3 million.

- Data base information services revenue rose 42%, or $2.2 million, due to a 43% increase in the number of subscribers to the Electronic Catalog data base and a 22% increase in Telepricing revenue.

Product development expenditures, before software capitalization, were approximately $8.1 million (6% of revenue) in fiscal 1988, $7.2 million (6% of revenue) in fiscal 1987, and $8.1 million (7% of revenue) in fiscal 1986. The company capitalized approximately $1.9 million and $1.8 million in software development costs during fiscal 1988 and fiscal 1987, respectively.

Revenue for the three months ending December 31, 1988 was $30.1 million, a 2% increase over $29.6 million for the same period in 1987. Net income for the quarter was $3.2 million, but includes a $4 million gain from the sale of land.

In October 1988, Volt Information Sciences, Inc. reportedly acquired a 12.8% stake in Triad Systems.

Triad is currently organized into five divisions, as follows:

- The Automotive Division markets turnkey systems to the automotive parts aftermarket, which includes warehouse distributors, wholesalers (jobbers) and retailers, and auto repair shops. The company currently has over 5,900 Automotive Division customers.

- The Information Services Division provides two proprietary data bases to Triad's Automotive Division customers for automotive parts pricing and catalog updating. Approximately 2,150 of the company's automotive customers subscribe to one of more of these services.

- The Hardgoods Division markets turnkey systems to hardware stores and home centers, the lumber/building materials market,

decorating retailers, and garden centers and retail nurseries. The company has over 1,700 systems installed in this market.

- The Dental Division markets turnkey systems to dental practices. Triad currently has over 800 dental systems installed.

- The Customer Services Division provides predelivery and installation services, customer training, and hardware maintenance and software support services to its turnkey system clients. This division also provides third-party maintenance services for Altos Computer's national value-added resellers and their customers.

TSC Leasing Corporation, a wholly owned nonconsolidated subsidiary, purchases Triad systems for lease to third parties under direct financing leases.

- TSC purchased and leased $28.3 million, $25 million, and $24.5 million of Triad equipment during fiscal 1988, 1987, and 1986, respectively.

- Triad's investment in TSC is accounted for by the equity method. Income from TSC was approximately $3.3 million, $3.1 million, and $3.9 million for fiscal 1988, 1987, and 1986, respectively.

Triad has subsidiaries in the U.K., Canada, and Australia that market certain Automotive Division products and services.

As of September 31, 1988, Triad had 1,378 full-time employees, segmented as follows:

Marketing/sales	256
Research and development	119
Field engineers/managers	315
Manufacturing	70
Other	618
	1,378

Key Products and Services

Approximately 51% of Triad's fiscal 1988 revenue was derived from turnkey systems, and 43% was derived from associated maintenance and support services. The remaining 6% of revenue was derived from remote batch processing (parts pricing and catalogue data base updating) services.

A three-year summary of source of revenue by product/service area follows:

TRIAD SYSTEMS CORPORATION
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	9/88		9/87		9/86	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
Turnkey systems (a)						
• Automotive parts systems	$42.3	33%	$39.2	33%	$42.9	38%
• Hardgoods systems	21.4	17%	18.5	16%	15.3	14%
• Dental systems	1.8	1%	3.0	3%	2.9	2%
	$65.5	51%	$60.7	52%	$61.1	54%
Maintenance and support services	$54.4 (b)	43%	$51.1	44%	$46.6	42%
Processing services	$7.3	6%	$5.1	4%	$3.3	3%
Other (c)	$0.2	--	$0.3	--	$0.7	1%
TOTAL	**$127.4**	**100%**	**$117.2**	**100%**	**$111.7**	**100%**

(a) New system sales were approximately $32.9 million, $31.3 million, and $31.9 million for fiscal 1988, 1987, and 1986, respectively. Sales of hardware and software upgrades and add-ons to Triad's installed base were approximately $32.6 million, $29.4 million, and $29.2 million for fiscal 1988, 1987, and 1986, respectively.

(b) Includes $440,000 in third-party maintenance revenue.

(c) Other revenue is attributed primarily to sales of turnkey systems made by the company's Tire Division. Triad ceased actively marketing to independent tire dealers during fiscal 1986 but continues to support its installed base in this market.

As of September 30, 1988, a total of over 9,100 Triad systems had been installed worldwide, compared to a total of 8,600 systems installed as of September 30, 1987.

The automotive parts aftermarket consists of four principal levels of distribution: manufacturers, warehouse distributors, wholesalers (jobbers) and retailers, and auto repair shops. Manufacturers distribute automotive parts through warehouse distributors to wholesalers and retailers who stock and sell the automobile parts used by auto repair shops and the public.

- Historically, Triad's Automotive Division has sold turnkey systems primarily to mid- to large-sized wholesalers. Triad's

installed base of wholesaler customers provides a source of recurring revenue through sales of application software, peripherals, hardware upgrades, data services, and customer support. According to Triad, because of the high level of penetration in this market, the company does not expect any significant growth in revenues from product sales to this market.

- Triad is expanding its market for its new products to include large warehouse distributors, smaller wholesalers, retail chains, and auto repair shops.

Triad currently offers the following products and services to the automotive parts aftermarket:

- The Series 12 product line, successor to Triad's original Series 10 system, was introduced in fiscal 1984. Over 450 smaller warehouse distributors have purchased the Series 12 (or its predecessor).
  - These turnkey systems have been designed for the wholesaler market. Smaller warehouse distributors may also use these systems with specialized application software.
  - Series 12 systems use multiple 8-bit microprocessors, one or more disk storage units, counter/management terminals, and printers for invoicing and reports. The systems are available in several different models to accommodate wholesalers of all sizes.
  - Every system is equipped with standard telecommunications software allowing users to exchange purchase orders and pricing and inventory information with suppliers and, in some cases, customers.
  - The systems are designed for modular growth. Optional applications available include the following:
    - Basic Inventory Management: Inventory management reporting, replenishment ordering, item sales history, on-hand balances, and purchase order control.
    - Advanced Inventory Management: Stock level calculation, popularity sales ranking, price labels, price lists, goal planning, and cash flow analysis.
    - Invoice Printing: Point-of-sale and order entry.

    - Sales and Core Analysis.
    - Accounts Receivable.
    - General Ledger.
    - Accounts Payable.
    - Multi-Store.
    - Centralized Accounts Receivable.
    - TRANSNET: Automatic order transmission capability directly to the manufacturer via General Electric Information Services Company's networks.
  - Series 12 wholesaler systems generally range in price from $13,000 to $100,000.
- The Series 80 Warehouse Distributor System, introduced in 1980, was designed for larger warehouse operations.
  - Over 60 Series 80 systems are currently installed. In late fiscal 1985, Triad experienced reliability problems with the Series 80. These problems significantly reduced sales of warehouse systems during fiscal 1985 and also contributed, together with other market factors, to reduced sales in fiscal 1986.
  - During fiscal 1988, Triad released a new IBM 9370-based warehouse system to replace the Series 80 product. The new system supports information retrieval and has the potential for a larger number of application enhancements. Pricing ranges from $220,000 to $1 million. Two systems were sold in 1988.
- Triad offers two proprietary remote batch data base services to its wholesaler and retailer customers as follows:
  - Telepricing is a data base that provides automatic price updates for automotive parts upon a manufacturer's price change.
    - Telepricing services are available via remote batch or magnetic tape.
    - Telepricing customers pay an initial license fee and a monthly subscription fee ranging from $55 to $265.

    - There are currently approximately 2,200 Telepricing subscribers.

  - Electronic Catalog is a data base that includes over 1.3 million parts and prices and can provide over 6.9 million automobile parts applications tailored to a wholesaler's inventory.

    - For a given automotive repair, Electronic Catalog identifies all the parts required together with prices and inventory levels and prompts the wholesaler to recommend related parts that the customer may need in addition to the part requested.

    - Triad charges a license fee and a monthly subscription fee averaging $180 for this data base and provides the customer with periodic updates.

    - Electronic Catalog customers are required to subscribe to Telepricing to update the pricing information in the Electronic Catalog data base, unless the customer has access to an automatic pricing service provided by a Triad national account.

    - Electronic Catalog is available for Series 12 hardware. Series 10 users can purchase hardware upgrades to Series 12 systems or can install LaserCat, Triad's new CD-ROM technology, to access the Electronic Catalog.

    - As of September 30, 1988, approximately 1,900 customers had purchased Electronic Catalog.

- In June 1987, Triad introduced TelePart, a terminal-based system that allows an auto repair shop to order automobile parts electronically by communicating directly with a wholesaler's Triad system.

  - The repair shop can access the wholesaler's Triad system to use the Electronic Catalog to check the availability and list price of parts prior to ordering.

  - Triad markets these terminals to auto repair shops through its wholesaler customers.

  - As of September 1988, over 1,100 TelePart terminals were installed.

Triad's Hardgoods Division markets turnkey systems to hardware stores and home centers, the lumber/building materials market, decorating retailers, and garden centers and retail nurseries.

- The systems are based on Triad-manufactured minicomputers that incorporate 16-bit microprocessors.

- Applications available include:

  - Point-of-sale.
  - Inventory management.
  - Pricing.
  - Purchasing.
  - Receiving.
  - Sales analysis.
  - Accounting.

- Hardgoods systems range in price from $13,000 to $100,000. The average store system costs approximately $36,000.

- There are currently over 1,700 systems installed.

- In order to facilitate marketing to potential customers, Triad has developed national account relationships with large hardware cooperatives, distributors, and associations to promote the benefits of Triad systems to their retail customers/affiliates. Three of the nation's largest buying cooperatives, Cotter & Company (with 8,000 True Value Hardware and V & S Variety store members), Hardware Wholesalers Inc., and American Hardware, have endorsed Triad systems to their members.

  - Triad also has reached a joint marketing agreement with Cotter & Company for its turnkey systems. Cotter & Company also endorsed Triad's TSC lease-financing subsidiary.

Through the Dental Division, Triad markets practice management turnkey systems to dental practices.

- The systems are based on minicomputers and range in price from $7,500 to $35,000, with an average system price of $15,000.

- Applications supported include receivables, billing, appointment scheduling, follow-up reminders, insurance processing, and word processing. During 1988, accounting software and computer-based training functions were added.

- In order to obtain broader industry acceptance for this product line, Triad has solicited endorsements and marketing relationships with major dental associations.

  - Triad entered into marketing agreements with subsidiaries of the California and Texas Dental Associations in 1985 and a subsidiary of the Ohio Dental Association in 1986. Each of these subsidiaries receives compensation for ongoing marketing services and for the endorsements of Triad products.

  - In 1986 Triad signed a joint marketing and endorsement agreement with a subsidiary of the American Dental Association, American Dental Office Systems, Inc. (ADOSI). Triad has virtually completed conversion of ADOSI system users to Triad software.

- There are currently over 800 dental systems installed, including 285 ADOSI systems converted to Triad software.

Triad provides the following services to its clients in conjunction with its turnkey system sales:

- Predelivery services include cost-justification analysis, site planning and preparation, training for management and employees, installation planning, and customer visits to other Triad user sites.

- During fiscal 1986, Triad introduced Zapstart, a service that preloads an individual automotive customer's inventory, pricing, and parts applications data into its Triad system upon installation, saving customers manual data entry time.

  - Hardware retailers that are customers of certain hardware cooperatives or distributors can preload inventory files provided by these cooperatives or distributors.

  - Triad can also deliver a dental system preloaded with the practice's patient files.

- Customer training is available from 32 domestic and four foreign Triad education centers.

  - During fiscal 1988, over 23,000 individuals were trained. Triad also provided training through the sale of over 4,500 video tutorials and 7,300 hours of extended customer education.

- Seminars and workshops are also available.

- Three months of system support are included in the price of a Triad system. Postsale support is available through a System Support Agreement. The services offered include preventive and remedial maintenance, hardware engineering modifications, and software enhancements.

  - Field engineers and managers work out of 127 domestic and 18 foreign field service offices.

  - The monthly fee due under the support agreement varies with system size and averages $500.

  - Triad's Advice Line gives customers telephone access to personnel able to perform on-line diagnostics and dispatch a field engineer if on-site service is necessary.

Industry Markets

Triad derived its fiscal 1988 revenue from the automotive parts aftermarket, retail hardgoods dealers, and dental practices.

Triad markets to the automotive and retail hardgoods industries through its direct sales organization.

The company markets to private dental practices through 22 independent dealer organizations.

Geographic Markets

Approximately 92% of Triad's fiscal 1988 revenue was derived from the U.S. The remaining 8% was derived from Canada, Australia, and the U.K.

A three-year summary of source of revenue follows:

TRIAD SYSTEMS CORPORATION
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	9/88		9/87		9/86	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
U.S.	$116.8	92%	$109.7	94%	$103.4	93%
International	10.6	8%	7.6	6%	8.3	7%
TOTAL	**$127.4**	**100%**	**$117.3**	**100%**	**$111.7**	**100%**

Triad has approximately 93 offices located throughout the U.S. in support of sales and marketing, field services, and training.

The company also has offices in Canada, the U.K., and Australia.

Computer Hardware and Software

Triad uses two of its Series 80 systems to update and store pricing data for its telepricing service. The data is transmitted to client Triad systems via telephone lines on a remote batch basis, generally after hours, or by magnetic tape.

Triad has a DEC VAX-11/780 installed at its headquarters for internal accounting functions.

WD-A

Appendix: Data Base

A

Data Base

The INPUT data base presents user expenditures for information services in wholesale distribution by delivery mode and submode. User expenditures are shown for the U.S. in current dollars (i.e., expenditures include inflation).

B

Data Base Reconciliation, 1988-1993

1. Variance for 1988 Market Revenues

For each of the nine delivery modes or submodes, the 1988 revenues forecast in 1988 equal the revenues reported from the 1989 report. Therefore, no reconciliation is necessary.

2. Changes to Forecast Five-Year Growth Rates

a. Processing Services

INPUT increased the five-year forecast for processing systems operations in wholesale distribution from 11% to 19% due to:

Processing services-based systems operations (facilities management) services focus on a third-party vendor taking over the complete operation of an organization's data center, including purchasing and maintaining the equipment. The use of systems operations in wholesale distribution is motivated by:

- The need to blend company operations, which results from mergers and acquisitions among medium and small wholesalers, and will lead to growing use of third parties to manage the data center
- Pressures on wholesalers to protect profit margins by aggressively reducing costs

b. Network/Electronic Information Services

INPUT lowered the forecast five-year growth rate for the network applications component of the network/electronic information services category from 46% to 33% as a result of the completion of the adoption phase of electronic data interchange (EDI) by users during the past three years. The growth rate in EDI expenditures indicates continued strong acceptance of EDI in the grocery, office products, pharmaceuticals, and apparel industries.

As most large firms complete their investment in the EDI process, the growth rate of the market will slow, as new customers become harder to find. Medium and smaller firms do not have the infrastructure to support network-based EDI.

c. Application Software Products

The five-year forecast for mainframe-based application software products decreased from 14% to 7%. While the number of mainframe computer shipments is expected to increase only 3-5%, the growth rate in the value of application software for these systems will slow to more accurately reflect the relationship between shipments of mainframe computers and mainframe-based application software.

The five-year growth rate for minicomputer-based application software decreased from 22% to 15%, due to:

- The growing influence of microcomputer-based solutions in wholesale distribution. Medium and small wholesalers are automating with standalone or networked personal computers.

  The five-year growth rate forecast for workstation- and personal computer-based application software products decreased from 40% to 28%, still a relatively high growth rate.

- PCs remain virtually the only means for wholesale distributors who have not yet automated to do so quickly and cost-effectively. Small, niche-oriented wholesale distributors must automate in order to remain viable.

- Large and medium wholesale organizations will continue to invest in PCs, especially laptop models, to help automate the sales and route delivery functions.

- Workstation/PC purchases by early adopters are now completed. They are now being purchased more by mainstream buyers, who are more concerned than early adopters with price and product support. As a result, growth in user expenditures will be moderate.

- Falling prices of computer systems affect user expectations of prices for application software products. In the buyer's mind, the price of a PC and its application software products are closely linked. In wholesale distribution, as in other cost-driven sectors, buyers resist paying more for application software than for the computer system. Declining prices for computer systems, then, contribute to reduced user expenditures for application software products.

d. Systems Integration (SI)

INPUT lowered its forecast five-year growth rate for systems integration from 23% to 18%, because:

- Systems integration projects will continue at a slower rate than previously forecast. There will be fewer project opportunities in SI due to the limited number of large wholesale distributors.

- Systems integration projects are confined to the top-tier firms. Medium and smaller wholesale distributors use turnkey systems or application software products to enhance IS.

e. Professional Services

The five-year forecast growth rate for professional services dropped from 17% to 13%. Heavy spending for standalone microcomputers in this sector will reduce overall spending for professional services. Downward pressure on expenditures for software development comes from the intense price competition at the local and regional level. This reduces the forecast growth rate.

User expenditures for professional services are already relatively robust, reflecting early involvement by the largest wholesalers. Smaller organizations, which are future prospects, will not have as great an impact on professional services expenditures as the largest firms have.

EXHIBIT A-1

Wholesale Distribution Sector User Expenditure Forecast by Delivery Mode, 1989-1994
($ Millions)

Sector by Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Wholesale Distribution Sector	1,615	15	1,858	2,123	2,422	2,791	3,223	3,735	15
Processing Services	330	8	356	395	438	487	543	605	11
- Transaction Processing Services	270	7	289	315	343	374	408	445	9
- Systems Operations	60	12	67	80	95	113	135	160	19
Network/Electronic Information Services	140	27	178	228	294	380	493	641	29
- Electronic Information Services	40	19	48	55	64	74	86	100	16
- Network Applications	100	30	130	173	230	306	407	541	33
Application Software Products	390	16	453	516	591	681	789	920	15
- Mainframe	210	10	231	247	264	283	303	324	7
- Minicomputer	100	16	116	133	153	176	203	233	15
- Workstation/PC	80	32	106	135	173	221	283	363	28
Turnkey Systems	365	14	415	458	505	554	609	670	10
Systems Integration	110	20	132	160	180	220	260	300	18
Professional Services	280	16	325	367	415	469	530	598	13

EXHIBIT A-2

Wholesale Distribution Sector Data Base Reconciliation
($ Millions)

Industry Sector	1988 Market			1993 Market			88-93 CAGR per data 88 Rpt. (%)	88-93 CAGR per data 89 Rpt. (%)
	1988 Report (Forecast) ($M)	1989 Report (Actual) ($M)	Variance as % of 1988 Report	1988 Report (Forecast) ($M)	1989 Report (Forecast) ($M)	Variance as % of 1988 Report		
Total Wholesale Distribution Sector	1,615	1,615	-	3,885	3,224	(17)	19	15
Processing Services	330	330	-	520	543	4	9	10
- Transaction Processing Services	270	270	-	420	408	(3)	9	9
- Systems Operations	60	60	-	100	135	35	11	18
Network/Electronic Information Services	140	140	-	730	493	(32)	40	29
- Electronic Information Services	40	40	-	80	86	8	17	17
- Network Applications	100	100	-	650	407	(37)	46	32
Application Software Products	390	390	-	1,090	789	(28)	23	15
- Mainframe	210	210	-	390	303	(22)	14	8
- Minicomputer	100	100	-	270	203	(25)	22	15
- Workstation/PC	80	80	-	430	283	(34)	40	29
Turnkey Systems	365	365	-	625	610	(2)	11	11
Systems Integration	110	110	-	310	260	(16)	23	19
Professional Services	280	280	-	610	530	(13)	17	14

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.

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Formed as a privately held corporation in 1974, INPUT has become a leading international research and consulting firm. Clients include more than 100 of the world's largest and most technically advanced companies.

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