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May 29, 1987

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:

Enclosed are three reports from INPUT's Market Analysis and Planning Service (MAPS). They are:

- Wholesale Distribution Sector
- Process Manufacturing Sector
- Service Industry Sector

These reports are a part of a series entitled U.S. Information Services Industry-Specific and Cross-Industry Markets. The reports should be filed in the binder of that name in Section III, Industry-Specific, with the tabs provided. All tabs are filed alphabetically in each section. (Please note that Wholesale Distribution is filed under "D" for Distribution.)

Also enclosed are updated 1987 Title Pages to be filed behind the printed title page of each volume. A Table of Contents, which includes all the reports shipped to date for these volumes, is included for your reference and should be filed with the Title Page in Volume I.

You will note the new format for the reports. They have been bound for ease of use but can still be maintained in the binders provided.

If you have any questions or comments, please call me at (415) 960-3990. INPUT, as always, welcomes the opportunity to assist you in the effective use of its information, reports, and services.

Yours truly,

Michael Cohn
Program Manager
Market Analysis and Planning Service

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Enclosures



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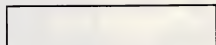
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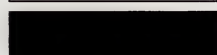
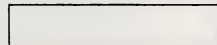
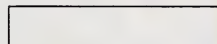
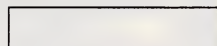
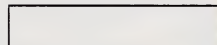
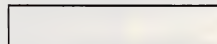
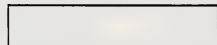
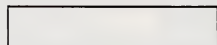
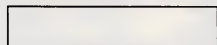
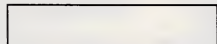
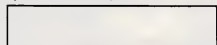
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Market
Analysis and
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**U.S. Information
Services
Industry-Specific
Markets
1986-1991**

**Wholesale
Distribution
Sector**

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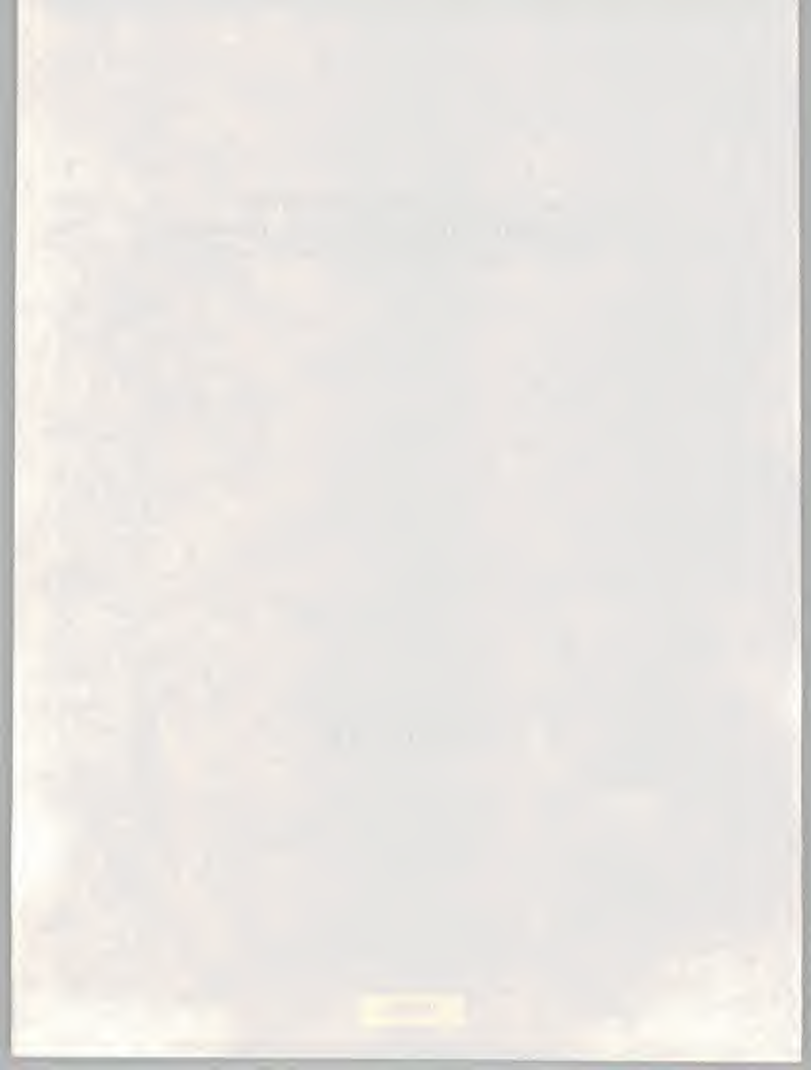
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INDUSTRY-SPECIFIC MARKETS, 1986-1991
WHOLESALE DISTRIBUTION SECTOR

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U.S. Information Services Industry-Specific Markets, 1986-1991
Wholesale Distribution Sector

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U.S. INFORMATION SERVICES
INDUSTRY-SPECIFIC MARKETS, 1986-1991
WHOLESALE DISTRIBUTION SECTOR

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U.S. INFORMATION SERVICES
INDUSTRY-SPECIFIC MARKETS, 1986-1991
WHOLESALE DISTRIBUTION SECTOR

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I SIZE AND GROWTH

- Total information services user expenditures in the wholesale distribution sector will reach some \$900 million in 1987, representing a 17% growth rate from the 1986 figure of \$767 million. This is roughly on a par with the industry as a whole. Size and growth forecasts for this sector from 1986 to 1991 are presented in Exhibit I-1.
- Within this sector, however, there will be marked differences in growth rates for different delivery modes.
 - Software product sales will lead, with an average annual growth rate of 26%—one of the highest for this delivery mode among all industry sectors. Microcomputer software will fare even better, enjoying a 30% compounded growth rate.
 - At the other end of the growth spectrum are processing services which are forecast to grow, on average, only 5% per year through 1991.
 - This would be higher were it not for the even lower growth rate, 3% per year, forecast for facilities management services.
 - When the effects of inflation are considered, this represents a negative real rate of growth.



EXHIBIT I-1

WHOLESALE DISTRIBUTION SECTOR
FORECAST

SERVICE MODE	1986-1991 AAGR (Percent)	1991 User Expenditure Current Dollars (\$ Millions)	1991 Size Rank	1986-1991 Growth Rank
Processing Services				
- Remote Computing/Batch	6%	\$296	4	5
- Facility Management	3%	38	7	7
Total Processing Services	5%	\$334	5	6
Application Software				
- Mainframe/Mini	24%	\$541	3	3
- Micro	30%	216	6	1
Total Applications SW	26%	\$757	1	2
Turnkey Systems	18%	\$604	2	4
Grand Total	17%	\$1,695	-	-



- The year 1986 was the first in which processing services did not dominate as the principal delivery mode for this industry sector. Mustering only a modest 7% growth rate from 1985 to 1986, processing services were outstripped by turnkey systems as the principal delivery mode for industry-specific services.
- Turnkey systems spending reached \$269 million in 1986 with a 20% user expenditure growth over 1985.
- By 1988, turnkey systems will be surpassed by applications software as the delivery mode absorbing the greatest spending for industry-specific information services in the wholesale distribution sector.

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II ISSUES, TRENDS, AND EVENTS

A. INTRODUCTION

- The wholesale distribution industry represents one of the most interesting and challenging targets for information services suppliers.
- Some of the most important challenges include addressing an industry where there exists:
 - A plethora of widely different submarkets such as industrial machinery, petroleum products, grocery and food products, hardware, automotive, toys, furniture, and a dozen other submarkets, many with different information services requirements.
 - Widely differing growth rates among industry subsectors.
 - Some very large wholesale distribution firms which are leading-edge implementers of computer technologies and many thousands of very small firms, many of which have only recently begun to implement information systems.
 - Some of the broadest technological and application challenges facing computer user of any industry in the economy.



- And, as the previous section indicated, while the industry affords ample opportunity for revenue growth among certain delivery modes, for example sales of software products and turnkey systems, it presents a problem for vendors serving slowly growing segments or applications.

B. INDUSTRY STRUCTURE AND TRENDS

- The wholesale distribution industry consists of three types of firms:
 - Independent distributors, sometimes called merchant wholesalers, who contribute some 55-60% of total industry sales volumes. Their contribution to total industry sales is increasing.
 - Manufacturers' sales branches which generate some 35% of industry sales. Their portion of sales is in flux.
 - Foreign manufacturers targeting the U.S. marketplace could cause this portion to go up or down depending on whether they utilize existing distribution channels or opt for the more difficult and higher cost but longer term potentially more profitable establishment of their own distribution networks.
 - Independent agents and brokers which contribute roughly 10% of total industry volume. Their share is experiencing contraction.
- Market share is an important indicator of relative market strength as one percentage point represents approximately \$4 billion in sales.
- Different submarkets are enjoying (or suffering) widely differential growth rates.



- The drug, machinery, and hardware sectors are experiencing strong growth rates.
- On the other hand, wholesalers in the food, petroleum, furniture, and most raw material sectors, impacted largely by deflationary forces in their respective markets, are suffering from poor or, in many cases, negative growth rates.
 - Poor performance in these industries is hurting distributors as customers stretch out payables, purchase in smaller quantities, pressure distributors for better terms, and sometimes (as was dramatically shown in this year's LTV bankruptcy case) pay at only a fraction on the dollar or not at all.
- The entire industry is beset by financial squeezes associated with:
 - Low inflation and a resulting inability to raise prices or pass along costs.
 - High real interest rates and their burden in carrying large inventories. The extent of the burden can be dramatic. Inventory can represent as much as 70% of the asset value of wholesale distributors. Inventory carrying costs sometimes reach 40% of distributors' expenses.
- Almost 90% of the expense of doing business in this industry is associated with three activities--inventory financing, warehousing, and transportation.
- Overall, the industry's profit margins are quite low (typically 2-3%), so pressures to improve efficiency and profitability are strong.
- Some of the most important economic pressures facing the industry are summarized in Exhibit II-1.

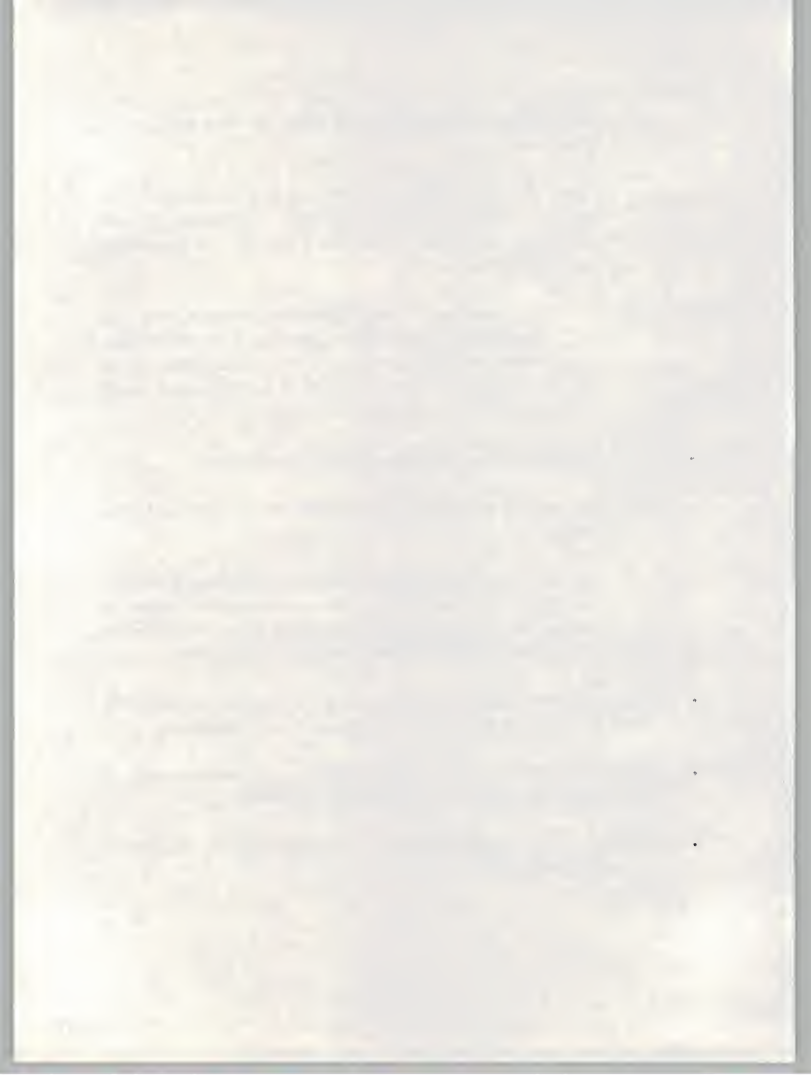


EXHIBIT II-1

**ECONOMIC ISSUES AFFECTING WHOLESALE DISTRIBUTION
AND IMPLICATIONS FOR INFORMATION SERVICES SUPPLIES**

DISTRIBUTION INDUSTRY SECTOR	ISSUES	OPERATIONAL IMPLICATIONS
All Subcontractors	Continued Low Inflation Difficult to Pass on Costs	Profitability Lost Containment
Food, Petroleum, Furniture, Raw Materials	Actual Deflation Contraction Consolidation	Tightened Cash Receivables and Inventory Mgt.
Drugs, Hardware, Apparel, Printing	Sectional Growth	Acquisition Analysis Capacity Planning Distribution
Electrical Goods, Machinery, Motor Vehicles	Foreign Competition in Source Industries	Product Line Expansion Increased Competition

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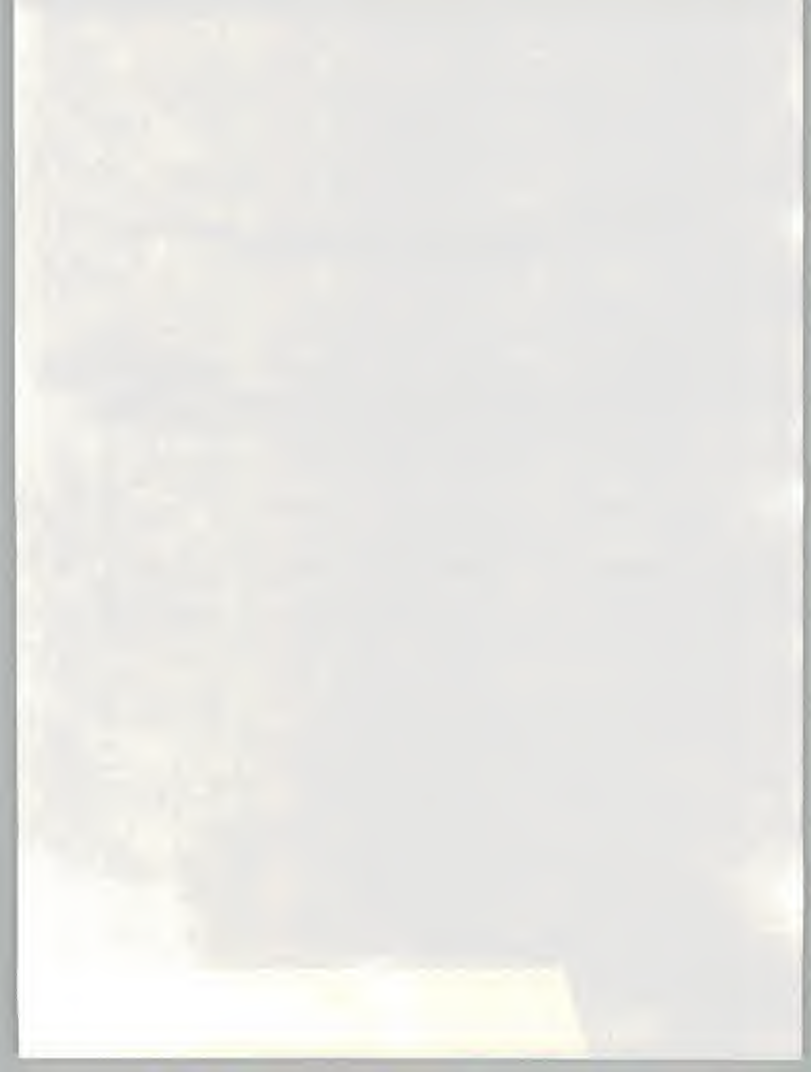
- These economic pressures have driven many wholesalers to specialize their market focuses so as to:
 - Increase the turnover of (and hence the return on) any given inventory item.
 - Secure from suppliers the advantages of higher volume purchases.
 - Obtain longer purchase commitments from customers or commitments for larger quantities.
- As a result, all wholesalers have increased their attention to financial analysis and management. This attention should be reflected in vendors' product offerings.
- The wholesale distribution industry is very splintered in terms of the size of the firms participating, as shown in Exhibit II-2.
- Fewer than 2% of the firms in the industry generate almost 50% of the total sales. Their businesses typically span multiple sites, and they may even participate in multiple subsectors of the larger distribution business.
 - One large southwest wholesale distributor with revenues approaching \$200 million operates in 40 locations and addresses 10 distinct markets including electrical equipment, industrial machinery, and robotics. It has recently added a division to address factory automation needs and is extending its services to include design and installation consulting for factory automation systems.
 - Product and market diversification and geographic expansion will be important strategic activities for these firms over the next five years. Communications will be a leading application for these firms. They will need to integrate dispersed operations into single logical



EXHIBIT II-2

REVENUE CONCENTRATION IN INDEPENDENT WHOLESAL
DISTRIBUTION ESTABLISHMENTS

ANNUAL SALES 1985 (\$ Millions)	NUMBER OF ESTABLISHMENTS	PERCENT OF ESTABLISHMENTS	PERCENT OF SALES
< \$5,000	298,000	88.7%	27
\$5 - 25,000	33,000	9.7%	27
> \$25,000	5,400	1.6%	46



reporting and even operational units while extending services into customer premises with customer site inquiry and order entry terminals, design and engineering assistance, etc.

- A combination of factors including declining hardware costs, link-ups with retail chains, and specialized requirements have led many of these firms to install sophisticated information processing systems in-house, frequently replacing outside processing services.
- Large firms are the most active in pushing new information processing technologies such as electronic data interchange (EDI), forward integration to include point-of-sale (POS) systems, automated warehouses, etc. These firms are the principal markets for applications software sales for mainframe and minicomputer systems.
- At the other end of the spectrum, some 300,000 firms (87% of the industry's business units) earn less than \$5 million a year in revenue, contributing only 27% of the industry's total sales. Most carry only very specialized lines and serve only local urban markets. This stratum will experience substantial consolidation in the next five years as the firms are unable to match larger wholesalers in such competitive areas as price, selection, delivery, value-added support services, purchase terms, etc.
- Many undercapitalized firms are now falling victims to softness in their customers' industries and the resultant stretch-out in receivables. One survey by a national distributor's association indicated that 30% of these firms had received acquisition offers within the past year.
- Many of these "Mom and Pop" distributors have implemented only the most primitive automation or information systems.
 - These smaller firms are the largest buying segment in the wholesale distribution industry of microcomputer software and

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micro-based turnkey systems. They will continue to purchase large numbers of such systems over the next five years.

- However, given the relatively low and declining prices and resultant pressures on profit margins from the sale of such systems, vendors should look at distribution strategies that either sell and install through existing sales and support networks or that involve third-party value-added resellers (VARs).
- Between these two extremes of company types are some 30,000 wholesale distributors earning between \$5 and \$25 million per year. These companies are more likely than their smaller counterparts to possess the diversification and the financial and management wherewithal to survive contractions in customer industries and competitive pressures in their own.
 - Aggressive computerization is forecast for this stratum as companies automate warehouse operations, order processing, inventory management, purchasing, receivables collections, and sales tracking and forecasting.
 - Automation is less a strategic thrust for these companies than it is a matter of survival in meeting the cost and competitive pressures in their environment. Medium-sized firms form the backbone of the aggressive growth forecasts in turnkey systems sales, systems typically based on business-oriented minicomputers such as IBM's System 34/36/38.
- Wholesale distributors are being confronted by a dizzying array of new technologies and applications, all of which hold the potential for assisting in cost containment, service level maintenance or enhancement, and strengthening of competitive position.



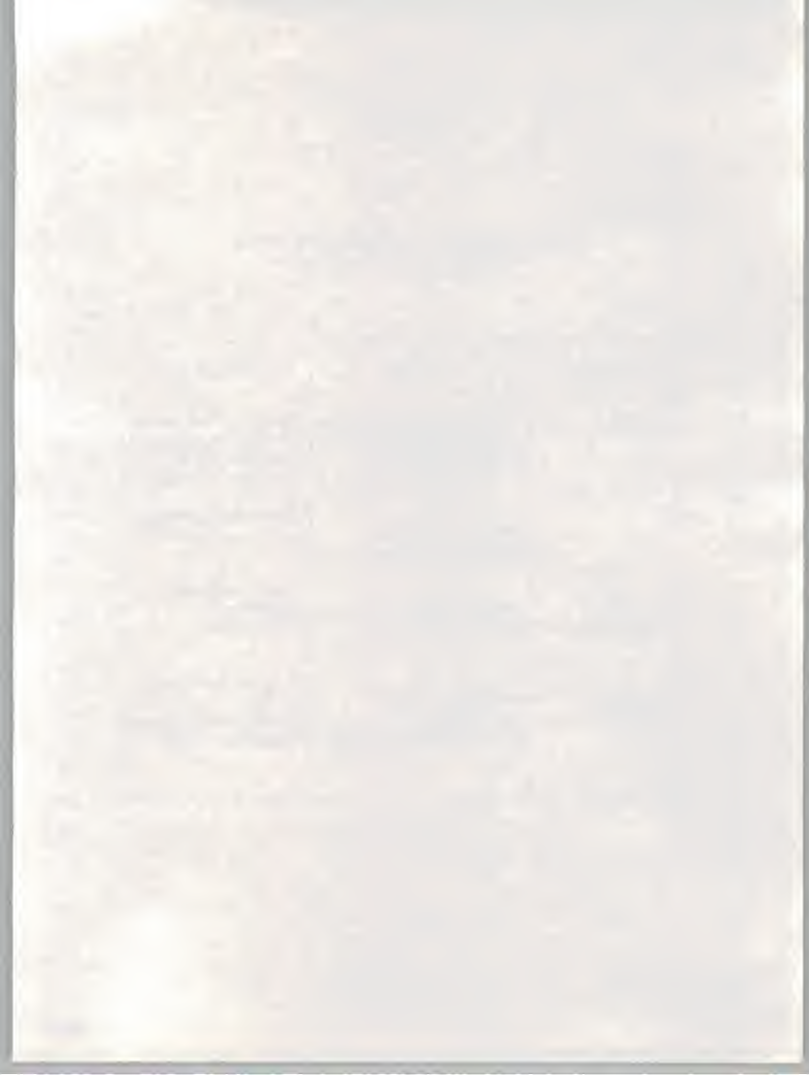
- Among the most important computer and communications technologies emerging in this industry are:
 - Point of sale (POS) and the forward integration of data collection into retail channels.
 - Electronic data interchange (EDI), now aimed at reducing labor costs associated with copious data entry and re-entry requirements of order processing. Soon EDI will be extended to support automatic payment transfers among suppliers, wholesalers, and retailers.
 - Software integration to make data collected from one part of the business available to aid analysis and reporting in others. Examples include:
 - Inventory stock status being available to customers for inquiry.
 - Sales data being used to develop profiles for targeting new markets or customers.
 - Communications, typically between dispersed offices or warehouses or between customer sites and warehouses.
 - Expert systems.
- Exhibit II-3 summarizes some of these technological issues and the challenges they pose to IS departments and vendor sales.



EXHIBIT II-3

TECHNOLOGICAL ISSUES AFFECTING
WHOLESALE DISTRIBUTION

TECHNOLOGY	RATIONAL	CHALLENGES
POS	Data Capture Leads to: - Customer Analysis - Sales Modeling/ Forecasting	Forward Integration of Data Collection How Much Data to Capture, Analysis
EDI	Cost Reduction In Order Processing	Software Commun- ications Standards
Software Integration	More Efficient Use of Data	Tower of Babel Syndrome Resources
Expert Systems	Inventory Cost Minimization Delivery Optimization	Cost of Implemen- tation Least Computerized Industry Function



III APPLICATION ANALYSIS

- The classic "bedrock essential" applications of the wholesale industry include inventory management, purchasing, order processing, accounts receivable, accounts payable, expense reporting, and sales forecasting. These functions are usually offered on even the smallest systems, including PCs.

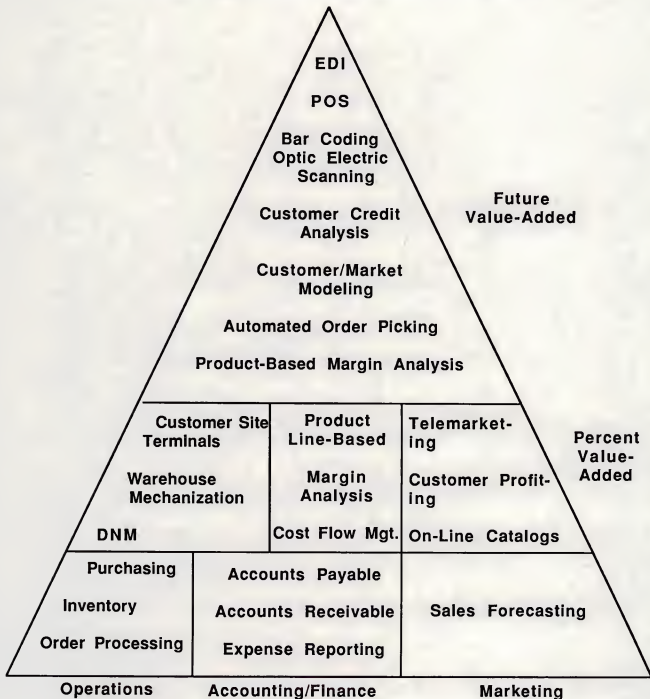
- As wholesalers grow in size, their applications requirements evolve to focus less on transaction-based processing and more on management reporting applications. This is especially true as firms expand to new markets and product lines, as the number and stocks of inventoried items increase, and as pressures grow to boost financial performance through improved inventory management.
 - At the high end, the most sophisticated wholesalers are implementing programs to dynamically model inventory stocks, economic order quantities (EOQ), customer, product line and market profitability, and delivery routing. Exhibit III-1 displays this evolution toward higher value-added applications as users' size and sophistication increases.

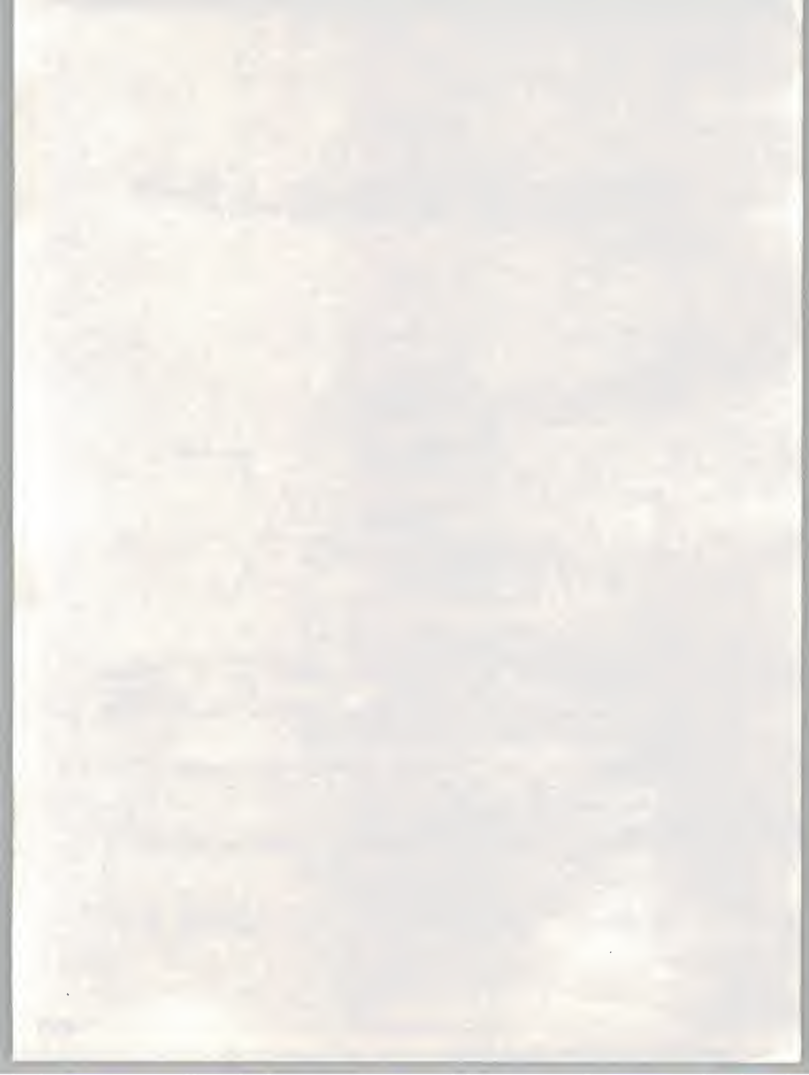
- Some of the applications cited by users as among the most important for them over the next two to five years are discussed below.



EXHIBIT III-1

EVOLUTION TOWARD HIGHER VALUE-ADDED APPLICATIONS
IN THE WHOLESALE DISTRIBUTION INDUSTRY





A. ELECTRONIC DOCUMENT INTERCHANGE

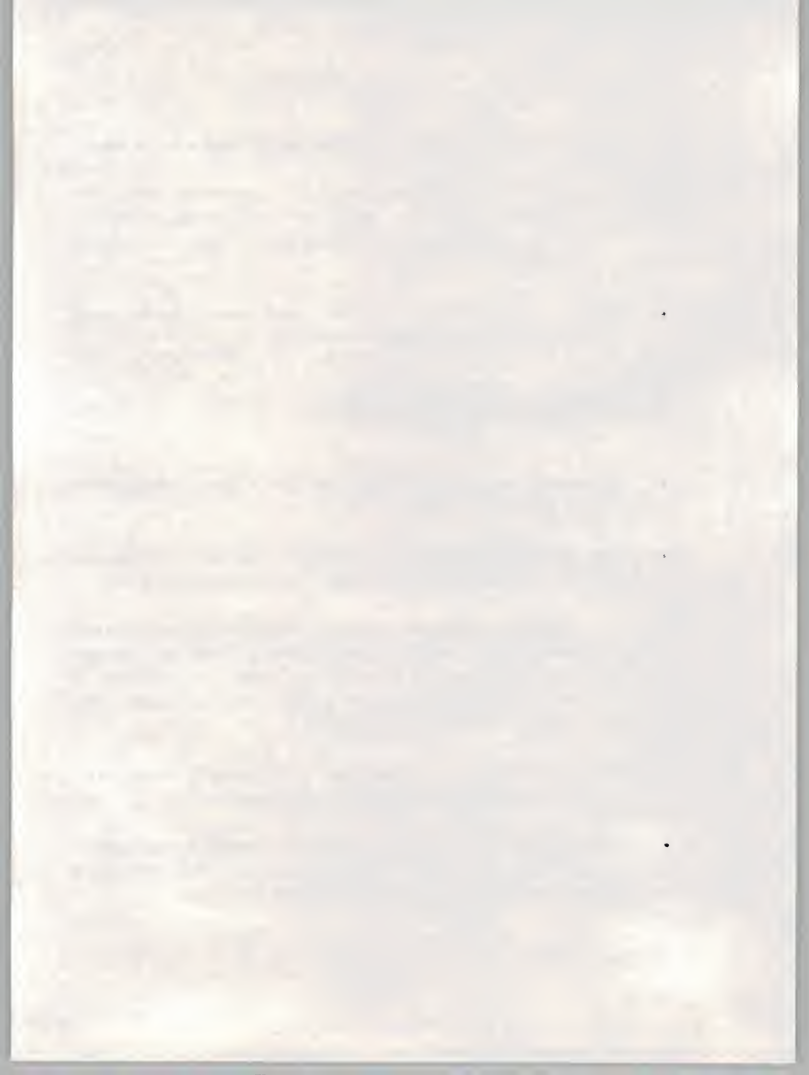
- Electronic document interchange poses one of the most far-reaching challenges to the wholesale distribution industry of any existing technology.
- Its implementation to date has been retarded by several factors such as:
 - The fractured nature of the industry with many small, independent wholesalers.
 - The lack of system software and communication standards (though use of the ANSI X12 standard is emerging in this area).
 - The unwillingness or inability of many participants to devote the resources necessary to implement EDI.
- Though implementation is still largely a promise, several factors indicate that it will emerge in a major way within the next five years:
 - The potential for cost reduction is enormous simply through reducing labor requirements for data re-entry and thereby eliminating errors caused by rekeying. Users have estimated potential cost reduction in these areas of as much as 70%.
 - Definition, implementation, and enforcement of a standard would be a major strategic advantage for a large manufacturer, wholesaler, or chain which was able to gain early adherence, participants, and momentum.
 - The reservation systems of United and American airlines pose analogous cases. They have proven of enormous strategic value to both companies.



- ATM networks in banking have also been used to similar effect.
- It is possible, though less likely, that a major systems vendor might attempt to establish a standard for order, receipt, or manifest interchange. IBM's effort several years ago in the insurance field is suggestive.
- Overall, EDI applications will grow from a small base at an average annual rate of over 100% for each of the next five years.

B. DISTRIBUTION RESOURCE PLANNING

- Distribution resource planning (DRP) grew out of manufacturing resource planning technologies in the late 1970s.
- DRP programs automate purchasing, storage and retrieval and utilize sales forecasts to determine the size and frequency of inventory replenishments.
 - It is used by warehouse personnel to prevent inventory stock-outs and overages and to minimize inventory carried by finance to predict cash flow requirements and perform margin analyses by product lines or products and by marketing to streamline customer deliveries and plan product promotions, introductions, etc.
 - It can serve as a "cradle-to-grave" tracking system for monitoring parts flows from manufacturers through to retail shelf.
- Users are experimenting with rule-driven programs resembling expert systems which predict optimum reorder times and quantities, taking advantage of discounts for volume purchases, prompt payments, etc.



- Such systems reduce warehousing, inventory carrying, and transportation costs, the major cost components for this industry.

C. DISTRIBUTION NETWORK MANAGEMENT

- Distribution network management is an application originally developed within the transportation industry to optimize the costs of delivering diverse types of freight to many locations over several possible modes.
 - It grew out of linear programming concepts and originally required large hardware, software, and staff commitments.
- Recently, it has been married to DRP to add a transportation component to overall operating cost planning and analysis.
- It is winning increasing acceptance in the wholesale distribution industry for modeling such variables as:
 - Delivery routes and alternatives.
 - Fleet and equipment requirements.
 - Cargoes.
 - Delivery frequencies.
 - Multilocation inventory stocks.
 - Backhaul opportunities.
 - Freight budgets.

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- Some users have reported increases in vehicle fill rates of as much as 50%.
- Applications are being interfaced to fleet maintenance programs that perform vehicle repair frequency evaluation, cost analysis, and equipment amortization scheduling.
- The objectives are financial analyses and operations models aimed at increasing services (e.g., delivery frequency) while holding constant or reducing costs (e.g., delivery, inventory holding).

D. OTHERS

- Users noted several other important applications which they intended to begin implementing over the next two years:
 - Dynamic inventory modeling.
 - Bar code reading.
 - Sales forecasting.
 - Telemarketing.
 - Point of sale.
 - Communications.

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IV I.S. BUDGETS

- Information systems budgets are approximately 0.7% of revenue in the wholesale distribution industry. This is close to the average for all industries.
- Forty percent of the companies in the wholesale distribution sector expect information systems budgets to increase in 1987. Another 40% expect their budgets to remain the same. Twenty percent expect IS budget decreases.
- The average budget growth expected for 1987 is 2.7%. In 1985, the sector's average IS budgets increased 5.4%.
- Exhibit IV-1 shows the distribution of expenses in the wholesale distribution IS budgets.



EXHIBIT IV-1

WHOLESALE DISTRIBUTION
1986 BUDGET DISTRIBUTION

BUDGET CATEGORY	1986 I.S. BUDGET (Percent)
Personnel	44.5%
Mainframe	18.4%
Mini	4.4%
Micro	7.5%
Other Hardware	1.1%
Total Hardware	31.4%
Communications	6.5%
PFS/SW Development	1.0%
Applications Software	4.2%
Systems Software	2.5%
Hardware Maintenance	4.3%
Software Maintenance	3.4%
Other	2.2%
Total	100.0%

The first part of the paper discusses the importance of the
 Journal of Applied Behavior Analysis in the field of
 behavior analysis. It highlights the journal's role in
 disseminating research findings and its impact on the
 development of the field. The second part of the paper
 reviews the history of the journal, from its inception in
 1968 to the present. It discusses the changes in the
 journal's content and format over time, and the
 contributions of its various editors and authors. The
 third part of the paper discusses the future of the
 journal, and the challenges it faces in the 21st
 century. It suggests ways in which the journal can
 continue to be a leading journal in the field of
 behavior analysis.

V VENDOR PROFILES

A. MSA

I. PRODUCTS AND SERVICES

- Management Science America (Atlanta, GA) sells the Expert Series line of software which includes financial management software for a variety of industries including wholesale distribution.
- Specific modules for wholesale distribution include:
 - Order processing.
 - Purchasing.
 - Sales forecasting.
- In the first half of 1986, MSA released Information Expert, a set of software integration tools that allow each module in its distribution product line to access data from any other module.



2. COMPANY DIRECTIONS

- MSA is known for its strong off-the-shelf product orientation rather than for providing service and modifications for individual clients. The introduction of Information Expert can be seen as a continuation of this direction, providing tools to customers so that they can do their own ad hoc customization, reporting, and analyses.

- The company made a number of acquisitions in 1986, including ComServe, Information Associates, Inc. (Rochester, NY), and RTS, Ltd., of Dublin, Ireland. ComServe is a leading supplier of MRP software to the process and discrete manufacturing sectors. The other two firms specialize in providing IBM minicomputer (S/36/38)-based applications and provide a stronger presence by MSA in markets with smaller distribution firms. The company's stated goal of "verticalizing" many of its horizontal products for sales in specific industry markets also points to this direction.

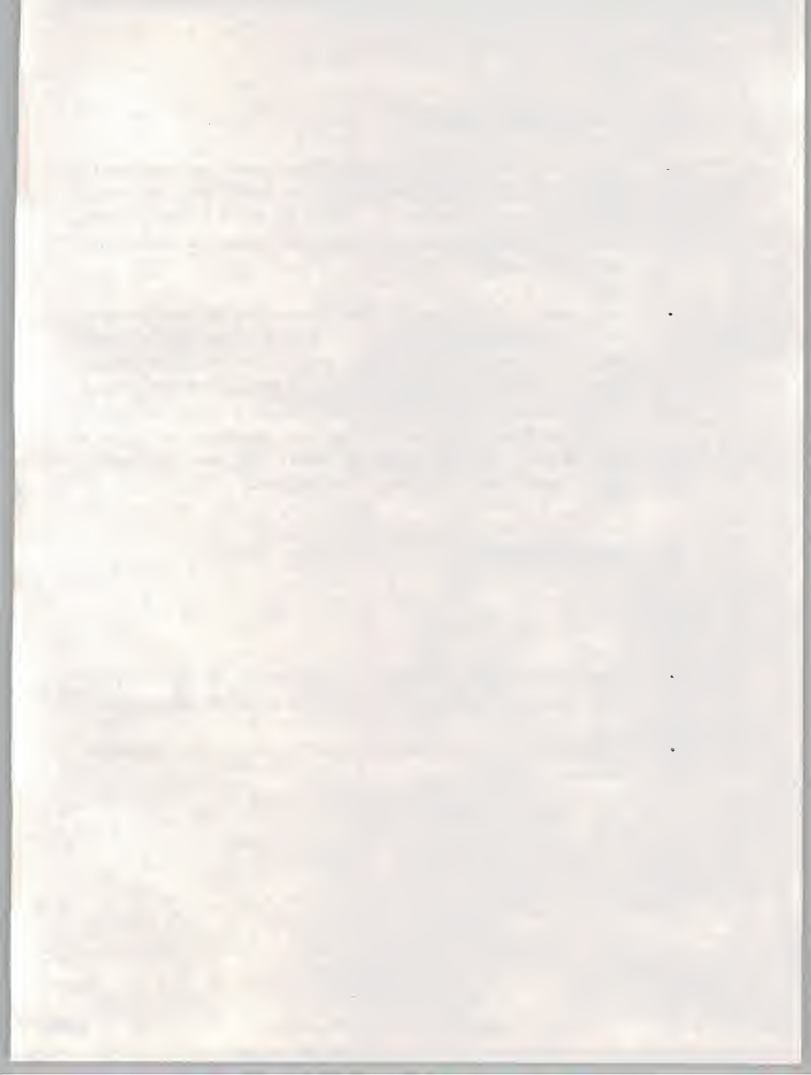
B. AMERICAN SOFTWARE

I. PRODUCTS AND SERVICES

- American Software, headquartered in Atlanta, provides distribution software for wholesalers and for the distribution activities of discrete manufacturers.

- It offers a rich suite of modules covering all facets of wholesale distribution management including:
 - Demand forecasting.

 - Inventory planning.



- Distribution requirements planning (DRP).
 - Customer order processing.
 - Purchasing.
 - Vehicle scheduling and loading.
- It also offers an Inventory Planning Facility program that allows customers to do simulation and modeling of their inventory stocks and flows.
 - The company also offers professional services aimed at helping customers integrate American Software's products with their existing software program and data files.

2. COMPANY DIRECTIONS

- American Software has traditionally targeted Fortune 1000 manufacturers and distributors but has indicated signs of expanding its target markets to include smaller wholesalers.
 - Last year it introduced DRP/39, a DRP module for IBM's System 38 line of minicomputers.
 - They have acquired and codeveloped Accounts Receivable and Order Processing programs for the System 38 in conjunction with Pru Tech Research and Development Partnership.
 - It has also begun to introduce programs to run on IBM's System 36 line of minicomputers.
- In 1985, the company introduced AMSOFT DRP-PC, a program to support PC interfaces to its mainframe DRP systems.



C. MCBA

1. PRODUCTS AND SERVICES

- MCBA is located in Glendale (CA). It addresses the wholesale distribution marketplace with mini and microcomputer applications for accounting and distribution management.
- Its primary product for distributors includes ten modules covering the traditional areas of Order Entry, Purchasing, Inventory Management, and Sales Forecasting, as well as accounting functions such as Accounts Payable, Accounts Receivable, and General Ledger.
- It also supports Payroll, Customer List, and Fixed Asset and Depreciation reporting.
- The package serves small- to medium-sized distributors with mini and micro-computer systems.

2. COMPANY DIRECTIONS

- MCBA's strategy includes servicing the widest possible cross-section of wholesalers. It does this in two principal ways:
 - Making its products available on the most popular systems including minicomputers from Hewlett Packard, Wang, Texas Instruments, AT&T, DEC, and the IBM AT.
 - Providing a product which can be used without customization but which can be modified by the customer should they desire to fit their specific needs.



- Approximately 20% of MCBA's business comes from the wholesale distribution industry.

D. GSI TRANSCOMM

- GSI Transcomm produces TOLAS, a line of applications software for distribution and financial analysis. It is also available as a turnkey system on DEC or Tandem hardware.
- Modules, which range in price from \$5,000 to \$26,000, include:
 - Inquiry and reporting system.
 - Order entry/invoicing.
 - Inventory management and analysis.
 - Sales analysis.
 - Warehouse management.
 - Accounting/financial automation and analysis.
- A new product, Telestream, is an AI-based telemarketing system.
- The company is involved with The Carnegie Group of Pittsburgh (PA) in a project to integrate artificial intelligence techniques into TOLAS modules.
- Backo produces a line of software modules for warehouses and wholesale distributors. Prices range from \$10,000 to \$50,000.

Dear Mother

I received your letter of the 10th and was glad to hear from you. I am well and hope these few lines will find you the same.

I have not much news to write at present. Everything is quiet here.

I must close for this time. Write soon.

Your affectionate son,

John Doe

P.S. I hope to see you soon.

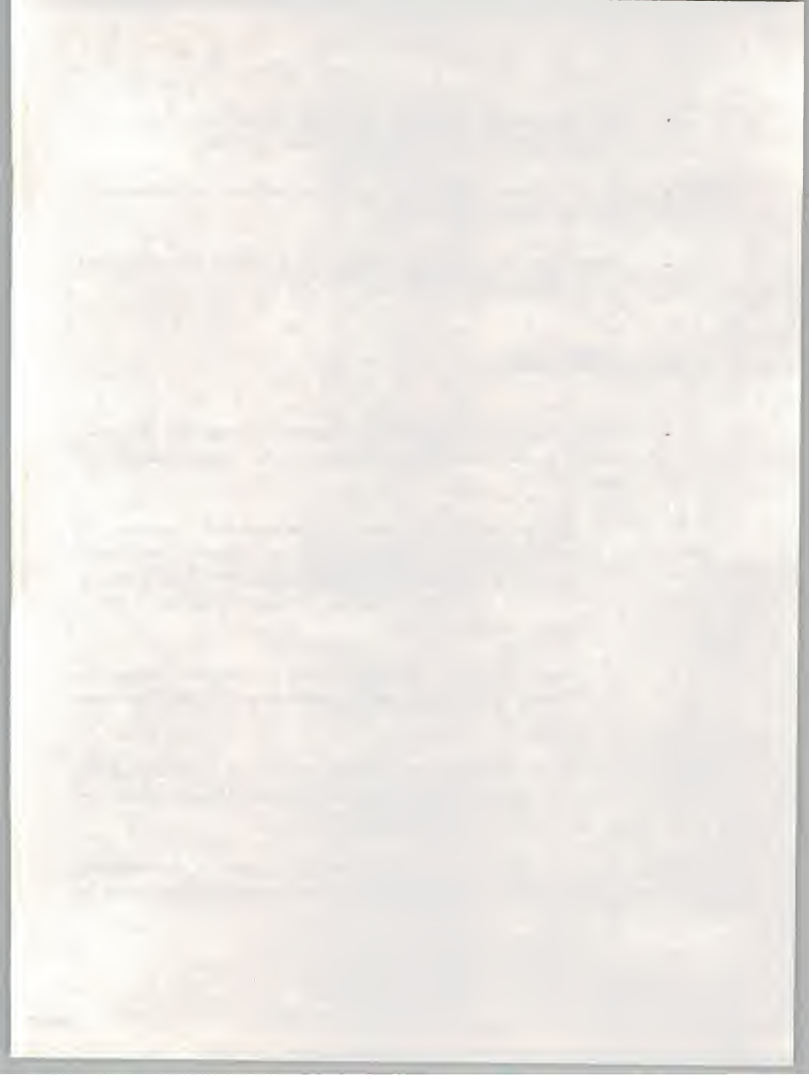
Love,

John Doe

- Its products address the needs of wholesalers with multiple warehouses who are automating their warehousing and distribution operations.
- Its basic product includes the most common distributor applications and is able to be modified by the customer.
- The company's fiscal year 1985 revenues are in the \$1-5 million range and were up 150% over the previous year.

E. OTHER VENDORS

- Several vendors have staked out territories delivering software and turnkey systems products to different segments of the wholesale distribution marketplace.
 - Sentinel Computer Corporation of Cincinnati (OH) markets an IBM PC/AT-based turnkey system targeted at wholesalers with multiple offices and warehouses. The package, called Profit Control, supports up to nine users with the essential distributor applications as well as payroll and sales analysis.
 - Prophet 21, Inc. of Yardley (PA) sells a proprietary hardware and software package specifically targeted at the small wholesale distributor.
 - The system, called Foresee, includes more than 100 integrated software modules, four interactive terminals, and a printer. The basic model lists for \$25,000.
 - The company markets through a network of 50 value-added resellers and dealers. It recently opened five offices around the



country to provide local training and sales support to resellers and end users.

- The company's 1985 sales totaled \$20 million.
- CRT Distribution Systems, Inc., Waukesha (WI), provides a modular, interactive turnkey system based on IBM System 34 or 36 hardware. The system supports customer site terminals for remote stock status inquiry, pricing, or order entry. Also included are telemarketing programs and bar code reading hardware and software.



The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry, no matter how small, should be recorded to ensure the integrity of the financial statements. This includes not only sales and purchases but also expenses and income. The document also highlights the need for regular reconciliation of bank statements and the company's records to identify any discrepancies early on.

In addition, the document provides guidelines on how to handle cash transactions. It stresses the importance of having a clear system for recording cash receipts and payments, and for ensuring that all cash is properly accounted for. The document also discusses the use of petty cash and how to manage it effectively.

The second part of the document focuses on the preparation of financial statements. It provides a step-by-step guide to calculating the cost of goods sold, gross profit, and net income. It also discusses the importance of reviewing these statements regularly to assess the company's financial performance and to identify areas for improvement.

Finally, the document concludes with a summary of the key points discussed and a reminder of the importance of maintaining accurate financial records. It encourages the reader to take the time to review the document and to apply the principles discussed to their own business operations.

**APPENDIX WH-A: DISTRIBUTION INDUSTRY SECTOR SERVICES MARKET
FORECAST**

- Exhibit WH-A-1 covers the five-year forecast of the entire distribution sector for information services markets, with the exception of professional services and systems software (both of which are provided in the cross-industry forecasts).
- Exhibit WH-A-2 covers the same five-year forecast for wholesale alone (the difference between WH-A-1 and WH-A-2 being the retail industry).



EXHIBIT WH-A-1

**DISTRIBUTION INDUSTRY SECTOR
INDUSTRY-SPECIFIC SERVICES MARKET, 1986-1991**

Segmentation By Delivery Mode	1985 (\$ M)	85-86 Growth	1986 (\$ M)	1987 (\$ M)	1988 (\$ M)	1989 (\$ M)	1990 (\$ M)	1991 (\$ M)	AAGR 86-91
PROCESSING SERVICES									
Remote Comp./ Batch	\$773	14%	\$883	\$1,015	\$1,185	\$1,396	\$1,592	\$1,767	15%
Facility Mgt.	48	6%	51	54	58	62	68	73	7%
Total Processing Services	\$821	7%	\$934	\$1,069	\$1,243	\$1,458	\$1,660	\$1,840	15%
APPLICATIONS SOFTWARE									
Mainframe/ Mini	\$215	29%	\$277	\$357	\$461	\$595	\$767	\$902	27%
Micro	77	38%	106	148	205	272	358	464	34%
Total Applications Software	\$292	31%	\$383	\$505	\$666	\$867	\$1,125	\$1,366	29%
TURNKEY SYSTEMS									
Total	\$415	25%	\$564	\$703	\$865	\$1,009	\$1,146	\$1,294	18%
Total	\$1,528	20%	\$1,881	\$2,277	\$2,774	\$3,334	\$3,931	\$4,500	19%

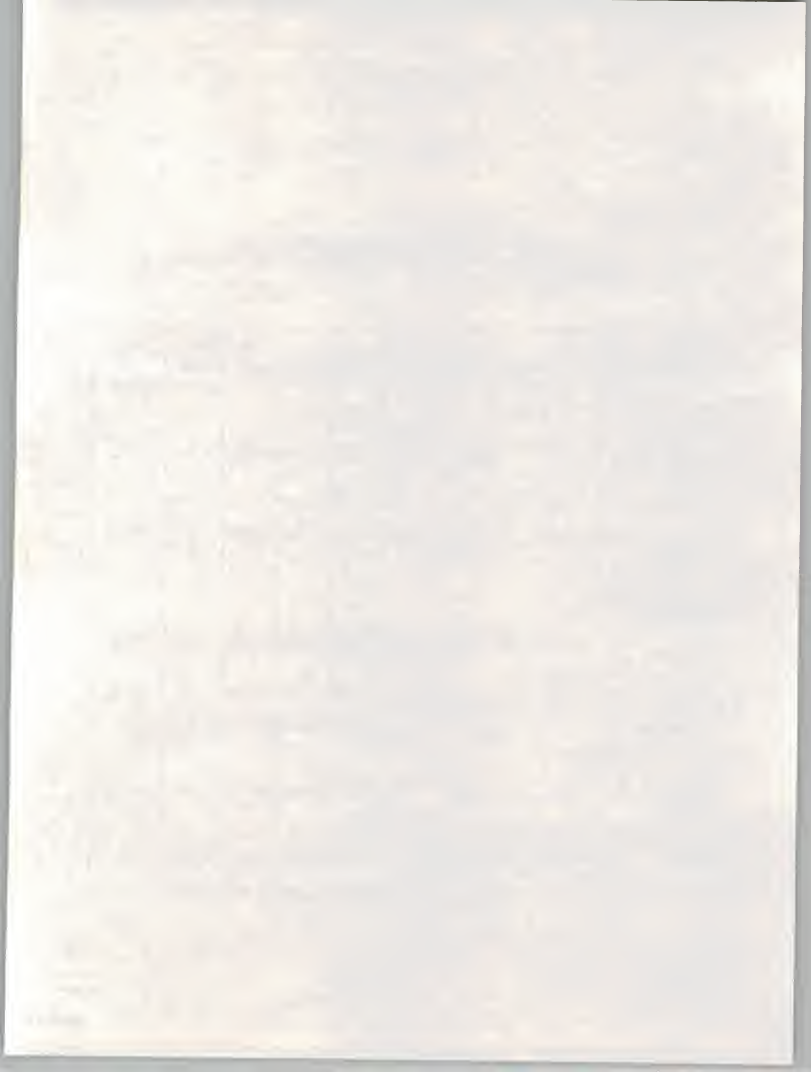


EXHIBIT WH-A-2

**WHOLESALE INDUSTRY SECTOR
INDUSTRY-SPECIFIC SERVICES MARKET, 1986-1991**

Segmentation By Delivery Mode	1985 (\$ M)	85-86 Growth	1986 (\$ M)	1987 (\$ M)	1988 (\$ M)	1989 (\$ M)	1990 (\$ M)	1991 (\$ M)	AAGR 86-91
PROCESSING SERVICES									
Remote Comp./ Batch	\$209	7%	\$224	\$239	\$253	\$269	\$282	\$296	6%
Facility Mgt.	32	3%	33	34	35	36	37	38	3%
Total Processing Services	\$241	7%	\$257	\$273	\$288	\$305	\$319	\$334	5%
APPLICATION SOFTWARE									
Mainframe/ Mini	\$143	27%	\$182	\$228	\$289	\$364	\$459	\$541	24%
Micro	45	31%	59	77	100	130	168	216	30%
Total Application Software	\$188	28%	\$241	\$305	\$389	\$494	\$627	\$757	26%
TURNKEY SYSTEMS									
Total	\$224	20%	\$269	\$323	\$381	\$449	\$521	\$604	18%
Total	\$653	17%	\$767	\$901	\$1,058	\$1,248	\$1,467	\$1,695	17%



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.

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