OTHER VERTICAL MARKETS

OPPORTUNITY ANALYSIS

INPUT

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.

Continuous-information advisory services, proprietary research/consulting, merger/acquisition assistance, and multiclient studies are provided to users and vendors of information systems and services (software, processing services, turnkey systems, systems integration, professional services, communications, systems/software maintenance and support).

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

Formed 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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DECEMBER 1989

OTHER VERTICAL MARKETS OPPORTUNITY ANALYSIS

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Preface:

This volume contains INPUT's analyses of seven vertical markets plus card processing as a special service which cuts across multiple verticals.

The appendix contains a copy of the telephone interview questionnaire which was modified slightly to accomodate the unique needs of individual vertical markets.

Contents

DECEMBER 1989

MANUFACTURING INDUSTRY OPPORTUNITY ANALYSIS

INPUT®

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

Preface:

Important Note to Readers of this Report

Readers of this report should be aware that this is only one of thirteen vertical industry reports developed by INPUT for Moore IDS. These vertical reports, in turn, are followed by a final cross-industry report that serves the central mission of this project: to provide market opportunity recommendations that will help Moore IDS to focus strategically on a very limited number of high-value opportunities—whether within a single industry or across several.

Therefore, readers of this report should keep in mind several considerations while reviewing the findings presented here:

- To serve the central mission of helping Moore IDS to achieve strategic focus on a limited number of market opportunities, INPUT has applied a tight screening process to the applications examined in each vertical industry. The selection criteria targeted mission-critical, high frequency, repetitive variable-imaging applications that would represent an ongoing base of predictable revenue, as opposed to the current mix of ad hoc, project-oriented overflow work with peaks and valleys of a less predictable nature.

- Due to this tight screening process, readers may find that these vertical reports fail to mention certain applications, even though they represent currently viable Moore IDS revenue sources.

- Finally, recommendations presented in this single-industry report must be recognized by readers to be somewhat out of context:

    - An opportunity that looks excellent—relatively—within a single industry may turn out to be dwarfed by applications in other industries.

- An application that looks to be of minimal attractiveness in a single industry may prove to be closely paralleled in several other industries—in such a way that together they constitute a preeminent cross-industry opportunity.

INPUT discusses such findings in the cross-industry report. Note that these cross-industry recommendations are the primary objective of this project, and thus they supersede those of the individual vertical market reports. The final cross-industry report should be examined for such perspective by any reader of this single-industry report.

It is hoped that this note will help readers place these findings in the proper perspective, especially in cross-referencing this single-industry viewpoint with the final report's cross-industry findings and recommendations.

Table of Contents

Exhibits

I

Introduction

A

Objectives

INPUT has conducted this research to meet objectives agreed upon with Moore Business Forms' Information Distribution Services division (Moore IDS). These objectives are outlined in Exhibit I-1.

EXHIBIT I-1

Manufacturing:
Key Research Objectives

- Identify and evaluate business opportunities for basic and enhanced services
- Identify and assess key marketing/sales issues and delivery requirements
- Provide data for cross-industry evaluation

Both basic and enhanced service opportunities are examined here, as defined in Exhibit I-2.

EXHIBIT I-2

Manufacturing:
Application/Service Type Definitions

Basic Services

- Variable-image printing or embossed cards plus related mailing services such as stuffing, sealing, metering, sorting, and post office delivery

Enhanced Services

- Basic services, as defined above, when integrated with any value added front-end or back-end services, typically of information services content (e.g., data base management) but also including any other business services (e.g., lockbox)

(and/or)

- All-electronic solutions as a replacement for, or supplement to, paper-based business communications (e.g., Electronic Data Interchange, or EDI)

B

Scope

The scope agreed upon between Moore IDS and INPUT was to split the interviews among segments of the manufacturing industry shown in Exhibit I-3, excluding any attention to the following industry segments, as they were judged unlikely to have substantial variable imaging business communication opportunities: food, tobacco, textile, lumber and wood, furniture, paper, chemicals, petroleum, rubber and plastics, leather, stone, concrete, and metals. Larger organizations were targeted on the presumption that they will present larger business opportunities for Moore IDS.

EXHIBIT I-3

Manufacturing: Research Scope

- Market segments covered
  - Publications (periodicals)
  - Machinery, especially computers
  - Electrical appliances and electronic equipment
  - Transportation (automobiles)
  - Instruments and measuring devices
- Size of companies
  - Over $50 million

C Methodology

The manufacturing industry is one of seven vertical markets selected for abbreviated research. As shown in Exhibit I-4, methodologically this abbreviated study was conducted much as the full-scale studies were for the industries of insurance, telecommunications, state and local governments, finance, retail trade, and education, except with fewer interviews and with results presented in an abbreviated report format.

EXHIBIT I-4

Manufacturing: Research Methodology

- Information gathering and preparation
- Review and modification of vertical market questionnaire
- Scope review with Moore IDS marketing manager
- Telephone interviews
- Analysis and report writing

As shown in Exhibits I-5 and I-6, INPUT conducted telephone interviews with executives and managers from 11 manufacturing companies, split among the five market segments outlined above. Almost all of the interviewees (9 of 11) were senior-level executives, and the remainder were midlevel managers. All were from information systems or data processing.

EXHIBIT I-5

Manufacturing: Interviewing Statistics

- 35 companies contacted
- Interviews conducted with 11 companies
  - 7 firms refused to participate
  - Attempts to interview the other 17 were dropped once 11 interviews were completed

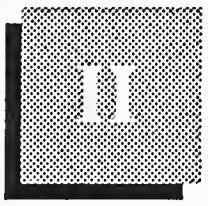
The telephone questionnaire used was a variation of the ones successfully used for the non-abbreviated industry studies. For the interviews, INPUT implemented a methodology of "cold calling" firms on a representative list and establishing a person-to-person reference network from the top-executive level down to the executive or manager best able to answer the questions. Over 125 calls were made to 35 companies to secure the 11 interviews. Seven firms refused to participate, once the right person was reached.

As part of its search for enhanced services, INPUT also evaluated the potential for EDI (electronic data interchange) applications in the manufacturing industry. INPUT has a major EDI research service which has developed detailed estimates of the size of the total EDI market, including the manufacturing industry. A team of INPUT senior consultants took the most recent INPUT research studies, estimated EDI market penetration in the manufacturing industry, and projected the total potential size of the EDI opportunity by factoring the market size against the penetration rate. This estimate was then included with the other enhanced opportunities.

EXHIBIT I-6

Manufacturing: Companies Interviewed

- Publications (Periodicals)
  - Affiliated Publications
- Machinery, especially computers
  - Atari
  - Gandalf Technologies
- Electrical Appliances and Electronic Equipment
  - Amana Refrigeration
  - Conair
  - Nutone
- Transportation (Autos)
  - Ford Motor Credit
  - General Motors Acceptance Corp.
  - Subaru of America
  - Toyota Motor Distributors of America
- Instruments and Measuring Devices
  - Industrial Solid State Controls



Executive Overview

INPUT conducted telephone surveys with managers from 11 manufacturing companies, divided among the five market segments of publications (periodicals), machinery (especially computers), electrical appliances and electronic equipment, transportation (automobiles), and instruments and measuring devices.

Exhibit II-1 identifies coupon books (for loans), customer satisfaction surveys (among automobile manufacturers) and subscription renewals (among periodical publishers) as the only mission-critical basic business printing and mailing applications found.

Note that billing applications are not examined in the manufacturing industry for several reasons: first, they are not Moore IDS-style variable-image printing opportunities; second, they are highly complex in content, yet are relatively low-volume (in comparison with consumer-based applications) business-to-business communications; and third, they are generally either firmly computerized as sub-functions within integrated purchasing systems or carried on as largely manual functions; and they are known by INPUT to be rapidly transitioning to EDI-based direct computer-to-computer exchanges.

Note also that the interviews outside the automobile and periodicals segments uncovered no other variable-imaging applications except the "yearly overload" applications of W-2s and 1099s on which Moore IDS does not wish to base its business. In fact, a number of interviews came up "dry": computer systems managers could think of no other computer-generated variably-imaged business communications.

EXHIBIT II-1

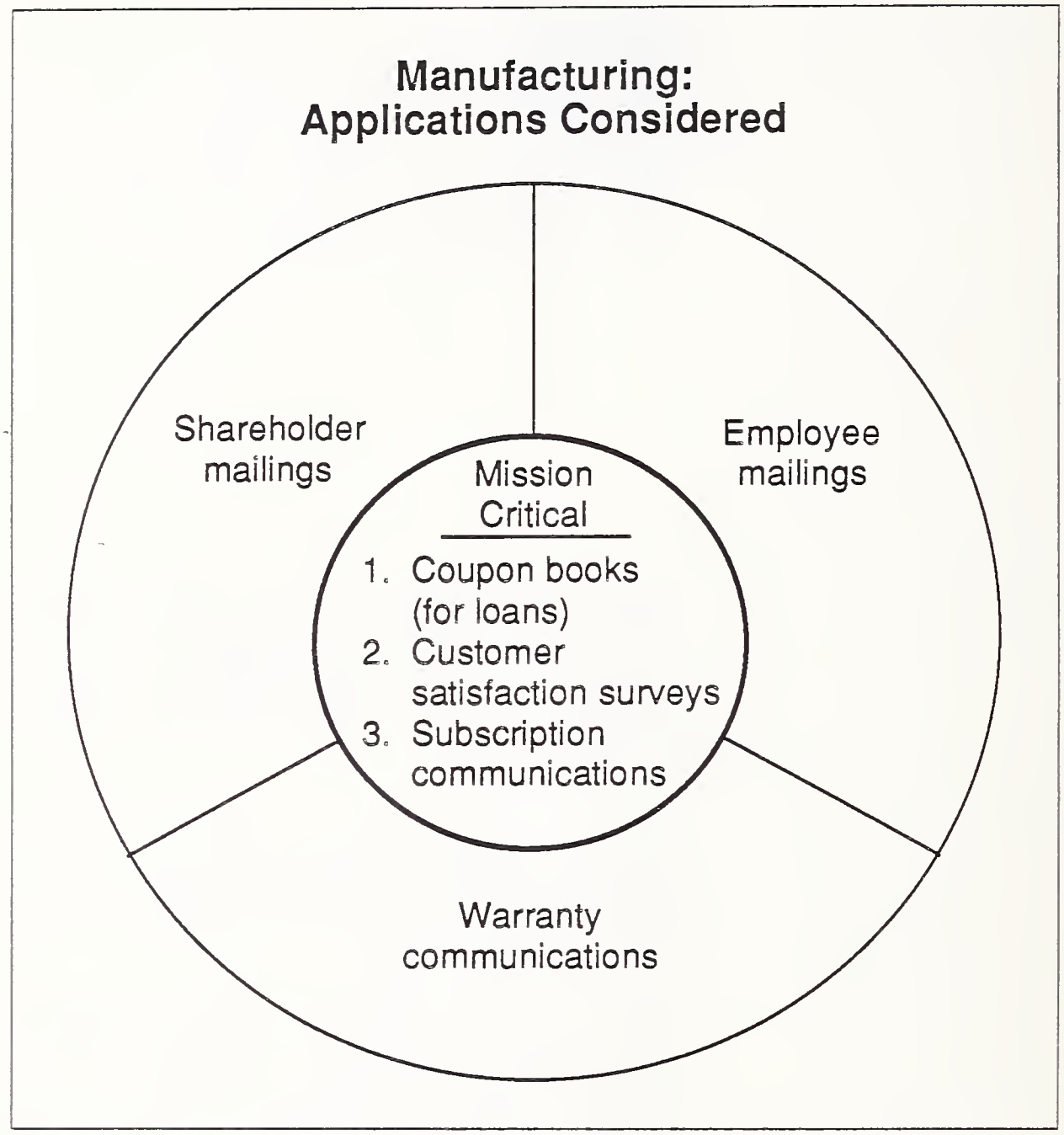


Exhibit II-2 shows that only 2 interviewees outsource financing or customer survey communications now, and no other interviewee was willing to consider such outsourcing in the future.

EXHIBIT II-2

Manufacturing: Willingness to Outsource Basic Printing/Mailing

	Percent
Current (actual) practice	18
Willing to consider in future	18

INPUT identifies attractive basic applications primarily within the automobile segment of the manufacturing industry: the printing and mailing of coupon books (for loans) and customer satisfaction surveys.

INPUT judges periodicals not attractive because of the market dominating lock-up of subscription mailings by a very few large vendors in Colorado and Iowa. In addition, this is a promotional mailing application outside the scope of this project.

In the automobile industry, INPUT sees attractive opportunities to migrate basic applications into enhanced applications: from coupon books into packaged billing and collection services or EFT/ACH (Electronic Funds Transfer/Automated Clearing House)-based payment systems, and from survey printing and mailing into survey mailing plus data collection and reporting services.

In addition, INPUT has also identified EDI as a major opportunity in enhanced services for Moore IDS in several industries, including manufacturing. EDI is already penetrating automobile and other manufacturing segments, as firms search for ways to speed data exchange and control inventories. Many major manufacturers, wholesale distributors, and retailers have undertaken EDI as a strategic application to maintain control of their distribution channels. As a major, growing information systems application area that tends to displace printing and mailing operations, EDI is an especially important and attractive enhanced services opportunity for Moore IDS.

No other attractive opportunities are seen in the remaining manufacturing segments. Note, however, that Moore IDS may wish to undertake further studies in the manufacturing segments of computers, electrical/electronics products, and instruments and measuring devices to determine if buyers can be convinced of the value of using customer-list data bases—derived in many cases from warranty-card returns—to conduct customer satisfaction surveys on the automobile industry model cited here. Similarly, Moore IDS could attempt to educate customers on mail-based promotional programs using customer lists. INPUT cautions, however, that this set of interviews indicates that such programs would represent cultural changes for those market segments, and thus are basically speculative opportunities.

INPUT has applied a methodology for sizing opportunities and determining their relative attractiveness in order to make comparisons among industries and applications. Exhibits II-3, II-4, II-5, II-6, II-7, and II-8 present sizing for basic and enhanced service opportunities and their relative attractiveness.

EXHIBIT II-3

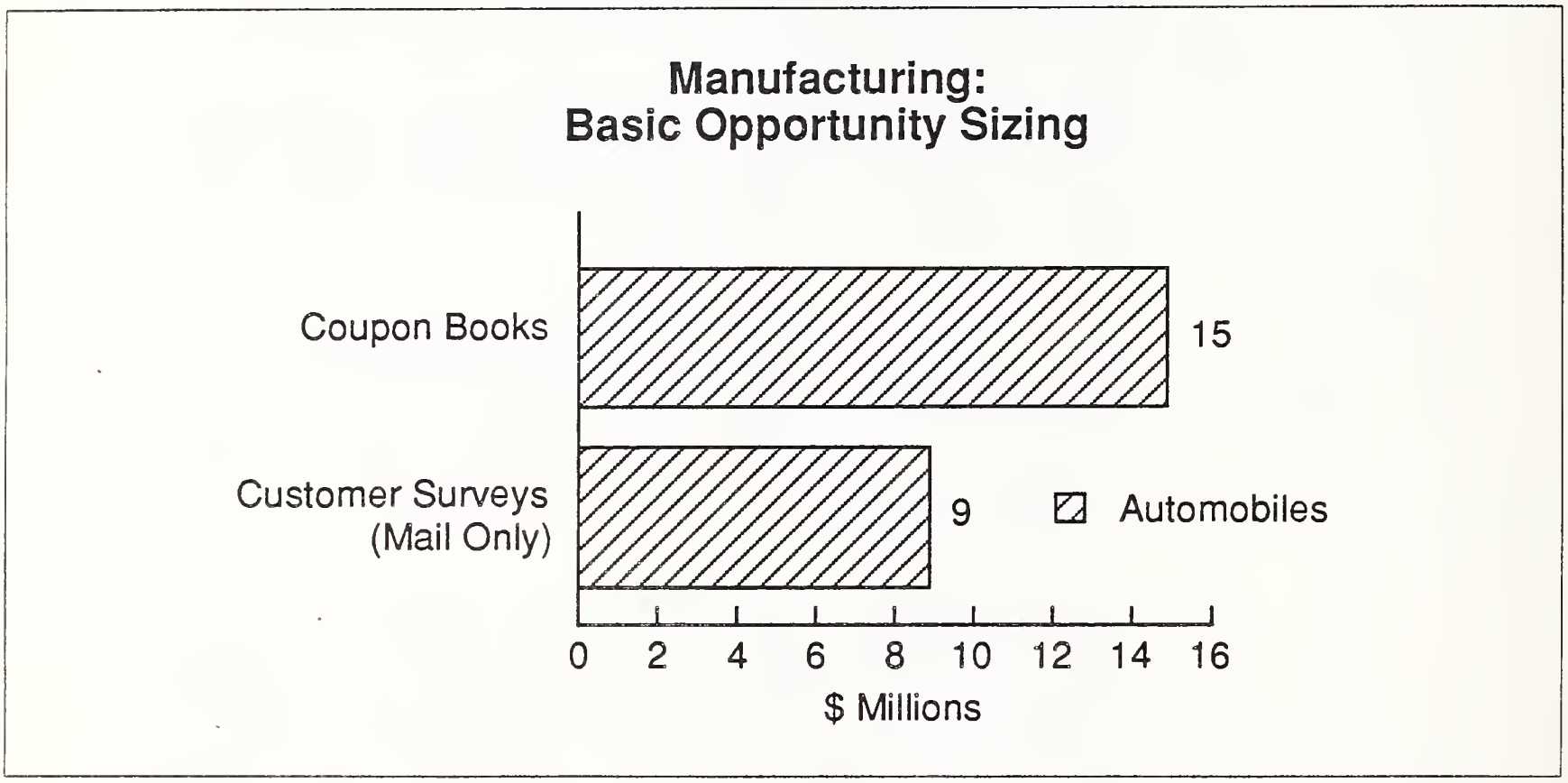


EXHIBIT II-4

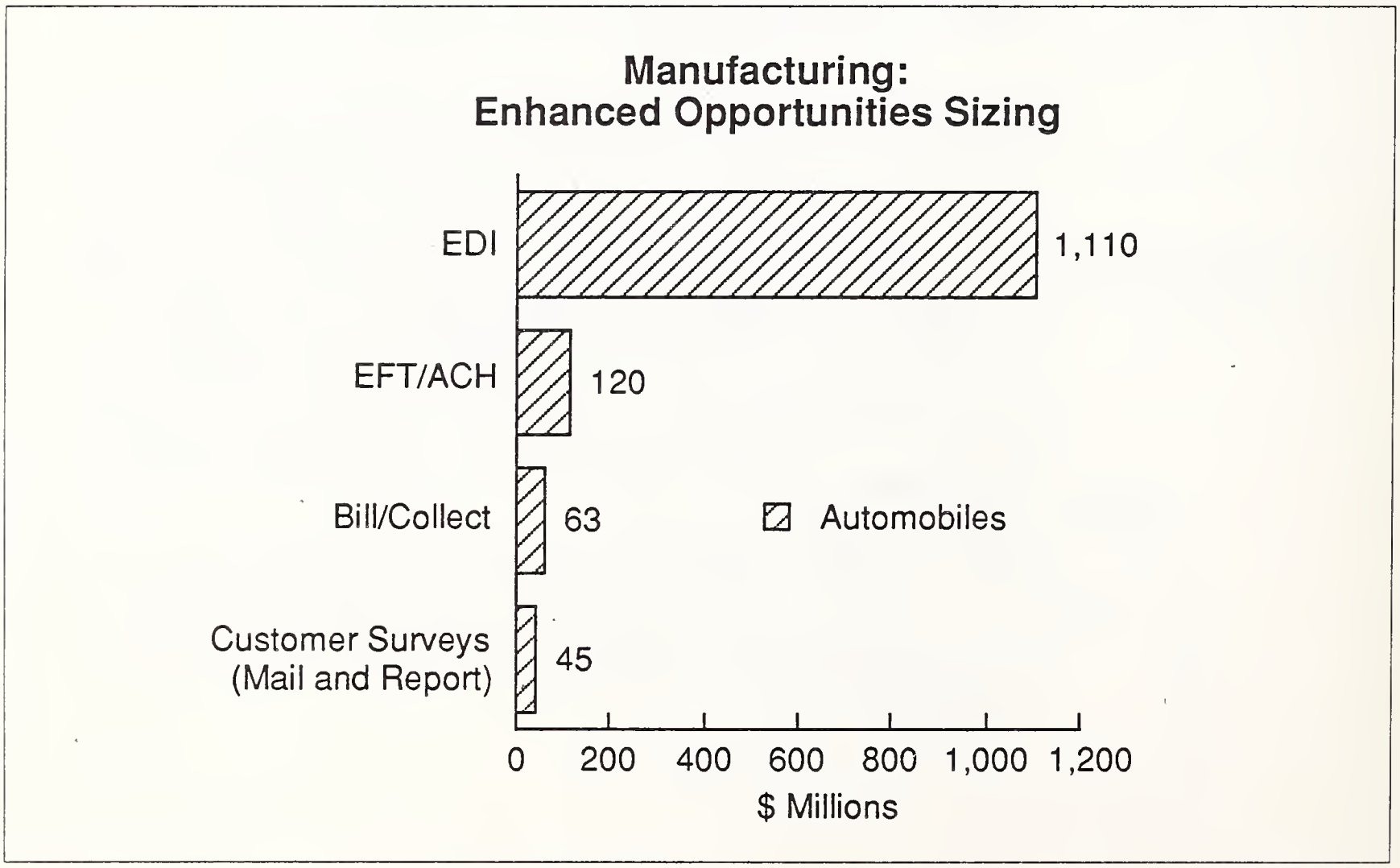


EXHIBIT II-5

Manufacturing: Attractiveness Ratings of Basic Service Opportunities

Application opportunity ($ Millions)		Criteria ratings (range: 1 = negative to IDS, 5 = positive)			Overall attractiveness (range: 1 = lowest 125 = highest)
Type	Size	Relative Size X	Willingness to Outsource X	Level of Pain or Problem =	Relative Rating Value
Coupon books	15	1	3	1	3
Customer surveys (mail only)	9	1	4	2	8
Total	24				11

EXHIBIT II-6a

Manufacturing: Attractiveness Ratings of Enhanced Service Opportunities

Application opportunity ($ Millions)		Criteria ratings (range: 1 = negative to IDS, 5 = positive)			Overall attractiveness (range: 1 = lowest 125 = highest)
Type	Size	Relative Size X	Willingness to Outsource X	Level of Pain or Problem =	Relative Rating Value
Bill/collect	63	1	1	2	2
EFT/ACH	120	2	4	2	16
Customer surveys (mail and report)	45	1	4	2	8
EDI	1,110	5	5	2	125
Total	1,338				151

EXHIBIT II-6b

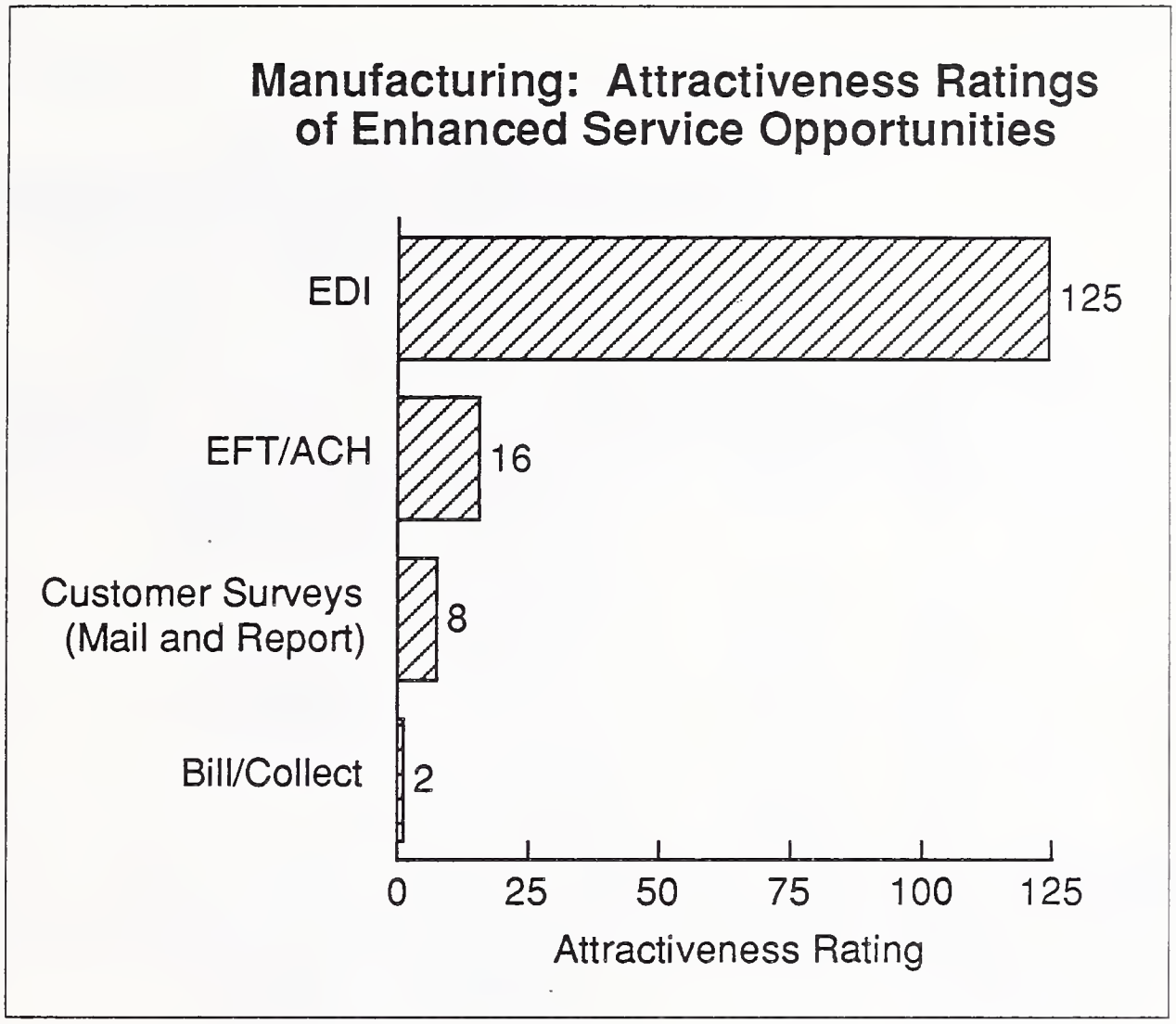


EXHIBIT II-7

Manufacturing: Opportunity Size by Target Audience ($ Millions)

Type of Service	Target Audience						
	Owners	Employees	Customers		Suppliers	Internal Efficiency	Total
			Business	Consumer			
A. Basic				Coupon books (15) Customer surveys (mail only) (9)			
Subtotal				(24)			(24)
B. Enhanced			EDI (1,110)	EFT/ACH (120) Bill/collect (63) Customer surveys (mail and report) (45)			
Subtotal			(1,110)	(228)			(1,338)
Total			(1,110)	(252)			(1,362)

EXHIBIT II-8

Manufacturing: Opportunity Attractiveness by Target Audience (Attractiveness Rating Scores)

Type of Service	Target Audience					Total
	Owners	Employees	Customers	Suppliers	Internal Efficiency	
			Business / Consumer			
A. Basic			Customer surveys (mail only) (8) Coupon books (3)			
Subtotal			(11)			(11)
B. Enhanced			EDI (125) / EFT/ACH (16) Customer surveys (mail and report) (8) Bill/collect (2)			
Subtotal			(125) / (26)			(151)
Total			(125) / (37)			(162)

Exhibit II- 9 shows major environmental threats and opportunities specific to manufacturing.

EXHIBIT II-9

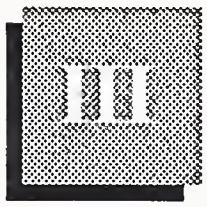
Manufacturing: Environmental Threats and Opportunities

Threats

- Surplus production capacity (U.S. auto vendors)
- Stalled sales, eroding profits (U.S. auto vendors)

Opportunities

- Growing production capacity (U.S.-producing Japanese auto vendors)
- Healthy sales growth, good profits (U.S.-producing Japanese auto vendors)



Market Opportunities

Before discussing potential opportunities in more detail, it will be useful first to set the stage by summarizing findings about outsourcing by manufacturing companies today, as well as interviewees' attitudes about future outsourcing, their descriptions of problems they now face, and planned improvements.

A

Introduction

Reasons cited for not outsourcing mostly emphasize the smooth effectiveness of current in-house systems—a "don't rock the boat" mentality—in the automobiles segment, where variable-imaging applications are present.

Few real problems are cited by interviewees, nor are any desired improvements identified.

B

Application Opportunities

1. Basic Service Opportunities

a. Coupon Books

Somewhat surprisingly, even huge firms like GMAC and Ford Motor Credit express willingness to consider outsourcing the high-volume automobile coupon books (for loans) application. Moore IDS should note, however, that they also express great skepticism that an outside vendor can provide such printing and mailing more cost-effectively than their in-house operations; price is their key consideration.

b. Customer Satisfaction Surveys (Mail Only)

Apparently only the Japanese automobile manufacturers are systematically using such surveys now, as Moore IDS has experienced from serving American Honda and others. Rational U.S. manufacturers facing

declining market shares, however, should be prime prospects to undertake such new programs.

2. Enhanced Services Opportunities

In some industries studied by INPUT for Moore IDS, interviewees' "fantasies" about the future of variable-imaged communications prove useful in identifying enhanced services opportunities. In manufacturing, however, the future fantasies are relatively ill-formed, generally concerning various forms of all-electronic automobile financing payment systems.

Subsequent analysis, however, has led INPUT to identify enhanced services application opportunities as follows:

- Packaged billing and collection services
- EFT/ACH-based financing
- Customer satisfaction surveys (mail and report)
- EDI (Electronic Data Interchange)

a. Packaged Billing and Collection Services

Packaged billing and collection services—where Moore IDS would provide a single source for billing and lockbox-based collections—are recommended for consideration with a caveat: several automobile manufacturers surveyed are well-experienced with lockboxes, and automobile financing divisions certainly understand the other issues of regular payments collections on the millions of cars they finance yearly. Thus, it may prove important for Moore IDS to provide added collection services for overdue accounts in order to get manufacturing providers to consider outsourcing of billing and collections to a packaged service provider.

b. EFT/ACH-Based Financing

One fascinating finding on the potential for EFT/ACH-based automobile financing emerged from one particular interview: fewer than 5% of Americans offered this option by the interviewee's firm are now accepting it, versus some 60% of Canadians. No clear reason is known for the difference, but by analogy the U.S. opportunity appears largely untapped; further consumer research may be called for to determine if there is a hidden cultural inhibitor at work here.

c. Customer Satisfaction Surveys (Mail and Report)

In the case of American Honda, Moore IDS and the Response Analysis division have bid on both the printing/mailing of surveys and their data collection, analysis, and reporting; only the printing/mailing has been won to date. As the market opportunity analysis that follows indicates, the enhanced opportunity that includes the reporting is far more sizable in potential than the basic application. Note that the Moore IDS sales rep for American Honda reports that post-bid analysis shows that the Moore price for analysis and reporting was significantly higher than competitors'.

d. EDI (Electronic Data Interchange)

A major factor in reducing manufacturers' costs is the increasing use of EDI. In fact, many major manufacturers, wholesale distributors, and retailers have developed EDI as a strategic tool to maintain control of their supply and distribution channels. It is a necessary ingredient for just-in-time manufacturing processes.

By definition, EDI is an outsourced service. The bulk of the market is for the public network/mailboxing services that translate, store, and forward EDI traffic among parties to the manufacturing and distribution process. Large manufacturers such as General Motors typically use EDI to order parts or subassemblies from suppliers.

Because of the strategic nature of EDI, it is clearly a mission-critical application for manufacturers. The growth of this application is tied into the clear trend for large manufacturers to force their suppliers and other trading partners to adopt EDI or risk losing their business.

C

Application/Service Opportunity Sizing and Ratings

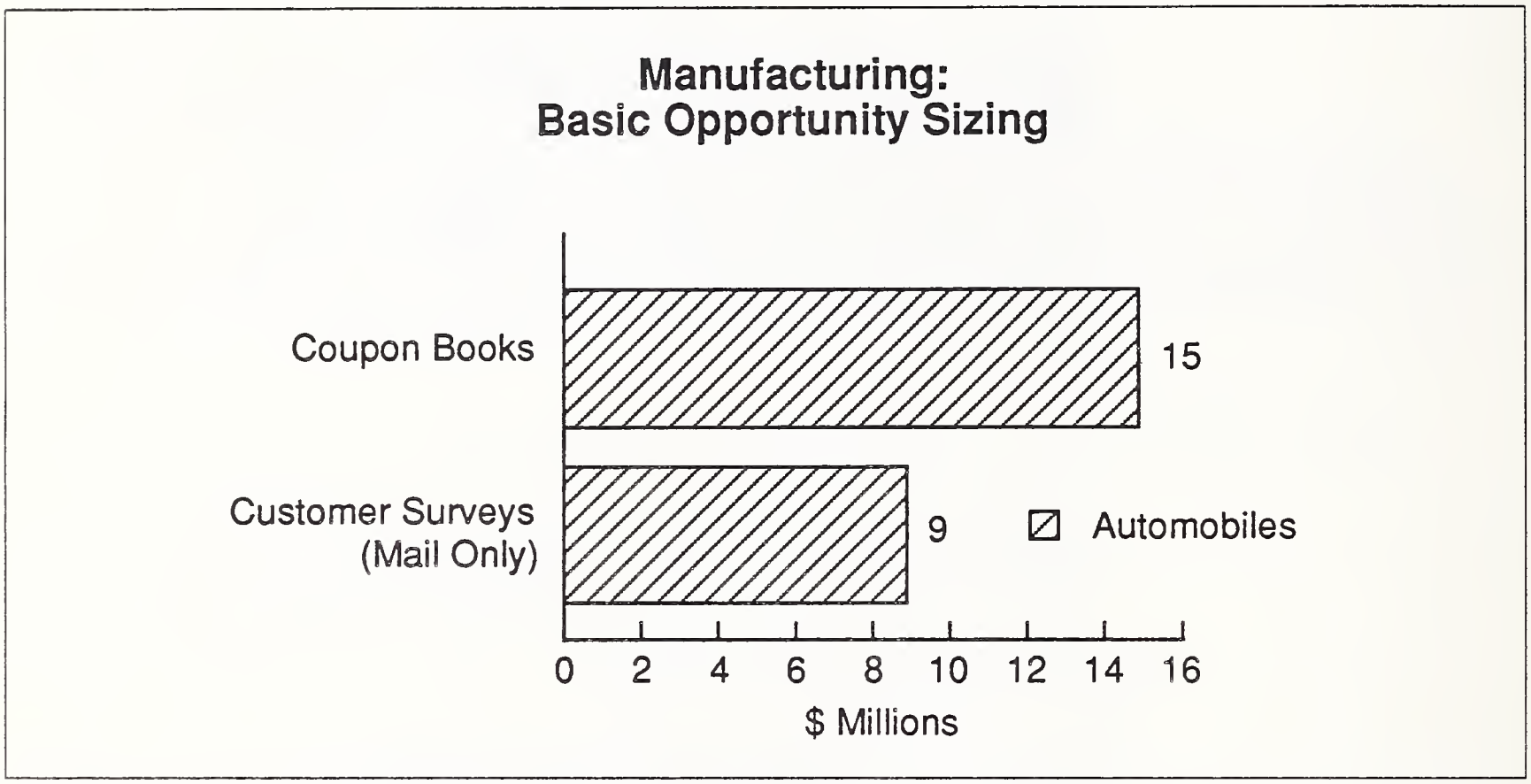
In Exhibits III-1 and III-2, a methodology is applied to develop rough opportunity sizing measures for quantitative comparison of these applications. This opportunity sizing provides Moore IDS with a measure of total latent potential expenditures for the service, without regard to issues such as market development, rate of adoption, in-house versus external solutions, competition, and so on.

The following assumptions and calculations are used to make these estimates:

About 15 million automobiles and trucks are sold in the U.S. each year, of which industry analysts report 67% (or 10 million) are financed.

Moore IDS has priced the automobile financing book application for Chrysler and others at approximately $1.50 per book of 48 or 60 monthly

EXHIBIT III-1



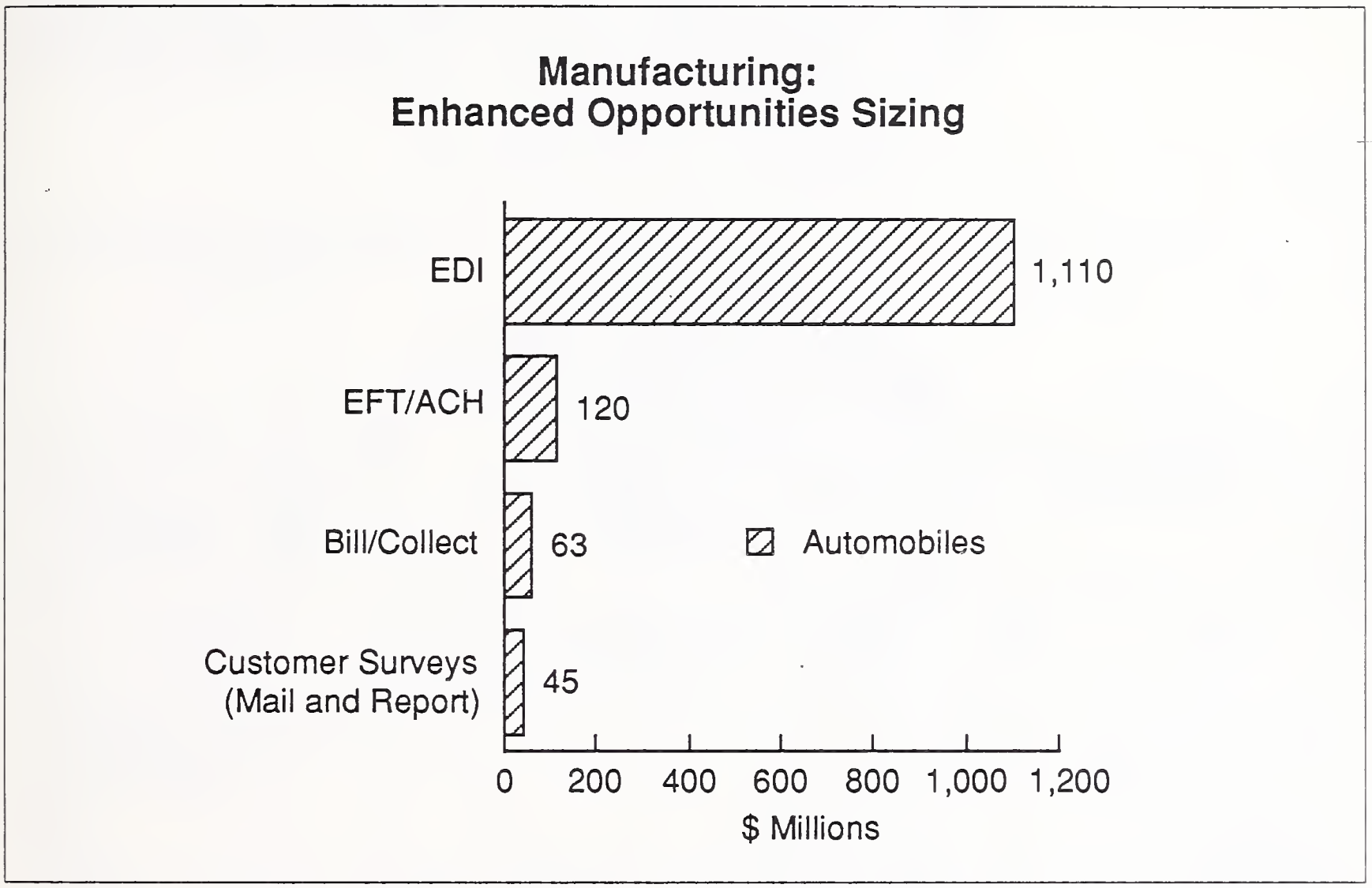
coupon/mailers. Thus, 10 million automobiles financed at $1.50 per book represents an annual market opportunity of $15 million.

Customer satisfaction surveys have been produced by Moore IDS for American Honda at roughly $0.30 per survey. A typical use of the surveys is to mail them to new-car buyers shortly after purchase and one year later, generating a potential survey volume of 30 million units per year. At $0.30 each, this market opportunity is $9 million per year.

The packaged billing/collection service opportunity has two components: the financing book application, as sized above, and the lockbox collection capability. INPUT assumes for estimating purposes that typical car financing continues for four years, thus four times the 10 million cars financed yearly are subject to collection of financing payments at any one time. Thus, 40 million cars times $0.10 per monthly lockbox transaction (from Moore IDS negotiations with a lockbox vendor) yields a monthly opportunity of $4 million or a yearly opportunity of $48 million from the lockbox transaction. Adding $15 million for the financing books and $48 million for the lockbox transactions yields a yearly market opportunity of $63 million.

EFT/ACH market sizing is based on the 10 million autos financed yearly and the assumed four years of financing, for 40 million cars subject at any one time. INPUT estimates a unit price of $0.25 per EFT/ACH

EXHIBIT III-2



transaction, yielding $10 million per month. Thus a yearly opportunity of $120 million is estimated.

The printing and mailing of customer satisfaction surveys is unit priced at $0.30, as above. Based on proposals to American Honda cited by Moore IDS to INPUT, the data collection, analysis, and reporting is estimated at roughly $1.20 per unit (with recognition that this figure can vary substantially, based on number of questions, units processed, and other variables). At a total unit cost of $1.50, the 30 million survey units assumed above yields an estimated market opportunity of $45 million per year.

To evaluate the potential for EDI applications in the manufacturing industry, INPUT began with data from its major EDI research service, which has developed detailed estimates of the size of the total EDI market, including the manufacturing industry. A team of INPUT senior consultants took the most recent INPUT research studies, estimated EDI market penetration in the manufacturing industry, and projected the total potential size of the EDI opportunity by factoring the market size against the penetration rate. This estimate is shown here.

Exhibits III-3 and III-4 use a standard rating methodology to factor the opportunity size calculated with two other key criteria distilled from the interviews: manufacturing companies' willingness to outsource, and their level of "pain or problem," each with respect to a particular application.

EXHIBIT III-3

Manufacturing:
Attractiveness Ratings of
Basic Service Opportunities

Application opportunity ($ Millions)		Criteria ratings (range: 1 = negative to IDS, 5 = positive)			Overall attractiveness (range: 1 = lowest 125 = highest)
Type	Size	Relative Size X	Willingness to Outsource X	Level of Pain or Problem	= Relative Rating Value
Coupon books	15	1	3	1	3
Customer surveys (mail only)	9	1	4	2	8
Total	24				11

As shown, a five-point rating scale is applied to each criterion, where "1" indicates the least attractive measure of a criterion and "5" shows a very positive measure. By rating each of the criteria and then multiplying the ratings (the multiplication shown in the tables as "Relative Size X Willingness to Outsource X Level of Pain or Problem"), the product is a "Rating Value" that represents the overall attractiveness to Moore IDS, doing so in a fashion that combines the quantitative opportunity-volume sizing with the other two essentially qualitative criteria.

EXHIBIT III-4

Manufacturing: Attractiveness Ratings of Enhanced Service Opportunities

Application opportunity ($ Millions)		Criteria ratings (range: 1 = negative to IDS, 5 = positive)			Overall attractiveness (range: 1 = lowest 125 = highest)
Type	Size	Relative Size X	Willingness to Outsource X	Level of Pain or Problem =	Relative Rating Value
Bill/collect	63	1	1	2	2
EFT/ACH	120	2	4	2	16
Customer surveys (mail and report)	45	1	4	2	8
EDI	1,110	5	5	2	125
Total	1,338				151

For relative size ratings on both basic and enhanced applications, INPUT is applying the following rating criteria consistently among all vertical markets:

Size Range ($ Millions)	Rating
1-100	1
101-300	2
301-700	3
701-1,000	4
>1,000	5

For the financing book application, INPUT rates manufacturers' willingness to outsource at 3, due to interviewees' expressed moderate level of willingness to consider outsourcing this application, although it is not currently outsourced. The problem or pain level, however, is rated 1, due to their expressed satisfaction with today's in-house solution and their perception that costs have been lowered as far as possible based on extensive experience and high volumes.

Customer satisfaction surveys are rated at 4 for willingness to outsource, due to the Japanese firms' current use of Moore IDS and similar outside capabilities; presumably this could be leveraged to the U.S. firms as well, should they undertake such surveys on a broad scale. The problem or pain level rating of 2 indicates that these U.S. manufacturers would find undertaking a new operation like this somewhat of a problem in times of internal cost-cutting and staff shortages.

The first enhanced application, packaged billing/collection services, is rated just 1 for outsourcing, based on the perception that auto financers feel they know how to handle billing and collection better than almost anyone, because of their extensive experience. It is rated 2 for problem or pain, however, primarily on the presumption that creative salesmanship can uncover some internal dissatisfaction with the collections operation, in terms of delinquent or overdue accounts; this presumes that Moore IDS wants to "package" such added collections capabilities with the lockbox services, as discussed earlier.

EFT/ACH-based billing is rated at the high level of 4 for outsourcing, on the presumption that an auto manufacturer (perhaps with the exception of General Motors, whose Electronic Data Systems division could handle this relatively easily) has little interest in venturing into electronic payments technologies in-house, versus the opportunity to outsource it. The problem/pain rating of 2 is the same as that for packaged billing/collection.

Customer surveys that include the enhanced services of data analysis and reporting are rated the same as the print-and-mail basic service version, above.

By definition, EDI is an outsourced service. The bulk of the market is for the public network/mailboxing services that translate, store, and forward EDI traffic among manufacturers and their trading partners. EDI therefore rates a 5 on willingness to outsource. Because of the strategic nature of EDI and the fact that it is often mandated by major trading partners, the problem or pain level is also rated at 5.

This analysis indicates that opportunities of roughly equal size can have substantially different levels of attractiveness. It is noteworthy that the enhanced (information services-based) opportunities facing Moore IDS

in the manufacturing industry are rated over 13 times more attractive than basic services to this vertical market 151 versus 11 total rating points), largely due to the influence of EDI.

Exhibits III-5 and III-6 organize opportunity size and attractiveness measures by the target audience of the applications considered. While this is done primarily for purposes of later cross-industry analysis at the conclusion of INPUT's research project, it is noteworthy now that all applications in the manufacturing industry—except EDI—deal with communications to consumers.

EXHIBIT III-5

Manufacturing: Opportunity Size by Target Audience ($ Millions)

Type of Service	Target Audience					Total
	Owners	Employees	Customers		Suppliers	Internal Efficiency	
			Business	Consumer			
A. Basic				Coupon books (15) Customer surveys (mail only) (9)			
Subtotal				(24)			(24)
B. Enhanced			EDI (1,110)	EFT/ACH (120) Bill/collect (63) Customer surveys (mail and report) (45)			
Subtotal			(1,110)	(228)			(1,338)
Total			(1,110)	(252)			(1,362)

EXHIBIT III-6

Manufacturing: Opportunity Attractiveness by Target Audience (Attractiveness Rating Scores)

Type of Service	Target Audience					Total
	Owners	Employees	Customers	Suppliers	Internal Efficiency	
			Business / Consumer			
A. Basic			Customer surveys (mail only) (8) Coupon books (3)			
Subtotal			(11)			(11)
B. Enhanced			EDI (125) / EFT/ACH (16) Customer surveys (mail and report) (8) Bill/collect (2)			
Subtotal			(125) / (26)			(151)
Total			(125) / (37)			(162)

A range of new sales and delivery mechanisms will be needed for Moore IDS to offer enhanced services, as shown in Exhibit III-7.

EXHIBIT III-7

Manufacturing: New Sales and Delivery Mechanisms Required

Opportunity	Sales Expertise	Printing Equipment	Information Technology	Alliances/ Acquisitions
Bill/Collect	Lockbox information	(None)	Lockbox accounting and reporting systems	Lockbox vendor(s)
EFT/ACH	EFT/ACH information service bureau	(None)	EFT/ACH network connections EFT/ACH processing Service bureau accounting	EFT/ACH government authorities EFT/ACH service bureau(s)
Customer surveys	(Exists in Response Analysis division)	(None)	(Exists)	Auto information services: J.D. Powers Ward Automotive
EDI	Customers' business transactions	(None)	EDI software data transmission	Ordernet GEIS

Opportunity-specific new information services technologies required for the enhanced services opportunities are identified, and several potential firms for alliances and/or acquisitions are noted.

With respect to competition, all of the alliance/acquisition candidates represent potential competitors.

Exhibit III-8 lists several environmental threats and opportunities relevant to the segment of the manufacturing industry showing the most promise: automobiles.

EXHIBIT III-8

Manufacturing:
Environmental Threats and Opportunities

Threats

- Surplus production capacity (U.S. auto vendors)
- Stalled sales, eroding profits (U.S. auto vendors)

Opportunities

- Growing production capacity (U.S.-producing Japanese auto vendors)
- Healthy sales growth, good profits (U.S.-producing Japanese auto vendors)

DECEMBER 1989

WHOLESALE INDUSTRY OPPORTUNITY ANALYSIS

INPUT®

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

Preface:

Important Note to Readers of this Report

Readers of this report should be aware that this is only one of thirteen vertical industry reports developed by INPUT for Moore IDS. These vertical reports, in turn, are followed by a final cross-industry report that serves the central mission of this project: to provide market opportunity recommendations that will help Moore IDS to focus strategically on a very limited number of high-value opportunities—whether within a single industry or across several.

Therefore, readers of this report should keep in mind several considerations while reviewing the findings presented here:

- To serve the central mission of helping Moore IDS to achieve strategic focus on a limited number of market opportunities, INPUT has applied a tight screening process to the applications examined in each vertical industry. The selection criteria targeted mission-critical, high frequency, repetitive variable-imaging applications that would represent an ongoing base of predictable revenue, as opposed to the current mix of ad hoc, project-oriented overflow work with peaks and valleys of a less predictable nature.

- Due to this tight screening process, readers may find that these vertical reports fail to mention certain applications, even though they represent currently viable Moore IDS revenue sources.

- Finally, recommendations presented in this single-industry report must be recognized by readers to be somewhat out of context:

- An opportunity that looks excellent—relatively—within a single industry may turn out to be dwarfed by applications in other industries.

- An application that looks to be of minimal attractiveness in a single industry may prove to be closely paralleled in several other industries—in such a way that together they constitute a preeminent cross-industry opportunity.

INPUT discusses such findings in the cross-industry report. Note that these cross-industry recommendations are the primary objective of this project, and thus they supersede those of the individual vertical market reports. The final cross-industry report should be examined for such perspective by any reader of this single-industry report.

It is hoped that this note will help readers place these findings in the proper perspective, especially in cross-referencing this single-industry viewpoint with the final report's cross-industry findings and recommendations.

Table of Contents

Exhibits

1 Introduction

A Objectives

INPUT has conducted this research to meet objectives agreed upon with Moore Business Forms' Information Distribution Services division (Moore IDS). These objectives are outlined in Exhibit I-1

EXHIBIT I-1

Wholesale: Key Research Objectives

- Identify and evaluate business opportunities for basic and enhanced services
- Identify and assess key marketing/sales issues and delivery requirements
- Provide data for cross-industry evaluation

Both basic and enhanced service opportunities are examined here, as defined in Exhibit I-2.

EXHIBIT I-2

Wholesale: Application/Service Type Definitions

Basic Services

- Variable image printing or embossed cards plus related mailing services such as stuffing, sealing, metering, sorting, and post office delivery

Enhanced Services

- Basic services, as defined above, when integrated with any value added front-end or back-end services, typically of information services content (e.g., data base management) but also including any other business services (e.g., lockbox)

(and/or)

- All-electronic solutions as a replacement for, or supplement to, paper based business communications (e.g., Electronic Data Interchange, or EDI)

B

Scope

As with the manufacturing market, in the wholesale industry it was agreed to exclude business-to-business communications such as purchase orders and invoices (between wholesalers and either their supplying manufacturers or their retail customers) on the presumptions that these communications are:

- Well-integrated with widely implemented in-house purchasing and inventory control software systems
- High in detailed and critically error-prone variable-image content
- In the process already of migrating to EDI (Electronic Data Interchange)-based computer-to-computer paperless transactions under established standards and under the active solicitation of established EDI software and services vendors.

Given the very wide range of possible segments within wholesale, the scope agreed upon between Moore IDS and INPUT was to split the interviews (until 10 interviews were accomplished) among the segments of the wholesale industry shown in Exhibit I-3, judged to have higher likelihoods of consumer-level variable-image communications. Mid- to-large-sized organizations were targeted on the presumption that they will present larger business opportunities for Moore IDS.

EXHIBIT I-3

Wholesale: Research Scope

- Market segments targeted
  - Furniture*
  - Home furnishings*
  - Office equipment
  - Medical equipment and supplies*
  - Electrical appliances and electronic equipment*
  - Hardware*
  - Heating and air conditioning*
  - Sporting goods
  - Toys and hobby goods*
  - Stationery and office supplies
  - Clothing*
  - Packaged frozen food*
  - Distilled beverages*
- Size of companies
  - Over $50 million, under $500 million

* Indicates an interview was accomplished in this segment

C

Methodology

The wholesale industry is one of seven vertical markets selected for abbreviated research. As shown in Exhibit I-4, methodologically this abbreviated study was conducted much as the full-scale studies were for the industries of insurance, telecommunications, state and local governments, finance, retail trade, and education, except with fewer interviews and with results presented in an abbreviated report format.

As shown in Exhibits I-5 and I-6, INPUT conducted telephone interviews with executives and managers from 10 wholesale companies in the market segments outlined above. Most of the interviewees (7 of 10) were senior-level executives, and the rest were midlevel managers. All were from information systems or data processing.

EXHIBIT I-4

Wholesale: Research Methodology

- Information gathering and preparation
- Review and modification of vertical market questionnaire
- Scope review with Moore IDS marketing manager
- Telephone interviews
- Analysis and report writing

EXHIBIT I-5

Wholesale: Interviewing Statistics

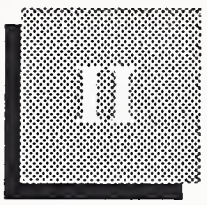
- 35 companies contacted
- Interviews conducted with 10 companies
  - 1 firm refused to participate
  - Attempts to interview the other 14 were dropped once 10 interviews were completed

EXHIBIT I-6

Wholesale: Companies Interviewed

- C&H Distributors
- M. Block & Sons
- Foster Medical Group
- D&H Distributing Co.
- American Hardware/Service Star Corp.
- Central Supply Co.
- Shepher Distribution and Sales Corp.
- Sirco International Corp.
- American Poultry Inc.
- Continental Distributing Co.

The telephone questionnaire used was a variation of the ones successfully used for the non-abbreviated industry studies, but was more open-ended in looking for variable-image business communications, as none could be identified before interviewing. For the interviews, INPUT implemented a methodology of "cold calling" firms on a representative list and establishing a person-to-person reference network from the top-executive level down to the executive or manager best able to answer the questions. Over 85 calls were made to 35 companies to secure the 10 interviews. One firm refused to participate, once the right person was reached.



Executive Overview

INPUT conducted telephone surveys with managers from 10 wholesale companies.

Beyond the business-to-business purchase order and invoice applications excluded from consideration (as noted earlier), no variable-imaging applications were identified in the interviews.

Except for EDI (electronic data interchange) as an enhanced application, INPUT identifies no attractive applications for Moore IDS in the wholesale market. Thus, INPUT's methodology for sizing opportunities and determining their relative attractiveness is applied only to EDI in the wholesale industry.

INPUT has identified EDI as a major opportunity in enhanced services for Moore IDS in several industries, including wholesale. EDI is already penetrating both the wholesale and retail distribution industries, as firms search for ways to speed data exchange and control inventories. Many major manufacturers, wholesale distributors, and retailers have undertaken EDI as a strategic application to maintain control of their distribution channels. As a major, growing information systems application area that tends to displace printing and mailing operations, EDI is an especially important and attractive enhanced services opportunity for Moore IDS.

The opportunity sizing and attractiveness ratings for EDI are shown in Exhibits II-1 through II-4.

EXHIBIT II-1

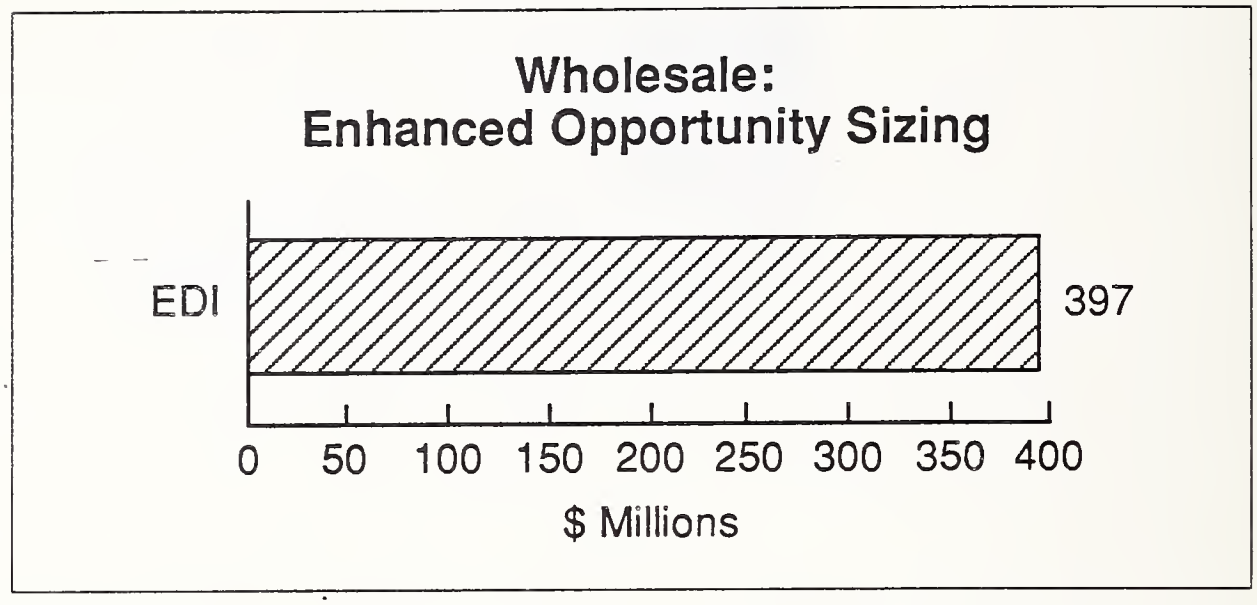


EXHIBIT II-2

Wholesale: Attractiveness Ratings of the Enhanced Service Opportunity

Application opportunity ($ in millions)		Criteria ratings (range: 1 = negative to IDS, 5 = positive)			Overall attractiveness (range: 1 = lowest 125 = highest)
Type	Size	Relative Size X	Willingness to Outsource X	Level of Pain or Problem =	Relative Rating Value
EDI	$397	3	5	5	75
Total	$397				75

EXHIBIT II-3

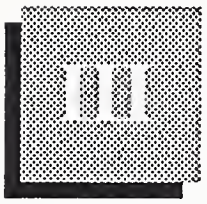
Wholesale:
Opportunity Size by Target Audience
($ Millions)

Type of Service	Target Audience					
	Owners	Employees	Customers	Suppliers	Internal Efficiency	Total
			Business / Consumer			
A. Basic						
Subtotal						
B. Enhanced			EDI (397)			(397)
Subtotal			(397)			(397)
Total			(397)			(397)

EXHIBIT II-4

Wholesale:
Opportunity Attractiveness by Target Audience
(Attractiveness Rating Scores)

Type of Service	Target Audience					
	Owners	Employees	Customers	Suppliers	Internal Efficiency	Total
			Business / Consumer			
A. Basic						
Subtotal						
B. Enhanced			EDI (75)			(75)
Subtotal			(75)			(75)
Total			(75)			(75)



Market Opportunity: EDI

Except for EDI (electronic data interchange), no applications are identified for variable imaging.

INPUT has identified EDI as a major opportunity in enhanced services for Moore IDS in several industries, including wholesale. EDI is already penetrating both the wholesale and retail distribution industries, as firms search for ways to speed data exchange and control inventories. Many major manufacturers, wholesale distributors, and retailers have undertaken EDI as a strategic application to maintain control of their distribution channels. As a major, growing information systems application area that tends to displace printing and mailing operations, EDI is an especially important and attractive enhanced services opportunity for Moore IDS.

By definition, EDI is an outsourced service. The bulk of the market is for public network/mailboxing services that translate, store, and forward EDI traffic among parties to the manufacturing and distribution process. Large wholesalers are already starting to use EDI to order goods from manufacturers and to supply retailers.

Because of the strategic nature of EDI, it is clearly a mission-critical application for wholesalers. The growth of this application is tied into the clear trend for large wholesalers to force their suppliers and other trading partners to adopt EDI or risk losing their business.

To evaluate the potential for EDI applications in the wholesale industry, INPUT began with data from its major EDI research service, which has developed detailed estimates of the size of the total EDI market, including the wholesale industry. A team of INPUT senior consultants took the most recent INPUT research studies, estimated EDI market penetration in the wholesale industry, and projected the total potential size of the EDI opportunity by factoring the market size against the penetration rate. This estimate is shown in Exhibit III-1.

EXHIBIT III-1

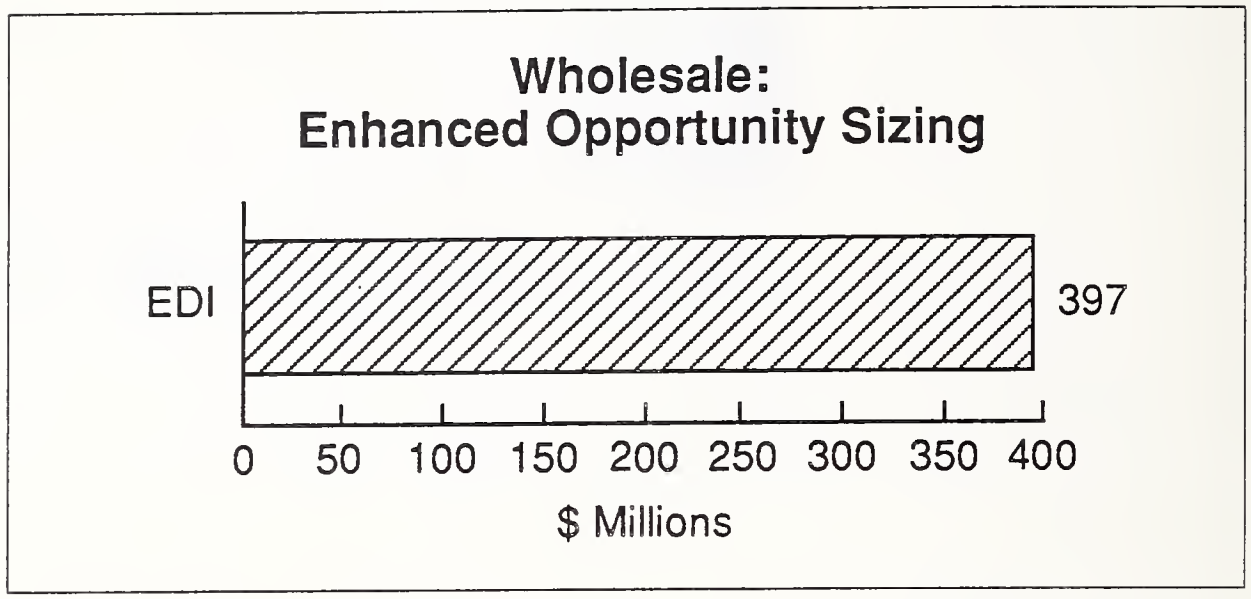


Exhibit III-2 uses a standard rating methodology to factor the opportunity size calculated with two other key criteria determined by INPUT based on its expertise in EDI: wholesale companies' willingness to outsource and their level of "pain or problem."

EXHIBIT III-2

Wholesale:
Attractiveness Ratings of the Enhanced Service Opportunity

Application opportunity ($ in millions)		Criteria ratings (range: 1 = negative to IDS, 5 = positive)			Overall attractiveness (range: 1 = lowest 125 = highest)
Type	Size	Relative Size X	Willingness to Outsource X	Level of Pain or Problem =	Relative Rating Value
EDI	$397	3	5	5	75
Total	$397				75

As shown, a five-point rating scale is applied to each criterion, where "1" indicates the least attractive measure of a criterion and "5" shows a very positive measure. By rating each of the criteria and then multiplying the ratings (the multiplication shown in the table as "Relative Size X Willingness to Outsource X Level of Pain or Problem"), the product is a "Rating Value" that represents the overall attractiveness to Moore IDS, doing so in a fashion that combines the quantitative opportunity-volume sizing with the other two essentially qualitative criteria.

For relative size ratings on both basic and enhanced applications, INPUT is applying the following rating criteria consistently among all vertical markets:

Size Range ($ Millions)	Rating
1-100	1
101-300	2
301-700	3
701-1,000	4
>1,000	5

By definition, EDI is an outsourced service. The bulk of the market is for the public network/mailboxing services that translate, store, and forward EDI traffic among manufacturers and their trading partners. EDI therefore rates a 5 on willingness to outsource. Because of the strategic nature of EDI and the fact that it is often mandated by major trading partners, the problem or pain level is also rated at 5.

Exhibit III-3 and III-4 organize opportunity size and attractiveness measures by the target audience of the applications considered.

EXHIBIT III-3

Wholesale:
Opportunity Size by Target Audience
($ Millions)

Type of Service	Target Audience					
	Owners	Employees	Customers	Suppliers	Internal Efficiency	Total
			Business / Consumer			
A. Basic						
Subtotal						
B. Enhanced			EDI (397)			(397)
Subtotal			(397)			(397)
Total			(397)			(397)

EXHIBIT III-4

Wholesale:
Opportunity Attractiveness by Target Audience
(Attractiveness Rating Scores)

Type of Service	Target Audience					
	Owners	Employees	Customers	Suppliers	Internal Efficiency	Total
			Business / Consumer			
A. Basic						
Subtotal						
B. Enhanced			EDI (75)			(75)
Subtotal			(75)			(75)
Total			(75)			(75)

Though this is done primarily for purposes of later cross-industry analysis at the conclusion of INPUT's research project, it is noteworthy now that EDI, the only application in the wholesale industry, deals with business-to-business communications.

Certain new sales and delivery mechanisms will be needed for Moore IDS to offer EDI services, as shown in Exhibit III-5.

EXHIBIT III-5

Wholesale:
New Sales and Delivery Mechanisms Required

Opportunity	Sales Expertise	Printing Equipment	Information Technology	Alliances/ Acquisitions
EDI	Customers' business	(None)	• EDI software • EDI network	Ordernet

DECEMBER 1989

TRANSPORTATION INDUSTRY OPPORTUNITY ANALYSIS

INPUT®

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

Preface:

Important Note to Readers of this Report

Readers of this report should be aware that this is only one of thirteen vertical industry reports developed by INPUT for Moore IDS. These vertical reports, in turn, are followed by a final cross-industry report that serves the central mission of this project: to provide market opportunity recommendations that will help Moore IDS to focus strategically on a very limited number of high-value opportunities—whether within a single industry or across several.

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It is hoped that this note will help readers place these findings in the proper perspective, especially in cross-referencing this single-industry viewpoint with the final report's cross-industry findings and recommendations.

Table of Contents

Exhibits

1 Introduction

A Objectives

INPUT has conducted this research to meet objectives agreed upon with Moore Business Forms' Information Distribution Services Division (Moore IDS). The primary objective is to identify business opportunities for basic and enhanced business mailing services. The research objectives are shown in Exhibit I-1. Definitions for basic services and enhanced services are shown in Exhibit I-2.

EXHIBIT I-1

Transportation: Key Research Objectives

- Identify and evaluate business opportunities for basic and enhanced services
- Identify and assess key marketing/sales issues and delivery requirements
- Provide data for cross-industry evaluation

EXHIBIT I-2

Application/Service Type Definitions

Basic Services ("Moore IDS Business Today")

- Variable-image printing or embossed cards plus related mailing services such as stuffing, sealing, metering, sorting and post office delivery

Enhanced Services ("Moore IDS Future Business")

- Basic services, as defined above, when integrated with any value-added front-end or back-end services, typically of information services content (e.g., data base management) but also including other business services (e.g., lockbox)

and/or

- All-electronic solutions as a replacement for, or supplement to, paper-based business communications (e.g., electronic data interchange)

The transportation industry was previously identified as an abbreviated vertical market compared to other markets such as insurance.

B

Scope

The scope of the research proposed by INPUT and agreed upon by Moore IDS is shown in Exhibit I-3. Industry segments unlikely to have mass mailings, such as independent trucking companies ("mom and pop" operators) were not considered.

EXHIBIT I-3

Transportation: Research Scope

Industry Segments Covered

- Airline/Air Cargo
- Trucking
- Railroad
- Shipping

Variable Imaging Applications Researched

- Airline Tickets
- Airline Frequent Flyer Program Statements
- Customer Billing
- Financial Mailings

The scope of the research suggests that industry-specific mass mailings are likely to be found primarily in the airline industry.

C

Methodology

The methodology used in the transportation study was similar to that used in the in-depth vertical market reports (Exhibit I-4), with the exception that fewer interviews were conducted. The general vertical market questionnaire was used in conducting the interviews.

EXHIBIT I-4

Transportation: Research Methodology

1. Information gathering and preparation
2. Review and modification of vertical market questionnaire
3. Moore IDS approval of research methodology
4. Telephone interviews
5. Review of preliminary findings with Moore IDS
6. Analysis and report writing

Midway through the research process INPUT evaluated the findings. These were as follows:

> Interview findings confirmed the preliminary hypothesis regarding the trucking, railroad, shipping, and air cargo market segments, in that there weren't any significant variable-image business mailings other than financial materials, such as proxies.
>
> INPUT realized that city transit authorities represent a potential market for business mailings, since these organizations, in the larger cities like New York and Chicago, have "Ticket by Mail" programs.

Based on the above findings, INPUT decided to interview three transit organizations while confining the trucking, railroad, and shipping segments to two interviews each. INPUT also decided to segment the three airline interviews by targeting one major airline, one regional airline, and one commuter airline.

The companies interviewed and respondents' titles are shown in Exhibits I-5 and I-6.

EXHIBIT I-5

Transportation: Companies Interviewed

Airline

- Delta Airlines (Major Airline)
- Midway Airlines (Regional Airline)
- Air Midwest (Commuter Airline)

City Transit Authority

- Long Island Commuter Railroad
- New Jersey Transit Authority
- Northeast Illinois Railroad Corporation (Metropolitan Railroad)

Railroad

- Soo Line Corp.
- Union Pacific Corp.

Shipping

- American Commercial Lines
- Midland Enterprises

Trucking

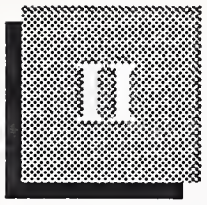
- Arkansas Best Corp.
- Yellow Freight System

EXHIBIT I-6

Transportation: Interview Respondents

Respondent Title	# Interviewed
Administration Manager (Ticket by Mail, Frequent Flyer, Revenue, Office Services)	7
MIS Manager	5
MIS Executive	1
Marketing Manager	1
Total	14*

* Two respondents were interviewed in the case of 2 companies, giving a total of 14 interviews from 12 companies.

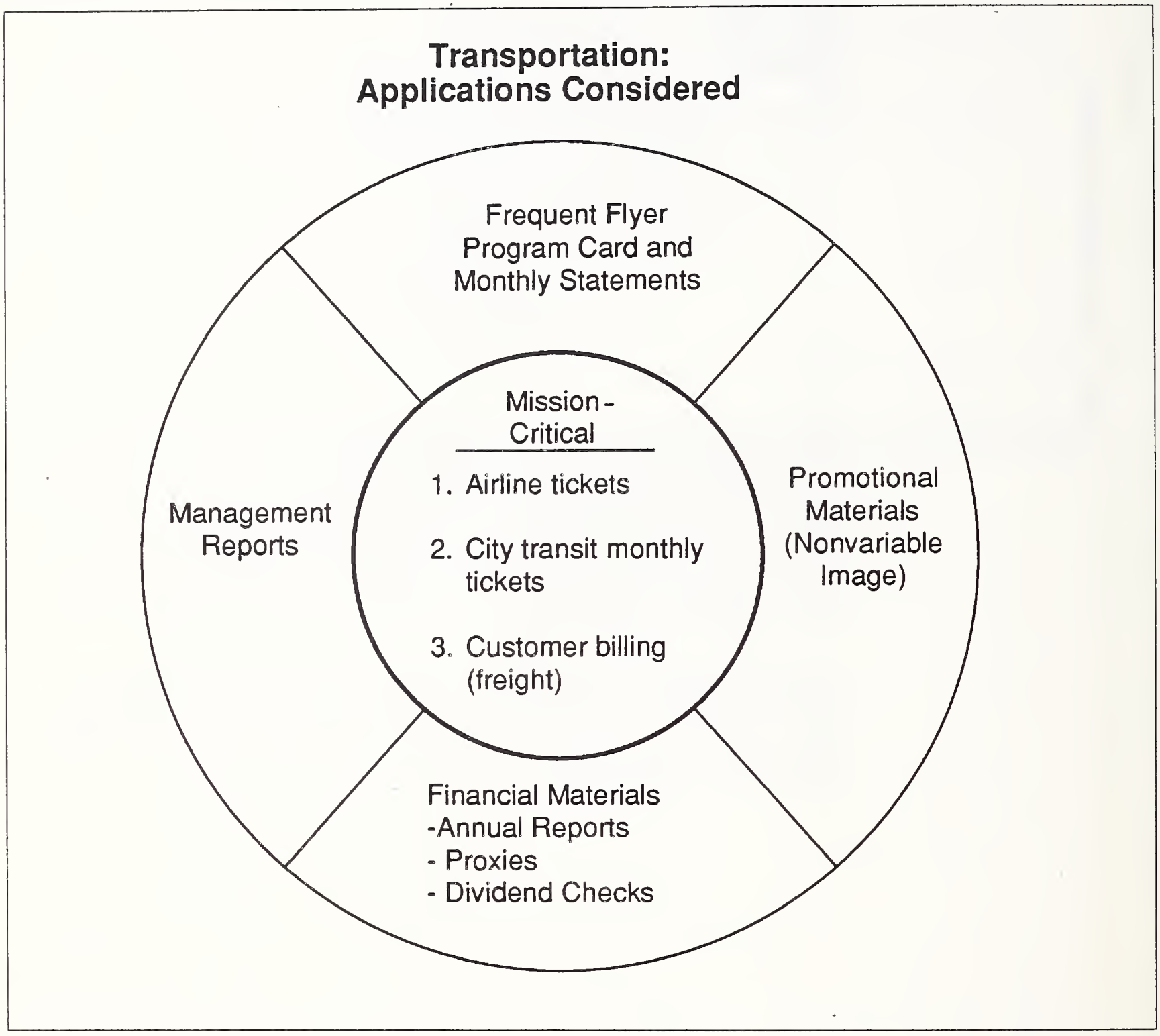


Executive Overview

INPUT conducted telephone surveys with managers from twelve transportation companies split between airline, city transit authority, railroad, shipping, and trucking sectors. Currently, outsourcing is done for non-mission-critical applications such as airline frequent flyer program statements and financial materials including annual reports, proxies, etc. Most respondents opposed outsourcing of mission-critical applications for security and control reasons.

The high-volume business mailings in the transportation industry are airline tickets, airline frequent flyer program statements, and customer bills for freight transportation. Transportation industry business mailing applications are shown in Exhibit II-1.

EXHIBIT II-1



It is very unlikely that airlines, especially the major ones, will outsource the printing and mailing of airline tickets due to marketing, data base management, and control reasons. Trucking and other companies that handle large volumes of paper are moving to eliminate the paper altogether by implementing Electronic Data Interchange (EDI).

The biggest basic service opportunity for Moore IDS in the transportation industry is the printing and mailing of frequent flyer program statements and cards. INPUT found that airlines generally outsource these operations. Another basic opportunity lies in the printing and mailing of management reports. These reports are issued by trucking companies to their clients.

Besides EDI, INPUT was able to identify one other promising enhanced service opportunity, the administration of the entire frequent flyer program offered by airlines. One regional airline contacted by INPUT had within the past six months decided to outsource the management of its frequent flyer program.

EDI is an especially important and attractive opportunity for Moore IDS. Because of the strategic nature of EDI, it should be considered a "mission-critical" application. The growth of this application is virtually assured, as the largest players in the transportation/manufacturing/distribution industries force their trading partners to adopt EDI.

INPUT has developed a methodology for sizing business opportunities and determining their relative attractiveness in order to make comparisons between industries and applications. Sizing information and opportunity attractiveness are presented in Exhibits II-2 to II-7.

EXHIBIT II-2

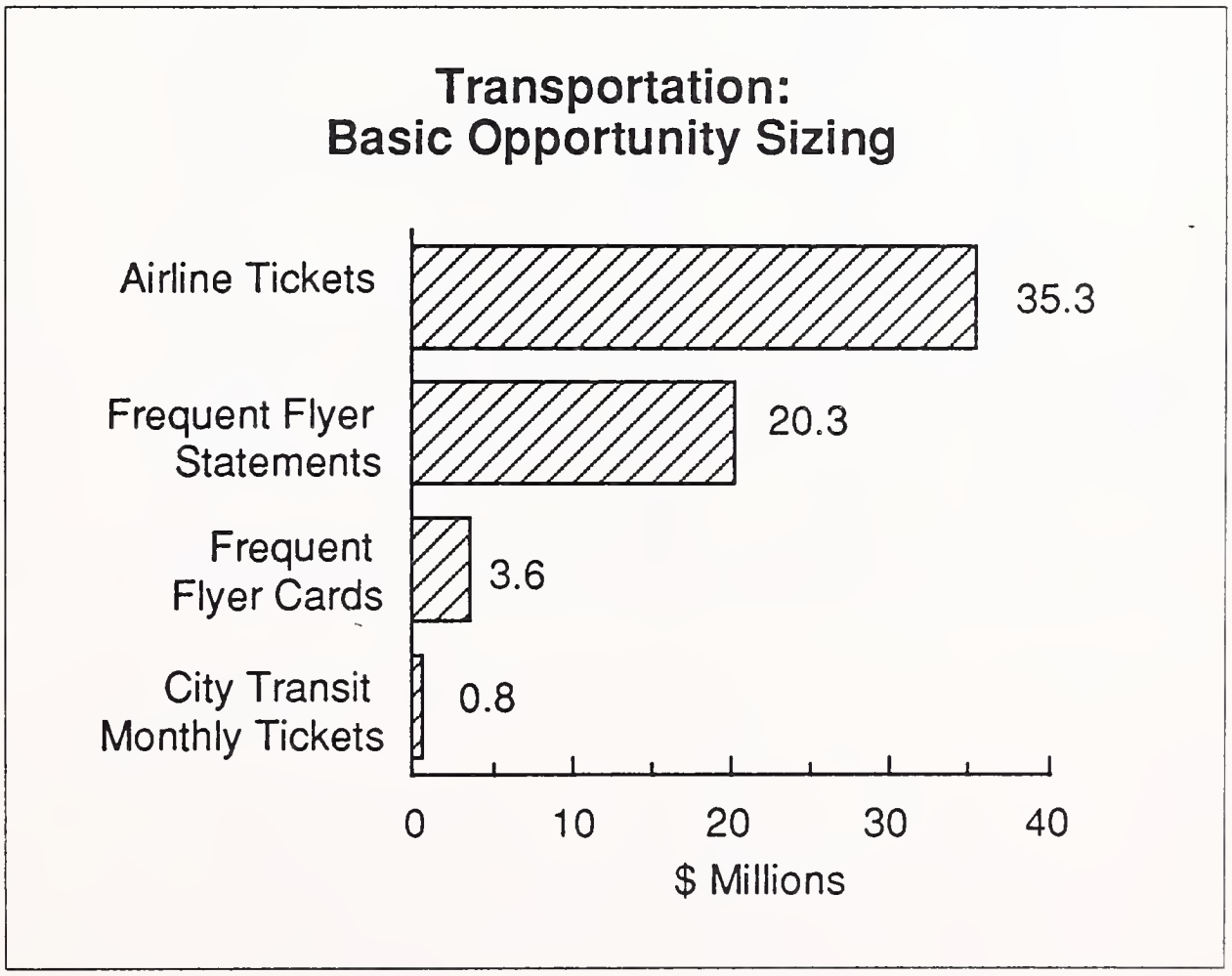


EXHIBIT II-3

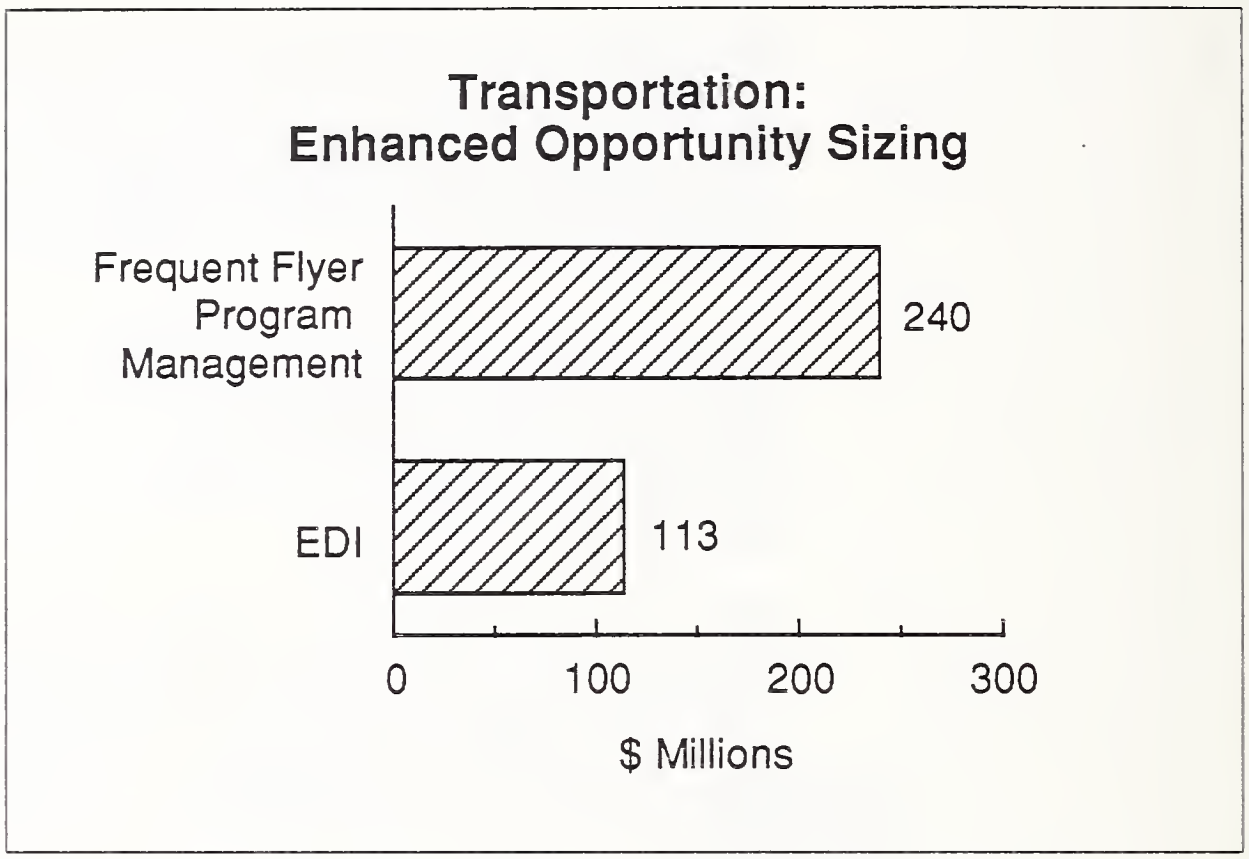

Transportation:
Enhanced Opportunity Sizing
Frequent Flyer Program Management
240
EDI
113
0
100
200
300
$ Millions

EXHIBIT II-4

Transportation: Opportunity Size by Target Audience ($ Millions)

Type of Service	Target Audience					Total
	Owners	Employees	Customers	Suppliers	Internal Efficiency	
			Business / Consumer			
A. Basic			Airline tickets (35); Frequent flyer statements (20); Frequent flyer cards (4); City transit monthly tickets (1)			
Subtotal			(60)			(60)
B. Enhanced			Frequent flyer program management (240); EDI (113)			
Subtotal			(353)			(353)
Total			(353)	(60)		(413)

EXHIBIT II-5

Transportation: Relative Attractiveness Ratings of Basic Services Opportunities

Application opportunity ($ in millions)		Criteria ratings (range: 1 = negative to IDS, 5 = positive)			Overall attractiveness (range: 1 = lowest 125 = highest)
Type	Size ($ Millions)	Relative Size X	Willingness to Outsource X	Level of Pain or Problem =	Attractiveness Rating Value
Airline tickets	35.3	1	1	1	1
Frequent flyer statements	20.3	1	4	2	8
Frequent flyer cards	3.6	1	4	2	8
City transit monthly tickets	0.8	1	1	1	1
Total basic	60.0				18

EXHIBIT II-6

Transportation: Relative Attractiveness Ratings of Enhanced Services Opportunities

Application opportunity ($ in millions)		Criteria ratings (range: 1 = negative to IDS, 5 = positive)			Overall attractiveness (range: 1 = lowest 125 = highest)
Type	Size ($ Millions)	Relative Size X	Willingness to Outsource X	Level of Pain or Problem =	Attractiveness Rating Value
Frequent flyer program management	240	2	2	2	8
EDI	113	2	5	5	50
Total enhanced	353				58

EXHIBIT II-7

Transportation: Opportunity Attractiveness by Target Audience (Attractiveness Rating Score)

Type of Service	Target Audience						
	Owners	Employees	Customers		Suppliers	Internal Efficiency	Total
			Business	Consumer			
A. Basic				Airline tickets (1) Frequent flyer statements (8) Frequent flyer cards (8) City transit monthly tickets (1)			
Subtotal				(18)			(18)
B. Enhanced			Frequent flyer program management (8) EDI (50)				
Subtotal			(58)				(58)
Total			(58)	(18)			(76)

A range of new sales and delivery mechanisms will be needed for Moore IDS to offer enhanced services, as shown in Exhibit II-8.

EXHIBIT II-8

Transportation: New Sales and Delivery Mechanisms Required

Opportunity	Sales Expertise	Printing Equipment	Information Technology	Alliances/ Acquisitions
Frequent flyer program management EDI	Knowledge of airline industry Knowledge of transportation industry and EDI	(None) (None)	Frequent flyer program management software Telecom facilities EDI software EDI network	Trans World Airlines Ordernet GE Information Services

The major environmental threats and opportunities in the transportation market are shown in Exhibit II-9.

EXHIBIT II-9

Transportation: Environmental Threats and Opportunities

Threats

1. Number of transportation companies declining due to effects of deregulation (mergers, acquisitions, etc.)
2. Commuter airlines will align with major airlines

Opportunities

1. More airlines are likely to offer frequent flyer programs due to competition
2. Transportation industry pioneered EDI and is one of the biggest/most attractive vertical markets for EDI services
3. Wider acceptance of standards, particularly in data communications (enables easier acceptance of EDI)

III

Market Opportunities

A

Introduction

This section discusses the interview findings and identifies business mailings, outsourcing patterns, and attitudes about future outsourcing.

From a business mailing perspective, the transportation market can be classified into three sectors: airline, city transit authority, and "other."

Business mailings that are outsourced today are airline frequent flyer statements and management reports (see Exhibit III-1). The transportation industry's willingness to outsource business mailings is shown in Exhibit III-2. Reasons against outsourcing are summarized in Exhibit III-3.

EXHIBIT III-1

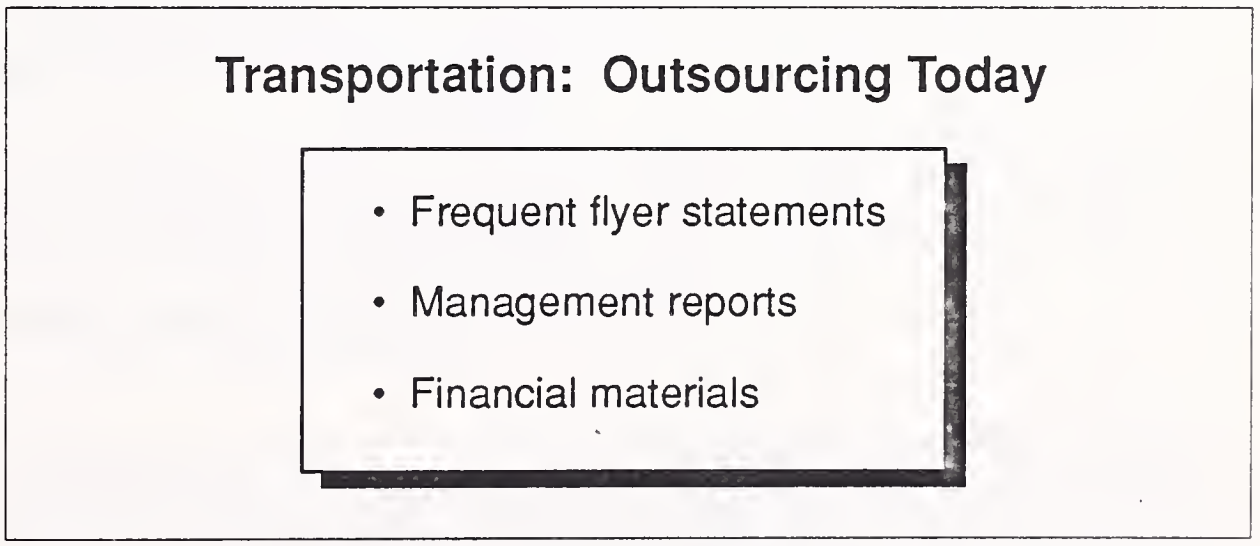


EXHIBIT III-2

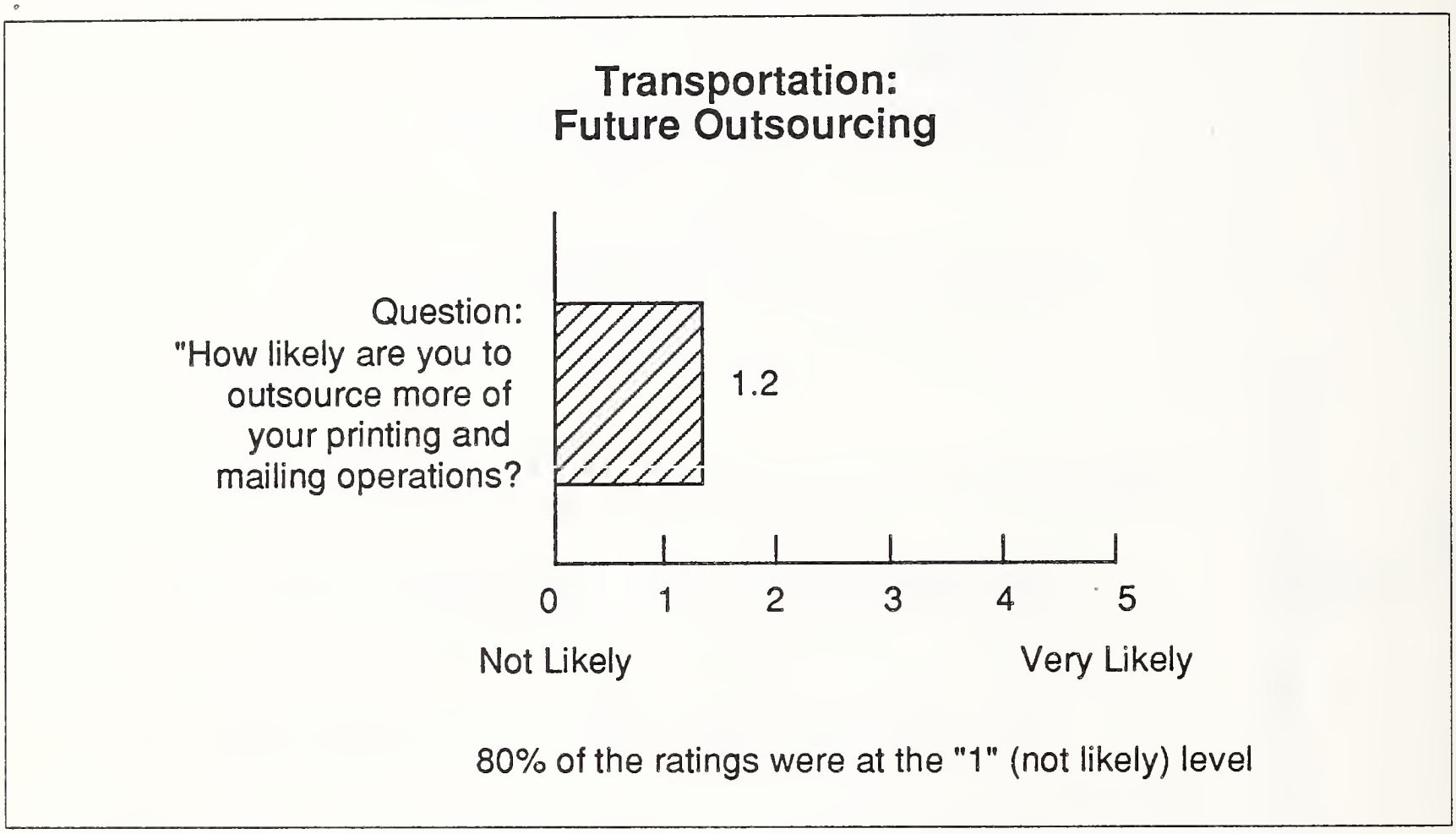


EXHIBIT III-3

Transportation: Reasons Against Future Outsourcing

- Airline tickets: Control (too important to be outsourced)
- City transit monthly tickets: Security (ticket cost >$100)

No airline was willing to provide information on the volume of tickets mailed, citing confidentiality reasons. This is not surprising, in view of the intense competition in the industry.

No interest was shown in systems operations (i.e. facilities management).

1. Airline

Business mailings in the airline sector are primarily tickets, frequent flyer statements, and credit card statements. None of the airlines interviewed mentioned issuing credit cards in their name. Due to the paucity of information regarding airline credit cards, this particular application was not analyzed. INPUT feels that although some airlines issue their own credit cards, this is probably a declining practice. Airline credit cards were first issued many years ago when travel and entertainment (T&E) and bank credit cards were not mass-marketed. These cards were issued to encourage the general public (not the business traveler) to fly on credit when no other credit options were available. Since then T&E and bank credit cards have proliferated, obviating the need for proprietary cards. Today, airlines use frequent flyer programs rather than credit cards as promotional vehicles.

All the three airlines surveyed handled the printing and mailing of tickets in-house. The major carrier and the regional airline interviewed expressed a total unwillingness to outsource the printing and mailing functions due to the need for control over the operations and also due to issues of timeliness.

INPUT found the attitude of the commuter airline to be of interest. "We haven't even been approached," the interviewee stated, suggesting that the airline is open to evaluating in-house versus outsourcing considerations.

Regarding frequent flyer statements, the major airline outsourced the printing and mailing operations, and the regional airline printed the statements in-house and outsourced the inserting and mailing parts of the process. The commuter airline did not have a frequent flyer program.

Other business mailings (besides financial materials that are common to all companies) include promotional material such as frequent flyer program solicitations and information/news-related mailings, e.g., new flights introduced, frequent flyer bonus offer, etc.

2. City Transit Authority

Some of the major city transit authorities (Exhibit III-4) have a "Ticket by Mail" program enabling commuters to maintain an account with the transit organization and purchase monthly tickets through the mail. All three transit authorities surveyed handled the printing and mailing operations in-house. Two interviewees stated that they would not even consider outsourcing, citing security reasons and the tickets being worth upward of a hundred dollars. The third interviewee mentioned that outsourcing was discussed in the past, but was unable to provide further information.

EXHIBIT III-4

Transportation: Major City Transit Authorities

Metropolitan Transit Authority (New York)
- New York City Transit Authority (Bus and subway)
- Long Island Commuter Railroad (Railroad)
- Metro-North Commuter Railroad (Railroad)
- Triborough Bridge and Tunnel Authority (Tolls)

New Jersey Transit Authority
- Bus Division
- Rail Division

Northeast Illinois Railroad Corporation (Metropolitan Railroad)
- Eight lines (Burlington Northern, Milwaukee District, Rock Island District, etc.)

Chicago Transit Authority (Bus)

Only the railroads mentioned a "Ticket by Mail" program. None of the organizations that ran buses had a similar program. They issued monthly tickets but there was no variable imaging involved. There is space on the back of the tickets for writing the commuter's name, address, phone number, etc. The tickets are sold over the counter.

Other mailings by transit authorities include promotions undertaken to encourage the use of public transit. These mailings are directed mainly to new residents in the region.

Since two of the three transit authorities surveyed expressed a total unwillingness to outsource and since there are only a few large transit organizations in the country, the potential market for outsourcing, if any, is likely to be very small.

3. Other

The railroad, shipping, trucking, and air cargo segments are lumped together in one category due to similarities in the nature of freight handling and the absence of any significant volume mailings (with the

exception of customer billing). (A large trucking company may well issue a few million freight bills annually. Billing may be handled by the corporate office, by the branches, or both. Transportation companies inundated with paperwork are addressing the problem by implementing EDI.)

Only one trucking company mentioned outsourcing. This company outsourced the printing and mailing of management reports that are mailed to clients. These monthly reports summarized customer shipments and evaluated the company's shipping efficiencies. The major reason for outsourcing was the lack of in-house high-speed laser printers. Using laser printers enabled the company to produce an attractive, compact (8 1/2" X 11" paper) report taking advantage of the flexible fonts/sizes offered by these devices.

A brief description of EDI trends is provided for the different sectors.

Railroad: Railroads were one of the first industries to use EDI as a customer service. Major railroads are encouraging the use of EDI by requiring shippers to use electronic bills of lading or by discounting shipping charges for EDI users. The industry is also moving to convert waybills (documents that identify cargo carried) to electronic versions. Railroads are also using EDI for their own needs. For example, in 1987, Norfolk Southern used EDI to issue half of its own purchase orders, representing 70% of its purchasing dollars. From a customer service perspective, Norfolk Southern is sending EDI freight bills to approximately 10% of its customers, but plans to increase that to 50% within the next five years.

Shipping: Most of the paperwork in this sector is transferred between shippers and forwarders. Many shipping companies provide on-line services for rate quotes, manifests, tracing, and billing. Shippers have not generally been aggressive advocates of EDI, but carriers are beginning to recognize that the benefits are worth pursuing. Additionally, as the U.S. Customs Service promotes electronic exchange of information, parties in international ocean trade are adopting EDI. Automated port systems are also leading to increased use of EDI in this sector.

Trucking: Although the transportation industry pioneered EDI, trucking companies have been slow to use it, due to financial constraints and a lack of computerization. The big trucking companies have implemented EDI in response to customer requirements and also as market differentiators that improve customer service.

Air Cargo: The need for logistics-oriented EDI by shippers using air freight services is less critical than land-based EDI because of the rapid delivery air transportation provides. They are much quicker and

therefore shipment status is often less relevant. Accordingly, this sector has not been quick to adopt EDI. The EDI services that do exist are provided by the carriers themselves rather than third-party services companies.

B

Application Opportunities

This section discusses business opportunities for Moore IDS, both for basic and enhanced services.

1. Basic Service Opportunities

The business mailings identified by INPUT are shown in Exhibit III-5 and are discussed below. Almost all the opportunities identified can be addressed with Moore IDS' existing sales force and printing and mailing capabilities. Any additional capability required is described along with the discussion of the opportunity.

a. Airline Frequent Flyer Statements

This appears to be the most promising transportation opportunity for Moore IDS. It is customary in the airline industry to outsource the printing and mailing of frequent flyer statements. Although the regional airline interviewed stated that printing was done in-house with only the inserting and mailing being outsourced, the airline has in the past out-sourced the printing, and is willing to consider it the future.

Factors that determine choice of vendor are quality, timeliness, and cost, in that order.

b. Airline Frequent Flyer Cards

Airlines issue cards to members of their frequent flyer programs. Image-conscious airlines design attractive cards that may contain gold lettering, etc. The card itself contains just the member's name and frequent flyer number and is used for identification rather than transaction processing.

c. Airline Tickets

The major and regional airlines are not likely to outsource the printing and mailing of airline tickets due to reasons of control, security, and timeliness. Most of the commuter airlines contacted by INPUT had agreements with major airlines and operated under their colors and names, such as American Eagle, Delta Connection, and United Express. These airlines used the major carriers' reservation systems, ticket stock, airport gates, etc.

An issue of importance is the technology associated with the airline ticket itself. The tickets issued by major airlines and travel agencies

EXHIBIT III-5

Transportation: Basic Mailing Applications

Airline Frequent Flyer Statements
- Mailed monthly if frequent flyer has activity for that month
- 1-2 pages variable images
- 1 cycle a month
- Contains newsletter
- May include promotional inserts
- Variable inserting based on miles earned (special offers to "very" frequent flyers), zip code (new flight/s introduction)

Airline Frequent Flyer Cards
- Attractive plastic card
- No expiration date
- May include promotional material

Airline Tickets
- Ticket book contains one coupon for each flight segment
- May contain promotional material

Management Reports
- Mailed to large customers
- Usually mailed monthly
- Can be customized for each customer

Transit Monthly Tickets
- Mailing contains ticket, invoice, return envelope
- Mailed monthly
- Occasional informational inserts

Promotional Mailings
- Frequent Flyer Solicitations
  - Promoted by major airlines
  - High-volume, usually mailed once a year
  - Mail list purchased from Avis, Hertz, American Express, etc.
- "Take the Train" promotional mailing
  - Usually a letter or brochure
  - Mailed to new residents
  - Promoted by city transit authorities

Financial Mailings
- Annual reports, dividend checks, proxies, etc.
- Usually outsourced to specialty house

these days are made of card stock, very similar to the punched cards used years ago for computer input. The card has a wide magnetic stripe on the back that is encoded with flyer information at the time of ticket issuance. One card is issued for each flight segment. The ticket is read by a magnetic reader at the time of check-in, eliminating the need for keystroking by the ticket agent.

The technology involved is unique and is not applicable in other industries. Opportunities for Moore IDS are limited because the application is too specialized, control is too tight, and the turnaround time is too fast. Commuter airlines that do not have marketing agreements with the major carriers are possibly the only potential market for Moore IDS. The commuter airline interviewed by INPUT mentioned that the tickets had to be microfilmed before being mailed. This would create a delivery requirement for Moore IDS.

d. Management Reports

Many transportation companies, particularly trucking companies, mail management reports to their clients. Some of these companies outsource the printing and mailing operations. Moore IDS should focus on the larger companies that are involved in high-volume mailings, and who do not have adequate laser printing capacity. It should be noted, however, that some of these companies are likely to bring the printing and mailing operations in-house, when they achieve favorable economies of scale.

e. Promotional Mailings

These were not measured, as agreed between Moore IDS and INPUT.

f. Financial Mailings

This refers to annual reports, quarterly statements, proxies, etc. These cross-industry applications are common to all vertical markets and are not specifically analyzed here, since these applications involve insignificant variable imaging.

2. Enhanced Service Opportunities

a. Airline Frequent Flyer Program Management

A major opportunity in transportation for Moore IDS is the administration and management of the entire frequent flyer program promoted by an airline. Target markets are regional airlines and commuter airlines that do not have tie-ins with the major carriers.

Trans World Airlines has developed and markets a frequent flyer/traveler program management software package. One user (Ramada Inn) outsourced the printing and mailing operations of the frequent traveler statements until recently, when it brought the operations in-house, having reached the volumes necessary to cost-justify the move.

As noted in the Executive Overview, one of the regional airlines (a leading airline among the regionals) had, within the past six months, outsourced its frequent flyer program administration. (Regretably, the manager of the frequent flyer program was on vacation when this research was done, and other managers contacted were unwilling to provide any information.) INPUT did learn, however, that the outside vendor (Motivation, Performance and Innovation (MPI), a direct marketing company located in Long Beach, CA) was responsible for the management of the entire program including processing flyer applications, maintaining the frequent flyer data base, and printing and mailing frequent flyer statements.

The outsourcing arrangement operates in the following manner. The application form has a post office box address and goes directly to the service vendor. The vendor enrolls the flyer into the program, creates a record, and mails an information packet that contains the frequent flyer membership card. If a frequent flyer calls the airline, the call is transferred to the vendor. The frequent flyer data base is independent of the airline's computerized reservation system, to which the vendor's service representatives do not have access.

The above arrangement has a drawback from a customer service point of view. If a frequent flyer calls the airline to make a reservation, and also has some questions regarding accumulated miles, the flyer would have to speak to two people—first to the airline's reservations agent, and then to the vendor's service representative.

This is in contrast to the major airline interviewed. This airline has integrated the frequent flyer data base into its computerized reservations system. As a result, the agents at the central reservations center, as well as the ticket agents at the airports, have the capability to access the frequent flyer data base. This enables them to handle inquiries, enroll new members on the spot, and so on. (The interviewee proudly claimed that his was the only major airline that had this capability.) This service factor should be kept in mind if Moore IDS decides to address this market. Sales and delivery requirements are shown in Exhibit III-6.

EXHIBIT III-6

Transportation: Enhanced Service Opportunity—Airline Frequent Flyer Program Management

- Sales Requirement
  - Qualified sales force with knowledge of the airline industry
- Delivery Requirements
  - Service center with full telecommunication facilities
  - Frequent flyer program management software and appropriate hardware
  - Telephone service representatives
  - Administrative/Clerical/Data entry personnel

b. EDI

As both a major, growing information service area, and one which tends to displace printing and mailing operations, EDI is an especially important and attractive opportunity for Moore IDS. The most interesting aspect of EDI as an application is its cross-industry nature, and the fact that one single transaction— a customer sale at a retail store, for example — involves back-and-forth EDI traffic from four different vertical markets:

- Manufacturing
- Wholesale distribution
- Transportation
- Retail distribution

By definition, EDI is an outsourced service. The majority of the market is for the public/mailboxing services which translate, store and forward EDI traffic between trading partners. Though the EDI market for the transportation industry may be small compared to other industries, the total market size is significant, due to the cross-industry nature of EDI applications.

c. Future Fantasies

Future fantasies offer a unique springboard to develop enhanced service opportunity ideas. Unfortunately, fantasies were generally weak, with respondents merely wishing their problems away (usually information systems capacity related). The meaningful fantasies are shown in Exhibit III-7.

EXHIBIT III-7

Transportation: Future Fantasies

"Not mailing at all. Fiber optic or some other method. If we want to inform our customers, we just send it electronically to the customer's computer bases." (Trucking company)

"Cheap fax-type phone in the house, where people can get their direct mail at home. Invoice, promotional material would be faxed." (City transit authority)

C

Application/Service Opportunity Sizing and Attractiveness Ratings

Exhibits III-8 and III-9 present the sizing of basic service applications, using the methodology that was developed by INPUT in previous vertical market studies.

Exhibits III-10 and III-11 present a relative attractiveness rating using the rating methodology previously developed by INPUT.

To evaluate the potential for EDI application in the transportation industry, INPUT began with data from its major EDI research service, which has developed detailed estimates of the size of the total EDI market, including the transportation industry. A team of INPUT senior consultants took the most recent INPUT research studies, estimated EDI market penetration in the transportation industry, and projected the total potential size of the EDI opportunity by factoring the market size against the penetration rate. This estimate is shown in Exhibit III-11.

EXHIBIT III-8

Transportation: Basic Services Sizing

Numeric

Application	1989 Est. Units (Millions)	Cost/Unit	1989 Est. Size ($ Millions)
Airline tickets	47.0	0.75	35.3
Airline frequent flyer program statements	81.0	0.25	20.3
Airline frequent flyer cards	9.0	0.40	3.6
City transit monthly tickets	2.5	0.30	0.8
Management reports	Negligible	-	Negligible

EXHIBIT III-9

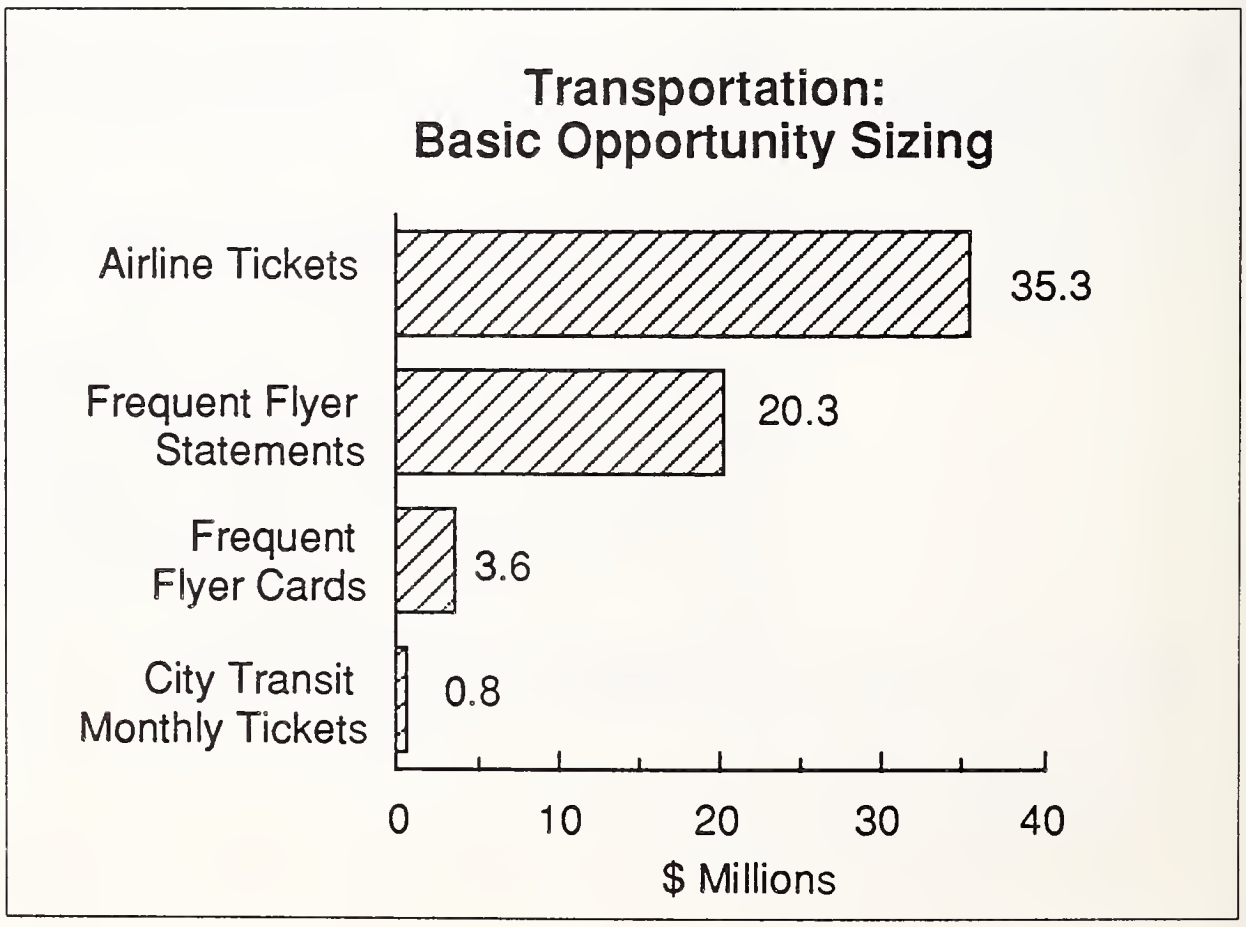


EXHIBIT III-10

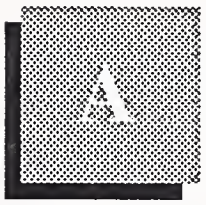
Transportation: Relative Attractiveness Ratings of Basic Services Opportunities

Application opportunity ($ in millions)		Criteria ratings (range: 1 = negative to IDS, 5 = positive)			Overall attractiveness (range: 1 = lowest 125 = highest)
Type	Size ($ Millions)	Relative Size X	Willingness to Outsource X	Level of Pain or Problem =	Attractiveness Rating Value
Airline tickets	35.3	1	1	1	1
Frequent flyer statements	20.3	1	4	2	8
Frequent flyer cards	3.6	1	4	2	8
City transit monthly tickets	0.8	1	1	1	1
Total basic	60.0				18

EXHIBIT I-11

Transportation: Relative Attractiveness Ratings of Enhanced Services Opportunities

Application opportunity ($ in millions)		Criteria ratings (range: 1 = negative to IDS, 5 = positive)			Overall attractiveness (range: 1 = lowest 125 = highest)
Type	Size ($ Millions)	Relative Size X	Willingness to Outsource X	Level of Pain or Problem =	Attractiveness Rating Value
Frequent flyer program management	240	2	2	2	8
EDI	113	2	5	5	50
Total enhanced	353				58



Calculation Worksheets

These worksheets show the methodology including assumptions for the development of unit volume estimates.

Airline Tickets: No airline contacted was willing to provide volume information. The number of airline tickets mailed is calculated by two different methods and the average of these two is taken. It is assumed that the number of airline tickets mailed for business travel are negligible.

Method 1

	(Thousands)
Total 1988 enplanements (according to Air Transport Association)	454,614
1989 enplanements (assume 3% growth)	468,252
Airline tickets issued (assume 1 ticket generates 2.5 enplanements)	187,301
Airline tickets issued for non-business travel (50% of travel is business related according to ATA)	93,650
Airline tickets mailed (assume 35% of tickets are mailed)	32,780

Method 2

Total 1988 departures (according to ATA)	6,700
1989 departures (assume 3% growth)	6,900
Airline tickets issued (assume 50 tickets per departure)	345,000
Airline tickets issued for non-business travel (assume 50% as stated above)	172,500
Airline tickets mailed (assume 35% as stated above)	60,380
Average of airline tickets mailed from method 1 (32,780,) and method 2 (60,380)	46,580

That is, 46.6 million airline tickets mailed for 1989. Assuming 75 cents to be the cost per mailing, this gives an estimated size of $35.3 million.

Airline Frequent Flyer Program Statements: Major airline interviewed mails 950,000 statements a month, or 11.4 million statements a year (1989). According to ATA, this airline has a market share of 14%. Assuming number of frequent flyer statements mailed is proportional to market share, this translates to 81.4 million statements for the airline industry. Assuming 20 cents to be the cost per mailing, gives an estimated size of $20.3 million.

Airline Frequent Flyer Cards: Major airline interviewed mails 100,000 cards a month, or 1.2 million cards a year (1989). At a market share of 14% (as stated above), and assuming number of frequent flyer cards mailed is proportional to market share, this translates to 8.6 million cards for the entire industry. Assuming 40 cents to be the cost per mailing, gives an estimated size of $3.4 million.

City Transit Monthly Tickets: Two transit authorities interviewed were major ones and both mailed 40,000 tickets per month. Third organization interviewed mailed 18,000 tickets a month. Assuming 50,000 tickets mailed by one major transit authority not interviewed and 10,000 tickets by six other minor organizations (San Francisco, Miami, etc.), gives 208,000 tickets mailed per month or 2.5 million tickets for 1989. Assuming 30 cents to be the cost per mailing, gives an estimated size of $0.8 million.

Management Reports: Calculations yield negligible size not worthy of mention.

Airline Frequent Flyer Program Management: Assuming this market is 10 times the estimated size of airline frequent flyer statement and card mailings ($20.3 + $3.6 million), gives an estimated size of $240 million.

EDI: As part of its search for enhanced services, INPUT evaluated the potential for EDI applications. INPUT has a major EDI research service that has developed detailed estimates of the size of the EDI market for different vertical markets. A team of senior INPUT consultants took the most recent INPUT research studies, estimated EDI market penetration in the transportation industry, and projected the total potential size of the EDI opportunity by dividing the market size by the penetration rate.

DECEMBER 1989

UTILITIES INDUSTRY OPPORTUNITY ANALYSIS

INPUT®

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

Preface:

Important Note to Readers of this Report

Readers of this report should be aware that this is only one of thirteen vertical industry reports developed by INPUT for Moore IDS. These vertical reports, in turn, are followed by a final cross-industry report that serves the central mission of this project: to provide market opportunity recommendations that will help Moore IDS to focus strategically on a very limited number of high-value opportunities—whether within a single industry or across several.

Therefore, readers of this report should keep in mind several considerations while reviewing the findings presented here:

- To serve the central mission of helping Moore IDS to achieve strategic focus on a limited number of market opportunities, INPUT has applied a tight screening process to the applications examined in each vertical industry. The selection criteria targeted mission-critical, high frequency, repetitive variable-imaging applications that would represent an ongoing base of predictable revenue, as opposed to the current mix of ad hoc, project-oriented overflow work with peaks and valleys of a less predictable nature.

- Due to this tight screening process, readers may find that these vertical reports fail to mention certain applications, even though they represent currently viable Moore IDS revenue sources.

- Finally, recommendations presented in this single-industry report must be recognized by readers to be somewhat out of context:

- An opportunity that looks excellent—relatively—within a single industry may turn out to be dwarfed by applications in other industries.

- An application that looks to be of minimal attractiveness in a single industry may prove to be closely paralleled in several other industries—in such a way that together they constitute a preeminent cross-industry opportunity.

INPUT discusses such findings in the cross-industry report. Note that these cross-industry recommendations are the primary objective of this project, and thus they supersede those of the individual vertical market reports. The final cross-industry report should be examined for such perspective by any reader of this single-industry report.

It is hoped that this note will help readers place these findings in the proper perspective, especially in cross-referencing this single-industry viewpoint with the final report's cross-industry findings and recommendations.

Table of Contents

Exhibits

I Introduction

A Objectives

INPUT has conducted this research to meet objectives agreed upon with Moore Business Forms' Information Distribution Services division (Moore IDS). These objectives are outlined in Exhibits I-1 and I-1a.

The utilities industry was identified as an abbreviated market compared to other vertical markets, such as insurance. As will be shown, this secondary prioritization was justified. There appear to be fewer promising opportunities in the market, based on INPUT's investigation.

In this study, basic as well as enhanced services opportunities were examined, as previously defined in other vertical market reports.

EXHIBIT I-1

Utilities:
Key Research Objectives

- Identify and evaluate business opportunities for basic and enhanced services
- Identify and assess key marketing/sales issues and delivery requirements
- Provide data for cross-industry evaluation

EXHIBIT I-1a

Application/Service Type Definitions

Basic Services ("Moore IDS Business Today")

- Variable-image printing or embossed cards plus related mailing services such as stuffing, sealing, metering, sorting and post office delivery

Enhanced Services ("Moore IDS Future Business")

- Basic services, as defined above, when integrated with any value-added front-end or back-end services, typically of information services content (e.g., data base management) but also including other business services (e.g., lock box) and/or
- All-electronic solutions as a replacement for, or supplement to, paper-based business communications (e.g., electronic data interchange)

B

Scope

Agreements between INPUT and Moore IDS regarding the scope of research to be conducted included the utilities market segments shown in Exhibit I-2.

EXHIBIT I-2

Utilities: Research Scope

Market segments covered*
- Electric companies
- Combined gas and electric companies

Size of companies
- Over $1 billion

* Other utility companies (water, sewer, garbage collection) tend to be very local, hence small and judged to be of little market interest.

Though INPUT did discuss and examine the trends in postcard billing, its primary focus was to identify other variable-image mailings. Promotional mailers were identified but are considered outside the scope of this research. Investigating opportunities for an "Omni-bill"—a single consolidated utility bill combining electric, gas, water and waste disposal—was discussed and analyzed prior to interviews and was rejected for economic reasons; there did not seem to be economic justification for the relevant players to pursue this concept. Other barriers included company image and customer control issues.

Financial mailing applications, for example proxies, dividend checks, etc., were considered to be potential opportunities and were included in the interviews.

C Methodology

The methodology used in the utilities market study was similar to that used in the indepth vertical market reports, with the exception that fewer interviews were conducted. The general vertical market questionnaire was used in conducting the interviews, with agreed-upon interviewer prompts and enhancements. See Exhibit I-3.

EXHIBIT I-3

Utilities:
Research Methodology

- Information gathering and preparation
- Review and modification of vertical market questionnaires
- Phone meeting with Moore's marketing manager
- Telephone interviews
- Analysis and report writing

Interviews were conducted by contacting the office of the Vice President whose organization was responsible for business mailings and networking to appropriate parties. We found that there was no consistent title for either executive or operational managers responsible for business mailings. In general, mailing operations appeared to be considered a "lower level" operation in most organizations as compared to other functions such as accounting. Most interviews were conducted with mid-level managers in the IS function and mailing services.

Exhibit I-4 gives the interviewing statistics, and Exhibit I-5 presents specific companies contacted.

EXHIBIT I-4

Utilities: Interviewing Statistics

- Twenty-one were companies contacted
- Appropriate personnel were reached in twelve companies
  - One company refused to participate
  - One requested that the survey be mailed
  - Ten telephone interviews were completed

EXHIBIT I-5

Utilities: Interviews Conducted

Company	Type	Size ($ Billions)
United Mohawk Power	Gas and electric	1.3
Ohio Power	Electric	1.3
Commonwealth Edison	Gas and electric	5.5
Georgia Power	Electric	3.5
Philadelphia Electric	Electric	3.0
Union Electric	Electric	1.8
Gulf States Utilities	Gas and electric	1.5
S. California Edison	Gas and electric	5.3
Virginia Power	Gas and electric	2.9
Duke Power Company	Electric	3.4

There was remarkable consistency in the ten interviews that were conducted regarding mailing operations. INPUT believes that additional interviews would not influence the conclusions and recommendations significantly.

II

Executive Overview

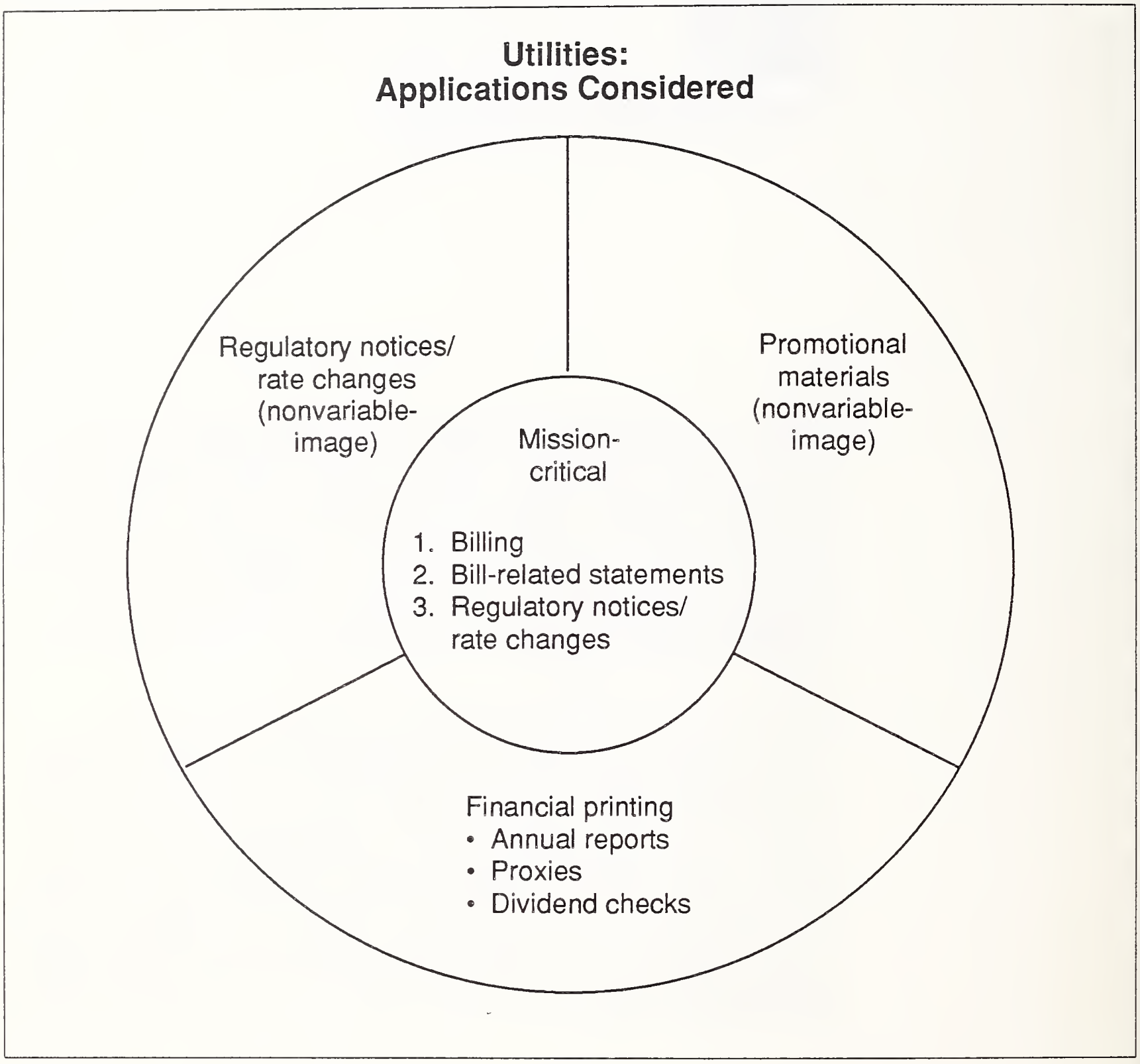
INPUT conducted telephone surveys with managers from ten utilities, evenly split between Electric companies and combined (gas and electric) facilities. The interviews were very consistent. Currently, outsourcing is done for non-mission-critical overflow work and specialty printing (for example, four-color promotional literature), as well as financial applications such as annual reports, proxies, dividend checks, etc. Though many keep regular tabs on outside costs and service options, virtually all respondents opposed outsourcing of mission-critical applications for what appear to be good reasons.

The primary service application in utilities is billing, and it appears unlikely that this application will be outsourced, in spite of a trend away from postcard billing back to stuffed envelopes. Reasons for this include the fact that the majority of utilities have a large installed base of laser printers and mail handling equipment, their operations are already optimized for this application, there are few if any problems in printing and mailing operations, and the application is extremely time-sensitive, which may preclude the use of third parties and remote mailing. A third of the utilities interviewed have union contracts which would prevent or make large-scale outsourcing difficult, and there is always the underlying issue of fear of losing control.

Exhibit II-1 shows the applications considered.

There does appear to be a basic service opportunity in financial mailings, including dividend checks. Roughly half of the companies surveyed currently outsource all or portions of their financial printing. This opportunity seems consistent with Moore IDS' current business, and could be targeted with its existing sales operation and technology.

EXHIBIT II-1


Utilities:
Applications Considered
Regulatory notices/ rate changes (nonvariable-image)
Promotional materials (nonvariable-image)
Mission-critical
1. Billing
2. Bill-related statements
3. Regulatory notices/ rate changes
Financial printing
• Annual reports
• Proxies
• Dividend checks

INPUT was unable to identify any promising enhanced service opportunities in the utility industry. Most of the problems and planned improvements are related to the IS departments and the difficulties of staying on top of and implementing constantly-changing regulations in billing systems. There seems no plausible opportunity for a third party to do a better job here. Future fantasies centered around direct delivery of bills (bypassing the post office), adding segmentation capability to customer data bases (primarily for marketing purposes), and implementing bar code technology, a process which is already underway in the industry as a mail-sorting application.

INPUT has developed a methodology for sizing opportunities and determining their relative attractiveness in order to make comparisons between industries and applications. Exhibits II-2, II-3, II-4, and II-5 present sizing for three basic service applications and their relative attractiveness.

Exhibit II-6 shows major environmental threats and opportunities in the utility market.

EXHIBIT II-2

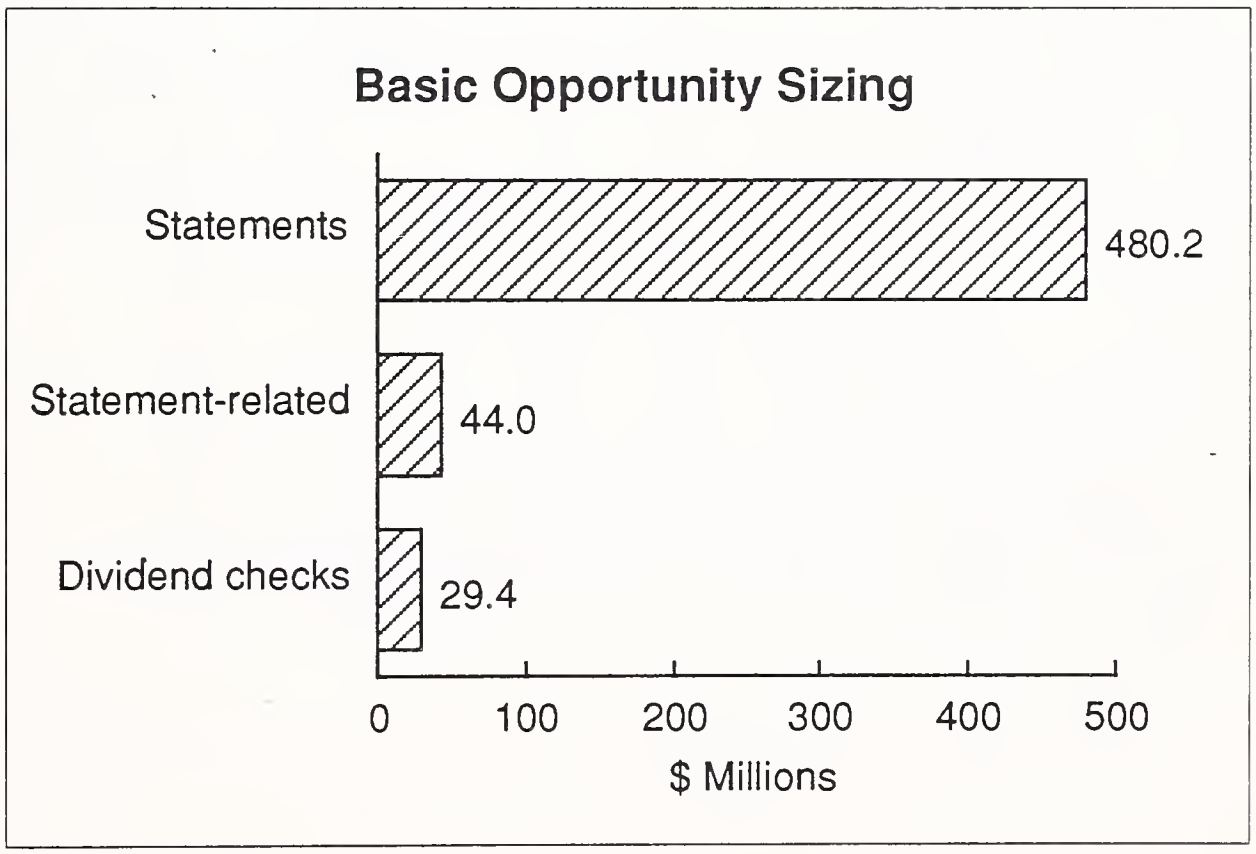


EXHIBIT II-3

Utilities:
Opportunity Size by Target Audience
($ Millions)

Type of Service	Target Audience					Total
	Owners	Employees	Customers	Suppliers	Internal Efficiency	
			Business | Consumer			
A. Basic			Statements (480); Statement-related (44); Dividend checks (29)			
Subtotal			(553)			
B. Enhanced						
Subtotal						
Total			(553)			

EXHIBIT II-4

Utilities: Relative Attractiveness Ratings of Basic Service Opportunities

Application opportunity ($ Millions)		Criteria ratings (range: 1 = negative to IDS, 5 = positive)			Overall attractiveness (range: 1 = lowest 125 = highest)
Type	Size	Relative Size X	Willingness to Outsource X	Level of Pain or Problem =	Relative Rating Value
Statements	480.2	3	1	1	3
Statement-related	44.0	1	1	1	1
Financial dividend checks	29.4	1	3	2	6
Total	553.6				10

EXHIBIT II-5

Utilities:
Opportunity Attractiveness Rating by Target Audience

Type of Service	Target Audience					
	Owners	Employees	Customers	Suppliers	Internal Efficiency	Total
			Business | Consumer			
A. Basic			Statement (3) Statement-related (1) Dividend checks (6)			
Subtotal			(10)			
B. Enhanced						
Subtotal						
Total			(10)			

EXHIBIT II-6

Utilities: Environmental Threats and Opportunities

Threats:

- Increasing cost pressures due to financial performance
- Mounting costs and regulatory delays for nuclear power
- Rapidly changing regulatory environment
- Charged public sentiment regarding rates and environmental concerns

Opportunities:

- Cost pressures are driving search for greater efficiency
- Political pressures have created a need for improved consumer communications and education

III

Market Opportunities

Before discussing potential opportunities in more detail, it will be useful to first set the stage by summarizing findings about outsourcing by utilities today, as well as interviewees' attitudes about future outsourcing, their descriptions of problems they now face, and planned improvements.

A Introduction

Findings about outsourcing were remarkably consistent among the utilities interviewed.

All of the ten companies interviewed outsourced on a regular basis. The majority of outsourcing was for small volume or irregular jobs such as those specialty items shown in Exhibit III-1. For example color promotional stuffers, occasional overflow, or for financial printing and mailing which was done with specialty houses. Only three out of ten companies outsourced financial printing.

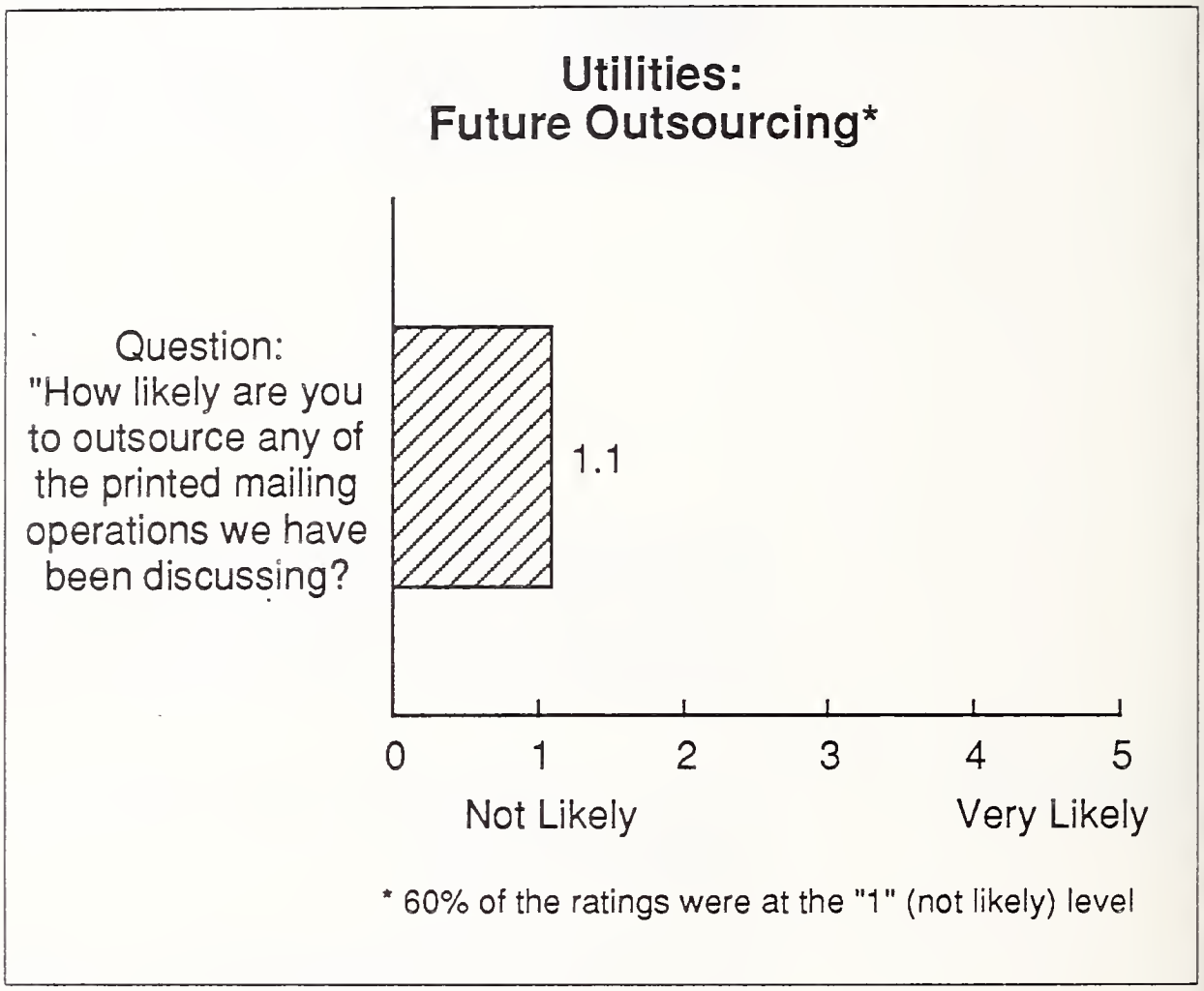
EXHIBIT III-1

Utilities:
Outsourcing Today

- Promotional stuffers (nonvariable printing)
- Customer/in-house newsletter
- Annual reports
- Proxies, dividend checks
- Other financial mailings

When questioned about how likely they would be to outsource other main mailing categories such as billing, respondents were not enthusiastic, as shown in Exhibit III-2.

EXHIBIT III-2



The reasons against outsourcing are summarized in Exhibit III-3 and discussed below.

As discussed below, billing represents the major mailing application for utilities and is the administrative lifeblood of the company. In addition, most utilities are under considerable economic pressure to perform more efficiently. For that reason, time sensitivity (eliminating float) and cost pressures are significant issues. Internal mailing operations have been designed and have evolved to handle the large-volume mailings required, and to optimize both time and cost parameters. As one respondent stated,

"We simply can't afford problems in our operation. It all has to work."

Interestingly enough, there were a number of companies (4 of 10) who regularly (at least once a year) compare their internal costs to that of using outside service vendors. However, after further questioning, it appears that these comparisons are used to measure and calibrate internal efficiency and do not represent a genuine interest in outsourcing.

EXHIBIT III-3

Utilities:
Reasons Against Future Outsourcing

- The majority (7 of 10) have laser printer technology in place as well as large investments in mail handling and sorting equipment.
- Respondents felt that their in-house operations, particularly printing and mailing, were efficient and cost-effective. No consistent mailing operation problems were mentioned (see below).
- The majority of respondents (6 of 10) mentioned "loss of control" as a key issue.
- Time sensitivity was repeatedly cited as a key issue in all the interviews. Respondents in four companies mentioned potential time loss due to both coordinating outside vendors and possible remote mailing as a concern.
- In-house mailing operations were optimized for their applications. Few felt an outside vendor could do better.
- Union contracts would prohibit large-scale outsourcing (3 of 10 companies).
- There was no interest in facilities management.

Exhibit III-4 presents problems and planned improvements in utility mailing operations.

None of the respondents could identify specific problems in their mailing operations. In general, once bills and other materials are printed, mailing operations which were set up to handle three million plus pieces per month ran smoothly. The problems and bottlenecks identified were primarily in the front end of the operation, the IS department, in all but one case.

EXHIBIT III-4

Utilities: Mailing Problems and Planned Improvements

Current problems:

- Timely programming changes in response to:
  - Regulatory changes: rates, rate structures, refunds (4 of 10)
- IS problems, such as computer downtime, programming issues, etc. (getting data on a timely basis) (2 of 10)

Planned improvements:

- Better quality control (2 of 10)
- Customer data base segmentation capability (3 of 10)
- Ongoing equipment upgrades (5 of 10) including bar code sorting (to take advantage of postal discounts), improved inserting equipment, high speed laser technology

Most of the utilities surveyed are subject to two or more regulatory agencies. Regulations change continually and are typically time-sensitive. As a result, utilities must continually modify the rate structures and policies built into their accounting systems, and often have to generate refunds and billing adjustments. Making these programming adjustments is a time-critical activity and often causes disruptions. It is conceptually difficult to see how inserting a third-party/outside vendor could solve this problem.

In addition to expected equipment upgrades, a sought-after goal in a number of utilities is the ability to segment their customer data base by type of customer, historical and current usage, and other characteristics, for marketing purposes such as analysis, survey work, special promotions, etc.

B

Application Opportunities

1. Basic Service Opportunities

Exhibit III-5 sets out the basic mailing applications for the utilities surveyed.

EXHIBIT III-5

Utilities: Basic Mailing Applications

- Customer bills
  - Core mailing applications for all utilities
  - Typically 1-2 pages variable images with return envelopes and stuffers
  - Daily print runs
  - Volumes. 5 to 3.3+ million pieces per month/company
- Bill-related statement
  - Credit documents, requests for deposits, refund checks, vouchers
  - Typically mailed separately from bills
  - Variable-image, one page
  - Run daily as needed
- Regulatory notices/rate changes
  - Nonvariable-image
  - Typically delivered as stuffers to statement
  - Run as needed
- Promotional material
  - For example, updates, newsletters, surveys
  - Typically developed by marketing department
  - Often printed outside
- Financial mailings
  - For example, proxies, dividend checks, shareholder reports
  - Often outsourced to specialty house
  - Run quarterly, annually, etc.

a. Billing and Billing-Related Statements

Bills and related statements are the lifeblood of utility printing and mailing operations. Operations are set up to handle the large volume of mail required and are optimized around the bill-generation process.

Timeliness and cost are key considerations for mail operation decision makers. In all the companies surveyed, respondents appeared satisfied with the working of the operation and had a difficult time identifying specific problems in printing and mail handling. The majority of companies utilize laser printing technology, and the latest handling equipment—Pitney Bowes and Bell & Howell were two suppliers mentioned frequently. A majority of utilities had specific equipment purchase and upgrade plans for the future. Incorporating bar code technology, to enable utilities to take maximum advantage of postal discounts, was mentioned by four of the ten companies as a high-priority item.

There appears to be little opportunity for Moore IDS in the billing and related statement category (see Exhibit III-3). A priori, there is little reason to believe that Moore IDS, which has expertise in providing general mailing solutions, could improve upon an operation whose sole function is to optimize a specific application.

INPUT considered whether or not Moore IDS' expertise in bar code technology would offer a possible opportunity in the utility market. Though it is a desired technology in many cases, we concluded it would be unlikely that bar code technology itself would be sufficient justification to outsource the billing operation—merely inserting Moore IDS in a part of the process would probably not contribute to timeliness, and hence would be unattractive to prospects.

b. Regulatory Notices/Rate Changes

This category of mail is typically nonvariable-image and is delivered as a stuff in billing statements.

c. Promotional Mailings

Promotional mailings were not considered, as per prior discussions between INPUT and Moore IDS.

d. Financial Mailings

The majority of utilities surveyed outsource financial printing and mailing of annual reports, dividend checks, and proxies. INPUT did not explore printing of 1099s and W-2s as per the research plan—it was assumed that Moore IDS already has an understanding of this business. The smaller, private utilities do not, of course, have shareholder communications mailing needs.

Financial printing and mailing do represent a potential basic service opportunity for Moore IDS, but nothing very new or exciting. Moore IDS should be able to use its existing marketing/sales system to pursue these opportunities.

e. Other Considerations

There was a concern that the use of postcard billing might be on the rise due to cost advantages. Only two of the ten companies surveyed used postcard billing. Of these, one was converting back to enclosed statements due to market pressure—desire for confidentiality, use of return envelopes—a key for improving cash flow. Two other companies have switched over to enclosed statements in the last two years. If anything, there is a trend away from postcard billing.

Another trend in billing is towards "blanket billing", a single consolidated bill for companies with multiple locations. Blanket billing is being implemented in the majority of utilities.

2. Enhanced Service Opportunities

a. Overview

Other vertical market studies used outsourcing of front-end/back-end operations and future "fantasies" as jump-off points to develop a list of potential enhanced service opportunities.

In the case of utilities, both outsourcing opportunities and fantasies were extremely thin, the result of the nature of IS (front-end) and probably the lack of problems as fantasy generators.

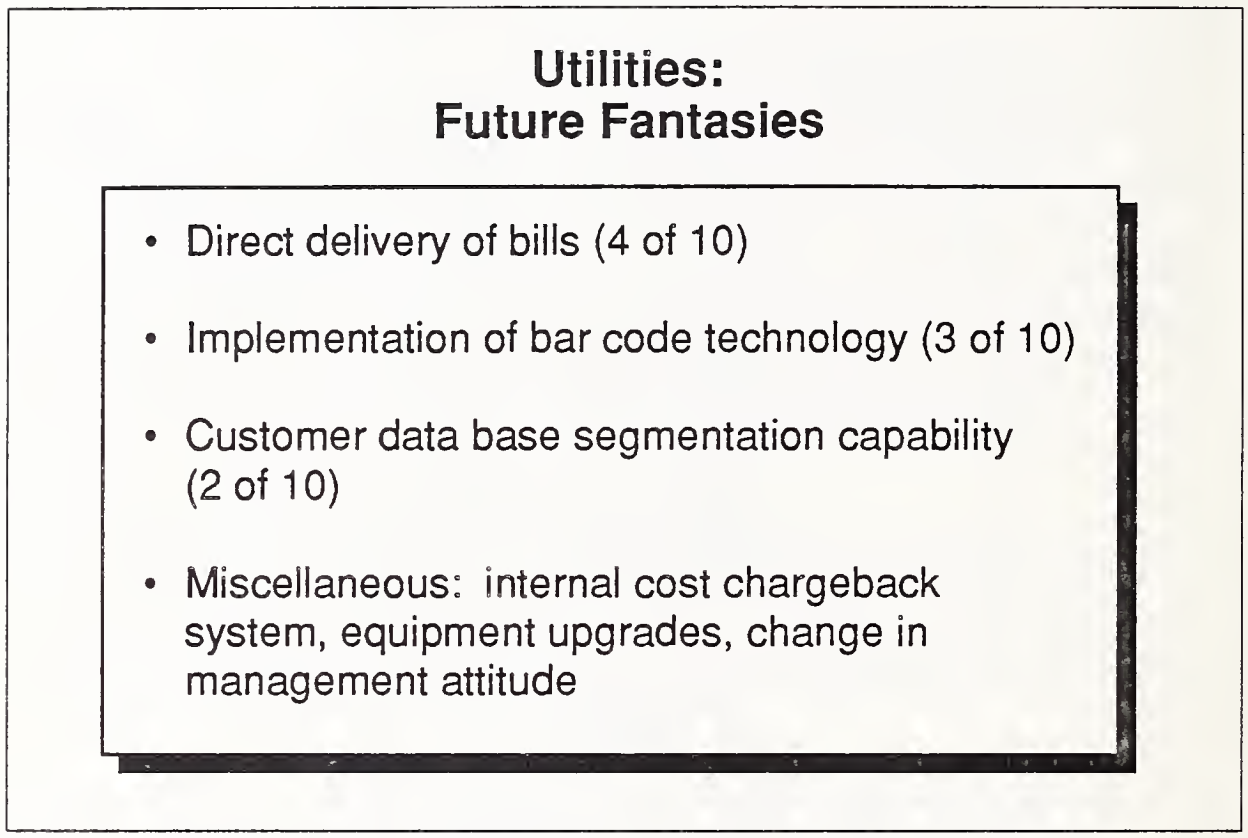
As discussed above, problems that do occur in mailing operations tend to be in the front end of the system (typically the IS department), primarily due to constantly changing regulations that must be accurately reflected in the billing system on a highly time-sensitive basis, as well as normal computer snafus. It seems unlikely that Moore IDS would find a hook here. First, the IS function is a jealously guarded turf and it's not clear if or how Moore IDS would add value. Second, Moore IDS would have to closely monitor a variety of regulatory agencies in each state, at both the state and federal level. It would be difficult to convice the utilities that a third party could do better what they have been doing for decades.

On the back end, lockbox collection services are common and well established. Utilities also utilize electronic bill-paying, primarily for residential customers, as well as rapid delivery of computer tapes containing transactions to the banking system.

b. Future Fantasies

Unlike managers in some vertical markets, utility interview respondents presented few wild or exciting future fantasies, though there was some consistency in their desires, as shown in Exhibit III-6.

EXHIBIT III-6



Of these fantasies, respondents felt that bar code technology was within reach and would be implemented in the near future.

As discussed above, bar coding is a possible hook for Moore IDS to open discussions with utilities, but it is unlikely to be a compelling enough argument to result in companies outsourcing their billing operations.

Customer data base segmentation might be considered another potential opportunity for Moore IDS. Utilities, particularly their marketing departments, would like the ability to segment and examine their customer base in a variety of ways.

Segmentation capability would provide this and also allow utilities to do targeted promotional mailings, surveys, etc. The problem and the opportunity is primarily one of IS resources, and not printing per se. Note also that potential segmentation mailings discussed by respondents were class- or category-variable and not necessarily variable on a per-piece image.

In summary, the interviews did not uncover any significant enhanced service opportunities in the utilities market.

C

Application/Service Opportunity Sizing and Ratings

Exhibits III-7 and III-8 present the sizing of basic service applications, using the methodology that was developed by INPUT in previous vertical market studies.

EXHIBIT III-7

Utilities:
Basic Service Sizing—Numeric

Application	1989 Est. Units (Millions)	Cost/Unit	1989 Est. Size ($ Millions)
Bill statements	1,400	0.343	480.2
Billing-related statements			
- Credit vouchers			
- Requests for deposits	220	0.20	44.0
Financial	105	0.28	29.4
- Dividend checks			

EXHIBIT III-8

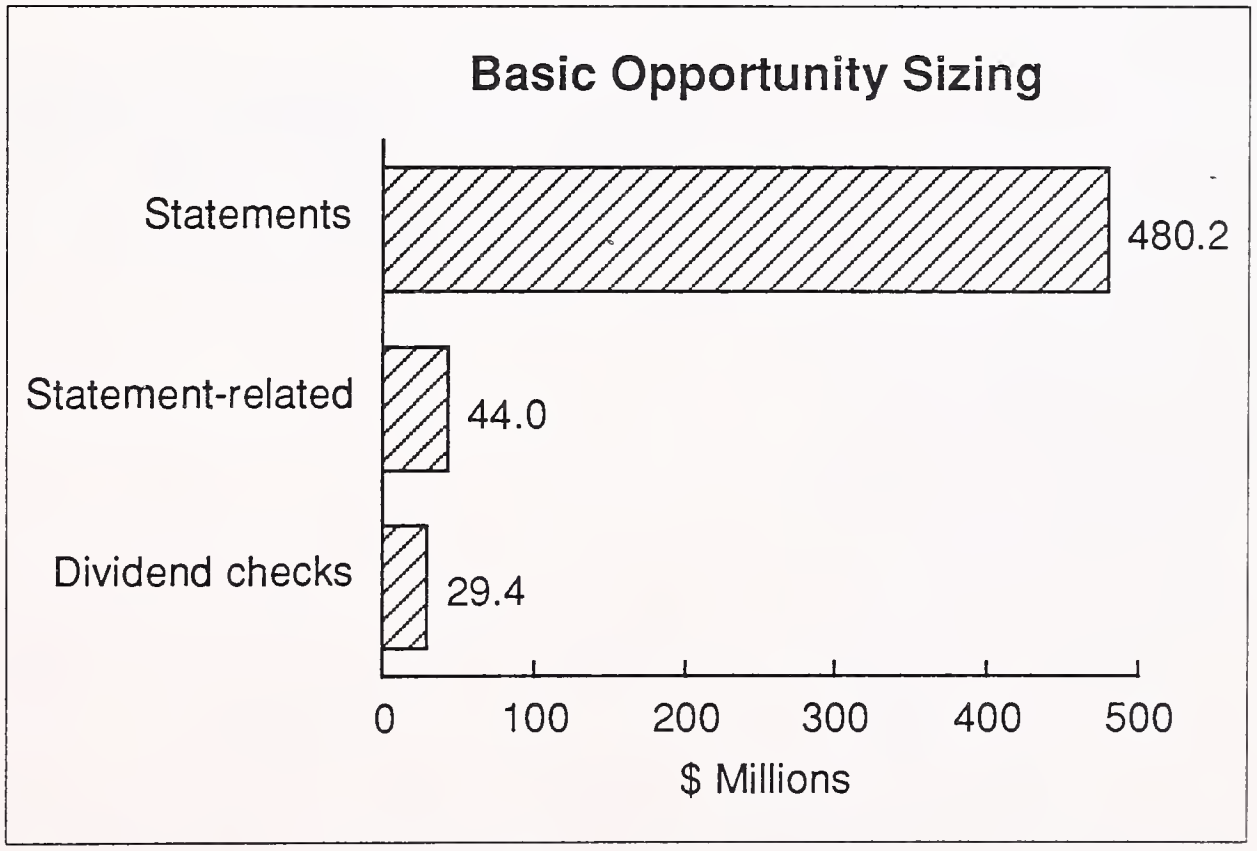


Exhibit III-9 presents a relative attractiveness rating using the rating methodology previously developed by INPUT.

EXHIBIT III-9

Utilities: Relative Attractiveness Ratings of Basic Service Opportunities

Application opportunity ($ Millions)		Criteria ratings (range: 1 = negative to IDS, 5 = positive)			Overall attractiveness (range: 1 = lowest 125 = highest)
Type	Size	Relative Size X	Willingness to Outsource X	Level of Pain or Problem =	Relative Rating Value
Bills	$480.2	3	1	1	3
Bill-related	$44.0	1	1	1	1
Financial dividend checks	$29.4	1	3	2	6

Financial printing, for example dividend checks and other variable-image material, appears to be the leading opportunity, and is very similar to Moore IDS's current 1099/W-2 business. This opportunity can likely be pursued with Moore's existing sales operation and would not, to our knowledge, require new investments in technology.

DECEMBER 1989

HEALTH CARE INDUSTRY OPPORTUNITY ANALYSIS

INPUT®

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Preface:

Important Note to Readers of this Report

Readers of this report should be aware that this is only one of thirteen vertical industry reports developed by INPUT for Moore IDS. These vertical reports, in turn, are followed by a final cross-industry report that serves the central mission of this project: to provide market opportunity recommendations that will help Moore IDS to focus strategically on a very limited number of high-value opportunities—whether within a single industry or across several.

Therefore, readers of this report should keep in mind several considerations while reviewing the findings presented here:

- To serve the central mission of helping Moore IDS to achieve strategic focus on a limited number of market opportunities, INPUT has applied a tight screening process to the applications examined in each vertical industry. The selection criteria targeted mission-critical, high frequency, repetitive variable-imaging applications that would represent an ongoing base of predictable revenue, as opposed to the current mix of ad hoc, project-oriented overflow work with peaks and valleys of a less predictable nature.

- Due to this tight screening process, readers may find that these vertical reports fail to mention certain applications, even though they represent currently viable Moore IDS revenue sources.

- Finally, recommendations presented in this single-industry report must be recognized by readers to be somewhat out of context:

- An opportunity that looks excellent—relatively—within a single industry may turn out to be dwarfed by applications in other industries.

- An application that looks to be of minimal attractiveness in a single industry may prove to be closely paralleled in several other industries—in such a way that together they constitute a preeminent cross-industry opportunity.

INPUT discusses such findings in the cross-industry report. Note that these cross-industry recommendations are the primary objective of this project, and thus they supersede those of the individual vertical market reports. The final cross-industry report should be examined for such perspective by any reader of this single-industry report.

It is hoped that this note will help readers place these findings in the proper perspective, especially in cross-referencing this single-industry viewpoint with the final report's cross-industry findings and recommendations.

Table of Contents

Exhibits

I

Introduction

A

Objectives

INPUT has conducted this research to meet objectives agreed upon with Moore Business Forms' Information Distribution Services division (Moore IDS). These objectives are outlined in Exhibit I-1.

EXHIBIT I-1

Health Care: Key Research Objectives

- Identify and evaluate business opportunities for basic and enhanced services
- Identify and assess key marketing/sales issues and delivery requirements
- Provide data for cross-industry evaluation

Both basic and enhanced service opportunities are examined here, as defined in Exhibit I-2.

B

Scope

The scope agreed upon between Moore IDS and INPUT was to split the interviews among segments of the health care industry shown in Exhibit I-3, excluding any attention to the specialized segments of HMOs (health maintenance organizations) and Medicare/Medicaid programs. Larger organizations were targeted on the presumption that they will present larger business opportunities for Moore IDS.

EXHIBIT I-2

Health Care: Application/Service Type Definitions

- Basic Services
  - Variable-image printing or embossed cards plus related mailing services such as stuffing, sealing, metering, sorting, and post office delivery
- Enhanced Services
  - Basic services, as defined above, when integrated with any value-added front-end or back-end services, typically of information services content (e.g., data base management) but also including any other business services (e.g., lockbox)

    (and/or)
  - All-electronic solutions as a replacement for, or supplement to, paper-based business communications (e.g., electronic data interchange)

EXHIBIT I-3

Health Care: Research Scope

- Market segments covered
  - Hospital groups
  - Medical/dental clinics
  - Nursing/extended/home care services
  - Medical labs
- Size of companies
  - Over $50 million

C
Methodology

The health care industry was one of eight vertical markets selected for abbreviated research. As shown in Exhibit I-4, methodologically, this abbreviated study was conducted much as the full-scale studies were for the industries of insurance, telecommunications, state and local governments, finance, retail trade, and education, except with fewer interviews and with results presented in an abbreviated report format.

EXHIBIT I-4

Health Care: Research Methodology

- Information gathering and preparation
- Review and modification of vertical market questionnaire
- Scope review with Moore IDS marketing manager
- Telephone interviews
- Analysis and report writing

As shown in Exhibits I-5 and I-6, INPUT conducted telephone interviews with executives and managers from 12 health care companies. These twelve were equally split among the four market segments of large-scale hospital groups (Hospitals), medical/dental clinics (Clinics), nursing/extended/home care services (Care Services), and medical labs (Labs); large-scale is defined as an organization with annual revenue over $50 million. Almost half the interviewees (5 of 12) are senior-level executives, and the rest are mid-level managers. Most interviewees (7 of 12) are from information systems or data processing, with most others from billing functions.

The telephone questionnaire used was a variation of the ones successfully used for the non-abbreviated industry studies. For the interviews, INPUT implemented a methodology of "cold calling" firms on a representative list and establishing a person-to-person reference network from the top-executive level down to the executive or manager best able to answer the questions. Over 90 calls were made to more than 30 companies to secure the 12 interviews. Two firms refused to participate, after the correct person was reached.

EXHIBIT I-5

Health Care: Interviewing Statistics

- 30 companies contacted
- Interviews conducted with 12 companies
  - 2 firms refused to participate
  - Attempts to interview the other 16 were dropped once 12 interviews were completed

EXHIBIT I-6

Health Care: Companies Interviewed

- Hospitals (Groups)
  - Health Management Associates
  - HEI Corp.
  - Universal Health Services
- Clinics
  - Basic American Medical
  - Health Care International
  - Mediplex Group
- Care Services
  - Caremark Home Care
  - Continental Medical Systems
  - Forum Group
- Labs
  - MDS Health Group
  - Nichols Institute
  - Roche Biomedical Laboratories

II

Executive Overview

A Objectives

INPUT conducted telephone surveys with managers from 12 health care companies, divided among the four market segments of large-scale hospital groups (Hospitals), medical/dental clinics (Clinics), nursing/ extended/home care services (Care Services), and medical labs (Labs).

Exhibit II-1 identifies billing as the only mission critical basic business printing and mailing application consistently found.

EXHIBIT II-1

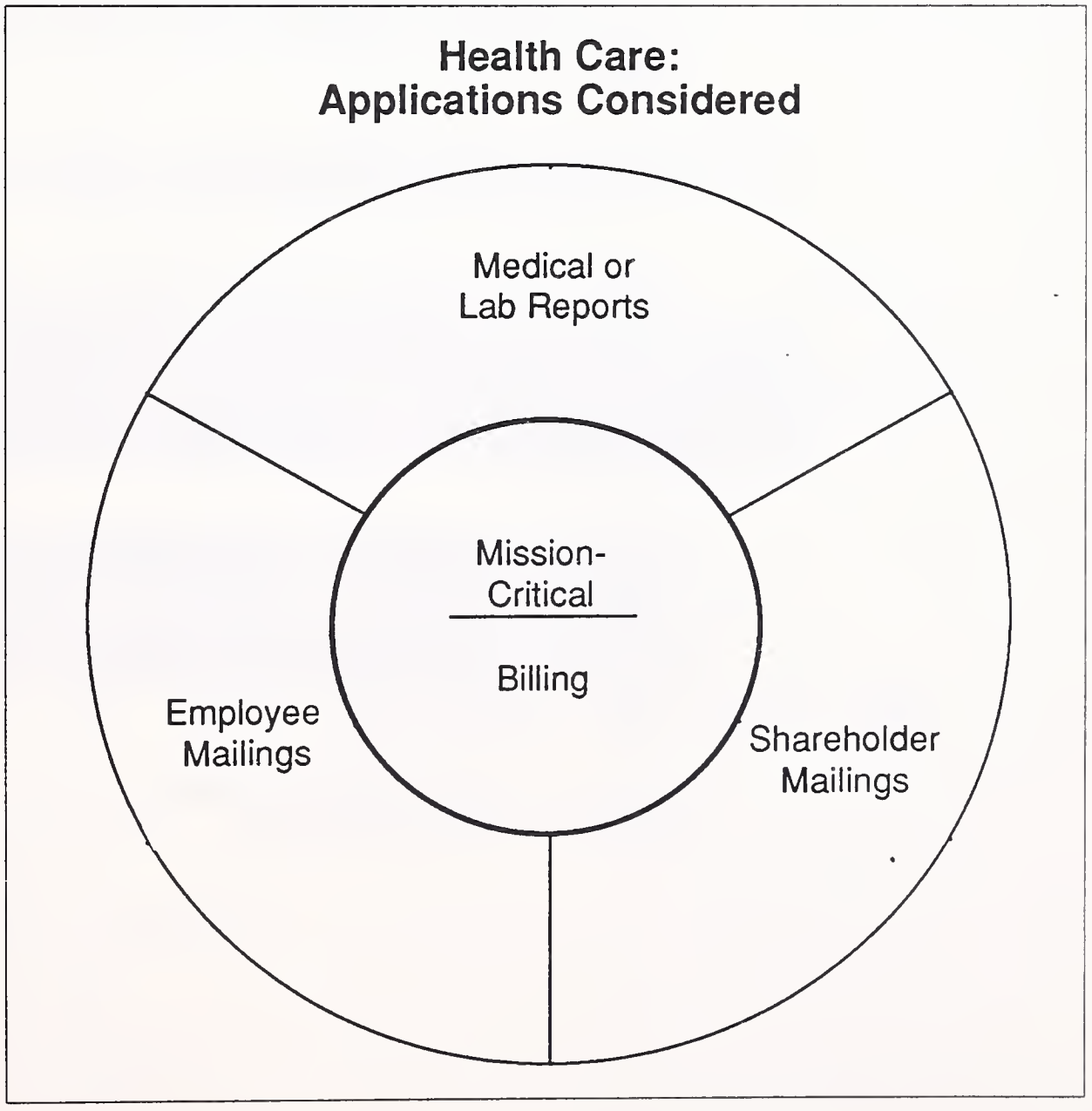


Exhibit II-2 shows that users are very negative toward outsourcing: only 1 of 12 interviewees outsources billing now, and only one other interviewee will consider such outsourcing in the future.

EXHIBIT II-2

Health Care: Willingness to Outsource Basic Printing/Mailing

	Percent
Current (actual) practice	8
Willing to consider in future	17

The key reason for not outsourcing is the effectiveness of current in-house systems. Several interviewees also cite concerns about control and confidentiality of medical information.

INPUT identifies applications opportunities defined as enhanced services—which will require new information services technologies—as follows:

- Billing services based on electronic data interchange (EDI) capabilities
- Packaged billing and collection services

Opportunities defined as basic services do not look promising, based on interviewees' reported satisfaction with in-house billing operations, their unwillingness to consider outsourcing, and the wide-ranging mix of organizational models (fully or partly centralized versus fully decentralized billing operations) that would make consistent selling approaches impractical.

INPUT has applied a methodology for sizing opportunities and determining their relative attractiveness in order to make comparisons among industries and applications. Exhibits II-3, II-4, II-5, II-6, II-7, and II-8 present sizing for basic and enhanced service opportunities and their relative attractiveness.

Exhibit II- 9 shows major environmental threats and opportunities specific to the health care industry.

EXHIBIT II-3

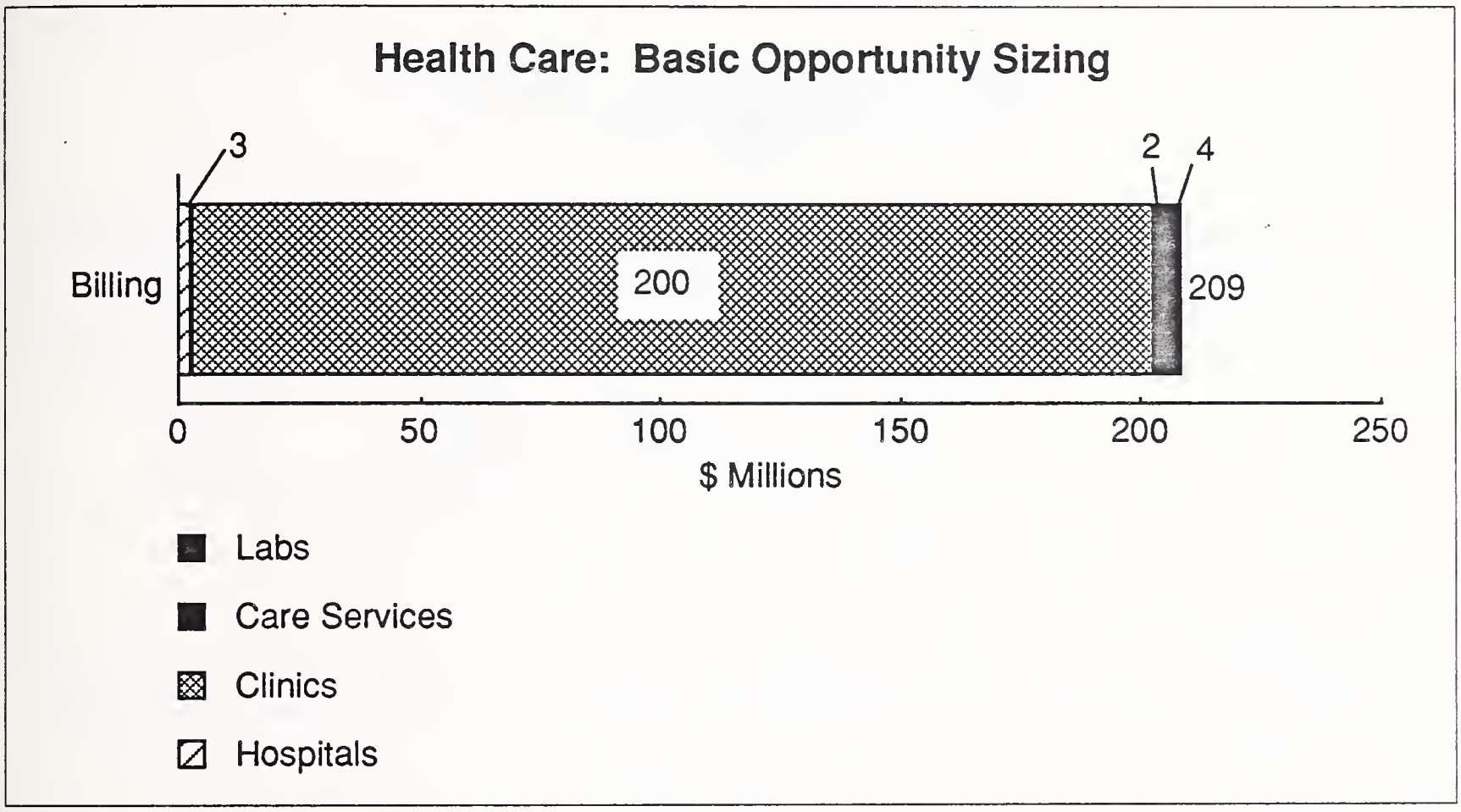


EXHIBIT II-4

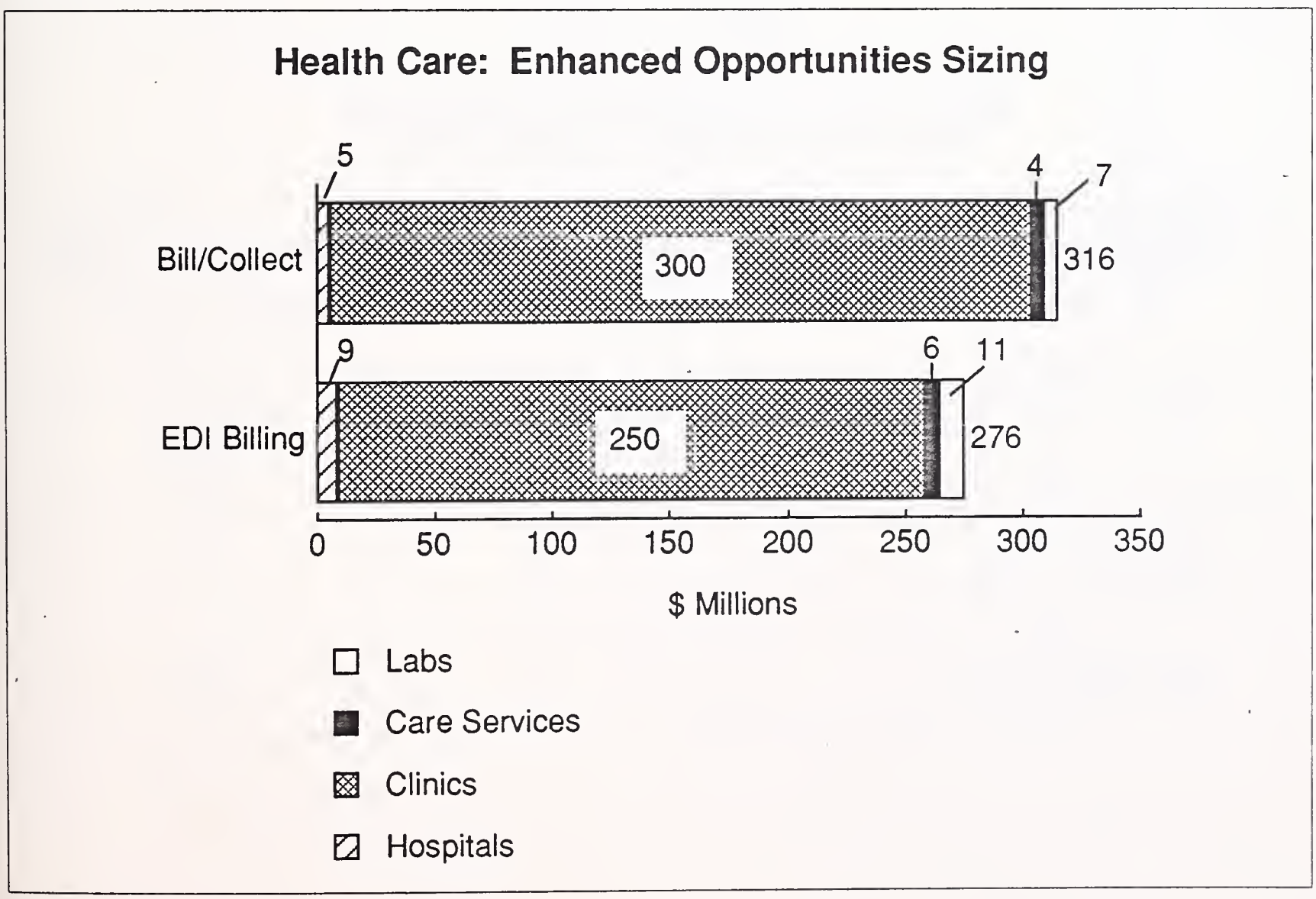


EXHIBIT II-5

Health Care: Attractiveness Ratings of Basic Service Opportunities

Application opportunity ($ in millions)		Criteria ratings (range: 1 = negative to IDS, 5 = positive)			Overall attractiveness (range: 1 = lowest 125 = highest)
Type	Size	Relative Size X	Willingness to Outsource	Level of Pain or Problem	Relative Rating Value
Billing	209	2	1	1	2
Total Basic	209				2

EXHIBIT II-6

Health Care: Attractiveness Ratings of Enhanced Services Opportunities

Application opportunity ($ in millions)		Criteria ratings (range: 1 = negative to IDS, 5 = positive)			Overall attractiveness (range: 1 = lowest 125 = highest)
Type	Size	Relative Size X	Willingness to Outsource	Level of Pain or Problem	Relative Rating Value
EDI Billing	276	2	4	4	32
Bill/Collect	316	3	1	2	6
Total Basic	592				38

EXHIBIT II-7

Health Care: Opportunity Size by Target Audience ($ Millions)

Type of Service	Target Audience					
	Owners	Employees	Customers	Suppliers	Internal Efficiency	Total
			Business | Consumer			
A. Basic			Bills (109) | Bills (100)			
Subtotal			(109)	(100)		(209)
B. Enhanced			EDI (276) Bill/ Collect (166)	Bill/ Collect (150)		
Subtotal			(442)	(150)		(592)
Total			(551)	(250)		(801)

EXHIBIT II-8

Health Care:
Opportunity Attractiveness by Target Audience
(Attractiveness Rating Scores)

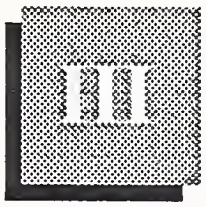
Type of Service	Target Audience					
	Owners	Employees	Customers	Suppliers	Internal Efficiency	Total
			Business | Consumer			
A. Basic			Bills (2)			
Subtotal			(2)			(2)
B. Enhanced			EDI (32) Bill/ Collect (6)			
Subtotal			(38)			(38)
Total			(40)			(40)

Note: It is not appropriate to split ratings for the applications of Bills and Billing/Collections Services between Business and Consumer customers, so all are allocated here to the Business Customer segment, where the higher dollar volumes are found.

EXHIBIT II-9

Health Care: Environmental Threats and Opportunities

- Threats
  - Overexpansion of hospitals has led to surpluses of beds
  - Tight diagnosis-based standards for Medicare/Medicaid reimbursement have created a revenue-versus-costs squeeze
  - Public inner-city facilities face breakdown under the burdens of AIDS and drug-related violence
- Opportunities
  - Outpatient and clinic-based services are increasingly preferred over hospital stays
  - Higher proportions of elderly citizens create increasing demand for nursing, extended, and home care service



Market Opportunities

Before discussing potential opportunities in more detail, it will be useful first to set the stage by summarizing findings about outsourcing by health care companies today, as well as interviewees' attitudes about future outsourcing, their descriptions of problems they now face, and planned improvements.

A

Introduction

Reasons cited for not outsourcing mostly emphasize the smooth effectiveness of current in-house systems—a "don't rock the boat" mentality. This attitude applies regardless of the organizational models for billing indicated by interviewees: fully decentralized billing by each local service unit (such as an individual hospital or clinic), central distribution by the group owner of software on which billing is implemented locally, or centralized billing based on data provided by each local service unit. Each market segment shows examples of at least two of these three organizational models, so no single pattern dominates. Other reasons cited for not outsourcing the printing and mailing of bills include: the need to final-check insurance-billing documents (especially those going to Medicare) for accuracy, confidentiality of patient-related information, and (in one case only, a Canadian firm with substantial U.S. operations—MDS Health Group) no knowledge of a U.S.-based billing services firm.

Few real problems are cited by interviewees, although some desired improvements are identified. The Medicare/Medicaid government insurance system does present some problems, in the form of periodic changes in billing procedures or standards that health care providers must incorporate into billing systems with very limited lead times. Several interviewees (from the billing side) are looking for better accounts receivable collection performance, with fewer accounts remaining unpaid beyond 60 days. Related to this, some are looking for better access to information in the billing system to guide up-to-the-minute collection

actions on overdue accounts. (Note that a key environmental issue in health care today is the financial squeeze imposed by diagnosis-based reimbursement for Medicare and Medicaid, thus effective collections processes are important concerns for health care companies.)

B

Application Opportunities

1. Basic Service Opportunity

a. Billing

Of several business communication applications considered during interviews, only billing was confirmed as universally mission-critical to operation of the health care company's business. (Note that only the Labs segment considers the printing and mailing of laboratory reports critical application; INPUT makes no further reference to lab reports here, however, based on the fact that this is not a generalized health care industry application, and the likelihood that detailed investigation into lab reports would find them to be specialized technical documents controlled by situation-specific software systems that are often integrated or closely linked with hardware for lab testing.)

Although the market opportunity is sized below, in part for cross-industry comparison purposes, INPUT believes that basic service applications for health care billing are not a promising opportunity for Moore IDS. Interviewees are satisfied with in-house billing operations and are generally unwilling to consider outsourcing. In addition, Moore IDS would have difficulty implementing a consistent selling approach in health care, INPUT finds, because of widely differing organizational models (even within each industry segment) for managing billing operations: fully or partly centralized versus fully decentralized.

2. Enhanced Services Opportunities

In some industries studied by INPUT for Moore IDS, interviewees' "fantasies" about the future of variable-imaged communications prove useful in identifying enhanced services opportunities. In health care, however, the future fantasies are relatively ill-formed, generally concerning various forms of all-electronic billing. (Other common fantasies about all-electronic patient treatment/record systems and fully integrated record/billing systems fall outside the three-to-five year scope of this study.)

The interviews have, however, led INPUT to identify enhanced services application opportunities as follows:

- Billing services based on electronic data interchange (EDI) capabilities
- Packaged billing and collection services

a. EDI-based Billing

Interviewees report that electronic billing—whether through direct transmission or tape/disk transfer—for Medicare/Medicaid patients is usual, although not yet universal, based on electronic standards set by the government agencies involved.

As noted above, Moore IDS and INPUT had agreed to exclude Medicare/Medicaid opportunities from the scope of this study, as they were excluded from the insurance segment study as well. The primary reason for this exclusion is the existence of strong, established information services vendors in Medicare/Medicaid processing. These include Electronic Data Systems, Computer Sciences Corporation, and Blue Cross organizations with locked-in multiyear contracts that afford little or no opportunity to a new vendor. Given this exclusion—and interviewees' consistent reports that electronic Medicare/Medicaid billing is already a well-established, highly regulated subset of the health care billing market—the rest of this report will exclude any sizing or further consideration of the Medicare/Medicaid-related segment of health care billing.

Given this government-regulated precedent for electronic billing, however, the enhanced services opportunity here is to target the corresponding billing function to private insurers using future EDI standards. Note that these standards are not yet firm for use in the insurance claims function in the health care industry, although American Hospital Supply and others have effectively pioneered EDI use for supplies and pharmaceutical ordering by hospitals. EDI standards for health claims are, however, in active development now (under the ANSI X.12 standard), spearheaded by a group of large insurance carriers banded together as NEIC, based in Secaucus, NJ; Barbara Reilly at Aetna Insurance (203-273-6739) is a member to contact for more background. 1990 is expected to be a key year for NEIC-validated EDI standards for health care billing, and thus a time when an EDI service vendor could establish an early foothold. Note also that this opportunity plays to an environmental factor of concern to interviewees: EDI-based claims and the resulting electronic payments can offer health care companies a faster route to securing payment of the large proportion of their charges billed to insurers.

b. Packaged Billing and Collection Services

Packaged billing and collection services—where Moore IDS provides a single source for billing and lockbox-based collections—are recommended for consideration with a caveat: given health care interviewees' satisfaction with in-house billing and relative lack of experience with lockboxes, this application will likely require extra service on the collections side to prove salable. Specifically, several interviewees report substantial pressure to decrease accounts receivable in the forms of late

payments and delinquencies. Moore IDS can serve this need, at minimum, by providing very timely and flexible options for reporting overdue payments to the health care provider for their collections follow-up; at maximum, it may prove important for Moore IDS to actually provide collection services for overdue accounts in order to get health care providers to consider outsourcing of billing and collections to a packaged service provider.

C

Application/Service Opportunity Sizing and Ratings

In Exhibits III-1 and III-2, a methodology is applied to develop rough opportunity sizing measures for quantitative comparison of these applications. (Note that this methodology likely underestimates the opportunities in health care by disregarding both billing statements going to patients that duplicate the primary bill going to the insurer, and any follow-up rebillings for unpaid accounts. Both are excluded from these estimates because there is no basis from which to estimate the relevant numbers.) This opportunity sizing provides Moore IDS with a measure of total latent potential expenditures for the service, without regard to issues such as market development, rate of adoption, in-house versus external solutions, competition, and so on. Note that Medicare/Medicaid-related items are excluded, for the reasons cited earlier.

EXHIBIT III-1

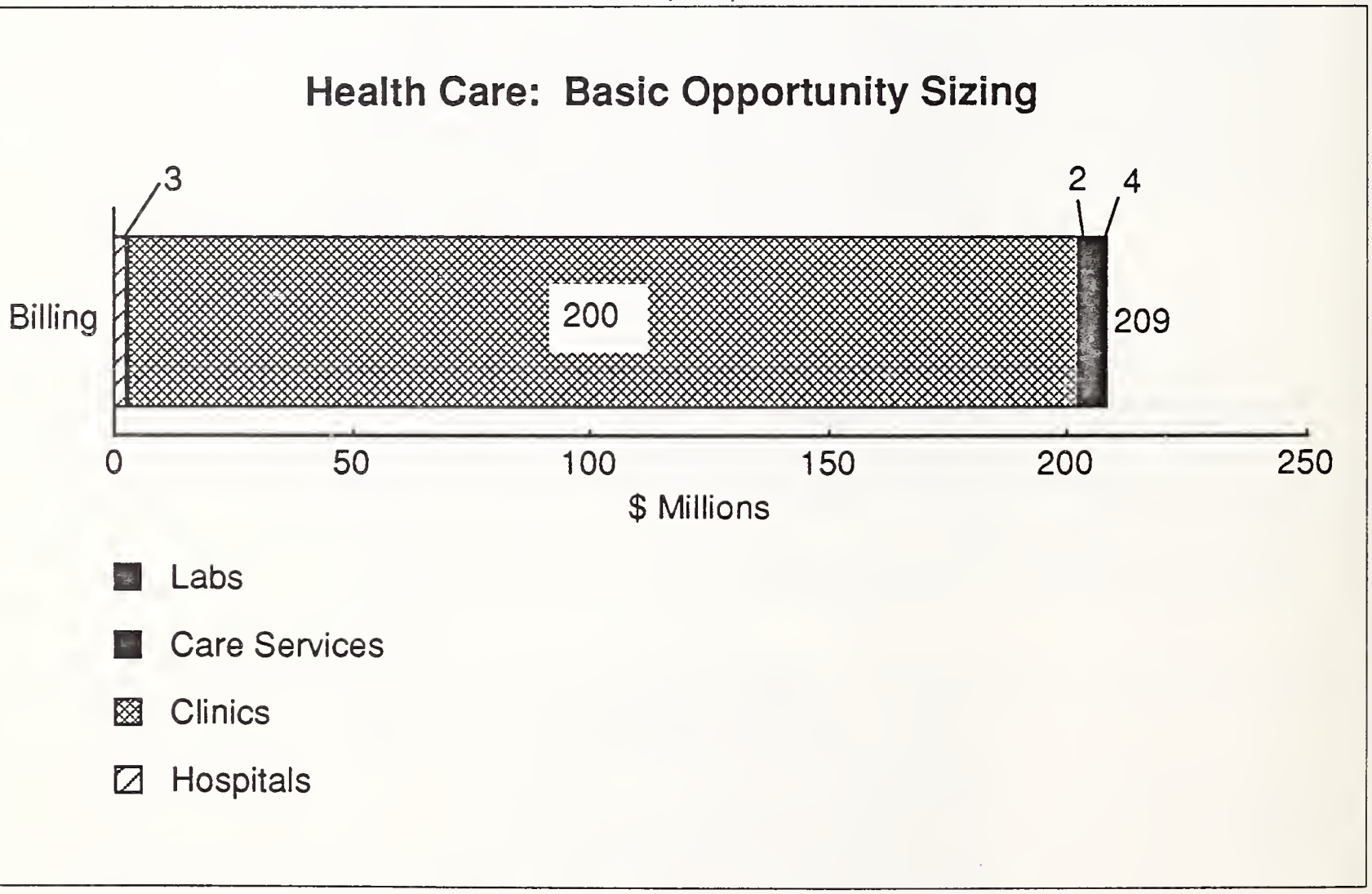
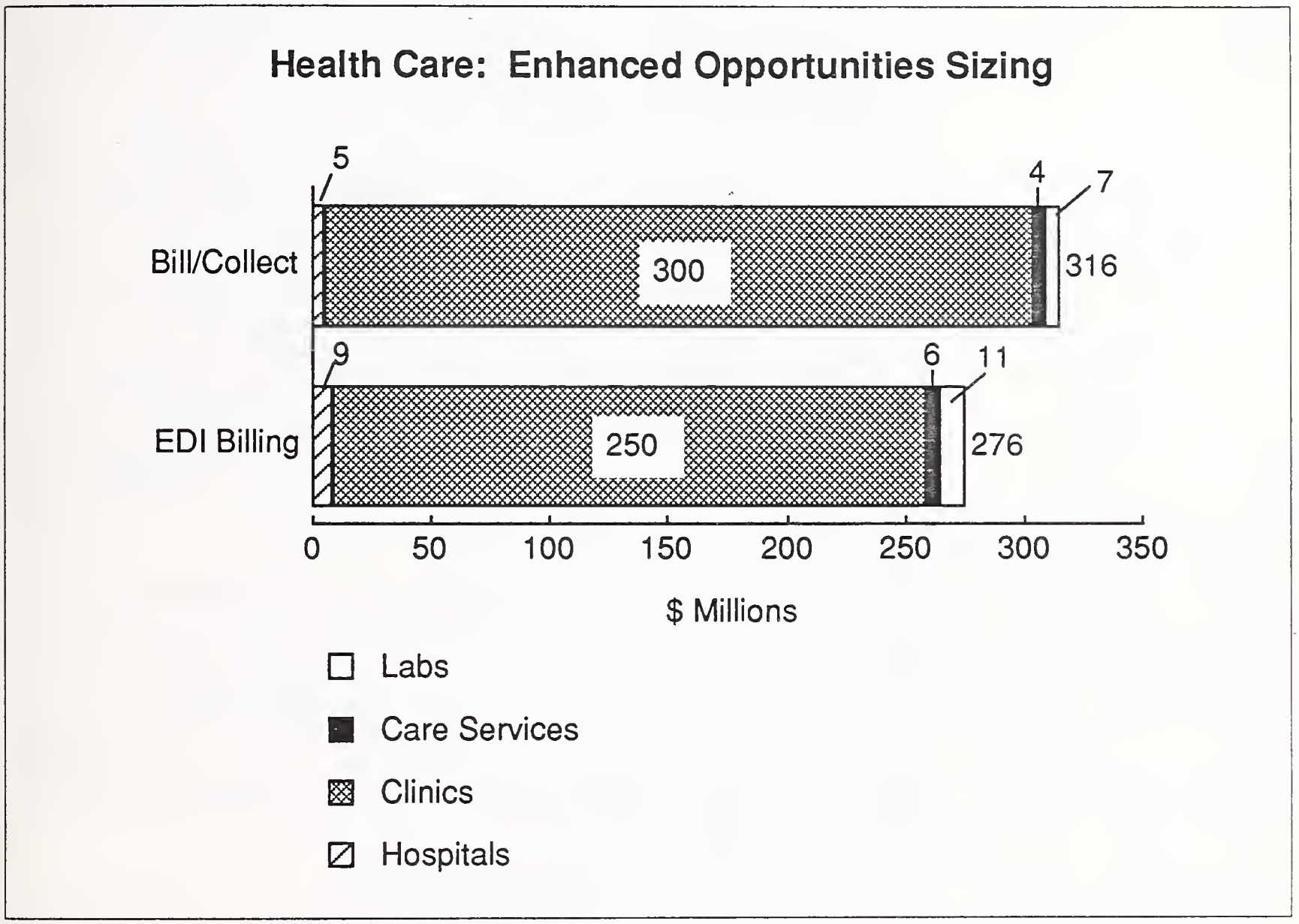


EXHIBIT III-2



The following assumptions and calculations are used to estimate the number of bills for each market segment.

Hospitals discharge approximately 34 million patients each year, thus are presumed to generate 34 million bills for stays in the hospital that average just seven days. Since, on a nationwide basis, about 40% of all health care charges (approximately $200 billion of a total somewhat over $500 billion) are covered by Medicare/Medicaid or other government sources, INPUT makes the assumption that the remaining 60% of all charges correspond roughly to 60% of all bills. About 10% of U.S. citizens are not covered by any private or government health insurance, thus about 50% of all bills are assumed to be within the coverage of private insurers (disregarding charges disallowed due to deductibles, etc.); INPUT presumes for these estimates that today virtually all of these bills go directly to the patient's private insurer. (Duplicate statements sent to the patient as information about the insurance billing are disregarded here.) Taking 50% of 34 million bills yields 17 million non-Medicare/Medicaid/government-paid health care bills per year.

Clinics are estimated to handle roughly 2 billion (or 2,000 million) patient visits per year, each of which is assumed to generate a separate billing. As above, 50% of 2,000 million bills yields 1,000 million non-Medicare/Medicaid/government bills per year. Note in this case, however, that many bills are sent from private physicians or dentists directly to individuals, who rebill their insurers. This affects EDI estimates below; INPUT assumes that roughly 50% of all the Clinics segment bills go to individuals and thus would not be appropriate for EDI handling.

Care services institutions serve approximately 2 million patients at any one time, with nursing home stays averaging 130 days; thus INPUT assumes that they generate a total of 2 million monthly bills, for a yearly total of 24 million bills. As above, 50% of 24 million bills yields 12 million bills per year. (Note: INPUT recognizes that Medicare/Medicaid logically could be expected to cover a higher proportion of Care Services patients, who are often the elderly; however, no agency can be found that tracks such numbers. Thus, the 40% proportion for Medicare/Medicaid noted above is used here also.)

Labs' billing quantity estimates are more speculative. INPUT assumes that only 1% of all clinic visits require a lab test and thus generate a lab billing; 1% of 1,000 million clinic visits yields 10 million bills per year. Further, INPUT assumes that fully 50% of all hospital visits or care services' patient-months require a lab test and billing; 50% of 29 million bills (17 million for hospitals plus 12 million for care services) yields 15 million bills per year. Adding 10 million and 12 million bills yields 22 million bills per year.

Using these total yearly billing estimates for each market segment, the dollar-size estimates presented in Exhibits III-1 and III-2 are developed by applying the following unit-cost estimates (which correspond to estimates used for comparable services in the INPUT report to Moore IDS entitled "Insurance Industry Opportunity Analysis") to the estimated number of bills:

- Bills average 3 pages, according to interviewees' reports, which would be priced by Moore IDS at $0.20 each.
- INPUT designates $0.50 as an appropriate price for a typical EDI billing transaction.
- Adding a lockbox service price of $0.10 per unit to the $0.20 unit-billing price yields a $0.30 unit price for the packaged billing/collection service application.

Exhibits III-3 and III-4 use a standard rating methodology to factor the opportunity size calculated with two other key criteria distilled from the interviews: health care companies' willingness to outsource, and their level of "pain or problem," each with respect to a particular application.

EXHIBIT III-3

Health Care: Attractiveness Ratings of Basic Service Opportunities

Application opportunity ($ in millions)		Criteria ratings (range: 1 = negative to IDS, 5 = positive)			Overall attractiveness (range: 1 = lowest 125 = highest)
Type	Size	Relative Size X	Willingness to Outsource	Level of Pain or Problem	Relative Rating Value
Billing	209	2	1	1	2
Total Basic	209				2

EXHIBIT III-4

Health Care: Attractiveness Ratings of Enhanced Services Opportunities

Application opportunity ($ in millions)		Criteria ratings (range: 1 = negative to IDS, 5 = positive)			Overall attractiveness (range: 1 = lowest 125 = highest)
Type	Size	Relative Size X	Willingness to Outsource	Level of Pain or Problem	Relative Rating Value
EDI Billing	276	2	4	4	32
Bill/Collect	316	3	1	2	6
Total Basic	592				38

As shown, a five-point rating scale is applied to each criterion, where a "1" indicates the least attractive measure of a criterion and "5" shows a very positive measure. By rating each of the criteria and then multiplying the ratings (the multiplication shown in the tables as "Relative Size X Willingness to Outsource X Level of Pain or Problem"), the product is a "Rating Value" that represents the overall attractiveness to Moore IDS, doing so in a fashion that combines the quantitative opportunity-volume sizing with the other two essentially qualitative criteria.

For relative size ratings on both basic and enhanced applications, INPUT is applying the following rating criteria consistently among all vertical markets:

Size Range ($ Millions)	Rating
1-100	1
101-300	2
301-700	3
701-1,000	4
>1,000	5

For the basic billing application, INPUT rates health care providers' willingness to outsource at 1, due to the high level of unwillingness to even consider future outsourcing, plus the dearth of billing outsourcing today. Problem or pain level for billing is also rated 1 due to near-unanimous reports that billing is currently a smooth internal function.

For the first enhanced application, EDI-based billing of private insurance companies, INPUT subjectively rates the industry's willingness to outsource at the 4 (relatively high) level, based on interviewees' reports of their full willingness to acquiesce in the service standards and provision routines set up for Medicare/Medicaid; presumably they will be similarly willing to leave this new electronic technology (as opposed to the much more simple computer-printing of bills that they do in-house now) to outside experts. The 4 rating for level of pain or problem is based on the hypothesis noted earlier: with increasing financial pressures, the health care providers should prove very responsive to any new option that can speed payments—even those that are not technically late yet—from the private insurers they deal with.

In contrast, packaged billing and collection will face an uphill battle in outsourcing, and thus is rated at 1 for this factor; in-house billing is standard now and relatively few interviewees now use outside lockbox services. The rating of 2 for level of pain or problem is a blending of no perceived problem for the billing side and moderate pain from overdue payments; note that the focus here (and thus the rating here of 2, versus 4 just above for level of pain or problem) is on reducing the late payment

problem, not on the more valuable benefit of speeding up even normal payments from the private insurers who pay so many of the bills of these health care providers.

This analysis indicates that opportunities of roughly equal size can have substantially different levels of attractiveness. It is noteworthy that the enhanced (information services-based) opportunities facing Moore IDS in the health care industry are rated as nearly 20 times more attractive than basic services to this vertical market (38 versus 2 total rating points).

Exhibits III-5 and III-6 organize opportunity size and attractiveness measures by the target audience of the applications considered.

EXHIBIT III-5

Health Care:
Opportunity Size by Target Audience
($ Millions)

Type of Service	Target Audience					
	Owners	Employees	Customers	Suppliers	Internal Efficiency	Total
			Business | Consumer			
A. Basic			Bills (109) | Bills (100)			
Subtotal			(109)	(100)		(209)
B. Enhanced			EDI (276) Bill/ Collect (166)	Bill/ Collect (150)		
Subtotal			(442)	(150)		(592)
Total			(551)	(250)		(801)

EXHIBIT III-6

Health Care: Opportunity Attractiveness by Target Audience (Attractiveness Rating Scores)

Type of Service	Target Audience					
	Owners	Employees	Customers	Suppliers	Internal Efficiency	Total
			Business | Consumer			
A. Basic			Bills (2)			
Subtotal			(2)			(2)
B. Enhanced			EDI (32) Bill/ Collect (6)			
Subtotal			(38)			(38)
Total			(40)			(40)

Note: It is not appropriate to split ratings for the applications of Bills and Billing/Collections Services between Business and Consumer customers, so all are allocated here to the Business Customer segment, where the higher dollar volumes are found.

While this is done primarily for purposes of later cross-industry analysis at the conclusion of INPUT's research project, it is noteworthy now that all applications in the health care industry deal with billing-related communications to non-government insurance businesses.

A range of new sales and delivery mechanisms will be needed for Moore IDS to offer enhanced services, as shown in Exhibit III-7.

EXHIBIT III-7

Health Care: New Sales and Delivery Mechanisms Required

Opportunity	Sales Expertise	Printing Equipment	Information Technology	Alliances/Acquisitions
EDI Billing	EDI expertise Conceptual selling	(None)	EDI translation/ store-and-forward software and net-working	Sterling Software *Ordernet* IBM *Information Network* Electronic Data Systems Computer Sciences Corp. Geisco Tymnet National Data Corp. First Chicago Chase Bank
Bill/Collect	Lockbox information	(None)	Lockbox accounting and reporting systems	Lockbox vendor(s)
Either of the above	Customer relations	(None)	Experience in providing infor-mation services for health care	Cerner Cycare Physician's Systems Co. Systems Assoc. Shared Medical Systems HBO & Co. Baxter Healthcare TDS Health Care Systems

Opportunity-specific new information services technologies required for the enhanced service opportunities are identified, and a wide range of potential firms for alliances and/or acquisitions is noted.

Within the EDI billing application, note that leading banks like First Chicago and Chase are targeting health care/insurance EDI billing as a key opportunity area, and thus could be powerful allies.

The last group of alliance/acquisition candidates are leading software or services vendors in health care whose expertise and/or client list may prove of value in general in targeting this industry.

With respect to competition, on the other hand, all of the alliance/acquisition candidates represent potential competitors. In the case of EDI billing, however, there is little experience established to date, thus there is little direct competition yet. Moore IDS must look carefully, however, at the positioning of the general-capability EDI vendors like Geisco and Tymnet, insofar as their plans in health care; they could prove to be powerful competitors, based on their experience in other industries. As noted, banks like First Chicago and Chase may be factors in this application area also.

Exhibit III-8 lists several environmental threats and opportunities relevant to the applications outlined above for the health care industry. Note that the negative impacts on hospitals from several factors could bode well for Moore IDS if improvement of cash flow can be sold as a key benefit (for example, the EDI billing application). On the other hand, mere population growth curves favor the care services sector as a target market; some of those interviewed reported 50% and greater annual growth rates (including acquisitions), and care services are managed on a relatively centralized basis that would favor centralized selling by Moore IDS.

EXHIBIT III-8

Health Care: Environmental Threats and Opportunities

- Threats
  - Overexpansion of hospitals has led to surpluses of beds
  - Tight diagnosis-based standards for Medicare/Medicaid reimbursement have created a revenue-versus-costs squeeze
  - Public inner-city facilities face breakdown under the burdens of AIDS and drug-related violence
- Opportunities
  - Outpatient and clinic-based services are increasingly preferred over hospital stays
  - Higher proportions of elderly citizens create increasing demand for nursing, extended, and home care service

DECEMBER 1989

SERVICES/OTHER INDUSTRIES OPPORTUNITY ANALYSIS

INPUT®

1280 Villa Street, Mountain View, California 94041-1194

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Preface:

Important Note to Readers of this Report

Readers of this report should be aware that this is only one of thirteen vertical industry reports developed by INPUT for Moore IDS. These vertical reports, in turn, are followed by a final cross-industry report that serves the central mission of this project: to provide market opportunity recommendations that will help Moore IDS to focus strategically on a very limited number of high-value opportunities—whether within a single industry or across several.

Therefore, readers of this report should keep in mind several considerations while reviewing the findings presented here:

- To serve the central mission of helping Moore IDS to achieve strategic focus on a limited number of market opportunities, INPUT has applied a tight screening process to the applications examined in each vertical industry. The selection criteria targeted mission-critical, high frequency, repetitive variable-imaging applications that would represent an ongoing base of predictable revenue, as opposed to the current mix of ad hoc, project-oriented overflow work with peaks and valleys of a less predictable nature.

- Due to this tight screening process, readers may find that these vertical reports fail to mention certain applications, even though they represent currently viable Moore IDS revenue sources.

- Finally, recommendations presented in this single-industry report must be recognized by readers to be somewhat out of context:

- An opportunity that looks excellent—relatively—within a single industry may turn out to be dwarfed by applications in other industries.

- An application that looks to be of minimal attractiveness in a single industry may prove to be closely paralleled in several other industries—in such a way that together they constitute a preeminent cross-industry opportunity.

INPUT discusses such findings in the cross-industry report. Note that these cross-industry recommendations are the primary objective of this project, and thus they supersede those of the individual vertical market reports. The final cross-industry report should be examined for such perspective by any reader of this single-industry report.

It is hoped that this note will help readers place these findings in the proper perspective, especially in cross-referencing this single-industry viewpoint with the final report's cross-industry findings and recommendations.

Table of Contents

Exhibits

I

Introduction

A

Objectives

INPUT has conducted this research to meet objectives agreed upon with Moore Business Forms' Information Distribution Services division (Moore or IDS). See Exhibit I-1.

EXHIBIT I-1

Services/Other Industries: Key Research Objectives

- Evaluate business opportunities for both basic and enhanced services
- Focus on leading opportunities
- Assess sales and delivery requirements
- Provide data for cross-industry evaluation

To meet the objective of providing Moore with a comprehensive evaluation of its potential business opportunities, a fundamental distinction is made between basic and enhanced application service opportunities. These application/service type definitions are outlined in Exhibit I-2.

IDS wishes to focus on a limited number of key opportunities within each industry studied. This will be a more proactive (rather than reactive) marketing thrust, as well as helping to limit the planning and investment required to develop new mechanisms—including equipment, facilities, and other technology—that are necessary to sell and deliver additional services.

EXHIBIT I-2

Services/Other Industries: Application/Service Type Definitions

Basic Services: ("Moore IDS business today")

- Variable-image printing or embossed cards, plus related mailing services such as:
  - stuffing
  - sealing
  - metering
  - sorting
  - post office delivery

Enhanced Services ("Moore IDS future business")

- Basic services as defined above, plus any value-added front-end or back-end services—typically of information services content (e.g., data base management), but also including other business services (e.g., lockbox).

and/or

- Electronic solutions as a replacement for, or supplement to, paper-based business communication (e.g., electronic data interchange)

Looking forward to the future delivery by INPUT of information on opportunities in a wide range of target industries, this research also serves to gather data that can be cross-referenced among industries at a later date.

B

Scope

In order to ensure that all possible opportunities for Moore have been properly considered, a Services/Other market has been defined. The Services/Other market is essentially a residual, composed of the various industries which are not included in other vertical markets. Each of these residual industry groups has been examined for potential IDS applications, based on the professional judgement of INPUT and Moore IDS marketing staff.

In some industries (e.g., agriculture), there was no apparent market for IDS services, as neither INPUT nor Moore could identify potential mailing applications. In other cases, several potential applications were identified within a given industry, and these areas were targeted for interviews. However, based on these interviews, several other industries were determined to have no viable applications. Exhibit I-3 summarizes the agreed-upon definition and scope of the Services/Other market, including the areas in which no potential applications have been identified.

EXHIBIT I-3

Services/Other Industries: Research Scope—Industry Categories

SIC	Industry/Business Opportunity	
A	Agriculture, forestry and fishing	(No targets identified)
B	Construction	(No targets identified)
65	Real estate *Property management services*	
70	Hotels and other lodging places *Frequent Traveler programs*	
73	Business services *Equipment renting/leasing*	
75	Auto repair, services and parking *Vehicle rental/leasing*	
79	Amusement and recreation services	(No viable applications)
81	Legal	(No targets identified)
86	Membership organizations *Membership renewal billings*	
87	Engineering and management services	(No viable applications)

In general, none of the industries in this market appear to have a significant volume of IDS-type mailings, and it was not possible to pre-define a specific, standard set of mailings for any of these industries. However, it was assumed that there might be some opportunities which could be developed through creative marketing. Therefore, a key objective of the interviews was to uncover prospective applications as well as to document current ones.

In summary, interviews were completed in seven separate industry categories, and viable applications were found in five. The logic underlying the selection of interviews, and INPUT's preliminary analysis of the market, is outlined below.

SIC

65 Real Estate

- There is little basic printing opportunity in multiple listing services (MLS). MLS requires photographs (which cannot be generated via current IDS imaging technology), is becoming increasingly PC-oriented, and is the province of another Moore business unit (MDMS). INPUT believes that IDS should explore joint venture opportunities with MDMS.
- Property management billing applications are similar to those in Business Services (SIC 73; see below).
- New resident/owner advertising may have potential, based on data from new phone listings, property transfer records, etc.

Targets: Property management firms, and firms that provide mailings to new homeowners

70 Hotels and Other Lodging Places

Targets: Large chains with frequent visitor programs (Hyatt, Ramada, Hilton, Mariott, etc).

73 Business Services

- There is no significant volume of variable-image mailing outside of billing for services.
- Unlike retail, commercial billing does not generally involve stuffers.

- Commercial billings tend to be more complicated than retail in terms of data content, format, etc., but volume is lower, and there is typically only one monthly cycle.
- High-volume commercial billings are moving toward EDI.
- Computer and data processing firms are in this category.

Targets: Firms that do large-volume, detailed billing for individual items, such as equipment rental/leasing, building services, property management, etc.

General business data processing firms

75 Auto Repair, Services, and Parking

Targets: Auto rental firms with frequent traveler programs.

79 Amusement and Recreation Services

Targets: Large orchestras, opera companies, sports teams, etc. which have subscription seasons and/or seek charitable contributions.

86 Membership Organizations

- There are many small organizations, but a few very large ones as well.
- Significant volume of mail to members:
  - periodicals and other publications
  - membership renewals (usually include multiple stuffers)
  - special mailings (solicitations, notices, special offers)
- Other than membership renewals, there is little/no variable-image printing done.

Targets: Large membership organizations

87 Engineering and Management Services

- Accounting firms probably would not use IDS because most returns must be signed after preparation/printing, and there is a strong trend toward electronic filing of returns. However, there may be an opportunity for strategic alliances with "Big 8" systems/consulting activities.

- Public relations firms sometimes do large-volume mailings, but with little/no variable imaging.

  Targets: Accounting firms

C Methodology

To conduct this research, INPUT used an abbreviated form of the standard methodology for interview-based custom research, as shown in Exhibit I-4.

The final interview sample is shown in Exhibits I-5 and I-6.

Given the emphasis on potential applications, those targeted for interviews included both the business managers who would control internal data bases and use mailings, and data processing managers who would handle in-house printing operations.

EXHIBIT I-4

Services/Other Industries: Research Methodology

- Review of all businesses in SIC codes comprising Services/Other category
  - Elimination of industries without apparent potential
  - Identification of market niches with apparent potential
- Identification of specific categories of businesses to interview
- Development and review of research plan with Moore IDS
- Telephone interviews
  - "Cold calls" to find first senior executive, each firm
  - "Networking" as required to secure interviews
- Analysis and report writing

EXHIBIT I-5

Services/Other Industries: Organizations Interviewed

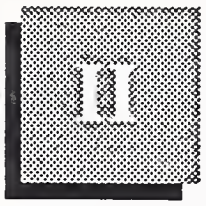
SIC	Industry/Organizations Interviewed
65	**Real Estate** Abstract-Records Service Bali Management Homeowners Marketing Services
70	**Hotels and Other Lodging Places** Ramada
73	**Business Services** Data Systems Services
75	**Auto Repair, Services and Parking**
79	**Amusment and Recreation Services** San Francisco Giants San Francisco Symphony
86	**Membership Organizations** Direct Marketing Association IEEE Association for Computing Machinery (ACM)
87	**Engineering and Management Services** Arthur Andersen (2) Deloite-Touche

EXHIBIT I-6

Services/Other Industries: Categories of Interviewees

- 5 Information Services/Data Processing
- 2 Operations/Administration/Support
- 5 Business Management

Note: All interviewees understood what was meant by variable-image printing when the concept was explained, and all knew how their mailing operations were handled.



Executive Overview

INPUT conducted telephone interviews with executives and managers from 12 organizations in a wide variety of fields (see Exhibit I-5). Roughly half the interviewees were senior-level executives, and the rest were mid-level managers. Also, roughly half the interviewees were from information systems or data processing functions, while the rest were from business management or operations/administration functions.

Interview results are extremely consistent across all segments. There appears to be virtually no current outsourcing of basic IDS-type applications, and interviewees generally saw little purpose or value to such outsourcing. The primary reason for this lack of interest in outsourcing is the relatively simple and trouble-free nature of their current variable-image applications.

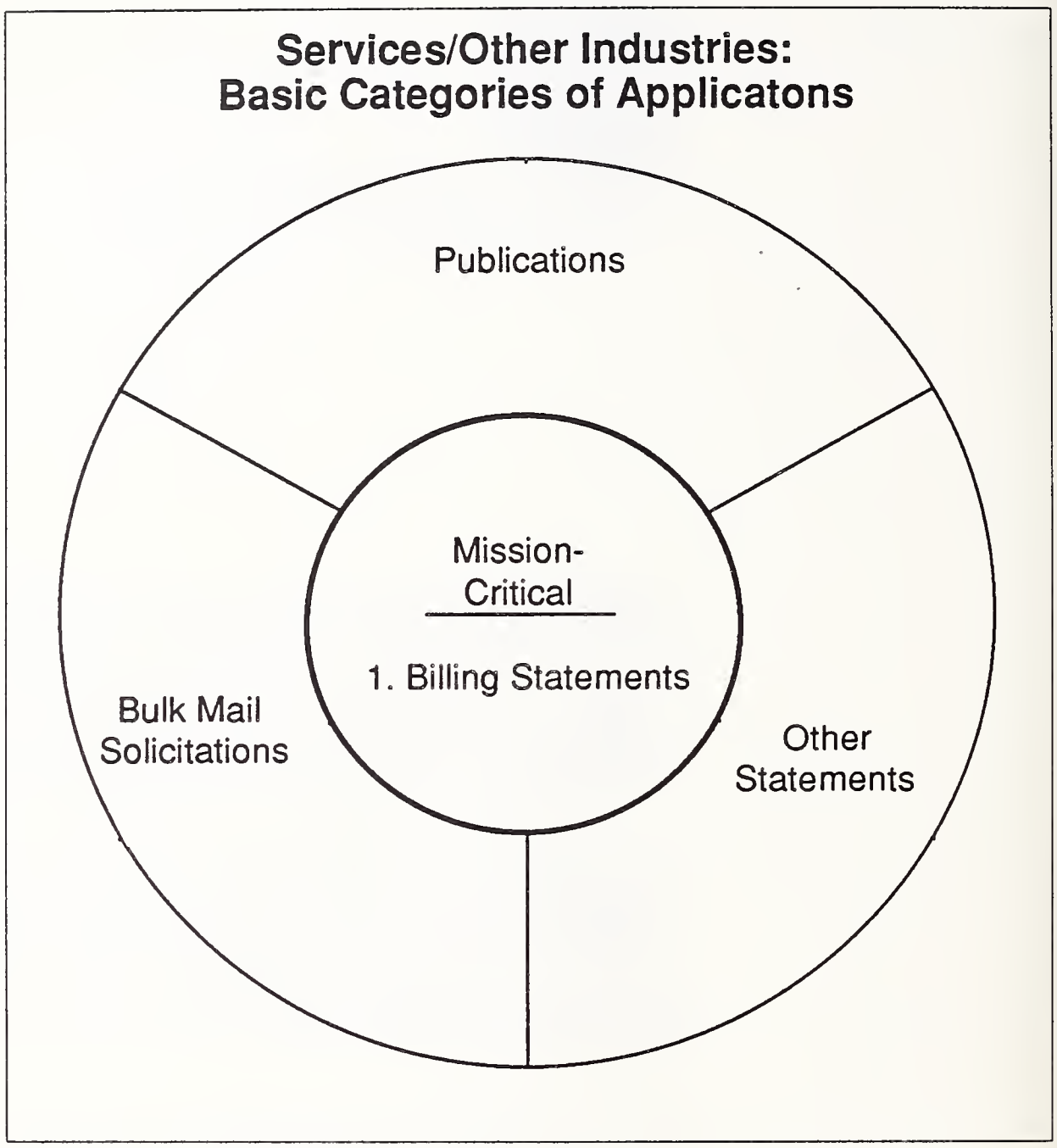
Few real problems are cited by interviewees, and few desired improvements were identified. In those cases where problems were identified, they had more to do with maintaining the source data bases than with the actual mailing operations.

Although a broad range of industries was covered by these interviews, all their business communication applications could be broken down into two major categories:

- bulk mail, both to current relationships and to purchased mailing lists
- billing or statement mailings of various types

Of these applications, the only ones considered to be "mission-critical" were the billing statements; all other applications were of lower priority (see Exhibit II-1).

EXHIBIT II-1



INPUT identified two application opportunities defined as enhanced services—new services which go beyond the scope of Moore's current business offerings:

- Processing of billing statements and payments for large membership organizations
- Processing of billing statements and payments for property management firms

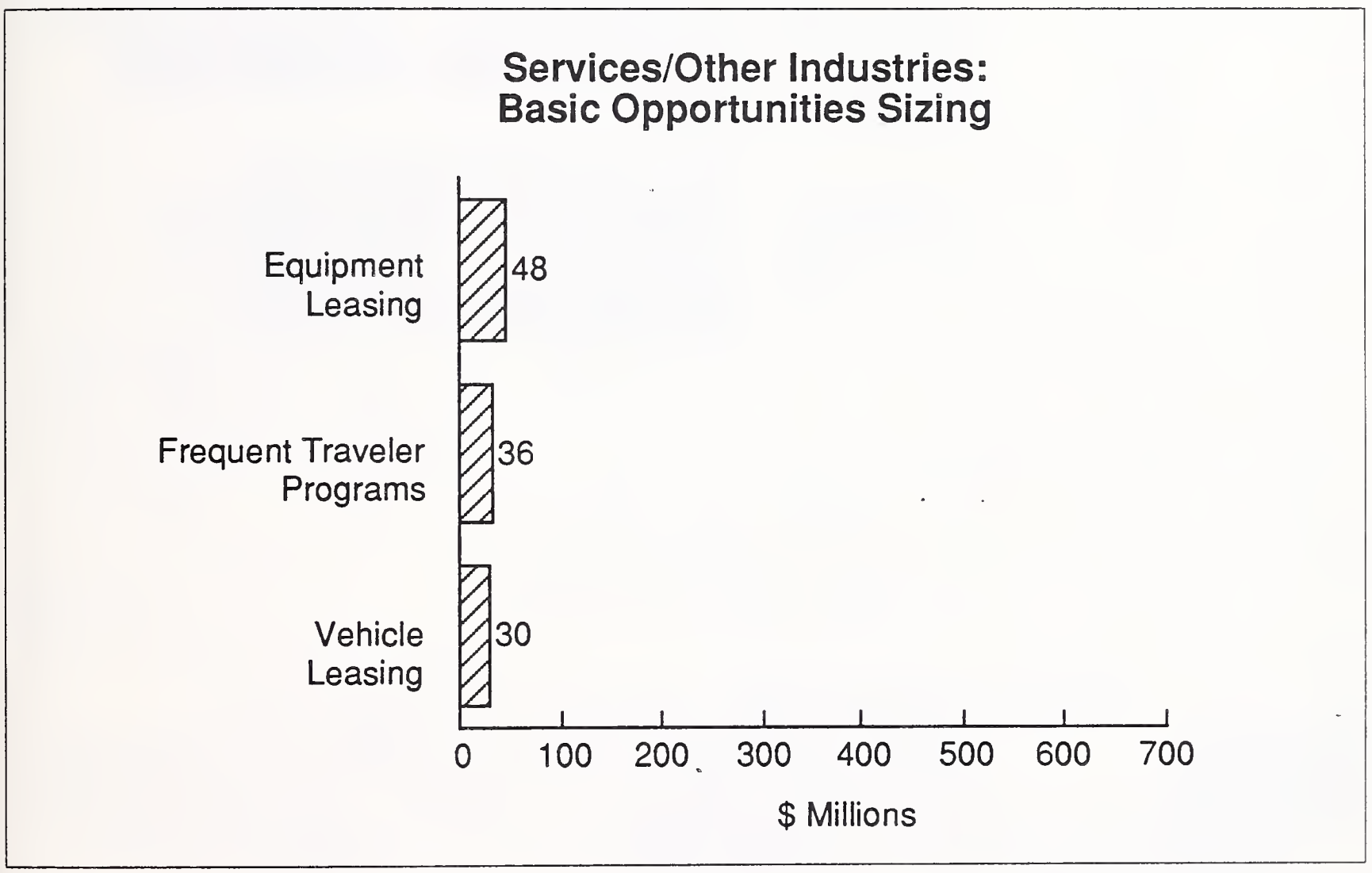
However, these businesses should be approached with caution. There is a general opportunity for IDS to expand its business in data processing and lockbox functions for a variety of industries. However, the competition and low margins in this arena make it a difficult one to enter into without some compelling strategic advantage.

A

Application Opportunity Size

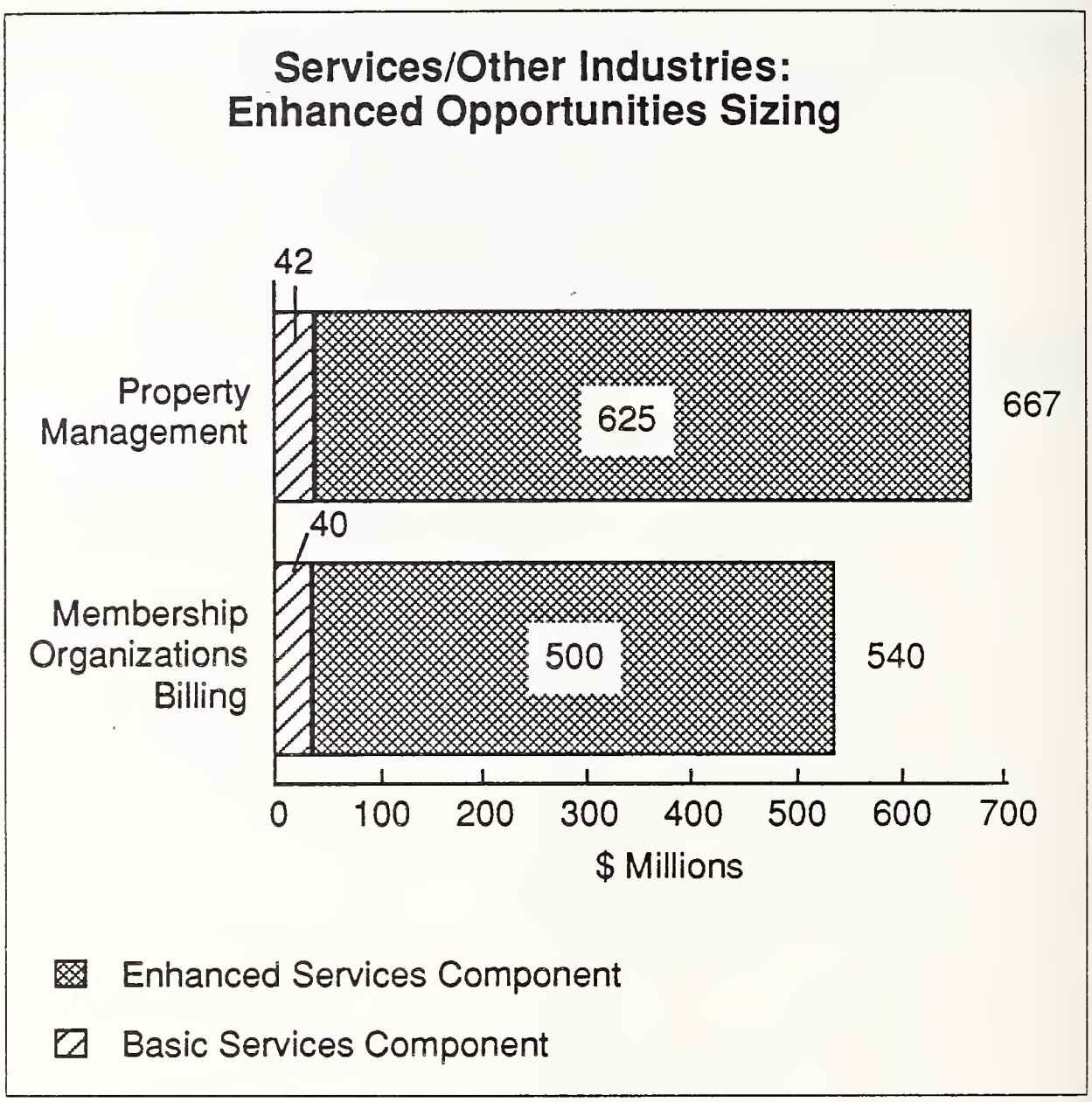
A methodology was applied to develop rough opportunity sizing measures for quantitative comparison of the basic applications (number of pieces x frequency of mailing x revenue/piece = opportunity size). In addition, for enhanced services, the value of the additional data processing services was estimated using a similar approach. This provides Moore IDS with a measure of total latent potential expenditures for the service, without regard to rate of adoption, in-house versus external solutions, competition, and so on (see Exhibits II-2 and II-3).

EXHIBIT II-2



It is important to recognize that, with enhanced services, the enhanced portion of the application is the dominant factor in the sizing. Excluding the additional data processing involved in property management and membership billing, the basic printing and mailing component of these applications is approximately the same size as it is in the basic services opportunities.

EXHIBIT II-3



B

Application Opportunity Attractiveness

Exhibits II-4 and II-5 use a standard rating methodology to balance the opportunity size calculated with two other key criteria distilled from the interviews: firms' willingness to outsource, and their level of "pain or problem", each with respect to a particular application.

As shown, a five-point rating scale is applied to each criterion, where a "1" indicates a criterion that is negative to Moore's interest in winning—or likely ability to win—such business, while a "5" shows a very positive criterion. By rating each of the criteria and then multiplying the ratings (the multiplication shown in the tables as "Relative Size x Willingness to Outsource x Level of Pain or Problem"), the product is a "Relative Rating Value" that represents the overall attractiveness to Moore, doing so in a fashion that combines the quantitative opportunity-volume sizing with the other two essentially qualitative criteria.

EXHIBIT II-4

Services/Other Industries: Attractiveness Ratings of Basic Services Opportunities

Application opportunity ($ in millions)		Criteria ratings (range: 1 = negative to IDS, 5 = positive)			Overall attractiveness (range: 1 = lowest 125 = highest)
Type	Size	Relative Size X	Willingness to Outsource X	Level of Pain or Problem =	Relative Rating Value
Frequent Traveller Program	36	1	2	1	2
Equipment Leasing	48	1	1	1	1
Vehicle Leasing	30	1	1	1	1
Total	114				4

EXHIBIT II-5

Services/Other Industries: Attractiveness Ratings of Enhanced Services Opportunities

Application opportunity ($ in millions)		Criteria ratings (range: 1 = negative to IDS, 5 = positive)			Overall attractiveness (range: 1 = lowest 125 = highest)
Type	Size	Relative Size X	Willingness to Outsource X	Level of Pain or Problem =	Relative Rating Value
Property Management	667	3	4	1	12
Membership Renewals Billing	540	3	4	2	24
Total	1,207				36

This analysis indicates that larger opportunities are not necessarily more attractive, and that those of roughly equal size can have very different levels of attractiveness. It is noteworthy that the enhanced (IS-based) opportunities facing IDS in the combined Services/Other market are rated as far more attractive overall than basic services currently offered to this vertical market (36 versus 4 total rating points). Again, this is largely due to the fact that the enhanced services component is so much larger in size than the basic services component in these applications.

C

Target Audience of the Enterprise Served

Exhibits II-6 and II-7 organize opportunity size and attractiveness measures by the target audience of the applications considered.

EXHIBIT II-6

Services/Other Industries:
Opportunity Size by Target Audience
($ Millions)

Type of Service	Target Audience					
	Owners	Employees	Customers	Suppliers	Internal Efficiency	Total
			Business | Consumer			
A. Basic			Equip. Leasing (48) Vehicle Leasing (30) | Frequent Traveler Programs (36)			
Subtotal			78 | 36			114
B. Enhanced			Property (334) | Management (333) Membership Renewals Billing (540)			
Subtotal			(334) | 873			1,207
Total			412 | 909			1,321

EXHIBIT II-7

Services/Other Industries: Opportunity Attractiveness by Target Audience (Attractiveness Rating Scores)

Type of Service	Target Audience: Owners	Employees	Customers: Business	Customers: Consumer	Suppliers	Internal Efficiency	Total
A. Basic			Equip. Leasing (1); Vehicle Leasing (1)	Frequent Traveler Programs (2			
Subtotal			2	2			4
B. Enhanced			Property (12)	Management; Membership Renewals Billing (24)			
Subtotal				24			36
Total			2 (12)	26			40

While this is done for purposes of later cross-industry analysis at the conclusion of INPUT's research project, it is clear that the dominant applications in the Services/Other market deal with billings of various types (customer or membership). It is also interesting to note that these opportunities are evenly split between business and consumer markets.

D

New Sales and/or Delivery Mechanisms Required

Within the Services/Other market area, there are two opportunities for enhanced services. One requires the operation of data processing service bureaus that can take on work which is already currently outsourced to other service bureaus. The other lies in the area of lockbox/payments processing. Neither of these involve new technology, printing or otherwise. However, they are areas which are new to Moore.

Due to the high competition, low margins, and commodity nature of these services, INPUT does not recommend that Moore pursue any business development in this area without other, complimentary business opportunities to support its entry into this market segment.

E

Threats and Opportunities

Exhibit II-8 lists a number of environmental threats and opportunities relevant to applications within the Services/Other market. The most ambiguous issues are those surrounding outsourcing, as there are conflicting trends both increasing and decreasing the attractiveness of this opportunity.

EXHIBIT II-8

Services/Other Industries: Environmental Threats and Opportunities

Threats

- Decreasing cost of hardware and increasing availability of software packages/turnkey systems makes it easier for firms to bring currently outsourced applications in-house
- Decreasing cost of hardware makes it easier to handle printing in-house

Opportunities

- Postage may rise 25% in 1991, increasing importance of sophisticated mailing systems which can take advantage of automated processing discounts from the Post Office
- Outsourcing of DP functions is increasing; e.g., the Kodak contract with IBM (affects all industries, but primarily the very largest firms)

F

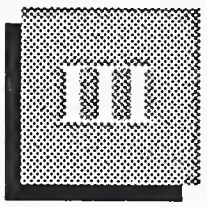
Competition

In general, there are two forms of competition in this market: service bureau processing and in-house processing.

In several of the targeted industries, there is a great deal of outsourcing of basic data processing functions. Outsourcing of printing and mailing is almost always associated with outsourcing the entire application. For example, property management companies and professional membership associations are often too small to justify large computer expenditures, and there are many service bureaus with packages that can handle all their data processing needs. In these cases, service bureaus handle all the variable imaging, printing and mailing.

Other reasons for these organizations to outsource both their data processing and printing/mailing operations include the relatively low volume of transactions and printed output, and the fact that many of them are nonprofit groups with low budgets and small staff.

By contrast, the firms involved in frequent traveler programs and equipment or vehicle leasing are generally larger, profit-making enterprises which can afford their own computer resources. Although their billings may be larger and more complicated than those in other industries, the printing of statements and bills is still a straightforward process that can be handled with relatively simple equipment which is used for other in-house applications.



Market Opportunities

Before discussing the opportunities identified by INPUT, it will be useful first to set the stage by summarizing findings about outsourcing by organizations in the Services/Other market, as well as interviewees' expressed attitudes about future outsourcing and their descriptions of problems they now face or improvements they wish to make.

A

Introduction

Exhibit III-1 presents a comparison of the potential applications identified in this market, as well as several characteristics of the associated industries.

Several important patterns emerge here:

- Nearly all the variable-image (VI) mailings are essentially straightforward account statements or billings. There is no matched mailing application in any of these areas. The only exceptions to the standard statement are in the the hotel industry, where personalized discount coupons are sent to frequent travelers and commission checks are sent to travel agents.

- The largest organizations in this market are the hotels that have frequent traveler programs. Ramada, for example, has 500,000 active names in its frequent traveler data base. These organizations also have large, sophisticated data processing organizations using mainframe computers for a wide variety of applications.

- The next tier of firms in this market consists of the leasing companies which range in size from small to large. These organizations typically have smaller data processing functions, a smaller range of applications, and may use turnkey systems for some or all of their accounting. Their printing/mailing applications are the simplest of all—monthly statements with no stuffers.

- The smallest organizations in this market are the membership organizations and property management firms. They typically have very small-scale operations, with few personnel, limited data processing applications, and minimal computer resources. Their data processing is typically done on small turnkey systems or outsourced to service bureaus, and their VI mailings are generally low to medium volume (5,000-25,000 at a time).

- Only the hotels and the membership organizations have stuffers included in their variable-image mailings, and all addressees generally receive the same set of stuffers in a mailing (e.g., explanation of membership benefits with a renewal billing).

EXHIBIT III-1

Service/Other Industries: Comparison of Applications

Application	Volume/ Mailing	Stuffers	Extent of Other DP Applications	Typical DP Configu-ration	Application Attractiveness Score
(1) Frequent Traveler Programs	H	Y	H	M	2
Equipment Leasing	L-H	N	M	T/M	1
Vehicle Leasing	L-H	N	M	T/M	1
(1,2) Membership Organization Renewals	L	Y	L	S/T	24
Property Management	L	N	L	S/T	12

H = High, L = Low | Y = Yes, N = No | H = High, M = Medium, L = Low | M = Mainframe, T = Turnkey System, S = Service Bureau

(1) Also have occasional high-volume bulk mailings to selected subsets of the mailing list, using Avery/Cheshire-type labels

(2) Variable-image (VI) mailings either low-volume, cycle basis (e.g., monthly), or high-volume, infrequent (e.g., annual).

Note: Where stuffers are included in VI mailing, all addresses get the same set of stuffers. However, there is some potential for variably stuffed, multi-item bulk (non-VI) mail.

These patterns provide a relatively predictable attitude toward outsourcing printing and mailing, as shown in Exhibit III-2.

EXHIBIT III-2

Services/Other Industries: Outsourcing Patterns

- Printing/mailing applications are generally simple
- Large and medium-sized firms do their data processing and printing/mailing in-house for cost reasons
- Small organizations cannot afford in-house printing/mailing equipment and outsource most of this business if they do their own data processing
- Small organizations may also have their data processing done by a service bureau which has specialized application software. In this case, the service bureau handles all the printing and mailing

With the large investment that big hotel chains have in their data processing systems, and their sensitivity to costs, there is little likelihood that they would outsource basic printing/mailing. Ramada, for example, started its frequent traveler program on a totally outsourced basis, and brought it in-house as soon as the volume made it cost-effective to do so.

The only realistic opportunity might be in cases in which an organization was attempting to do specialized large volume mailings with multiple variable inserts (e.g., discount coupons with stuffers promoting different destinations, based on an individual's travel patterns or demographics). However, these are unpredictable programs which are initiated and driven through the marketing department and require a good deal of outside "creative" work. Therefore, it is most likely that this opportunity would be managed by the outside creative consultant rather than the inside marketing department.

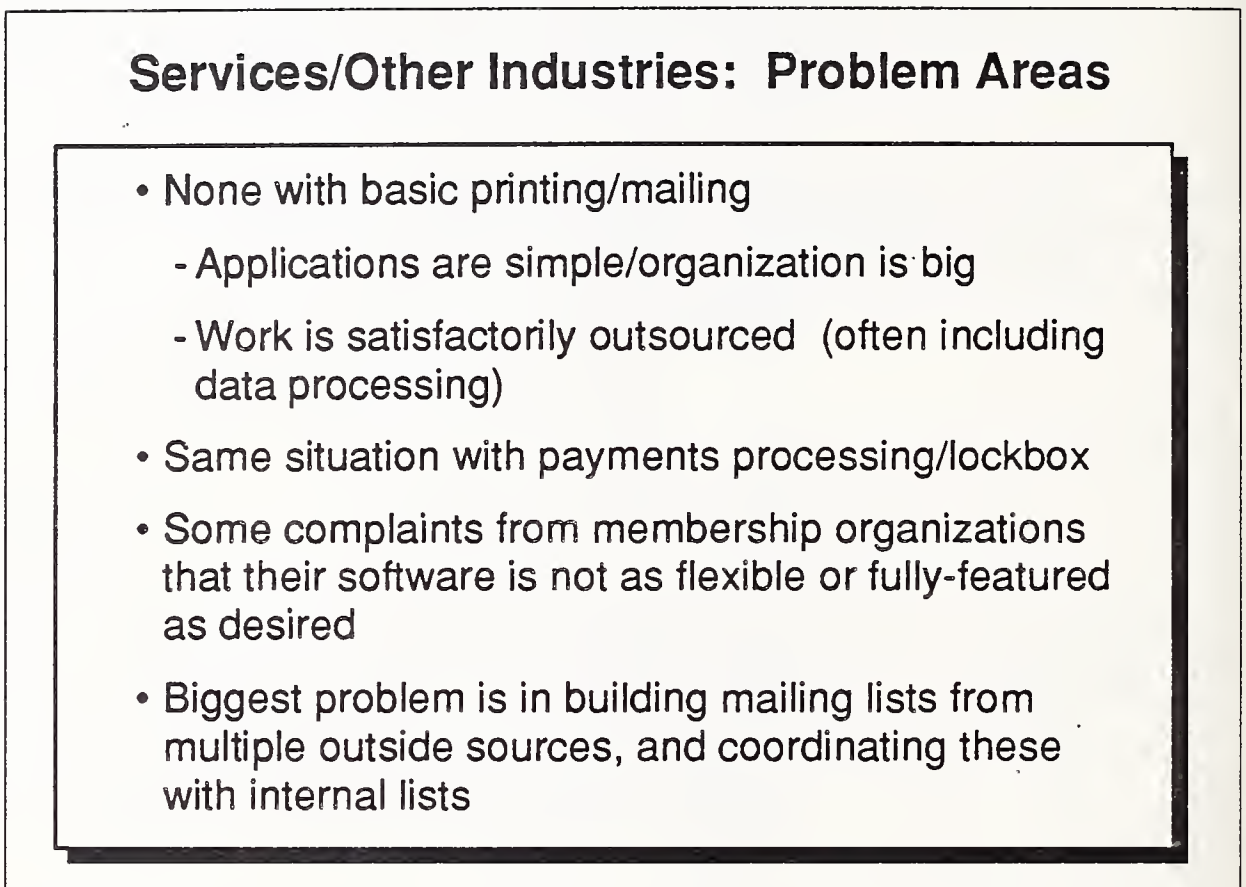
The leasing companies also appear an unattractive prospect. They generally will have the capacity to print their statements internally, and the simple window envelope insertion requires minimal equipment, or can be handled very inexpensively by a local printing/mailing house.

The remaining applications—property management and membership billings—appear to have the most potential.

As Exhibit III-3 suggests, no significant problems in basic printing/mailing operations were identified by interviewees. Aside from complaints about quality of software, the major problems appear to be

in dealing with other mailing lists in order to prospect for potential members or offer coordinated programs to members of local chapters or associated societies (e.g., members of the California Bar Association who are also members of the Association of Trial Lawers).

EXHIBIT III-3



B

Leading Application Opportunities

Two application opportunities have been identified as worthwhile prospects for Moore to pursue. In both cases, they are enhanced service opportunities—handling the data processing, billing and payments (lockbox) processing for property management firms, and for membership organizations.

1. Property Management Firms

There are three categories of properties that may be handled by a property management firm. These are:

- Residential cooperatives and condominiums
- Residential rentals
- Business rentals (office space, storage/warehouse space, etc.)

In total, the estimated statements and payments amount to 325 million mailings and lockbox transactions per year.

The typical property management firm handles all basic recordkeeping (transaction validation, check writing and data entry) for each property that it manages—both renter/homeowner records and general ledger items. However, the data base of both client financials and renter/homeowner records may be managed on an in-house computer or maintained by a service bureau, typically one that specializes in this type of application.

Property managers typically have two types of mailings:

- monthly bills/statements for all clients
- ad hoc mailings for individual clients

In general, there are no stuffers associated with billings. Payments may be processed through a bank lockbox, by the property manager itself, or by the service bureau that handles the property manager's data processing. In the case of service bureau processing, the property manager often only receives exception reports on overdue payments, and other types of receivables aging.

Whenever a client has a specific mailing (proposed association budget, notice of rent increase, etc.), the property managers use their systems to print address labels. For commercial clients, large bulk mailings may be sent to a mailing house. Smaller mailings are often handled directly by the property manager. These mailings are too irregular, too inconsistent in format, and too small in volume to justify automation. In addition, homeowner associations sometimes want to do much of this work themselves, both to save money and to provide a social activity for the members.

One example of a good property management service bureau operation that specializes in homeowner associations is Data Systems Services (DSS) in Los Angeles. DSS has a mainframe system, and a PC version of that system (minimum 286/386 level), which they market in every way possible. Users can lease or buy software, have DSS do processing, do part of the processing themselves and have DSS do the rest, etc. One of the most common approaches is to provide the association or property manager with the system and a PC, and allow the user to perform data entry, report extraction from a data base copy, etc. Data base changes would then be uploaded to DSS for processing, and updated data would be periodically downloaded to the user's PC.

DSS prints and mails the monthly statements and handles the lockbox processing for most of the associations. Since they have the mailing data base, lockbox file updating is easy. They do not use any turnaround document, as the hardware cost of printing and scanning is not justified by their volume.

DSS does not encode checks. Most associations use only a few banks. DSS maintains most of the bank accounts and issues most of the checks as well. Compensating balances more than offset account maintenance fees. Since DSS operates the entire system, from statement rendition through account updating, its fees for lockbox are much lower than competitive banks, which charge between $0.50 and $1.20 per check.

DSS has tried using the self-mailer for one of their large accounts (5,200 homeowners), but is not satisfied with the results. No one likes the self-mailer, and its total cost is at least as high as the cost of traditional statement/envelope/stuffing processes. In addition, although there is not much call for it, the self-mailer does not allow any inserts, while the traditional process does. DSS intends to go back to the traditional approach as soon as its current supply of self-mailers is exhausted.

2. Membership Organizations

There is a wide variety of membership organizations in the U.S. The ones of most interest to Moore are those with large, national, personal memberships. Many of these are professional associations, such as the AMA, ABA, IEEE, etc. Industry or trade associations with corporate memberships are excluded from consideration here because of their low volume of variably-imaged mailings. Although some of these do large volume solicitations to groups of individuals, they are all bulk mailings, which are of little interest to IDS.

In total, the estimated statement mailings and payments to the largest of these organizations number over 200 million per year.

Like property managers, which deal with mutiple clients, membership organizations normally deal with a large number of subunits as well as the overall organization (e.g., local chapters). Although the total membership of a professional organization is typically larger than the total number of units managed by a property manager, the property manager sends out monthly bills to everyone, whereas the organization usually has cycle billing and renewal of memberships, making the volume of monthly mailings smaller and easier to manage.

Since most of the membership renewals have associated stuffers, membership mailings are often handled by service bureaus which print letters or statements, insert stuffers which had been developed (the creative/printing work) by mailing houses, and handle the actual mailing.

Payment alternatives are similar to those in the property management case. However, there is the added consideration that a national organization may bill and collect for many subunits, and advise them of new memberships, etc.

Embossed card usage at major conferences is a trend of potential interest to Moore. Exhibitors are clamoring for the ability to capture name/address data easily from people who stop at their booths. Embossers are becoming very popular, as they provide an excuse to keep a person in the booth longer and talk to them while capturing the ID information, and provide a simple method of note-taking associated with each potential client (special interests, promised mailing, etc.). Providing the equipment and software, as well as a data base of attendees for both the sponsoring association and the exhibitors (capturing more detailed demographic data on a registration form) might be both a profitable service, and a way of getting the IDS name into public notice ("ID cards, registration systems and services provided through the courtesy of Moore IDS").

C

Application/Service Opportunity Sizing and Ratings

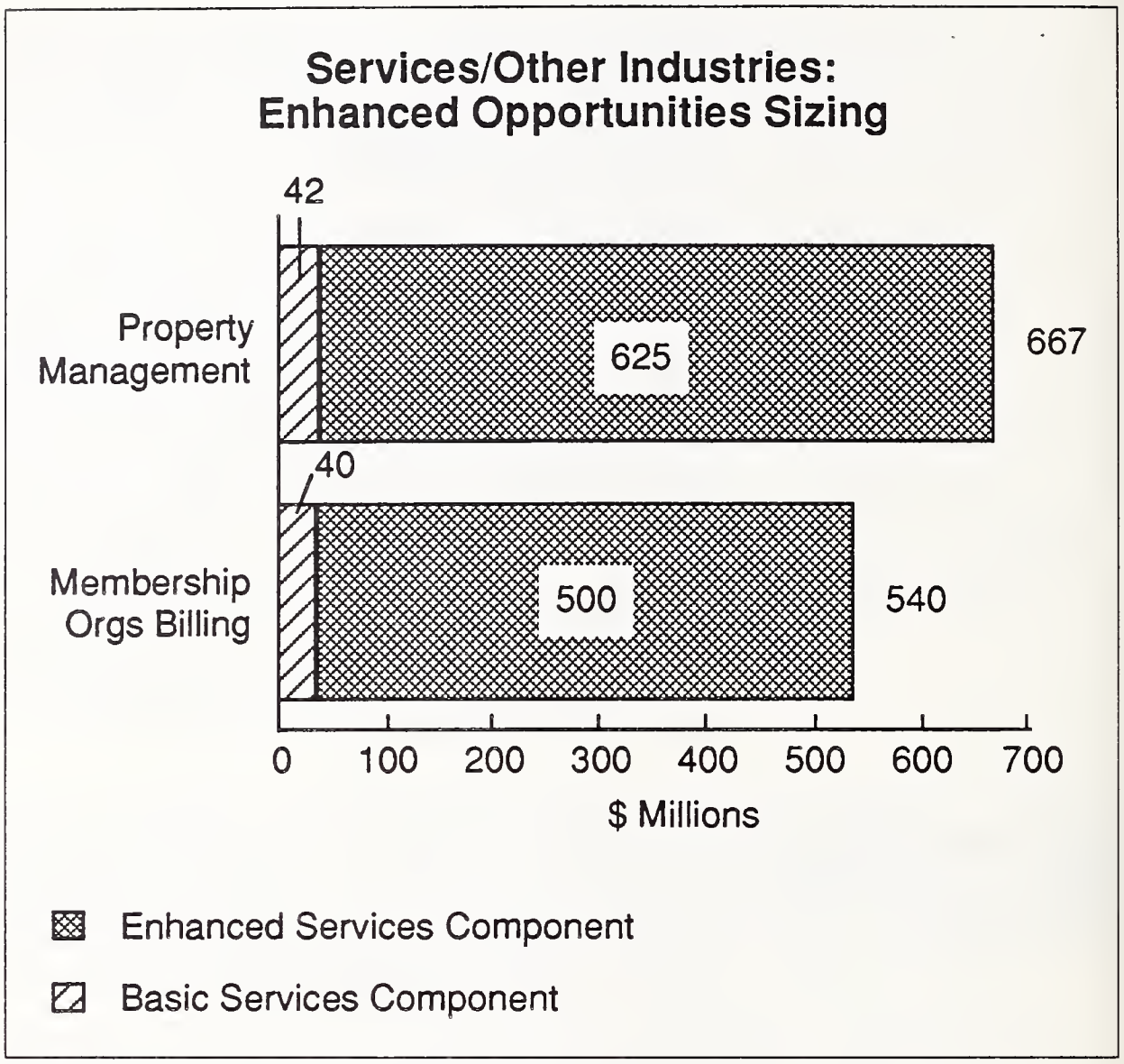
The previous section detailed the leading application opportunities, approaching the subject qualitatively. This section applies quantitative methodologies to place approximate numeric dollar sizes on each opportunity and to rate its attractiveness.

Appendix B, Calculation Worksheets, provides the detailed backup for unit volume estimates of all applications considered. Basically, transaction volumes were projected from estimates of the total size of the population involved (e.g., number of coop/condo units in the country), multiplied by the proportion of that population that would likely receive variably-imaged mailings (statements, bills, etc).

The results were then multiplied by a Moore-provided figure for unit-pricing such a document (using a working assumption that such unit-pricing by Moore IDS is roughly equivalent to customers' in-house costs), yielding a figure for the total dollar opportunity size for each document type. Note that this methodology includes the estimated value of enhanced services, e.g., data processing or lockbox revenue. Both of the recommended opportunities are enhanced services, and the value of the enhanced portion of the application is the major portion of the opportunity size.

Using the opportunity sizing methodology just described, both property management and membership billings provide approximately equal opportunities—in the $500-700 million range (see Exhibit III-4).

EXHIBIT III-4



Next (Exhibit III-5), INPUT used a standard rating methodology to balance the opportunity size just shown with two other key criteria distilled from the interviews: willingness to outsource and level of pain or problems associated with the application, each with respect to a particular application.

As shown along the top of the exhibit's table, a five-point rating scale is applied to each criterion, where a "1" indicates a criterion that is negative to Moore's interest in winning—or likely ability to win—such business, while a "5" shows a very positive criterion. By rating each of the criteria and then multiplying the ratings (the multiplication shown on the table as "Relative Size x Willingness to Outsource x Level of Pain or Problem"), the product is a Relative Rating Value that represents the overall opportunity to Moore IDS in a fashion that combines the quantitative opportunity-volume sizing with the other two essentially qualitative criteria.

EXHIBIT III-5

Services/Other Industries: Attractiveness Ratings of Enhanced Services Opportunities

Application opportunity ($ in millions)		Criteria ratings (range: 1 = negative to IDS, 5 = positive)			Overall attractiveness (range: 1 = lowest 125 = highest)
Type	Size	Relative Size X	Willingness to Outsource X	Level of Pain or Problem	= Relative Rating Value
Property Management	667	3	4	1	12
Membership Renewals Billing	540	3	4	2	24
Total	1,207				36

Relative size ratings are determined as follows:

Size Range ($ millions)	Rating
1-100	1
101-300	2
301-700	3
701-1,000	4
>1,000	5

The rationale is that an application opportunity is not of any strategic interest unless its size is at least $50 million, because a 10% development of the latent potential would be only $5 million per year in IDS revenue. Likewise, any opportunity over $1 billion is top rated (i.e., a "5") no matter how many billions of dollars it represents.

Interview results indicate that there is a great willingness to outsource both of the recommended applications. Indeed, many of them are already run on outside service bureaus. Therefore, both applications are given a rating of 4.

Finally, looking at "level of pain or problem," interviewees say that they generally have few problems with their current operations. The lower level of problems associated with property management reflects

the fact that, as a profit-making activity, it is a service that must be paid for and there is sufficient money to solve problems. By contrast, most professional associations run on tight budgets and are often well behind "the state of the art" in back office systems and procedures. In addition, the multilevel data bases (e.g., national and local), combined with stuffers, inserts, etc., makes their mailings more complex than those of property management organizations.

Given these ratings, INPUT rates membership organization processing as the leading opportunity, followed by the property management business. Note, however, that this methodology does not account for the difficulty of developing and/or delivering a service opportunity, on the assumption that these are primarily investment questions: what corporate resource commitments are required to implement the objective? Unfortunately, the implementation costs, low profit margins and competitive risks may prove prohibitive.

There is an important implication in this methodology. Though the highest relative rating value possible here is 125 (5 x 5 x 5), three moderate ratings of 3 each yields a product of only 27. Clearly this is not 50% of the top rating of 125, and yet it is actually quite instructive: an opportunity that is totally positive to IDS's interests in all ways—three ratings of 5 each—certainly should be far ahead of any moderately-sized application for which customers now express a moderate willingness to outsource and experience only moderate pain or problems.

D

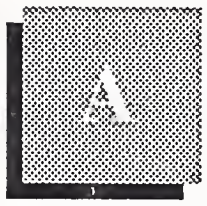
Recommendations

In summary, INPUT has three key recommendations for the Services/Other market :

EXHIBIT III-6

Services/Other Industries: Key Recommendations

- Focus on enhanced opportunities
- Weigh carefully the costs and risks of developing the enhanced service businesses
  - Industry-specific data processing services
  - Lockbox processing
- Look at other industries and markets for joint justification of the enhanced service business capabilities



Appendix: Calculation Worksheets

These worksheets show the assumptions underlying the unit volume and dollar value estimates for the identified application opportunities.

The basic services revenue assumptions include only the variable image printing and associated processing costs. Postage is **not** included. Nor is the cost of preprinted bulk insert materials. For enhanced services, the additional revenue from data processing functions is also included along with the basic services revenues.

Real Estate Property Management Services

- 10 mil. multi-unit (5 + per building) condo/coop units in the country

- 50% of these with mailed statement billing

= 5 mil. statements/month

- 75 mil. multi-unit (5+ per building) rental units in the country

- 10% of these with mailed statement billing

= 7.5 mil. statements/month

- 25 mil. office/building/storage spaces rented in the country
- 50% of these with mailed statement billing

= 12.5 mil. statements/month

Subtotal: 25 mil. statements/mo. @ 13 mailings/yr @ $.13/statement.
$42.25 mil.

Subtotal: 25 mil. accounts maintained @ $25/account/yr.
$625 mil.

Total: $667 mil.

Hotels and Other Lodging Places Frequent Traveller Programs

- 25 mil. people enrolled in frequent traveller programs
- average person enrolled in 7 programs (4 airline; 2 hotel; 1 car)
- each program averages 3 variable image mailings/yr.
- each person gets a new card every 2 years

Subtotal: 150 mil. Basic mailings/yr @ $.20/mailing (Hotel only)
$30 mil.

Subtotal: 12.5 mi. Card mailings/yr @ $.50/mailing (Hotel only)
$6.25 mil.

Total: $36.2 mil.

Business Services Equipment Rental/Leasing/Finance

- 10 mil. equipment leasing customers
- each customer has 2 separate leasing contracts
- monthly billing statements for this applic are longer and more complex than most

Total: 240 mil. mailings/yr @ $.20/mailing
$48 mil.

Auto Repair, Services and Parking Vehicle Rental/Leasing

- 25 mil. vehicle leasing customers, many with multiple vehicles on lease
- net 10 mil. statements per month
- billing statements for this applic are longer and more complex than most, and may include multiple vehicles

Total: 120 mil. mailings/yr @ $.25/mailing
$30 mil.

Amusement and Recreation Services

- (no viable applications found)

Membership Organizations Membership Renewal Billings

- 50 mil. people belong to large membership organizations (mostly professional)
- average person enrolled in 2 organizations (memberships in local chapters are not considered separate memberships)
- each organization bills once/yr.
- total number of follow-up mailings equals number of original mailings

Subtotal: 200 mil. mailings @ $ .20/mailing
$40 mil.

Subtotal:	100 mil. accounts maintained @ $5/account/ yr. $500 mil.
Total:	**$540 mil.**

Engineering and Management Services

- (no viable applications found)

DECEMBER 1989

FEDERAL GOVERNMENT OPPORTUNITY ANALYSIS

INPUT®

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Preface:

Important Note to Readers of this Report

Readers of this report should be aware that this is only one of thirteen vertical industry reports developed by INPUT for Moore IDS. These vertical reports, in turn, are followed by a final cross-industry report that serves the central mission of this project: to provide market opportunity recommendations that will help Moore IDS to focus strategically on a very limited number of high-value opportunities—whether within a single industry or across several.

Therefore, readers of this report should keep in mind several considerations while reviewing the findings presented here:

- To serve the central mission of helping Moore IDS to achieve strategic focus on a limited number of market opportunities, INPUT has applied a tight screening process to the applications examined in each vertical industry. The selection criteria targeted mission-critical, high frequency, repetitive variable-imaging applications that would represent an ongoing base of predictable revenue, as opposed to the current mix of ad hoc, project-oriented overflow work with peaks and valleys of a less predictable nature.

- Due to this tight screening process, readers may find that these vertical reports fail to mention certain applications, even though they represent currently viable Moore IDS revenue sources.

- Finally, recommendations presented in this single-industry report must be recognized by readers to be somewhat out of context:

- An opportunity that looks excellent—relatively—within a single industry may turn out to be dwarfed by applications in other industries.

- An application that looks to be of minimal attractiveness in a single industry may prove to be closely paralleled in several other industries—in such a way that together they constitute a preeminent cross-industry opportunity.

INPUT discusses such findings in the cross-industry report. Note that these cross-industry recommendations are the primary objective of this project, and thus they supersede those of the individual vertical market reports. The final cross-industry report should be examined for such perspective by any reader of this single-industry report.

It is hoped that this note will help readers place these findings in the proper perspective, especially in cross-referencing this single-industry viewpoint with the final report's cross-industry findings and recommendations.

Table of Contents

Exhibits

1 Introduction

A Objectives

INPUT has conducted this research to meet objectives and application/ service definitions agreed upon with Moore Business Forms' Information Distribution Services division (Moore IDS). These objectives are outlined in Exhibit I-1a and I-1b.

The federal government represents a very large vertical market for Moore, as explained in Chapter 3. With the ten interviews performed, INPUT barely uncovered a minimum of opportunities, since agencies are so diverse. Moore IDS may later wish to consider a more comprehensive review of the federal market for variable-image printing and enhanced services.

In this study, basic as well as enhanced services opportunities were examined, as previously defined in other vertical market reports.

EXHIBIT I-1a

Federal Government:
Key Research Objectives

- Identify and evaluate business opportunities for basic and enhanced services
- Identify and assess key marketing/sales issues and delivery requirements
- Provide data for cross-industry evaluation

EXHIBIT I-1b

Application/Service Type Definitions

Basic Services ("Moore IDS Business Today")

- Variable-image printing or embossed cards plus related mailing services such as stuffing, sealing, metering, sorting and post office delivery

Enhanced Services ("Moore IDS Future Business")

- Basic services, as defined above, when integrated with any value-added front-end or back-end services, typically of information services content (e.g., data base management) but also including other business services (e.g., lockbox)

and/or

- All-electronic solutions as a replacement for, or supplement to, paper-based business communications (e.g., electronic data interchange)

B

Scope

Agreement between INPUT and Moore IDS regarding the scope of research to be conducted included the federal market segments shown in Exhibit I-2.

In examining the federal market, INPUT focused primarily on variable-image printing. To supplement the interviews, INPUT performed secondary research on various federal printing activities. While only primary research data (i.e., the interview results) are included in the exhibits, secondary research data is included in various other sections of the report.

INPUT included various applications in the interviews which were considered appropriate. Further, in the course of conducting the telephone interviews, INPUT probed for more applications which might be of interest to Moore IDS.

EXHIBIT I-2

Federal Government: Research Scope

- Segments Covered
  - 1 Defense agency
  - 7 Civilian agencies
  - 2 Congressional agencies
- Agency Size
  - Ranging from small agencies (Small Business Administration and Consumer Product Safety Commission) to very large agencies (Treasury and Defense Logistics Agency)

C
Methodology

INPUT initiated its research by contacting John Anderson for background information. We then conducted in-depth interviews with federal officials in support of this effort. More than 50 contacts were attempted, and 11 interviews were conducted. However, one was eliminated because of

EXHIBIT I-3

Federal Government: Research Methodology

- Information gathering and preparation
- Identification of 50 interview prospects
- Review and modification of vertical market questionnaires
- Telephone interviews
- Data tabulation and analysis
- Secondary research
- Data application and report writing

insufficient data (see Exhibit I-3).
Prior to conducting the interviews, INPUT revised the general vertical market questionnaire somewhat. This was done for two reasons:

- Since federal agencies' activities differ in many respects from commercial activities, some standard questions were judged to be inappropriate.

- As a result of the Procurement Integrity Act (now temporarily suspended) and various Congressional and Inspector General investigations, many federal officials are reluctant to talk to consultants. INPUT thus decided to shorten and simplify the survey questionnaire. This enabled INPUT to increase the participation rate and achieve the objective of ten usable interviews.

The position and grade level of the respondents differed somewhat, depending on the size of the agencies contacted. In most cases middle managers with printing responsibilities responded. For the most part, information systems executives that were contacted referred INPUT to these functional managers. Grade levels likely ranged from the GS-14 level (at the smallest agencies) to members of the Senior Executive Service (in the largest agencies). Exhibit I-4 summarizes this information.

Exhibit I-5 identifies the ten agencies that provided useful survey information. With the exception of deferring to the Government Printing Office (GPO), there was little consistency in the survey results. This reflects the wide diversity in activities and size among the respondents.

Note: INPUT believes the number, scope and diversity of federal government opportunities are disadvantageous to this abbreviated research effort in providing a highly confident description of Moore's business opportunity. This is the only vertical market where INPUT feels additional effort would produce more actionable results. INPUT's concern is that many more opportunities and related issues exist than the ones uncovered here.

EXHIBIT I-4

Federal Government: Interviewing Statistics

- Approximately 30 agencies contacted
- Approximately 50 individuals contacted
- Eleven interviews completed
- Ten interviews tabulated and included

EXHIBIT I-5

Federal Government: Interviews Conducted

1. Government Printing Office
2. Small Business Administration
3. General Accounting Office
4. Department of Veterans Affairs
5. Department of Commerce
6. General Services Administration
7. Defense Logistics Agency
8. Department of Agriculture
9. Consumer Products Safety Commission
10. Department of the Treasury

II

Executive Overview

INPUT conducted telephone surveys with mid- to senior-level printing managers from ten federal agencies. The agencies were split among civilian, defense, and congressional categories. Except for deferring to the Government Printing Office (GPO) for outsourcing activities, the agencies showed little similarity in responses. This is to be expected, given the diverse nature of federal activities.

INPUT identified five sizable federal applications which require variable-image printing. Three of these are administrative in nature, with two others supporting mission activities. These are summarized in Exhibit II-1.

EXHIBIT II-1

Federal Government: Applications Considered

Administrative	Mission-Oriented
Procurement	Market Surveys
Employee Tax Forms	Subscription Letters
Employee Benefits Statements	

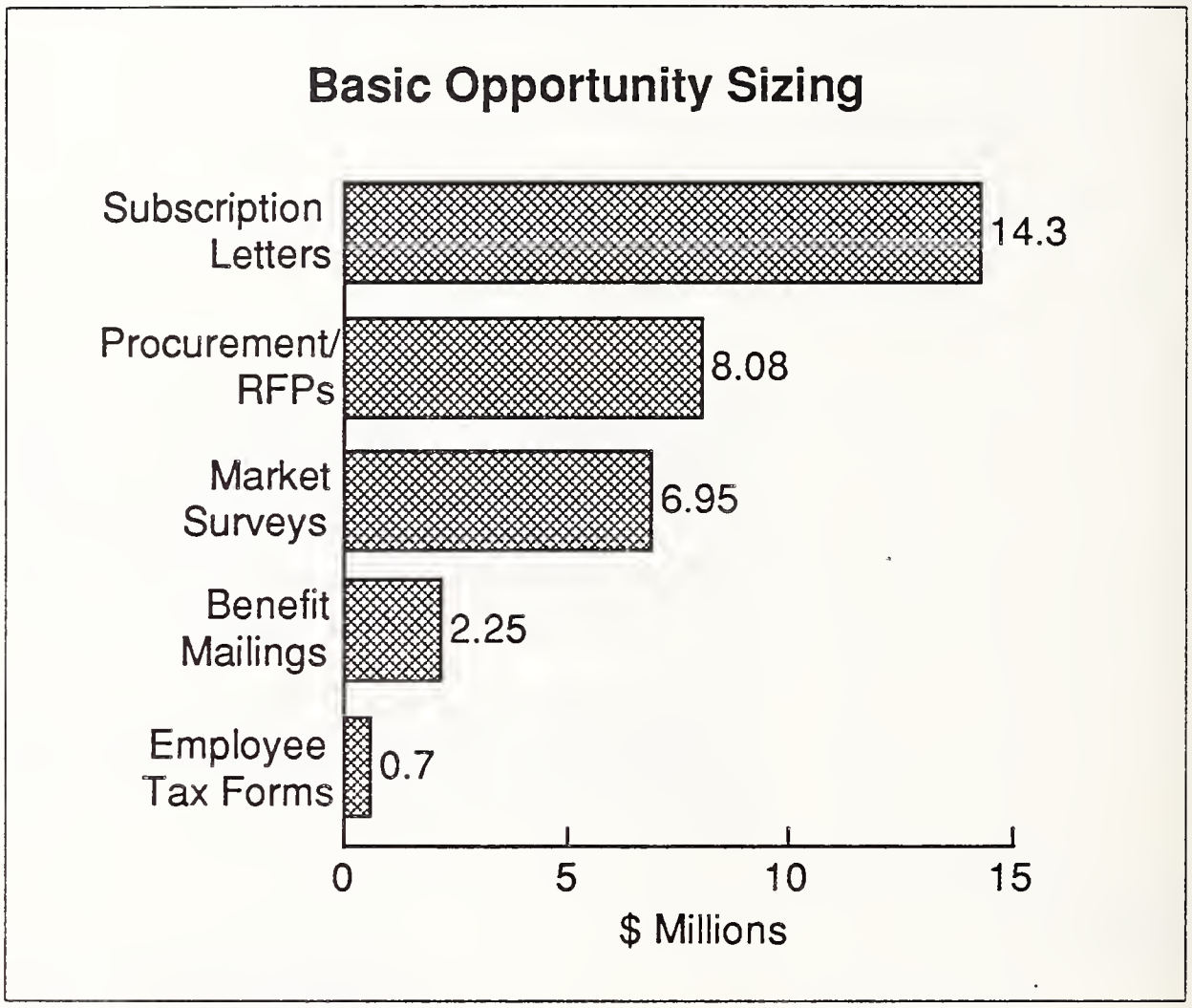
By law, the GPO exercises ultimate authority over most federal printing activities. The Congressional Joint Committee on Printing, with Chairmanship alternating between the House and the Senate, functions as a board of directors for GPO.

Without exception, all agency respondents mentioned the need to defer to GPO for their printing activities. Initially, this response inhibited INPUT from obtaining agency cooperation. However, after a question was

reformulated to identify the **need** for outsourcing, as opposed to the **means** of outsourcing, significant progress was made.

A more thorough survey would likely show wider opportunities throughout the federal government. Exhibit II-2 presents basic opportunity sizing for the five identified applications.

EXHIBIT II-2



In a traditional business environment, it is reasonable to consider owners and customers as typical elements of the target audience. Since these do not directly apply to government agencies, INPUT has substituted Congress for the owners. Further, INPUT has assumed that when agencies deal with the public, the public becomes in effect the agencies' customers. With these changes applied, Exhibit II-3 presents a breakout of opportunity size by target audience. As indicated above, employee-targeted printing represents the bulk of the market.

EXHIBIT II-3

Federal Government: Opportunity Size by Target Audience ($ Millions)

Type of Service	Target Audience: Congress	Employees	Customers: Business	Customers: Consumer	Suppliers	Internal Efficiency	Total
A. Basic		Employee Tax Forms (.7) Benefits Mailings (2.25)	Subscription Letters (7.15)	Market Surveys (6.95) Subscription Letters (7.15)	Procurement (8.08)		
Subtotal		(2.95)	(7.15)	(14.1)	(8.08)		(32.28)
B. Enhanced							
Subtotal							
Total							

Exhibit II-4 rates the relative attractiveness of these basic service opportunities. With the exception of market surveys, the agencies showed a strong willingness, in some cases eagerness, to outsource their work.

Exhibit II-5 presents major environmental threats and opportunities in the federal market.

EXHIBIT II-4

Relative Attractiveness Ratings of Basic Service Opportunities

Application opportunity ($ in millions)		Criteria ratings (range: 1 = negative to IDS, 5 = positive)			Overall Attractiveness (range: 1 = lowest 125 = highest)
Type	Size	Relative Size X	Willingness to Outsource	Level of Pain or Problem	= Relative Rating Value
Procurement	8.08	1	5	3	15
Market Survey	6.95	1	2	2	4
Subscription Letters	14.30	1	4	3	12
Employee Tax Forms	0.70	1	5	3	15
Benefits Mailing	2.25	1	5	3	15

EXHIBIT II-5

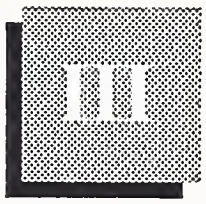
Federal Government: Environmental Threats and Opportunities

Threats

- Gramm-Rudman induced budget cuts
- Additional DoD budget cuts, based on relaxation of East/West tensions
- Funneling of most contracted work through GPO
- Various Paperwork Reduction Acts

Opportunities

- Growth of EDI and CALS (Computer-aided Acquisition and Logistics Systems) technologies
- Predisposition to contract out most printing activities
- Budget constraints which are driving an increase in the use of technology



Market Opportunities

Before discussing potential opportunities in more detail, it will be useful to first set the stage by summarizing findings about outsourcing by federal agencies today, as well as interviewees' attitudes about future outsourcing, their descriptions of problems they now face, and planned improvements.

A Introduction

As discussed in the preceding sections, respondents consistently deferred to GPO for decisions on how printing should be accomplished. From each agency's point of view, the work is outsourced, whether GPO or a contractor does it. As a result, most agencies are willing, and sometimes even eager, to outsource their printing activities.

Beyond this similarity, the agencies differed sharply in their responses. Some agencies expect little or no change in their future workload, while others expect major increases. Some agencies apparently have permission to do some of their own contracting. For example, the Treasury Department respondent mentioned five firms with whom he is accustomed to dealing:

- R.R. Donnalley
- Moore Business Forms
- U.S. Bank Notes
- Venna
- George Bautta & Company

However, most of the agencies view GPO as their outside vendor. Two of the other agencies mentioned another vendor, McDonnel & Eudy. No respondent provided any reasons for not outsourcing or reducing their outsourcing activities.

In responding to the question on future plans, most agencies again deferred to GPO. One agency, however (the Department of Commerce), indicated that it would increase outsourcing every year, as mandated by the Joint Committee on Printing (JCP).

In addition to the five application opportunities described in Section B, two other printing applications came up frequently in the survey. However, INPUT has determined that these do not properly fit the category of variable-image printing. They are worth mentioning anyway, since Moore IDS or some other vendor may be able to tie them into expanded contracting opportunities.

- Regulation documents: Virtually all the agencies print regulations in very high volumes. They also rated these printings as 5 (on a scale of 1 to 5) as mission-critical. One relatively small agency, the Consumer Products Safety Commission, issues 500 to 1000 pages each month. In most cases, the outsourcing for these documents is at or near 100%.

- Public Relations: Although this does not appear to be as large a market as regulations, it still represents considerable work. For example, the General Accounting Office generates about ten, 20-page reports every month, with multiple fonts, graphics, and colors.

B

Application Opportunities

Through the interviews, INPUT obtained information on both basic and enhanced application opportunities. The information on basic opportunities is presented in Section 1, with enhanced opportunities following in Section 2.

1. Basic Service Opportunities

Exhibit III-1 summarizes the federal applications identified by the agencies surveyed.

a. Procurement Documents

Due to a variety of administrative, cultural, and congressional factors, procurement in the federal government is highly regulated. As a result, most contracts are quite voluminous, sometimes including hundreds or even thousands of pages. These are intended to insure that no contractor, for example, practices racial discrimination or dumps toxic wastes at inappropriate sites.

Federal printing requirements for contractual information and other printing documents thus represent a major opportunity. Further, since many contracts are similar but not identical, the government requires variable-image printing to control the contents of contracts and print them both accurately and economically. This is very similar to insurance policy variable-imaging requirements.

EXHIBIT III-1

Federal Government: Basic Applications

- Procurement documents
  - Basic "boilerplate" contents
  - Customized to particular procurement
  - Customized to particular vendor
  - Wide ranging sizes and volumes
- Market surveys
  - Limited response (only four agencies)
  - Need for public viewpoints
  - Limited size and volume
  - Differing graphics and fonts
- Subscription letters
  - Includes letter and renewal card
  - Six agency responses
  - Up to 10,000 subscribers reported (GAO)
  - Likely a larger market than indicated
- Employee tax forms
  - Usually two pages
  - Usually done only annually
  - Also includes nonemployee benefits (e.g., veterans)
  - Level, predictable workload
- Benefits Mailings
  - Annual and predictable
  - Up to five pages
  - Requires multiple fonts and graphics
  - Periodic changes through legislation

Procurement documents represent a basic service opportunity because variable-image printing, when combined with the normal federal printing activities, might result in large federal expenditures. The dollar volume ($8.08 million) represents governmentwide extrapolation of the requirements of survey respondents. There are also some enhanced service opportunities associated with procurement documents. These are discussed in Section 2.

b. Market Surveys

Four agency respondents (GPO, GSA, CPSC, and Treasury) stated a need for surveys of the public as part of their mission activities. These differ in the sense that they are tailored to the audience, based on demographics and subject matter considerations. As a result, the agencies are looking to variable-image printing to help meet their needs.

INPUT doubts that such variable-image work represents a sizeable federal opportunity. Despite the need for some survey form changes, the number of variations must be limited—otherwise, data tabulation will be either impossible or meaningless. Further, the variable-image printing volume is not likely to be that large, even with the entire federal government taken into account.

One possible exception might be direct congressional mailing. Many senators and congressmen survey their constituents on a regular basis. They may require variable-image printing, for cosmetic purposes at least. Although INPUT surveyed two congressional agencies (GPO and GAO), no individual congressional offices were contacted. However, this might be an area which Moore IDS may wish to pursue.

c. Subscription Letters

Numerous agencies publish periodicals on a regular basis, and these are available to the public by subscription. Six agencies responding to INPUT's survey identified a need for variable-image printing associated with these publications. Obviously, the publications themselves do not require variable-image printing. However, related correspondence, including renewal letters and cards, transmittal letters, and some specialized correspondence do require variable-images. For the purposes of this study, INPUT assumed that the printing requirements were split between businesses and individual citizens.

INPUT recommends that Moore IDS pursue this application. It is likely that most agencies publish some sort(s) of periodical, and this will necessarily lead to subscription letters. Those companies offering specialized products and services will likely capture significant federal business.

d. Employee Tax Forms

Like any employer, the federal government must provide annual income statements to its employees. Further, such agencies as the Department of Veterans Affairs must send out annual statements of benefits paid to veterans. This represents a stable, predictable workload which may be of interest to Moore.

For the purposes of this report, INPUT assumed that 3 million employees would be covered. INPUT did not have information on the number of veterans, students, social security recipients, or other groups who are receiving federal benefits. They all require annual income statements. Therefore, it is likely that this market is considerably larger than the figure quoted in Chapter 2. INPUT therefore recommends that Moore pursue this latter market on government payment records.

e. Benefit Mailings

Under the Federal Employees Retirement System (FERS), which partially replaced the Civil Service Retirement System (CSRS), federal employees receive an annual statement of accumulated benefits. Even employees still under CSRS are eligible for some benefits.

This is a classic variable-image application, since at least to some extent, each benefit notice is unique. They typically run 2-5 pages and use multiple fonts and graphics. Spending estimates are based on governmentwide requirements. Since Moore IDS probably already provides this service in the private sector, it would be natural to extend it to the federal government.

2. Enhanced Service Opportunities

As discussed earlier, many agencies require or anticipate additional activities which may result in enhanced service opportunities for Moore IDS. Many agencies require both front-end and back-end support for their basic service activities. They also require all-electronic solutions where appropriate.

Increased productivity is the overriding factor in any enhanced service decision. Continuing budget constraints make it difficult for any agency to initiate new, innovative programs. However, when good economic analyses show innovative solutions to be cost-effective, agencies will usually embrace them.

Given agency restrictions on full-time equivalent (FTE) staff levels, most agencies willingly outsource any new printing requirements. Unlike some other vertical industries, this just does not represent a problem in the federal government.

This section identifies and discusses some of these enhanced service opportunities. Due to a lack of sufficiently detailed data, these areas were omitted from Exhibit II-3. However, they are no less real, and should be studied further by Moore IDS.

a. Electronic Data Interchange (EDI)

Of the ten survey responses, seven expressed a need for EDI support, to varying degrees. This is roughly consistent with the findings in INPUT's report on the federal EDI market, published in December 1989. Growth varies from one year to the next, depending on the major activities being implemented.

To some extent, federal budget constraints will inhibit EDI growth in the near term. However, as some of the numerous pilot programs prove themselves, INPUT expects this market to pick up. In general, this market will likely be growing faster in 1994 than it is in 1990.

b. Desktop Publishing/Printing Outsourcing

In some respects, desktop publishing might be viewed as inhibiting Moore's opportunities, rather than enhancing them. Anything published at a desktop is not being produced centrally, which has been Moore's traditional market. However, desktop publishing is growing in importance in the federal market. A General Accounting Office (GAO) survey taken in June 1987 showed that agency expenditures on electronic publishing systems, including desktop publishing, grew sixfold between 1983 and 1986. It has likely grown even more in the past four years. One source cited annual spending in excess of $400 million.

Since Moore IDS cannot beat this market, it might consider opportunities to join it. Moore might be able to leverage its printing expertise to provide software and hardware products to meet agencies' needs. Further, the federal government, for various reasons, is far ahead of the private sector in outsourcing its systems operations. It may be appropriate for Moore to subcontract or even prime, on those projects which focus primarily on printing. However, this would likely require a change in Moore's approach to the federal market.

c. Other Opportunities

Moore IDS may wish to establish strategic teaming relationships in order to pursue other federal opportunities. For example, the Defense Department (DoD) has initiated several projects in connection with the Computer-aided Acquisition and Logistics System (CALS). CALS is a DoD and industry initiative to enable and accelerate the integration and use of digital technical information for weapon system acquisition, design, manufacture, and support. CALS will reduce federal paperwork requirements.

Moore, by virtue of its printing expertise, is well-positioned to assist hardware and software vendors in responding to CALS. The graphics area, in particular, represents a major area of concern, with disputes continuing on such issues as raster scanning standards. With the proper teaming relationships, Moore may be able to develop an entirely new business area. Additional enhanced opportunities can then be identified and developed.

C

Application/Service Opportunity Sizing and Ratings

Exhibits III-2 and III-3 present the sizing of basic service applications, using the methods that were developed by INPUT in previous vertical market studies.

EXHIBIT III-2

Federal Government: Basic Service Sizing—Numeric

Application	1989 Est. Pages (Millions)	Cost/Unit ($)	1989 Est. Size (Millions)
Procurement	128.75	.22 first page .06 subsequent pages	8.08
Market Surveys	212.50	.22 first page .03 subsequent pages	6.95
Subscription Letters	167.9	.22 first page .06 subsequent page (imaged) .03 subsequent page (non-imaged)	14.30
Employee Tax Forms	10.0	.07 per mailing document	0.70
Retirement Benefits	12.0	.30 first page .15 subsequent pages	2.25

EXHIBIT III-3

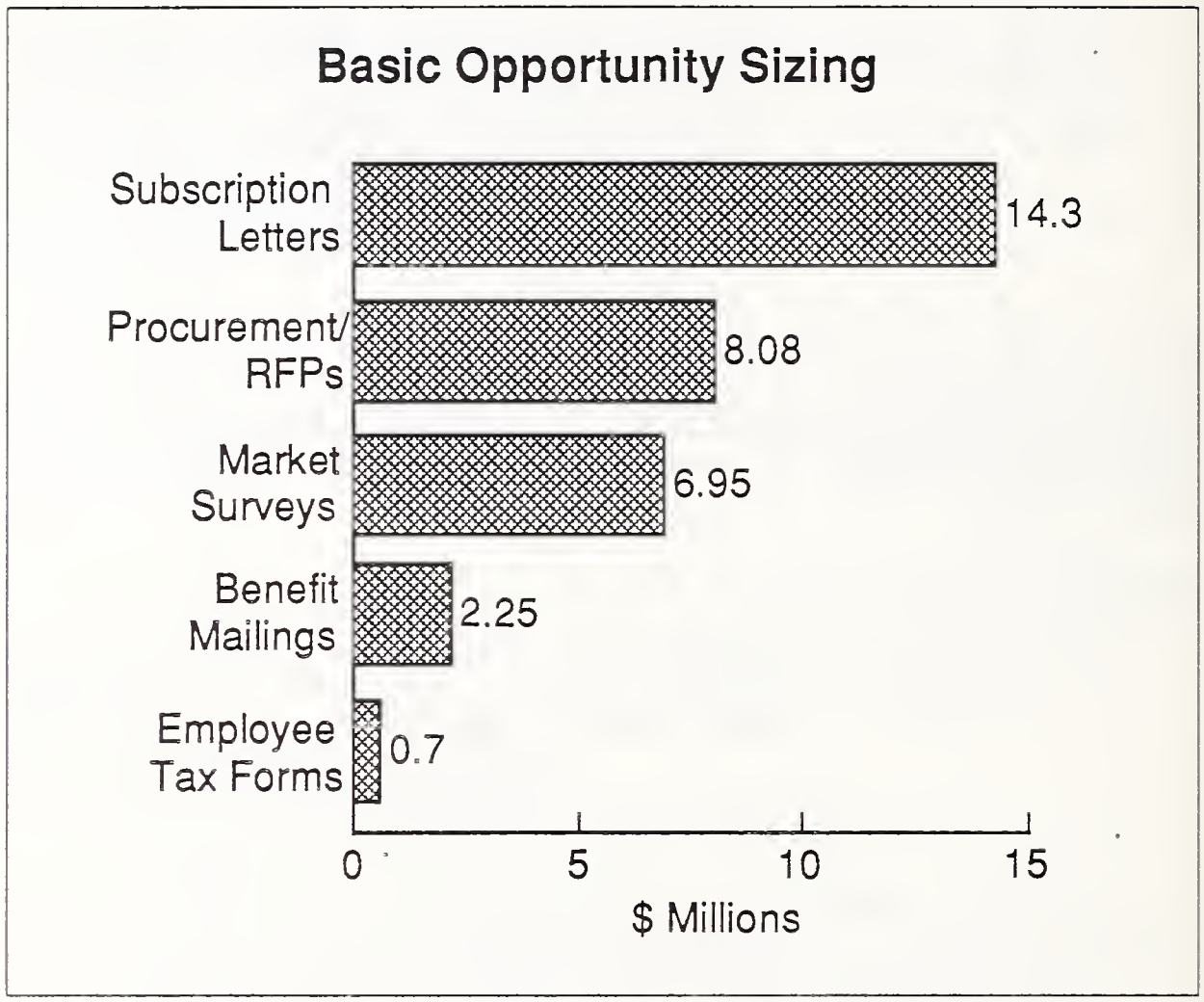


Exhibit III-4 presents a relative attractiveness rating using the rating method previously developed by INPUT. It should be noted that, in most cases, the willingness to outsource remains quite high. This represents a unique advantage in the federal market which Moore IDS may wish to pursue. However, the federal market also contains a unique set of problems which Moore may choose not to face.

Exhibit III-5 identifies some of the market differences between the federal and commercial market. Most of these factors apply to more than printing operations. The key conclusion to be derived from this exhibit is that Moore will require a different sales and marketing approach to the federal government, including:

- Different staffing expertise
- Different staff levels
- Different compensation and commission plans
- Corporate commitment and patience

With many companies, this last factor represents the biggest obstacle.

EXHIBIT III-4

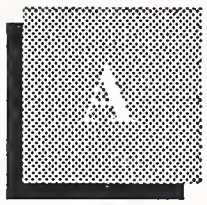
Relative Attractiveness Ratings of Basic Service Opportunities

Application opportunity ($ in millions)		Criteria ratings (range: 1 = negative to IDS, 5 = positive)			Overall Attractiveness (range: 1 = lowest 125 = highest)
Type	Size	Relative Size X	Willingness to Outsource X	Level of Pain or Problem =	Relative Rating Value
Procurement	8.08	1	5	3	15
Market Survey	6.95	1	2	2	4
Subscription Letters	14.30	1	4	3	12
Employee Tax Forms	0.70	1	5	3	15
Benefits Mailing	2.25	1	5	3	15

EXHIBIT III-5

Market Differences: Federal Versus Commercial

Federal	Commercial
Complex, lengthy procurements	Simpler, shorter purchasing process
Bureaucratic environment	Smaller projects
Large, complex projects	Shorter-term project implementation
Long-term development cycle	In-house technical expertise
Little client involvement	High profit potential
Lower profit margins	Unique terms and conditions
High proposal costs	Need for leads, prospects
Leads in CBD	



Appendix: Questionnaire

Federal Government:
Opportunity Size by Target Audience
($ Millions)

Question #2				Overall Mail Volume		Dist. of Product (%)		
Categories	Physical Content (incl, # pages, enclosures)	Variable Information Content (incl. print technology)	Mission-Critical	Freq.	#/Mo.	In-house	Out	Volume Determined by?/Future Channel
Documents/Regs								
Procurement/ planning								
PR								
Public attitude, market surveys								
Subscriptions, newsletters								
W-2s, 1099s, tax forms								
Benefits mailings/ individual employees								
Computer-printed congressional mail								
Other								

Market Study on Federal Printing

QUESTIONS:

1. Can you answer questions on variable image printing in reference to the entire agency, or are you speaking for a specific division?

_____

1a. Which division?

_____

_____

2. (See chart) I would like to start off by reviewing a list of typical, leading categories of government printing.

   For each of these printing categories, I'd like you to briefly note the physical content of the printing/mailing (# of pages per document, etc) and the printing technology you are using (what variable image characteristics are in each printing -- graphics, fonts, etc.)?

2a. Now I'd like you to determine how important each of these "standard categories" is to your organization. Which are really critical to your mission? Rate 5 (critical), 3 (moderate importance), or 1 (low importance).

2b. We would also like to get the approximate quantities of each printing function, in terms of total number of documents produced per month -- not total pages.

2c. What percent of these mailings are done in-house, versus using outside sources?

2d. Lastly, what factors in the operations of your organization determine the particular volumes you cited in each category? (For example, number of public inquiries per month, etc). Which of these categories are likely to change significantly over the next few years (growth in volume, etc)?

3. If no outside vendors are used for printing/mailing, go to 3a, otherwise, go to 3b.

3a. Is there a reason why no outside vendors are used?

_____

_____

_____

3b. For those applications where you have used an outside source, could you please indicate:

Who the vendor is?
Why you chose to contract out that application?
How you made your choice of vendors?

_____

_____

_____

_____

3c. Which future operations are you considering for use of outside vendors? Do you already have specific plans?

_____

_____

3d. To summarize, using a 1-5 scale, how likely are you to outsource your printing/mailing operations?

Not likely 1 2 3 4 5 Very likely

The reasons for this rating?

_____

_____

4. For the printing/mailings we've been discussing, do you have any plans over the next few years to change significantly your in-house capabilities?

What are those plans?

_____

_____

5. Is your agency now using any form of EDI (Electronic Data Interchange from computer to computer)? If so, how?

_____

_____

5a. Do you foresee any of the printing/mailing applications that we have been discussing being eliminated and replaced with EDI or some other form of electronic transfer?

5b. (if YES) For each application, please describe the way the replacement will occur, and estimate the volumes of electronic transactions vs. printing over the next 5 years. (For example: "10% of our 50,000 monthly invoices are now made through pre-arranged electronic payments. In the next 2 years we expect this to grow to 15% electronic out of 60,000 monthly billing payments, and to 25% of 70,000 monthly billing payments within 5 years").

_____

_____

_____

_____

6. Under what conditions might you consider outsourcing all of these applications to a vendor?

_____

_____

6a. Would proximity of the vendor's printing facilities influence your decision?

7. What is your view of the possibility of having all of these printing/mailing operations managed at your site by an outside vendor, under a "facilities management" contract?

_____

_____

8. Thinking back on what we have discussed, do you have any further thoughts about your printing operations and their information content, thoughts that you feel I should note for this research to be more complete?

_____

_____

_____

Thank you for your time and cooperation.

DECEMBER 1989

CARD SERVICES OPPORTUNITY ANALYSIS

INPUT®

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

Preface:

Important Note to Readers of this Report

Readers of this report should be aware that it is an extract and summary of the card opportunities identified across the thirteen vertical industry reports developed by INPUT for Moore IDS. These vertical reports, in turn, are followed by a final cross-industry report that serves the central mission of this project: to provide market opportunity recommendations that will help Moore IDS to focus strategically on a very limited number of high-value opportunities—whether within a single industry or across several.

Therefore, readers of this report should keep in mind several considerations while reviewing the findings presented here:

- To serve the central mission of helping Moore IDS to achieve strategic focus on a limited number of market opportunities, INPUT has applied a tight screening process to the applications examined in each vertical industry. The selection criteria targeted mission-critical, high frequency, repetitive variable-imaging applications that would represent an ongoing base of predictable revenue, as opposed to the current mix of ad hoc, project-oriented overflow work with peaks and valleys of a less predictable nature.

- Due to this tight screening process, readers may find that these vertical reports fail to mention certain applications, even though they represent currently viable Moore IDS revenue sources.

- Finally, recommendations presented in this single product-focused report must be recognized by readers to be somewhat out of context:

- An opportunity that looks excellent—relatively—within a single industry may turn out to be dwarfed by applications in other industries.

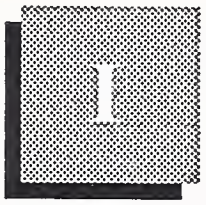
- An application that looks to be of minimal attractiveness in a single industry may prove to be closely paralleled in several other industries—in such a way that together they constitute a preeminent cross-industry opportunity.

INPUT discusses such findings in the cross-industry report. Note that these cross-industry recommendations are the primary objective of this project, and thus, they supersede those of the individual vertical market reports. The final cross-industry report should be examined for such perspective by any reader of this single-product report.

It is hoped that this note will help readers place these findings in the proper perspective, especially in cross-referencing this single-product viewpoint with the final report's cross-industry findings and recommendations.

Table of Contents

Exhibits



Introduction

A

Card Production Analysis Background

Card production and distribution is a "basic services" horizontal market focus. A number of the vertical markets that are addressed in this project use cards for various purposes, such as identification and transaction processing. One of the largest applications for cards is retail and bank credit cards. The total number of cards in circulation in the finance and retail markets was nearly 900 million in 1988.

From Moore's standpoint, the market for cards is with the issuing firm or organization; this is where the plastic is cut, the statement printed and mailed, and the payment processed. Since the individual characteristics of these markets determine the demand for these services, the requirements for card production are included along with the requirements for printing/mailing and enhanced services in each of the individual market reports.

Each vertical market report covers the full range of IDS's opportunities in that market:

- Basic printing/mailing services
- Enhanced services (value-added from data processing or business services)
- Card production

This analysis of the card market is largely an extract and summarization of the card production opportunities identified in each of the separate vertical markets included in this study.

The identified card market opportunities are limited to the production and mailing of cards. Associated issues, such as electronic funds transfer (EFT), etc., are covered in the individual vertical market reports. In particular, the emphasis in the card area is placed on embossed,

mag-striped cards which require production processes distinct from the standard variable-image laser printing.

Because of the close relationship between the retail and banking/finance markets and their use of credit cards, the retail and finance areas have been analyzed in a combined volume. That volume contains a separate section titled Transaction Processing Issues (TPI). This section on TPI covers a number of topics that are relevant to both of these market studies, as well as to card processing issues in general, and may prove valuable background for any discussion of card-related applications.

The remainder of this chapter discusses the scope of the card market study, including industry categories where potential opportunities have been identified. The remaining sections then discuss the specific card opportunities identified by INPUT as appropriate targets for further consideration in the next phase of this project.

B

Methodology

To conduct this research, INPUT used a standard methodology for interview-based custom research, as shown in Exhibit I-1.

The questionnaire that was developed for these interviews contained policy-oriented questions about both printing and mailing applications and about card applications. In addition, separate forms were developed to collect statistical data on card applications and on printing/mailing applications. The card portions of these questionnaires and forms were used in all industries where there appeared to be a card-based application.

In developing opportunity valuations for the individual applications, INPUT used a combination of its own internal estimates, pricing estimates derived from interviews, and estimates provided by Moore marketing staff. The basis for each of these estimates is documented in Appendix B of the individual market reports, so that different assumptions may be factored in and the impact on the opportunity valuation easily assessed.

EXHIBIT I-1

Card:
Research Methodology

- Two-day meeting with Moore IDS finance and card marketing managers to develop research plan:
  - define scope of research (industry/ submarket coverage)
  - identify categories of firms/organizations to interview
- Development of draft questionnaire and review with Moore IDS staff
- Test interviews and revision of questionnaire
- Telephone interviews
  - "Cold calls" to find first senior executive, each firm
  - "Networking" as required to secure interviews
- Review of preliminary results with IDS marketing
- Analysis and report writing

C

Scope of the Card Market

Exhibit I-2 indicates the vertical markets and segments that were specifically targeted for card-related interviews.

In addition to the traditional bank and retail credit cards, there is another growing category which might be labelled "T&E/Misc." This includes the various colors and flavors of American Express Cards, the Citicorp Diners Club and Carte Blanche products, and the Sears Discover card. Due to the captive nature of these cards, their parent companies were not included in our interview target lists, and their activity volumes are not included in our opportunity sizings.

EXHIBIT I-2

Card:
Research Scope—Targeted Market Segments

Vertical Market/Application

Financial Institutions
- ATM cards
- Bank credit cards

Retail Firms
- Department/specialty store credit cards
- Proprietary supermarket cards (debit/check cashing/etc.)
- Oil company credit cards

State/Local Government
- Electronic benefit transfer program cards

Due to the specialized nature of the application and the significant overlap with a number of different market areas, a separate set of interviews was conducted for the electronic benefit transfer (EBT) pilot projects, which have been undertaken as joint ventures between federal, state, and local governments, financial institutions, supermarkets, and other retail outlets. Exhibit I-3 identifies those organizations that were interviewed on the subject of EBT. Based on these interviews, INPUT does not believe that the nature of this particular market is consistent with Moore's business objectives, and it is not included in the list of potential markets for Moore to address. The rationale for this judgement is discussed in the following section.

EXHIBIT I-3

Card: Organizations Interviewed—Electronic Benefits Transfer Projects

Agency/Location/Application

U.S. Department of Agriculture Food and Nutrition Service
- Various food stamp demonstration programs

U.S. Social Security Administration
- SSI payments via ATMs/POS terminals (Baltimore, MD)
- Food Stamp and AFDC payments via ATMs/POS terminals (Ramsey, MN)

Department of Public Welfare, State of Pennsylvania
- Food Stamp and welfare payment issuance authorization via cards (Philadelphia, PA)
- Food Stamp and welfare payments via POS terminals (Reading, PA)

Exhibit I-4 indicates the vertical markets in which card applications have been found that might be attractive to Moore. The details of the vertical market segmentation, firms interviewed, etc., will be found in those individual reports.

EXHIBIT I-4

Card: Research Scope—Potentially Attractive Market Segments

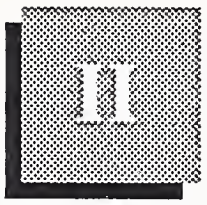
Vertical Market/Application

Financial Institutions
- ATM cards
- Bank credit cards

Retail Firms
- Department/specialty store credit cards

Insurance
- Automobile insurance ID cards

Transportation
- Frequent flyer program ID cards



Executive Overview

A Research Summary

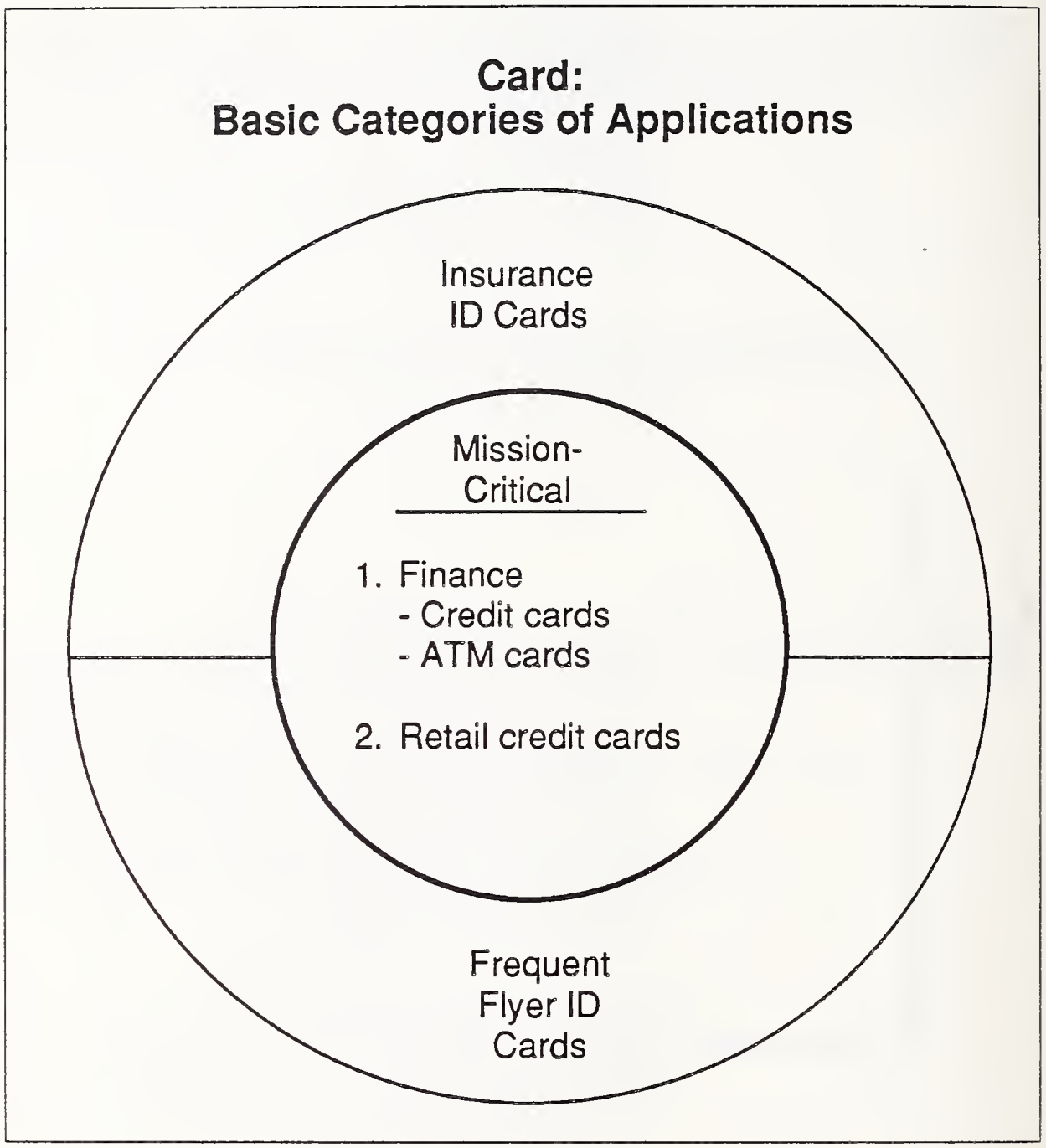
Although card applications were specifically emphasized in financial institution and retail interviews, they were explored in every relevant industry. In addition, due to the specialized nature of the application and the significant overlap with a number of different market areas, a separate set of interviews was conducted for the electronic benefit transfer (EBT) pilot projects, which have been undertaken as joint ventures between federal, state and local governments, financial institutions, supermarkets, and other retail outlets.

Whether used for identification or transaction purposes, cards are essentially a retail market phenomenon. Although issued by a wide variety of industries—finance, retail, transportation, etc.—to both individual consumers and corporate employees/users, they are most often used to conduct retail transactions.

In addition to the finance and retail area, viable opportunities were also found in the insurance and transportation fields (see Exhibit I-3). As might be expected, the importance of these applications differed from one market to another. When used for transaction purposes (e.g., credit cards and ATM cards), cards are always considered a "mission-critical" application. When used for identification purposes, they are not as critical. Exhibit II-1 describes the various categories of card applications identified by the interviewees.

The type of card used is also a function of its purpose. Transaction cards are almost always embossed/mag stripe plastic cards, although some proprietary retail store credit cards are embossed only. By contrast, many identification cards (e.g., automobile or medical insurance policy ID cards, professional association membership cards) are simply printed on heavy paper stock. A significant exception to this policy is the ID card issued by an airline or hotel for their frequent traveler programs.

EXHIBIT II-1



This is typically a colorful plastic card with gold-burnished embossing to make it look prestigious.

The purpose of the card also drives its replacement requirements. Financial transaction cards, with a magnetic stripe for data capture, wear out in day-to-day usage. The VISA and MasterCard associations recommend replacement of such cards at least once every two years for quality control purposes. Thus, there is a large, steady-state replacement market inherent in these application. By contrast, retail credit cards often do not have a replacement cycle, because they are not often used in electronic card-reading terminals. ID cards often have a built-in replacement cycle, as the association membership, insurance policy, etc. that they represent is typically renewed every year or so.

In defining a separate card market, the emphasis was placed on embossed, mag-striped cards which require production processes distinct

from the standard variable-image laser printing. The card market opportunities identified here are limited to the production and mailing of such cards. Cards that are produced on ordinary paper stock as part of a normal print run have been included as standard printing/mailing activities rather than separated out as card-based applications. The statement printing and mailing associated with card-based credit accounts is treated in the same way as statements for non-card-based accounts.

Few real problems were cited by interviewees. In the case of banks and other financial institutions, the smaller ones tend to outsource both credit and ATM cards and have no difficulty with this, while the larger not only produce for themselves but often serve as card processors for smaller institutions. Retail credit card operations follow a similar pattern, with small firms outsourcing their entire proprietary card operations to banks or other processors and the larger retailers and all the oil companies handling their cards in-house.

The EBT pilot projects all provided a profile of a business that is not recommended for Moore. One of the main reasons for these projects is the high degree of loss associated with mail delivery of food stamp payment authorizations and welfare checks. No matter how a card is used (i.e., no matter what kind of benefits it supports or where it is used), the issuance process is similar and does not involve central production and mailing from a data center operation.

EBT cards are typically issued from a special office or storefront location dedicated to this activity. As part of this card issuance, EBT clients often have to be trained in how to use ATM and POS terminals, as many of these clients do not have existing banking relationships. In addition, a number of programs require that the client's photo be included on the card. The storefront or office sets up the account, produces and issues the card, and has the client choose a personal identification number (PIN)—all in the storefront "EBT branch." This office also becomes the focal point for administration of all issues related to the EBT account (e.g., reissuance of lost cards, etc.).

While the details of this process may vary from one program to another, a "storefront issuance" from a combined training and administration center is the standard approach in nearly all cases. All the program administrators indicated that this was an absolute requirement, both to eliminate mail-oriented losses and to deal with the special needs of this population. This situation has the following general implications for Moore:

- No basic (non-card) mailing opportunities available

- No pre- or post-processing opportunities available

- Unless EBT projects are statewide, the card volume for issuing agencies (currently counties) is too small to support a business. In addition, the same risks that the card project is intended to avoid (fraud, mail theft, etc.) mean that mass mailings of cards will not be acceptable. Card issuance and replacement will be handled on an exception basis at the "EBT branch" office.

- Control of the plastics is not as big an issue here as with credit cards. Due to the on-line debit authorization process and low maximum balances available, stolen or counterfeit plastics have little potential value as compared with credit card plastic.

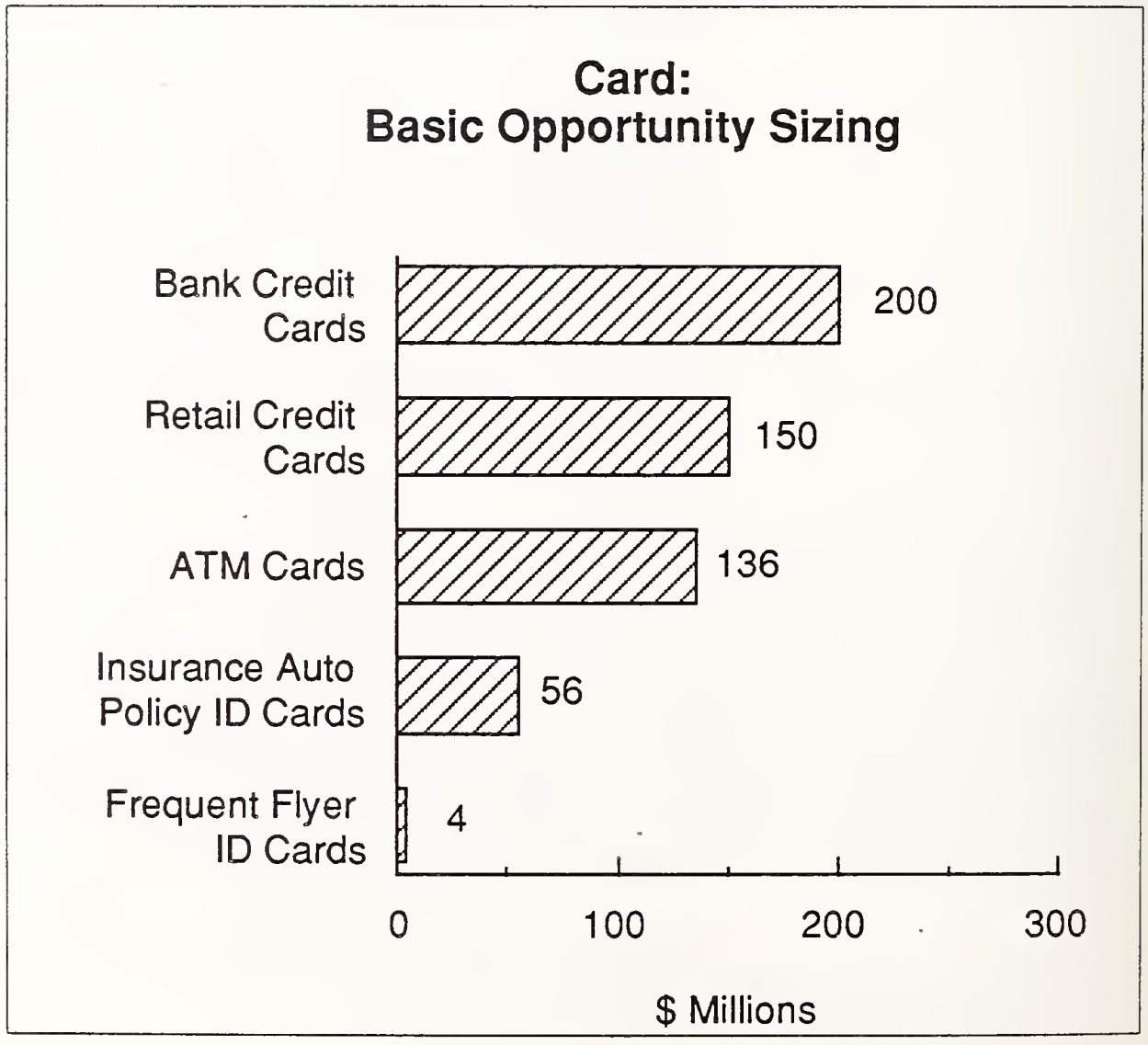
- The only real opportunity for Moore is in the commodity card production business, which does not match the high value-added profile of IDS-targeted activities.

B

Application Opportunity Size

A methodology was applied to develop rough opportunity sizing measures for quantitative comparison of the basic applications (number of pieces x frequency of mailing x cost/piece = opportunity size). Since the card market is by definition limited to production and mailing of

EXHIBIT II-2



cards, no enhanced applications were identified. The opportunity sizing methodology just described provides Moore IDS with a measure of total latent potential expenditures for the service without regard to rate of adoption, in-house versus external solutions, competition, and so on (see Exhibit II-2).

C

Application Opportunity Attractiveness

Exhibit II-3 uses a standard rating methodology to factor the opportunity size calculated by two other key criteria distilled from the interviews: a firm's willingness to outsource and its level of "pain" or problem, each with respect to a particular application.

EXHIBIT II-3

Relative Attractiveness Ratings of Card Opportunities by Industry

Application opportunity ($ in millions)		Criteria ratings (range: 1 = negative to IDS, 5 = positive)			Overall attractiveness (range: 1 = lowest 125 = highest)
Type	Size	Relative Size X	Willingness to Outsource X	Level of Pain or Problem =	Attractiveness Rating Value
Finance					
- Bank credit	200	2	3	3	18
- ATM	136	2	3	3	18
Retail					
- Credit	150	2	1	1	2
Insurance					
- Auto policy ID	56	1	1	2	2
Transportation					
- Frequent flyer ID	4	1	4	2	8
Total	546				48

As shown, a five-point rating scale is applied to each criterion, where a "1" indicates a criterion that is negative to Moore's interest in winning—or likely ability to win—such business, while a "5" shows a very positive criterion. By rating each of the criteria and then multiplying the ratings (the multiplication shown in the tables as "Relative Size x Willingness to Outsource x Level of Pain or Problem"), the product is a "Relative Rating Value" that represents the overall attractiveness to Moore, by combining the quantitative opportunity-volume sizing with the other two essentially qualitative criteria.

This analysis indicates that larger opportunities are not necessarily more attractive, and that those of roughly equal size can have very different levels of attractiveness. A good example of this is the comparison of retail credit cards, auto policy IDs, and frequent flyer IDs. In the case of

EXHIBIT II-4

Card Applications:
Opportunity Size by Target Audience
($ Millions)

Type of Service	Target Audience					Total
	Owners	Employees	Customers	Suppliers	Internal Efficiency	
			Business / Consumer			
A. Basic						
Finance						
- Credit card			200			200
- ATM			136			136
Retail credit card			150			150
Insurance ID			56			56
Frequent flyer ID			4			4
Subtotal			546			546
B. Enhanced						
Subtotal						
Total			546			546

retail cards, the market size is more than 35 times as large as the frequent flyer ID card market ($150 million versus $4 million), but the overall attractiveness of the frequent flyer market is 4 times as great (8 versus 2) because airlines nearly always outsource frequent flyer programs, while retailers are either very unwilling to outsource any aspect of their credit operations (large firms) or to outsource their entire credit operations. While the opportunity for insurance ID cards is 14 times as large as the frequent flyer ID cards, it is less attractive because of the low propensity to outsource.

D

Target Audience of the Enterprise Served

Exhibits II-4 and II-5 organize opportunity size and attractiveness measures by the target audience of the applications considered. This is done for purposes of later cross-industry analysis at the conclusion of INPUT's research project. In the card area, the audience is by definition the consumer market.

EXHIBIT II-5

Opportunity Attractiveness by Target Audience (Attractiveness Rating Score)

Type of Service	Target Audience					
	Owners	Employees	Customers	Suppliers	Internal Efficiency	Total
			Business / Consumer			
A. Basic						
Finance						
- Credit card			18			18
- ATM			18			18
Retail credit card			2			2
Insurance ID			2			2
Frequent flyer ID			8			8
Subtotal			48			48
B. Enhanced						
Subtotal						
Total			48			48

E

New Sales and/or Delivery Mechanisms Required

Since all of the card applications are in the basic category, there is no requirement for new sales or delivery mechanisms to support these opportunities.

F

Threats and Opportunities

Exhibit II-6 lists a number of environmental threats and opportunities relevant to the applications associated with the card market. The most ambiguous issues are those surrounding outsourcing, as there are conflicting trends both increasing and decreasing the attractiveness of this opportunity.

EXHIBIT II-6

Card:
Environmental Threats and Opportunities

Threats

- Increasing competition and cost pressures combined with economies of scale in the bank credit card market tend to shift card processing to a few, very large vendors, reducing the market targets available to Moore.

Opportunities

- As banks eliminate their card production capabilities when outsourcing bank credit card operations, there is increasing opportunity for outsourced production of ATM cards for these same banks.
- Increased competition in the travel industry may mean increased numbers of frequent traveler programs, which typically outsource their cards.

G

Competition

For card production operations, there are three forms of competition: card production organizations; applications processing organizations, which produce cards as part of their basic operation (e.g., credit card processors); and in-house production. The type and extent of competition differs by application.

In the retail credit area, the competition is either in-house production or a credit card processing services organization, and there is very little willingness to outsource a portion of the business (rather than outsourcing the entire operation). With frequent flyer programs, the competition is the organization that handles the entire program—again, outsourcing is done on an all-or-nothing basis. With insurance companies, the competition is in-house, as little outsourcing is done. With banks, all three types of competitors come into the act, depending on the business volume and whether or not the bank handles its credit card processing in-house or outsources it.

DECEMBER 1989

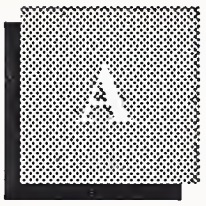
VERTICAL MARKETS OPPORTUNITY ANALYSIS

APPENDIX A: QUESTIONNAIRE

Note: This is the generic questionnaire, which was modified slightly to fit the unique needs of each vertical market.

INPUT®

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



Appendix: Questionnaire

Introduction

*[Note: When these questions are used **after** a pre-questionnaire (for interviewee qualification/networking) has been used **with this person** to verify that the right person is being reached, **skip** the item below in* [[ ]] *brackets.]*

[[

INPUT is an international consulting firm specializing in information services.

As one of our current projects, we are now working to determine the future role of information services in providing improved *business mailing services* to organizations like yours.

To do this, INPUT is ***now researching how the*** **insurance** ***industry uses business mailings.*** Two examples of the kinds of mailings we are studying are: policy documents sent to policyholders and your explanations of benefits sent with the checks that pay claims.

I have a short series of questions on your business mailings that can be handled right here on the phone. Can you assist with this research project by answering these questions?

[If no] Can you suggest someone else in your organization who might be able to answer them?

Ref: _____ at

( ) _____ *[phone]*

[If yes] These questions will take about 20 or 30 minutes to complete, is this a good time for you?

[if not, reschedule for] _____ day/date at

_____ [l*ocal time] /* _____ *[California time]*

]]

Please note that the objective of this study is to determine industry-wide trends. We will be putting your responses together with many others to analyze broad patterns and key business mailing issues, so your particular responses will be held in confidence and not cited individually. Therefore, we encourage you to be as open and frank as possible, so that INPUT can develop a comprehensive picture of the insurance industry's uses for business mail.

Do you have any questions before we get started?

[If they ask whether INPUT will be publishing the results, answer ...

...Since we don't know yet whether we will find good opportunities for information services to help improve business mailings, we have not yet determined whether any published report will result from this research.]

[If they ask whether this research is for a specific client, answer...

...No, it is part of INPUT's continuing program of research in how information services are used in different industries.]

[If they ask whether they can get a copy of the findings of the research, answer...

...We can send you a **high-level overview of the results**, if that would be of value to you as a way of thanking you for your time.]

[If "yes," note name and mailing address here:]

_____

_____

_____

For our interview over the next 20 or 30 minutes, I have a structured set of questions of several types: some yes/no questions, some asking for 1-to-5-style ratings, and some open ended. We will be asking about both current and future business mailing operations.

Before we start, let me assure you that there are no "wrong answers," and your frank responses will be valuable to the success of the research project.

Questions

[Note: Skip question 1 (and go right to question 2) if these answers are known from use of the pre-questionnaire (for interviewee qualification/ networking). Transfer those answers to this page for later reference.]

1. To help me get oriented to your role in your overall organization, can you answer questions about business mailing operations with reference to your entire company, or are you in a position to speak about only one or more specific divisions or departments?

   _____

   *[Note: **If divisions/departments only,** ask:]*

   Which division (*or* department) will you be speaking about?

   _____

   _____

   Which other divisions (*or* departments) also have sizable business mailing operations?

   _____

   _____

   [Note: Make next question fast, likely will not use]
   Who would be a good person to talk with in [that/those] other division[s] or department[s] to understand their business mailing operations?

Div./Dept.	Name	Phone
_____	_____	_____
_____	_____	_____

Industry Mailings Questionnaire
Application Data Spreadsheet

Industry: Insurance

_____ Company Interviewed

_____ Person Interviewed/Title

_____ Interview Date/By

Business Mailing Categories	Physical Content of Mailing	Variable Information Content	Overall Import	Overall Mail Volume		Distribution of Production (Percent)		
				Times/Yr.	#/Mailing	In-house	Outside	Hybrid
1. Policies								
2. Premium notices								
3. Explanation of benefits w/check (EOB)								
4. Govt. reporting forms (W-2, 1099, etc.)								
5. Customer surveys								
6. Updates on benefits								
7. ID cards								
8. Proxies								

2. [Note: For all of question 2, record answers on this standard spreadsheet form.]

2. I'd like to start by reviewing a list of **typical, leading categories of business mailings** in the insurance industry.

2.a. Our list includes printing and mailing of items such as _____ and _____ *[Note: list top 2 on list for industry]*. Let me go through this list one by one.

2.b. and 2.c. *[Note: Do this for each item on the list]*

For each of these business mailing categories, I'd like to **briefly** note the physical content of the mailing's printed content: What is custom-printed for each item and how the information that is different for each item is merged or otherwise joined with what is standard. Let's first take _____
[first item on the standard list found on the answer sheet]

2.d. Now I'd like to shift gears a bit, and determine how important each of these standard categories of business mailing is to your company (or division/department). The key question is: Which of these business mailings is really critical to the mission of your organization? Which mailings are critical in importance, whether or not they are large in quantity mailed?

[Note: As each "mission critical" category is named, the interviewer should assign a value of "5" under "Overall import" on the chart. Then ask about each one not mentioned by the interviewee. If it is really "mission critical" also, give it a "5" ... if not, determine whether it is of moderate importance ("3") or minor importance ("1") and record the numbers. If government-required, write "req" instead of a number]

2.e. We would also like to get approximate quantities of each of these mailing types. Let's take them in order once again:

[Note: Go down chart for "Overall mail volume" answers]

2.f. Which of these mailings do you handle in-house, and which do you vend to outside printing and mailing services?

[Note: Answer on chart]

2.g. What factors determine the particular volumes you cited in each category? Which categories of mailings are likely to change significantly in volume over the next few years? Why?

3. The next set of questions deals with INPUT's 3-part model of an organization's complete system for business mailings, so let me first explain the model.

   For business mailings that require more than just a name and address, INPUT sees three basic parts of the complete system.

   First, what we call the **front-end** for business mailing is the information system or systems—whether based on a personal computer or a mainframe—that maintain the overall data base of information required for mailings in general, and that are used to generate the specific information required for a particular mailing. One example of such a front-end system is the organization's data base for accounts receivable.

   The second part of the model is the **printing and mailing process** itself: the merging of standard information with receiver-unique data for printing, the actual printing operation, and the stuffing and distribution (normally to the Postal Service) of the physical piece of mail. To follow the example cited above, this is the printing of the monthly bills themselves, stuffing the bills and any other enclosures (such as payment envelopes or new-service announcements) into the mailing envelopes, sorting by ZIP code, affixing postage, and delivering the bundles or bags of bills to the local post office.

   Finally, the third part of a complete mailing system is the **back-end** processes that may follow the mailing itself. While many business mailings (such as government-required informational announcements) may be one-way, with no such back-end process, many others involve the recipient's return of a piece of mail. Such return-mail situations require back-end processes, such as processing policyholders' payments and updating data bases of policyholder records.

   3.a. With that introduction, here's the next question: Thinking about the **complete mailing system's three parts**—the information systems front-end, the printing and mailing process itself, and the follow-up back-end—what works best for you in your **in-house** mailing operation; in other words, what specific parts of your in-house mailing system are working really **well** for you, representing solid, ongoing success stories?

   *[Note: List successes here, but do **not** take time for "why" followup on successes:]*

   _____

   _____

   _____

3.b. In contrast, where do you have significant **problems** in the **in-house operation** of your complete mailing system, whether in the front-end, the printing and mailing process itself, or the back-end?

[Note: List problem areas below on the "Problem" lines. As it is comfortable/appropriate, either list all top problems first, then come back to the list of problems to get "why" for each), or (alternatively) ask "why" after each problem is stated.]

Problem: _____

Why: _____

Problem: _____

Why: _____

Problem: _____

Why: _____

4.a. *[Note: Rephrase as appropriate ... or skip ... based on answers to 2.f—in-house vs. outside...]*

Now let's **shift away from in-house operations:** Do you handle any of your complete printing and mailing operations **outside**, vending the process to a full-service vendor for printing and mailing?

____Yes *or* ____No *[Mark one]*

[[Note: If "No," ask...]]

Why not?

_____

_____

[...Then (again, if 4.a. was "No"), jump to Question 15.]

[Note: If 4.a was "Yes," continue here, with 4.b.:]

4.b Thinking again about the information systems front-end, the printing and mailing process itself, and the followup back-end, how do they work **best** for you when you contract **outside** for complete printing and mailing operations; in other words, what specific parts of such complete outside operations are working really **well** for you, representing solid, on-going success stories?

[Note: List successes here, but do not take time for "why" followup on successes:]

_____

_____

_____

4.c. In contrast, where do you have significant **problems** in such outside operations, whether in the front-end, the printing and mailing process itself, or the back-end?

Problem: _____

Why: _____

Problem: _____

Why: _____

Problem: _____

Why: _____

4.d. Which outside vendors do you use now?

For what: _____

Which: _____

For what: _____

Which: _____

For what: _____

Which: _____

For what: _____

5. Remembering the distinction we discussed among front-end operations, printing and mailing operations, and back-end operations, let's look first at just the printing and mailing process itself. Which **complete printing and mailing operations** do you now vend outside?

[...then followup for each "Which" with:]

Why?

[...and]

What vendors?

[...and enter all answers below]

Which?
Why?
What vendors?

_____

_____

_____

_____

_____

6. **Beyond** those you **now** contract outside for, would you consider contracting outside for any **other complete printing and mailing operations** for business mailings?

   [If no, ask:]

   Why not?

   _____

   [If Yes, first ask...]

   Which operations or mailings would you consider?

   [...then followup for each "Which" with:]

   Why?

[...and enter both answers below]

Which?
Why?

_____

_____

_____

_____

7. Using a 1-to-5 scale, how likely are you to outsource more of these complete printing and mailing operations? A rating of 1 would indicate not at all likely, while a 5 would be very likely:

   [Note: Circle number]

   7.a.

1	2	3	4	5
Not likely				*Very likely*

   7.b. What are the reasons behind that rating?

   _____

8. Which groups in your organization would need to participate in evaluating whether to outsource more of your complete printing and mailing operations?

   _____

9. Now let's shift **away from** printing and mailing **to** the front-end and back-end operations in INPUT's model. Do you now use any outside vendors specifically for these **front-end or back-end operations**?

   [If no, ask:]

   Why not?

   _____

[If Yes, first ask...]

Which front-end or back-end operations do you now vend outside?

[...then followup for each "Which" with:]

Why?

[...and:]

What vendor(s)?

[...and enter all answers below]

Which?
Why?
What vendors?

_____

_____

_____

_____

_____

_____

10. **Beyond** those you **now** contract outside for, would you consider contracting outside for any other **front-end or back-end** operations in the overall business mailing system?

    [If no, ask:]

    Why not?

    _____

    [If Yes, first ask...]

    Which operations or mailings?

[...then followup for each "Which" with:]

Why?

[...and enter both answers below]

Which?
Why?

_____

_____

_____

_____

11. Using a 1-to-5 scale, how likely are you to outsource [**some** *or* **more**, *as appropriate*] of these front-end or back-end business mailing operations? A rating of 1 would indicate not at all likely, while a 5 would be very likely:

[Note: Circle number]

11.a.

1	2	3	4	5
Not likely				*Very likely*

11.b. What are the reasons behind that rating?

_____

12. Which groups in your organization would need to participate in evaluating such outsourcing of front-end or back-end business mailing operations?

_____

13. Are there any areas of your business mailing operations where you are already considering using—or where have you decided to use—more such outside vendors?

[If Yes] How would you describe these areas?

_____

_____

[If Yes] Which vendors?

_____

_____

14. When you print mailings outside, how important is it for the vendor's printing plant to be physically close to you? Let's use the 1-to-5 scale again, where 1 is unimportant and 5 is critical.

[Note: Circle number]

14.a.

1 2 3 4 5

Unimportant *Critical*

14.b. Why did you choose that number?

_____

14.c. *[Note: Ask only if rating was 4 or 5]* For you, how close is close?

_____

[[Note: *After question 14.b/c.*, skip questions 15 through 22 and *jump now* to question 23.]]

[[Note: Return point, if answer to question 4.a. was "No"]]

[[Note: *If you just finished question 14.b/c.*, skip questions 15 through 22 and jump now to question 23.]]

15. Remembering the distinction we discussed among front-end operations, printing and mailing operations, and back-end operations, let's look first at **just the printing and mailing process itself**. Would you consider contracting outside for any **complete printing and mailing operations** for business mailings?

[If no, ask:]

Why not?

_____

[If Yes, first ask...]

Which operations or mailings would you consider?

[...then followup for each "Which" with:]

Why?

[...and enter both answers below]

Which?

Why?

_____

_____

_____

_____

16. Using a 1-to-5 scale, how likely are you to outsource any of these complete printing and mailing operations? A rating of 1 would indicate not at all likely, while a 5 would be very likely:

[Note: Circle number]

16.a.

1	2	3	4	5
Not likely				*Very likely*

16.b. What are the reasons behind that rating?

_____

17. Which groups in your organization would need to participate in evaluating whether to outsource some of your complete printing and mailing operations?

_____

18. Now let's shift **away from** printing and mailing **to** the front-end and back-end operations in INPUT's model. Would you consider contracting outside for any **front-end or back-end operations** in the overall business mailing system?

[If no, ask:]

Why not?

_____

[If Yes, first ask...]

Which operations or mailings?

[...then followup for each "Which" with:]

Why?

[...and enter both answers below]

Which?
Why?

_____

_____

_____

_____

19. Using a 1-to-5 scale, how likely are you to outsource some of these front-end or back-end business mailing operations? A rating of 1 would indicate not at all likely, while a 5 would be very likely:

[Note: Circle number]

19.a.

1 2 3 4 5

Not likely *Very likely*

19.b. What are the reasons behind that rating?

_____

20. Which groups in your organization would need to participate in evaluating such outsourcing of front-end or back-end business mailing operations?

_____

21. Are there any areas of your business mailing operations where you are already considering using—or where you have decided to use—outside vendors for printing and mailing, or for front-end or back-end operations?

[If Yes] How would you describe these areas?

_____

_____

[If Yes] Which vendor or vendors?

_____

_____

22. If you were to print mailings outside, how important is it for the vendor's printing plant to be physically close to you? Let's use the 1 to 5 scale again, where 1 is unimportant and 5 is critical.

[Note: Circle number]

22.a.

1 2 3 4 5

Unimportant *Critical*

22.b. Why did you choose that number?

_____

22.c. *[Note: Ask only if rating was 4 or 5]* For you, how close is close?

_____

[[Note: **Return point** from question 14.b/c. **and continuation point** from question 22.b/c.]]

23. For these business mailings that require information services, do you have any plans over the next few years to change significantly your in-house printing and mailing capabilities or capacity?

Yes____ or No_____

[If Yes]

What are your plans?

_____

[If No]

Why not?

_____

24. Under what conditions would you consider outsourcing **all** of your business mailing operations to a vendor?

_____

25. What is your view of the possibility of having all your printing and mailing operations managed at your site by an outside vendor, under a **facilities management** contract?

_____

26. Would your organization welcome a no-cost evaluation study to analyze your business mailing operations?

_____Yes: What would you expect such a study to cover?

_____

[or]

_____No: Why not?

_____

27. Now for one last question, a chance for some fun work with your imagination. Let's enter a fantasy world where anything is possible. Clear your mind of present limitations, and transport yourself mentally to 5 years in the future. You are speaking to a group of people about a major—and very desirable—breakthrough in business mailing that you have achieved. Please describe the subject of your talk in as much detail as possible, forgetting for a moment whether it really makes sense or seems impossible—just let it come out as you fantasize it.

_____

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That's my last formal question. Thinking back on what we have discussed, do you have any further thoughts about your business mailing operations and their information content, thoughts that you feel I should note for this research to be more complete?

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Thank you ... very helpful... *[end]*