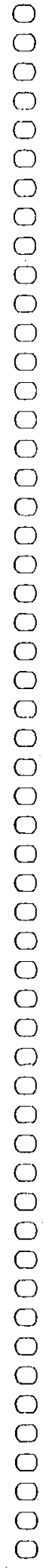


# **1996 SURVEY**

On the Implementation of  
Electronic Data Interchange (**EDI**)  
And Electronic Commerce (**EC**)  
**In CANADA**



Copyrights (C) and all Intellectual property rights reserved

**Title**

*Survey on the Implementation of  
Electronic Data Interchange (EDI)  
and Electronic Commerce(EC)  
in Canada*  
1990, 1992, 1994, and 1996

**Survey Questionnaire**

Y. Lauzon, 1990, 1992, 1994, 1996  
C. Botting, 1992, 1994, 1996

**Survey Reports**

*National User Report*  
Y.Lauzon, 1990, 1992, 1994, 1996  
C. Botting, 1992, 1994  
G.R.Jenkins, J.Y.Picard, 1996

*Vendors Technical Report*  
Y.Lauzon, G.R.Jenkins, J.Y.Picard, 1996

**© All Rights Reserved (C) 1996**

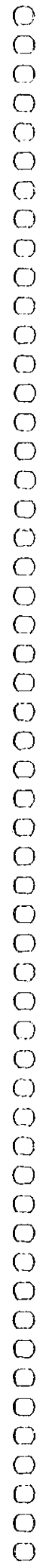
No part of this publication may be reproduced, or stored in a retrieval system, or transmitted in any form, or by any means such as electronic, mechanical, or photocopying, without the express written permission of the **1996 EDI/EC Canada Survey, Principals.**

For specific authorization requests or other related matter, please contact the Principals at the following addresses:

**FAX**  
**INTERNET**

**MONTREAL**  
(514)352-4596  
lauzony@ere.umontreal.ca

**OTTAWA**  
(613)723-8938  
jenkins@fox.nstrn.ca



# CONTENTS

About the Authors .....	II
Background History of this Bi-Annual Survey.....	III
Acknowledgments .....	V
Executive Summary.....	VI
Introduction .....	VIII
Profile of Respondents.....	1
Stages of EDI Implementation.....	6
Assessment of EDI Implementations .....	15
Technological Environment .....	19
EDI Implementation Assistance.....	25
Other Characteristics of EDI Users.....	27
Using the INTERNET .....	30
Financial EDI and Payments .....	32

## APPENDICES

- A) 1996 Survey Questionnaire
- B) Methodology of the 1996 Edition
- C) List of Frequencies
- D) 1996 Survey Objectives



---

## ABOUT THE AUTHORS

### **Carla Botting BCom**

Carla, is a graduate of the University of Manitoba, Faculty of Management and is currently engaged in market research. She has been an active participant in this Canadian EDI survey since 1992.

### **Yvan Lauzon BSc, MBSI**

Yvan, has been teaching Information Systems Automation at the University of Montreal since 1987. He has been acting as the Multilingual Rapporteur of the United Nations EDIFACT Standards. He has been an active participant in this research since 1990.

### **Gordon R. Jenkins BCom**

Gordon, is the author of three books and numerous articles on EDI and Electronic Commerce. He is currently deeply involved as a consultant with the INTERNET and electronic forms (Eforms) as well as Smart Cards and other non-paper applications of technology. He was a special reviewer of the 1994 Edition of the *National Survey Report*.

### **John Y. Picard MBA, CSP, CDP, ISP**

John, is a recognised author on the subjects of EDI Control and Systems Management in North America. He co-authored and chaired *EDI for Managers and Auditors*, Second Edition, published by the Canadian Institute of Chartered Accountants (CICA), Toronto 1993, and *EDI Control, Management and Audit Issues*, published by the American Institute of Certified Public Accountants (AICPA), New York 1995. He was a special reviewer of the 1994 Edition of the *National Survey Report*.

### **Point of Interest**

The authors are collectively referred to as *the author, co-authors, or survey principals* and are the effective owners of the intellectual property rights associated with the survey and related documents and reports.

## BACKGROUND HISTORY of this BI-ANNUAL SURVEY

### Regional Edition

In May 1990, Y. Lauzon started this *user-oriented* profile of EDI implementation, with a successful survey in the Province of Quebec. The simplicity of the questionnaire, the excellent timing, and the appropriate methodology were at the source of the success then obtained. This methodology included major EDI vendor participation, the EDI Council of Canada (EDICC) involvement and the availability of a free respondent summary report.

### The First Nationwide Edition, 1992

In May 1992, the Council, the Quebec EDI Institute, and major EDI vendors decided to conduct a new nationwide survey, with both questionnaires and methodology to be developed under the responsibility of Y. Lauzon.

The EDI Institute conducted a survey throughout Quebec with a bilingual questionnaire in close cooperation with CEFRIO (*Information Technology Research Centre*), and the Quebec Government. A comparable English only survey questionnaire edited by EDICC was used in the other nine provinces. A combined report published by EDICC in October 1992 resulted from these two surveys. It provided an excellent national EDI profile. Responses to these two initiatives generated a total of 753 returned questionnaires of which 632 were from EDI users leaving 121 from non EDI users.

### The Second Nationwide Edition, 1994

In the fall of 1993, the 1992 partners decided to redo this nationwide *user-oriented* survey. The second edition was launched with the production of a new questionnaire covering EDI and other Electronic Commerce (EC) technologies mailed in December 1993. A total of 1060 questionnaires were returned representing 821 from EDI users and 239 from non EDI users.

### The Third Nationwide Edition, 1996

This report is the third nationwide survey report which should be published every two years for as long as it remains a contributive initiative for EDI users and technology vendors everywhere in Canada. The original Principals have been joined by two additional Principals, namely G. R. Jenkins and J. Y. Picard.

The current survey and reports have been made possible because of the financial support given by private donations from sponsors and by the Principals volunteering their time, know-how, and skills.

The underlying principle is that the user community is entitled to a seriously conducted survey and related report, totally impartial, disconnected from commercial interest and/or other dysfunctional pressures or influence to guarantee the most valuable, reliable, quality information possible. The Principals assure that all be done in the best interest of EDI/EC users everywhere, that the trust be maintained, and therefore are willing to stake their professional credibility and reputation on that trust.

## ACKNOWLEDGMENTS

The survey principals want to take this opportunity to extend their most sincere thanks and appreciations to the sponsors. The principals are doing so on behalf of EDI/EC users across Canada wherever they may be. The sponsors are the ones who have helped through sponsorship donations to support this initiative financially. Let us keep in mind that such support comes without any strings attached which could in any way infringe upon the unbiased nature of this survey and associated reports. So, the principals believe that the sponsors through this gesture have demonstrated social concern in the economic development of this country and that they should be properly recognized and commended for it. The following organizations have been sponsoring this survey:

Advantis (IBM Canada)

Canada Post Corporation

Electronic Commerce World Institute

Sterling Software - Ordernet

Also, the following individuals and related organizations have been significant contributors to the success of this survey by participating in the mailing process.

Reid Sutherland, EDS Canada,

Gregory Seale, General Electric

Paul Miller, Revenue Canada

Al Harris, TDSI

Sandra Cardin & Daniel Leblanc, WorldLynx

## EXECUTIVE SUMMARY

For the 1996 survey there were a total of 1,006 respondents representing 823 actual EDI users and 183 non EDI users. This nationwide survey continues to provide a comprehensive snapshot overview of EDI implementation in Canada as well as the use of other Electronic Commerce (EC) technologies.

This survey reveals that in January 1996 there were over 5900 Canadian organizations using EDI exchanging business documents with trading partners, representing an annual increase of 34.6 % over 1994. This growth is consistent with other studies conducted by certain academics and other firms such as the *Gartner Group* and the *EDI Group*. That fact does explain why 51% of current EDI users have only been using this new way of doing business for a period of less than two years.

Nearly 83% of the respondents are clustered in Central Canada, namely Ontario with 51.1% and Quebec 32%. Another 13.7% are in Western Canada and 3.2% are in the Atlantic provinces. Understandably, many of those organizations have regional offices in several locations across Canada.

In terms of respondents, manufacturing has the lion's share with 48.2%, followed by distributors with 20.5%, and wholesaling 7.3%.

By far, the food industry remains the leading sector with 16.2% (16.9% June 1994, and 23% in May 1992), followed by health care centers with 7.5%, and textile/apparel with 7.4%.

In terms of numbers, 27.9% of Canadian EDI users are large organizations with 500 employees or more, 43.8% have between 50 and 499 employees, while 28.3% have fewer than 50 employees. So, it would seem that EDI is used in just about every type of business at this time, although larger organizations have been more proactive with EDI implementations. The majority of users implement EDI in response to a *suggestion* from customers 68.1% or suppliers 11%. This is understating it some, but clearly it is the topdown effect at work.

### STATE OF EDI USAGE

There are over 300 different types of business documents that can be transmitted through EDI. However, the purchase order 70.1% and invoice 45.9% remain by far the most popular and therefore the most common documents in use today. The use of EDI documents related to financial EDI and transport of goods is expected to increase rather markedly this year.

## IMPACT OF EDI IMPLEMENTATION

The most significant benefits relating to EDI implementation were the reinforcement of ties with business partners, increased reliability of data, increased customer service, decrease in transaction errors, and a shorter business cycle. The success of EDI implementation is largely a function of the commitment by top management, the availability of EDI standards, sound knowledge of EDI technology, and user education. Carrying out a pilot project with a partner already using EDI and sufficient human and financial resources are key factors.

## TECHNOLOGICAL ENVIRONMENT

In terms of standards the *Accredited Standing Committee* (ASC) X12 of ANSI is still the most popular standard. The use of the international standard UN/EDIFACT moved from 3% in May 1992, to 7.6% in January 1994, and 10.2% in January 1996. Other Electronic Commerce technologies are also progressing quite well: Fax 86.9%, Bar Coding 49.3%, Public Email 24.7%.

## THE INTERNET

The section on INTERNET provides a significant profile with respect to the use of that technology. The vast majority of INTERNET users are Email users or seekers of information. Clearly, browsing the NET is an important activity. Conversely, the use of that technology to disseminate information is only 23% a significant gap relative to information seeking.

Important points such as lack of knowledge about this technology 30%, or lack of security 43% and intent with respect to future use, all represent appreciated elements of information impacting management and organizations in general.

## FINANCIAL EDI

The 1996 survey wanted to elaborate on this part of EDI which after all does represent the last stage in the accounting cycle, namely payments. The questionnaire did probe for current use and intentions for the near future. The Financial EDI sector is rather slow in getting there and payments by paper cheques remains the favorite mode.

## INTRODUCTION

### CONTEXT OF THE SURVEY

Since the early 1980s, electronic data interchange (EDI) has grown to be a part of the Canadian business landscape. What essentially started in the food, pharmaceutical, transport, and automotive industries quickly moved on to other industry segments. The growth is largely in response to market pressures on business organizations. The topdown effect from suppliers and/or customers and the cluster effect from competitors have contributed significantly to increase movement towards EDI by those businesses heretofore oblivious to the changing economic scene.

Major business trends and international pressures are shaping organizations in many different ways. The economy is globalizing and business concerns have to look to world markets to sustain growth if not mere survival. This of course, suggests that one has to stave off foreign competitors which are now free to compete in traditionally protected domestic markets in order to retain market share.

With increasing international trade, resulting from various treaties such as the Free Trade Agreement (FTA) with the USA, and the North American Free Trade Agreement (NAFTA), practically every business in every Canadian industry segment is forced to re-examine its business strategy, organizational structure and associated corporate policy. Organizations are looking for more efficient ways to do business, shore up a more effective market presence and reduce vulnerabilities. Consequently, strategic alliances reinforcing ties with synergistic business partners and enhanced customer service have become the rule not the exception. More to the point, this is no longer an option and management must be on the lookout for mutually enhanced advantages.

Business process reengineering (BPR) has become a fully generalized term. Paper-based processes are re-designed and data elements are flowed through seamlessly integrated computer applications. This saves data re-entry, so when coupled with mechanized data capture the benefits thereby obtained can be quite significant, not just in cost savings but even more so by providing reliable finger tip information to the management dimension. Clearly, EDI and other Electronic Commerce (EC) technologies provide sufficient rationale and an excellent basis for resolving many of the organizational issues.

EDI, EC, and INTERNET have been growing steadily across the land allowing Canadian business organizations to be more cost/effective. Over the last twelve years, EDI has become an inextricable part of the Canadian business landscape. Basically, it started out in the food,

pharmaceutical, and automotive industries, rapidly followed by significant development in other industry segments. While the continued growth is not spectacular, there is steady growth and the trend towards full generalization is maintaining itself.

As a result of this transition year, it can be reported that the survey is well on its way to become something equivalent to an institution, completely independent, and a non-profit event every two years.

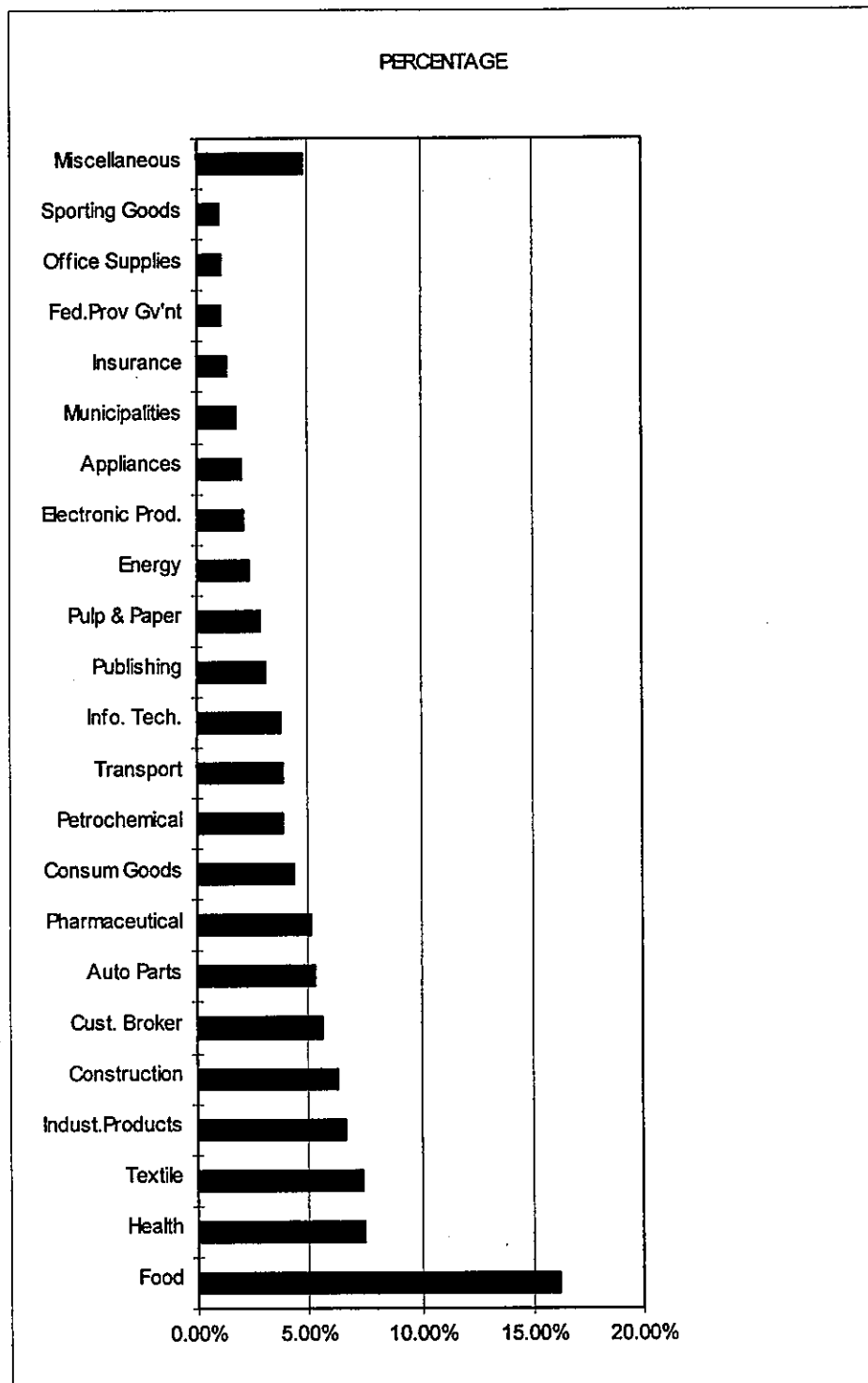
### **SURVEY OBJECTIVES**

The 1996 survey questionnaire was designed to update the available information about EDI and EC technologies in order to draw up the most current profile possible. Specific objectives of this survey appear in Appendix D.

## PROFILE OF RESPONDENTS

For the 1996 survey there were a total of 1,006 respondents representing 823 actual EDI users and 183 non EDI users. The food industry is the leading industry sector for EDI with 16.2%, down slightly from 16.9% in May 1994. It is followed by the health care centers with 7.5% and followed by the textile/apparel industry with 7.4% (7.3% 1994). The proportional decrease for the leading sectors can be explained by the increasing diversity of EDI applications. As new industry sectors join in the effect is to dilute the proportional importance of the leading industry segments.

Figure 1: Industrial Sectors

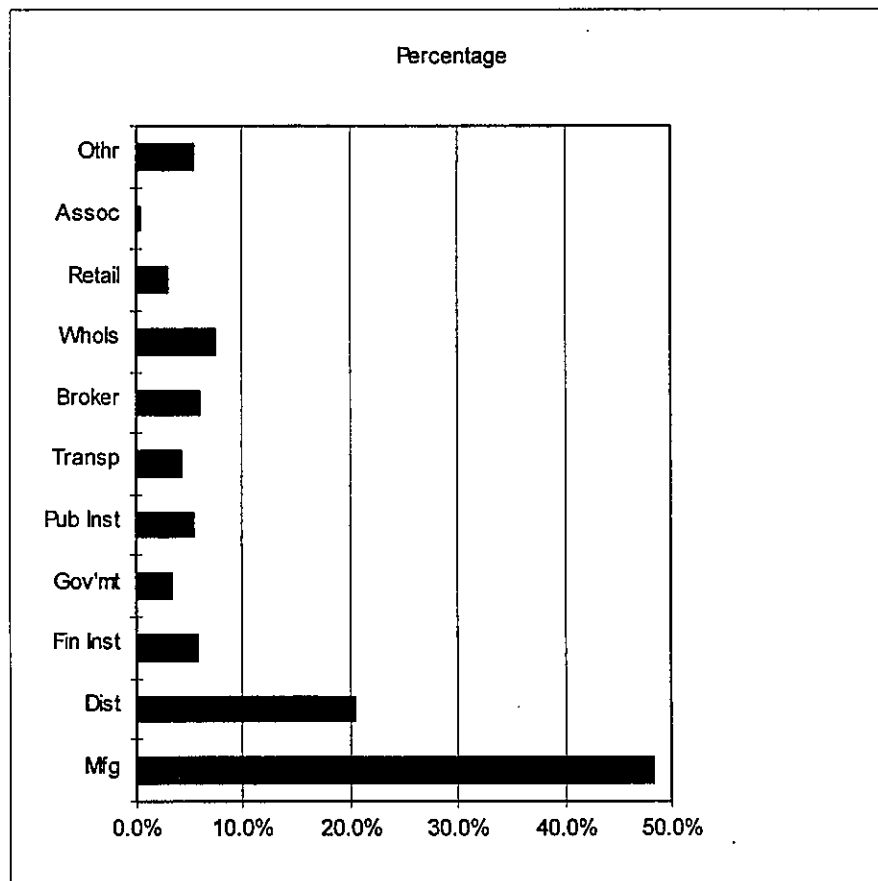


## CLASSIFICATION AND ORGANIZATIONS

Just about one half 48.3%, (49.2%, 1994) of the respondents are in manufacturing, representing the largest portion of users as a class. This is followed by distributors 20.5% (24.5%, 1994), wholesalers 7.4% (9.5%, 1994), brokers 6.0% (5.5%, 1994), banking and other financial institutions (5.8%), public institutions (5.5%) such as schools, municipalities, followed by carriers and transporters at (4.3%). The classification has remained virtually unchanged from the previous three surveys.

As stated in previous Survey Reports, some of the categories such as Governments and Financial Institution are not expected to increase significantly over time given that the number of member organizations are relatively few. Other factors contribute to a somewhat skewed picture. Factors like the downsizing of various government departments and the high concentration of the Canadian financial system. Only eight financial institutions have 85% of the Canadian market.

Figure 2: Categories

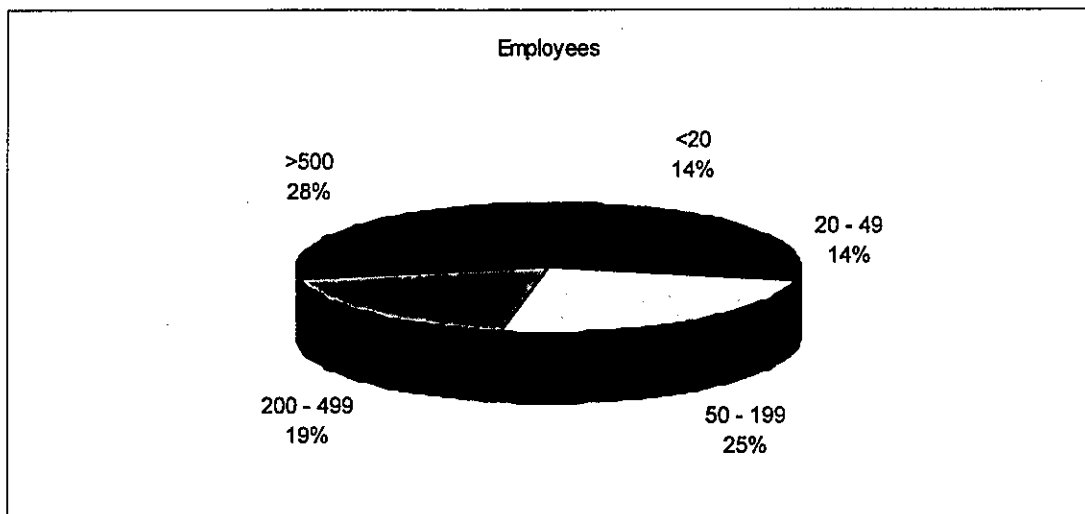


## SIZE OF ORGANIZATIONS

EDI is used by a large variety of companies. However, the largest number of users are from companies with over 500 employees 28%, (33.7%, 1994). The remainder of the respondents are medium-sized businesses with 200 to 500 employees 19.0%, (18.2%, 1994) or with 50 to 200 employees 25.0%, (27.1%, 1994), small businesses with 20- to 50 employees 14.0% (11.4%, 1994), and companies with fewer than 20 employees 14.3%, (9.6%, 1994).

From small firms to medium-sized businesses, EDI can be implemented due to the availability of inexpensive technological EDI tools on a commonly available platform the PC.

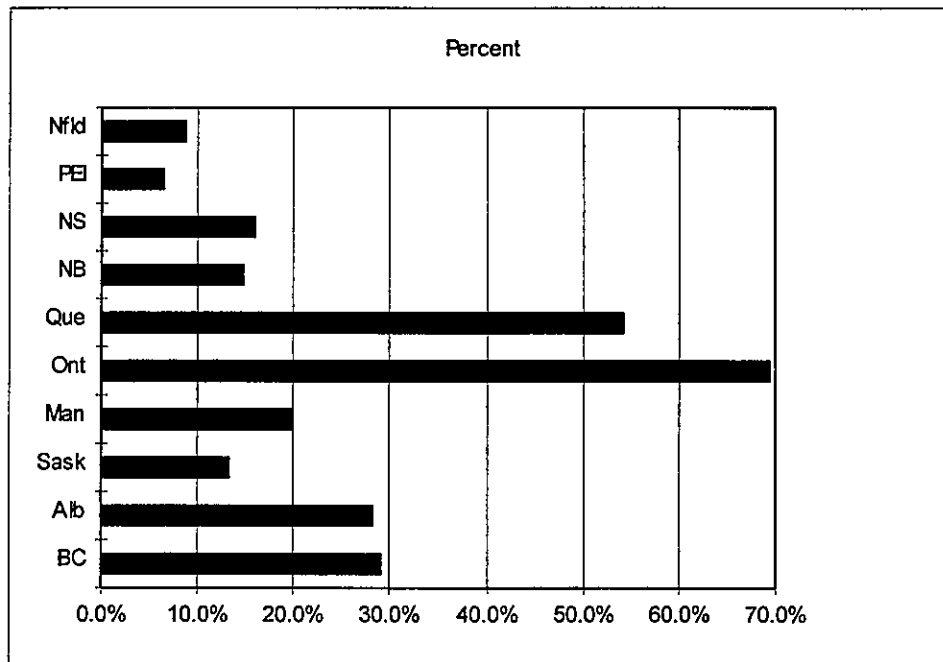
Figure 3: Organizational Size



**GEOGRAPHICAL DISTRIBUTION**

Nearly 83% of the respondents are clustered in Central Canada, namely Ontario with 51.1% and Quebec 32%. Another 13.7% are in Western Canada and 3.2% are in the Atlantic provinces. Understandably, many of those organizations have regional offices in several locations across Canada. 69.3% of respondents said they had a base of operations (locations or offices) in Ontario and 54.3% had one in Quebec.

Figure 4: Distribution by Province



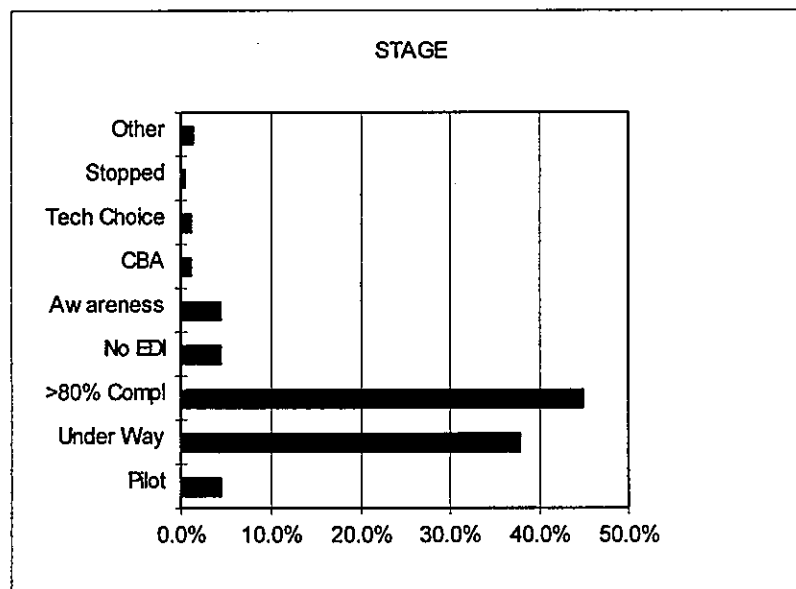
## STAGES OF EDI IMPLEMENTATION

### STATUS OF EDI ACTIVITIES

A total of 46.4% of the organizations (1994, 38.8%) have completed their EDI implementations whereas 39.1% are currently doing so (29.1% 1994), and only 4.5% are at the pilot project stage (10.3% 1994). Only 1.2% are in the process of making their technological choices (23, 2.2%, 1994), while 1.1% are at the preliminary studies level (3.7%, 1994), and 4.5% are at the awareness and information stage (10.4%, 1994). The good news is that only 0.4% respondents reported having stopped the implementation process.

The differences between 1994 and 1996 could be explained by the relative lower number of EDI newcomers in the sample that is fewer EDI users as members of EDI associations.

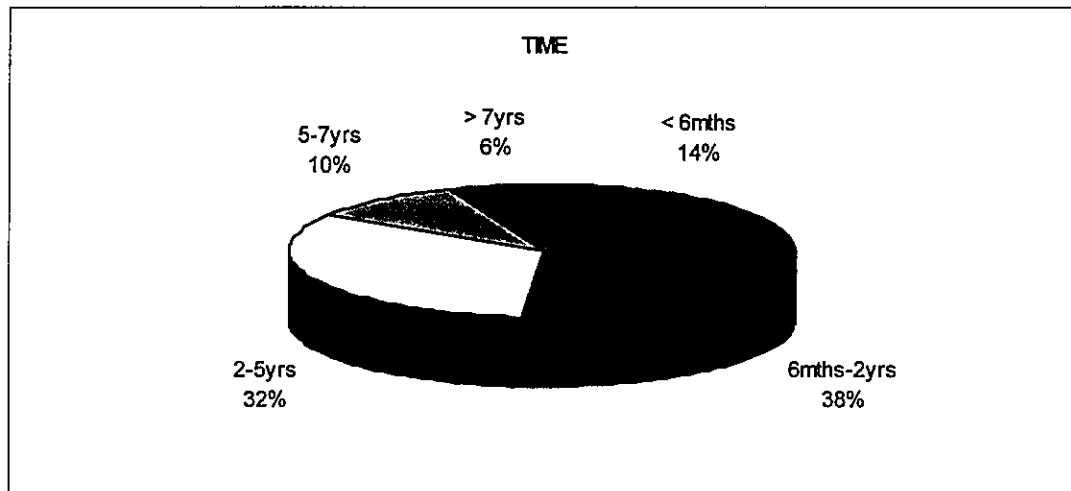
Figure 5: Stages in EDI Implementation



## EDI IMPLEMENTATIONS

EDI is not exactly a new technology, but it did not really emerge until 1984. Since then of course, EDI has grown quite significantly. The rate remains around 35% per year on average, since 1990. **This phenomenal growth explains why the larger number of respondents 51.5% (59.4%, 1994) have less than two years of trading through EDI and as many as 84% overall have less than 5 years.** The figures eloquently demonstrate the recent advent of this technology in organizations.

Figure 6: Time Since EDI Implementation



**RATIONALE FOR EDI IMPLEMENTATION**

**Organizations, predominantly medium and small sized do implement EDI in response to the demand of larger corporations (topdown effect).** The market for EDI implementation continues to be mainly reactionary not proactive. A total of 68.1% (57.4%, 1994) implemented EDI at the request of customers. Also at work, there is the cluster effect which is simply how a member of a given industry responds to the way the competition is gearing up to do business to provide service to its customer base. The second largest portion of respondents stated that they implemented EDI on their own initiative 17.6% (22.8%, 1994) that is to say in a proactive manner. The third largest 11.0% (10.3%, 1994) did so in response to requests made by suppliers.

Figure 7: Rationale for Implementation

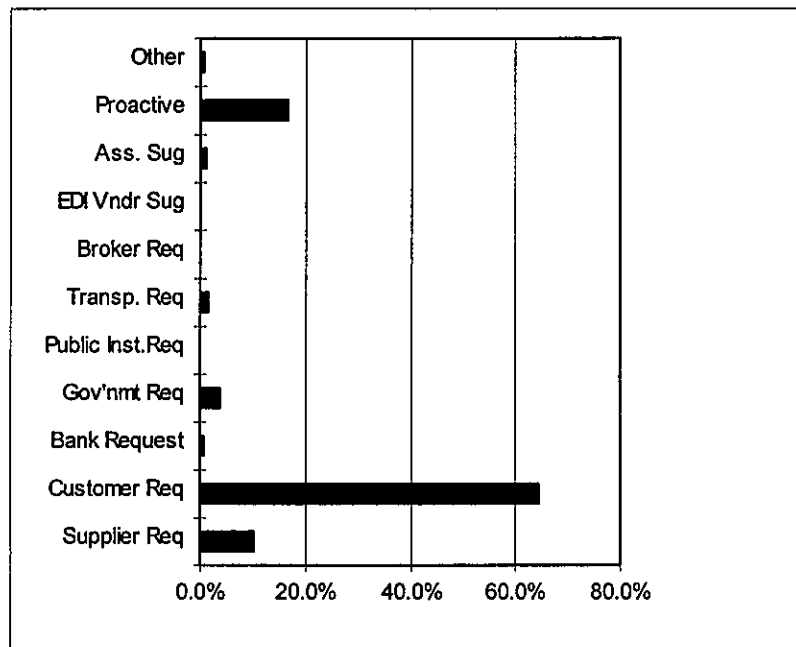
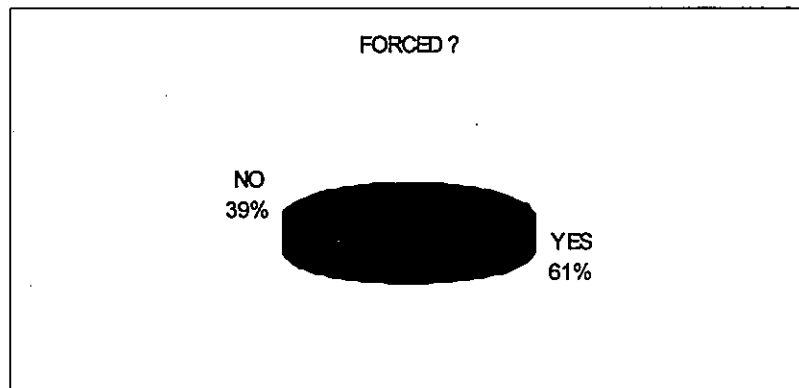


Figure 8: Forced to Implement EDI

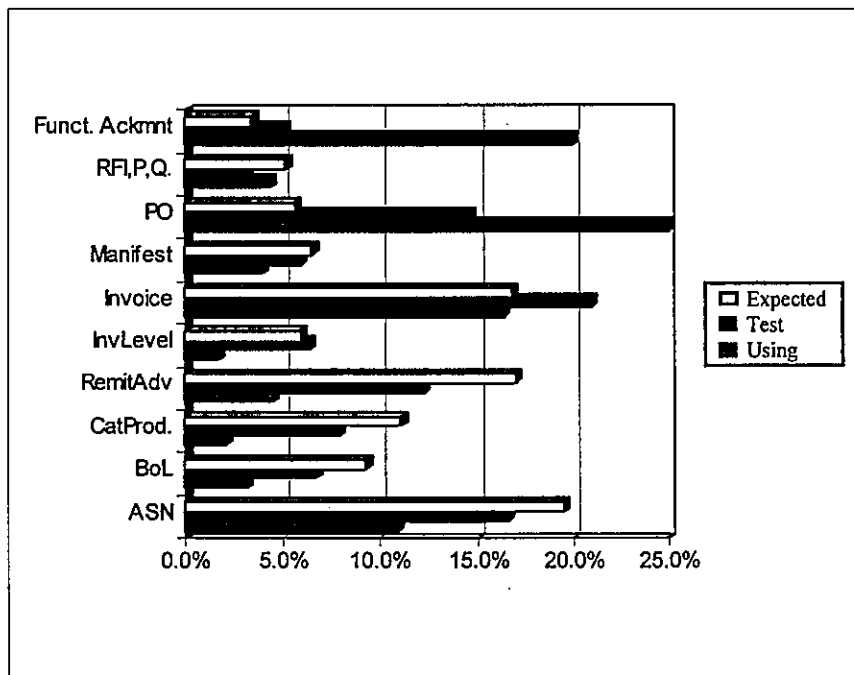


**Larger organizations have been more proactive with EDI implementations.** Generally, the rationale in such cases has been to reduce the cost structure to compete more effectively being in a better position to respond to changing market conditions on a more timely basis. The topdown effect takes place whenever a larger organization demands that its suppliers collectively be on EDI or else...

**TYPES OF TRANSACTIONS**

Clearly EDI can be used for a wide range of business transactions and/or business functions. **More than 200 different types of business documents are now available as part of the EDI public standards.** However, by far the most common types relate to the procurement cycle. Hence, the purchase order is the most widely reported at 70.1%, (63.6%, 1994) of respondents and the invoice at 46.0%, (32.5%, 1994). Other EDI transactions include the functional acknowledgment with 56%, (52.4%, 1994) and the advanced shipping notice with 30.6%, (17.%, 1994). EDI documents relating to Financial EDI and the transportation of goods are still in the early stages of use in Canada. The 1994 survey report stated that *"It is to be hoped that these types of transactions and documents will have advanced a great deal more by 1996"*. Unfortunately, that did not materialize.

Figure 9: EDI Documents Exchanged

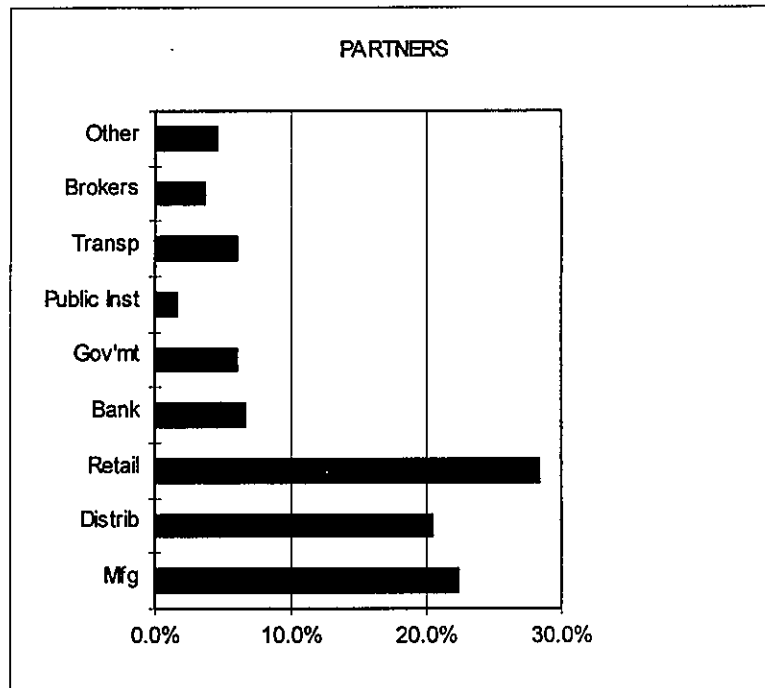


**CATEGORIES OF BUSINESS PARTNERS**

38% of EDI users reported having manufacturers as trading partners (43.7%, 1994). Another 48.1% reported having retailers as partners (38.7%,1994), while 34.7% had distributors as partners (31.1%, 1994).

Described as other partners were financial institutions 11.3% (12.8%, 1994), government agencies or departments with 10.4% (9.0%, 1994), and carriers with 10.3% (8.7%, 1994).

Figure 10: Categories of Business Partners



**NUMBERS OF BUSINESS PARTNERS**

A total of 25% (30%, 1994) respondents use EDI with their suppliers and 63.0% (76.6%, 1994) use EDI with their customers.

EDI linkages with suppliers are leading the way over other EDI applications. In all, 50 respondents were exchanging EDI documents with more than 25 suppliers (49, 1994). On the other hand, only 46 respondents did so with more than 25 customers (46, 1994). Those important proactive EDI users representing less than 10% of the total number of users, are very significant contributors to the improvement of EDI in Canada.

Figure 11: Number of Business Partners

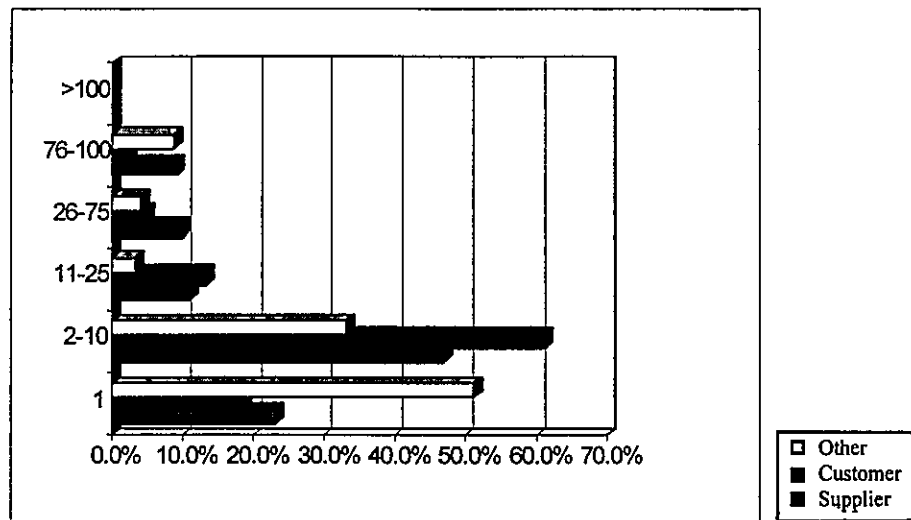


Figure 12: Percentage EDI Partners to Overall

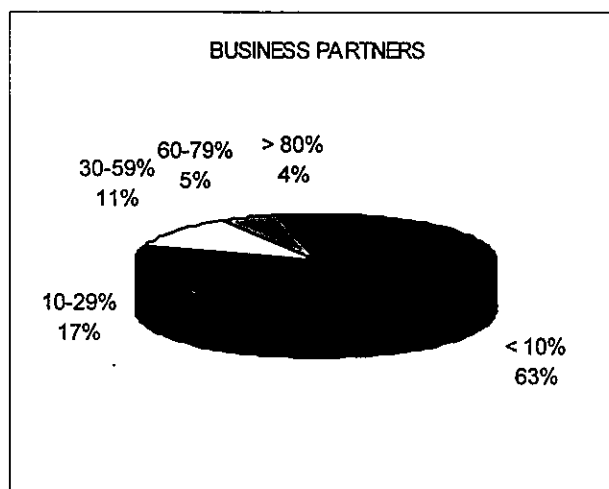


Figure 13: Percentage of EDI Documents to Overall

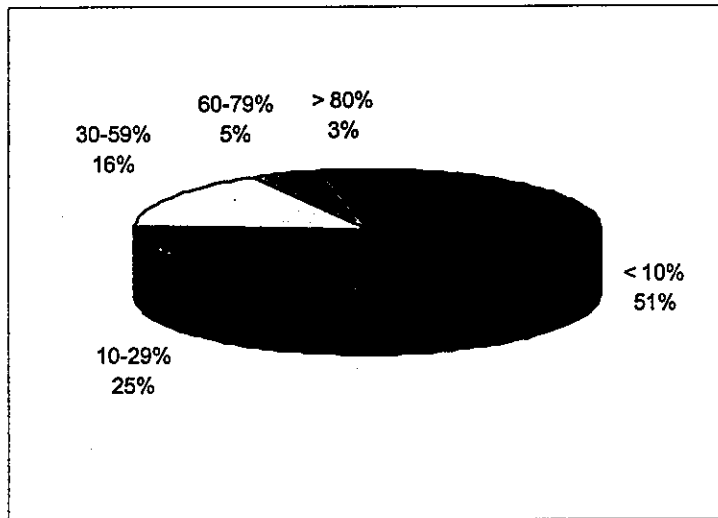
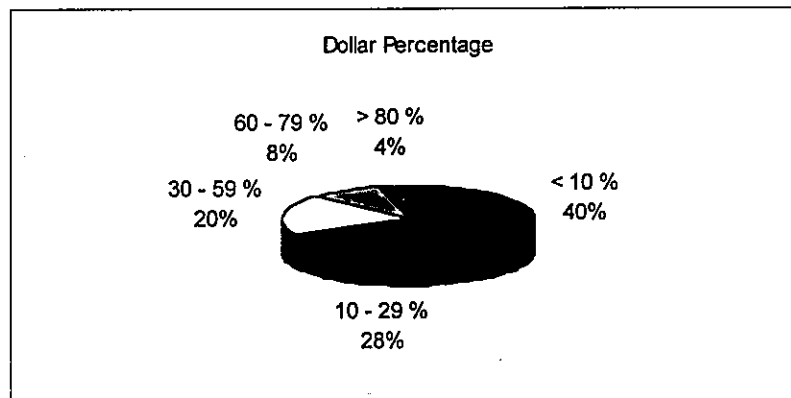


Figure 14: Percentage of EDI Dollars to Overall



### TRADING PARTNER AGREEMENT (TPA)

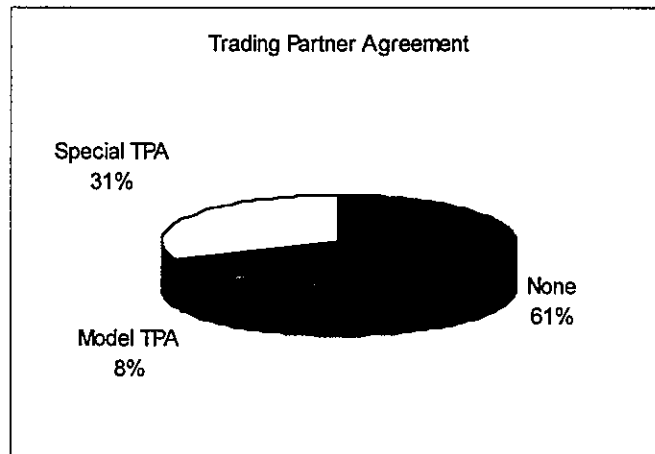
In January 1996 the majority of EDI users 60.5% (54.6%, 1994) of Canadian EDI users did not have an *EDI Legal and Audit Agreement* with their trading partners. This type of agreement can be quite useful in helping to resolve misunderstandings related to paperless environments. The adoption of a *Code of Practice* published by the *EDI Council of Australia* could be of great assistance.

A small percentage 8.1% (12.4%, 1994) of respondents are using a model proposed by the Legal and Audit Committee of the EDI Council of Canada.

This model TPA is available free of charge from EDICC at (416) 621-7160. The Quebec TPA model prepared by the Quebec government is based on the Quebec Civil Code and can be obtained from Quebec government bookstores, or by calling (800) 463-2100.

A homemade agreement is used by 31.4% (35.5%, 1994) of the respondents, but for the most part these types of agreements are based on some models such as the EDI Council of Canada model and the government of Quebec model, based on the Quebec Civil Code.

Figure 15: Trading Partner Agreement

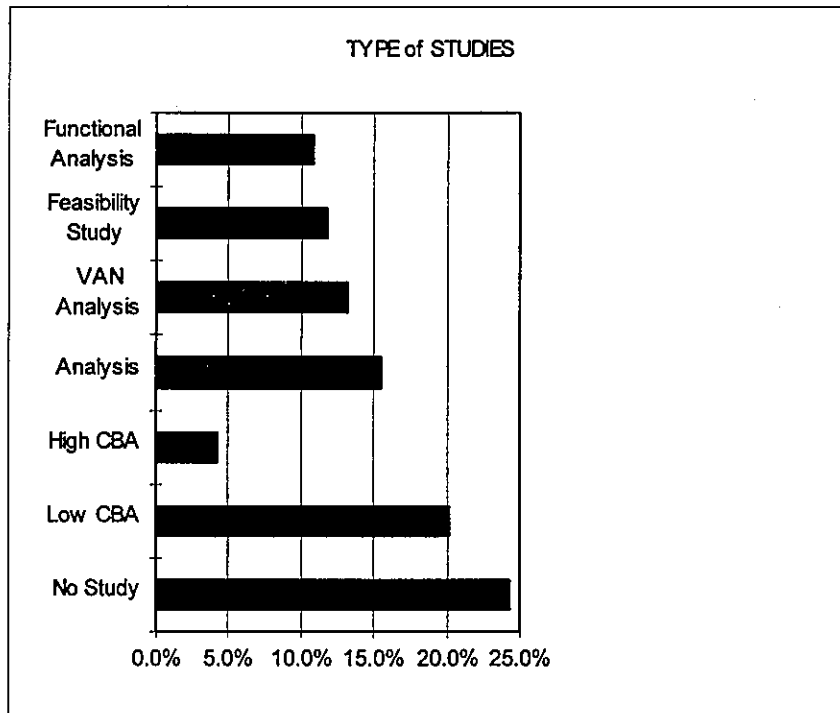


**STUDIES CONDUCTED PRIOR TO EDI IMPLEMENTATION**

Prior to implementing EDI, organizations undertook the following studies: 30.9%, (53.4%, 1994) of respondents carried out a rough and ready sketchy cost-benefit analysis, business process reviews 16.5% (31.0%, 1994), and comparative analyses of EDI translation software 23.7% (30.4%, 1994) and network services 20.3% (26.3%, 1994).

A significant proportion of EDI respondents 37.8% (22.6%, 1994) did not conduct any prior studies at all whatsoever. Considering the actual economic situation in Canada, this fact is quite surprising. In fact, many of the respondents implemented EDI in response to a *strong recommendation* (topdown effect) by a key customer.

Figure 16: Preliminary Studies



## ASSESSMENT OF EDI IMPLEMENTATIONS

### KEY EDI IMPACTS

The respondents were asked to state their opinion regarding the various impacts of EDI on their respective organizations. A list of qualitative and quantitative items identified in previous surveys were offered as suggested impacts, with the added difference that no mention was made as to whether it was a known benefit or problem with respect to EDI. Respondents had to indicate whether the use of EDI had a positive impact on each one of the listed items.

Upon analysis, the data revealed that trading partner relationships are doing very well. **Relationships are strengthened by providing companies with an opportunity to discuss ways and means of helping one another rather than discussing strictly day to day matters such as price changes, which clearly can be done automatically through EDI.** There is a clear recognition that there is economic interdependence. This is important as it impacts corporate networking and the need to increase the competitive posturing of Canadian companies generally.

Other significant benefits stemming from EDI include increased reliability of data 58.0% (70.0%, 1994), improved customer service 56.0% (64.0%, 1994), and the reduction of transaction errors 57.4% (59.0%, 1994).

The 1992 edition had identified significant problems with respect to EDI implementation such as the difficulty involved in integrating EDI with the various computer applications, the actual lack of specific knowledge with respect to EDI technology, a chronic lack of user training, and insufficient partner involvement. Those remains the critical areas of EDI. It stands to reason that door to door EDI compares poorly with a fully integrated system.

Figure 17: Benefits of EDI

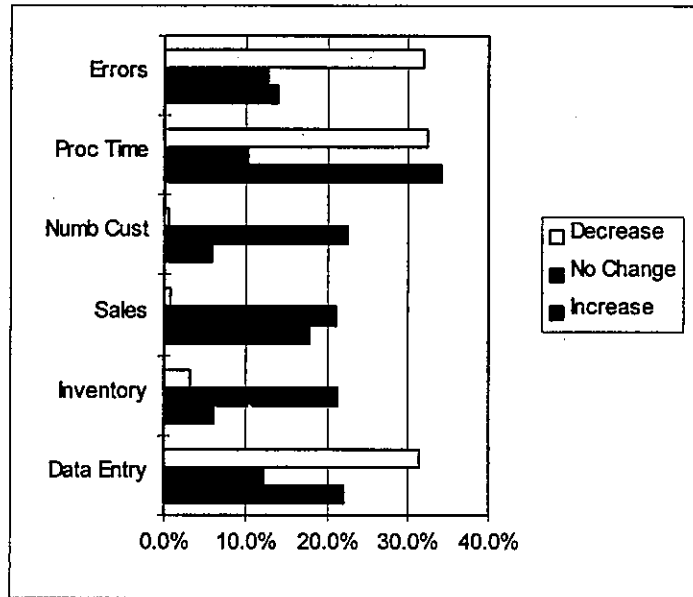
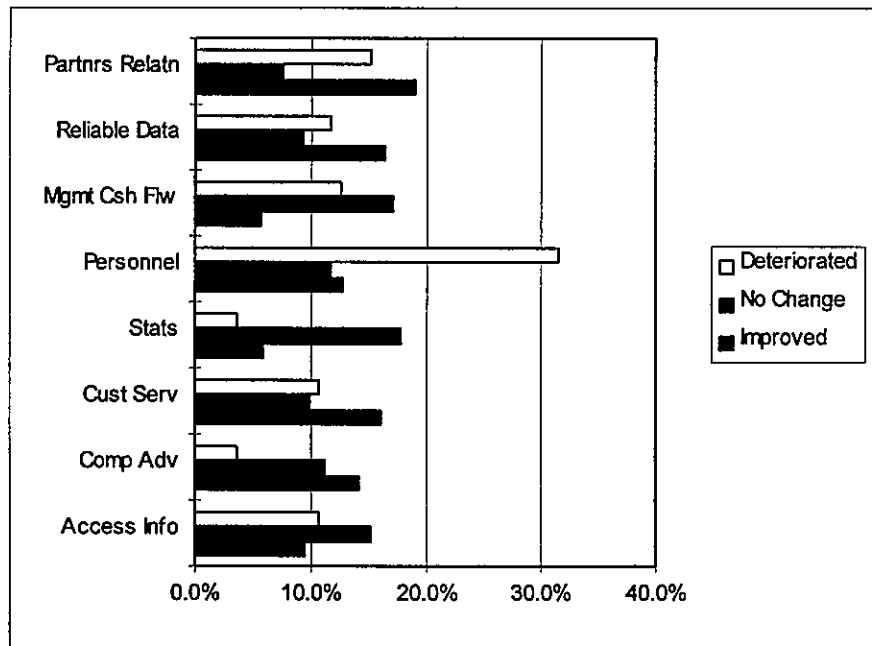


Figure 18: Benefits of EDI



Customer service is the key variable. Large organizations want to respond quickly to changing market demands as it moves continually. In 1996, 55.6% of respondents believed this factor to be the most significant and EDI is a natural for quick response turnaround time.

Competitive advantage can be viewed from two perspectives. The first one is to have a more effective market presence, while the second is simply in response to competitive pressures, simply referred to as the *cluster effect* representing a matter of survival for an organization. Fast access to reliable information is also a key concern and does link up with customer service in many ways since an organization is presumed to exist for its customers.

Figure 19: Staff Changes

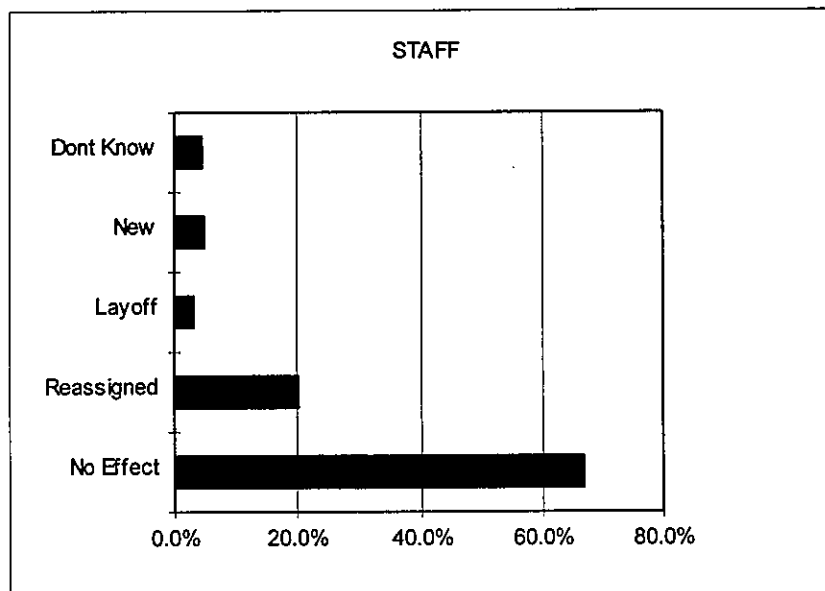
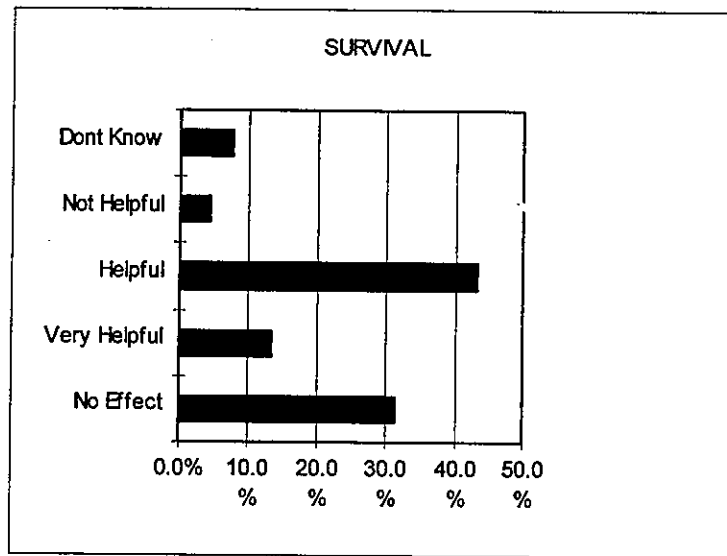
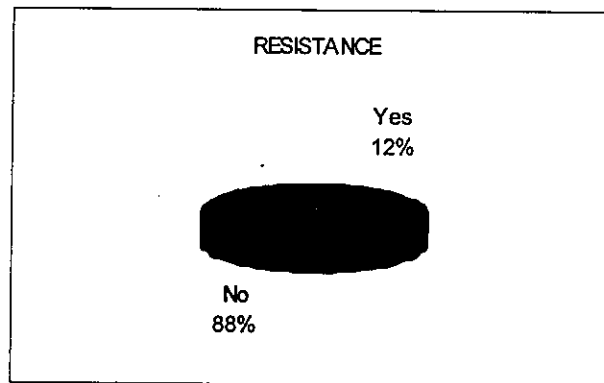


Figure 20: EDI Contribution to Survival



56.5% of respondents answered that EDI either was very helpful or simply helpful with respect to survival. Another 31.5% answered that it had no effect, that is to say it neither contributed nor took away anything.

Figure 21: Resistance



12.3% reported some resistance or sabotage was suffered through the process of implementation. On the other hand 87.7% did not suffer any such consequences. This is the result of good internal communications where staff are made to appreciate the importance of EDI for the organization as a whole.

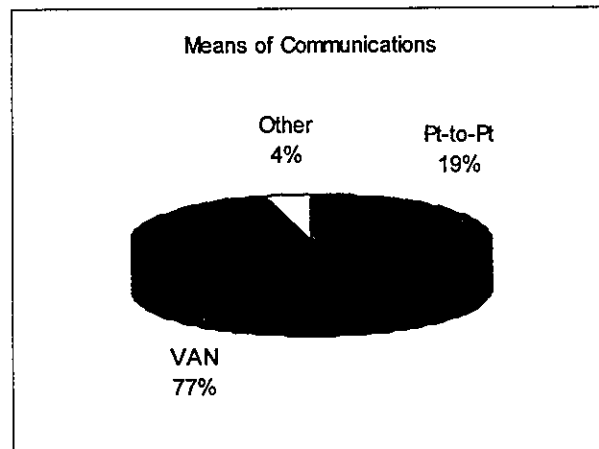
## TECHNOLOGICAL ENVIRONMENT

### MEANS OF COMMUNICATION

The most prevalent means of communication in EDI is the use of third party EDI network services or a value-added network (VAN), which is favored by 77.0% (82.3%, 1994) of respondents.

While the number of respondents using a VAN is large, it is important to note that 19.0% (25.9%, 1994) of the respondents are using a point-to-point link (23.7% in 1992). This mode of communication is more widely used by companies operating in the same metropolitan area, since locally there are no special communication charges.

Figure 22: Means of Communication

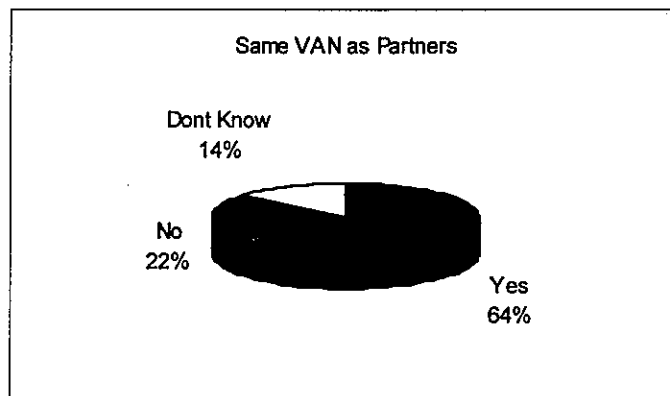


### THIRD PARTY NETWORKS

As opposed to US organizations, most Canadian firms are using a VAN. The connectivity services offered and their marketing assistance are much appreciated by EDI users. In general terms, a VAN is more than just mere network facilities, it is value added because it offers other peripheral services of significant value such as EDI translation services, standards conversion, mail box, line speed matching and other associated services.

Further, 64.0% (57.9%, 1994) of respondents said their major business partners in terms of volumes of documents use the same EDI network as they do. Only 22.2% (20.8%, 1994) said they use different ones.

Figure 23: Usage of Same EDI network as Major EDI Partners



**EDI STANDARDS**

For over a decade now, there has been a controversy surrounding the decision to use the North American EDI Standard, namely the Accredited Standing Committee (ASC) X12 of the American National Standards Institute (ANSI), versus the UN/EDIFACT Standard developed by the United Nations to facilitate and support international trade.

As of January 1996, ASC-X12 was used by 89.8% (74.7%, 1992) of Canadian EDI users. This use of ASC X12 can be attributed to the fact that over 80% of our international trade happens to be with the USA. Consequently, the approach is to see North America as domestic and all else as international.

It is interesting to note that the number of companies using international standards has more than tripled. The standard UN/EDIFACT went from 3% in May 1992, to 7.6% in January 1994, to 10.2% in January 1996. Given globalization of markets this tendency is expected to continue for the foreseeable future.

Figure 24: EDI Standards

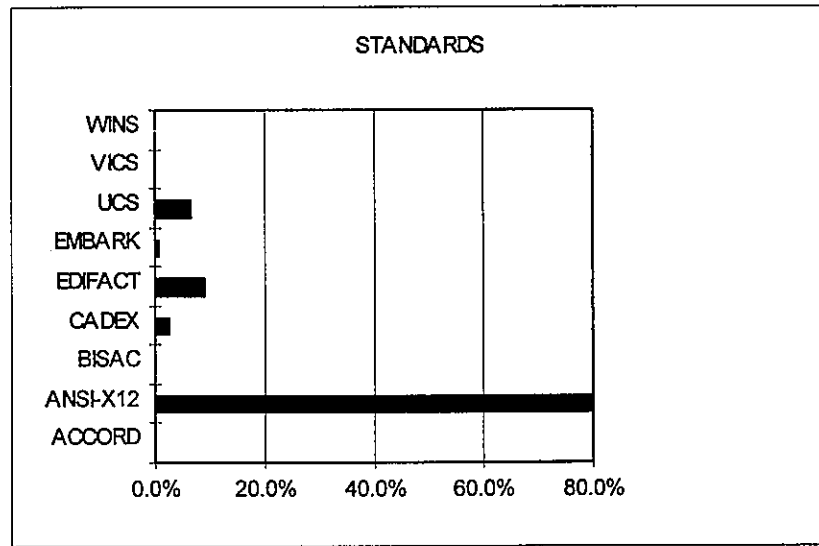
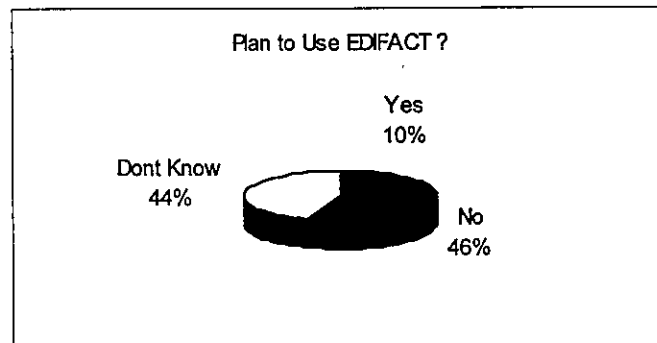


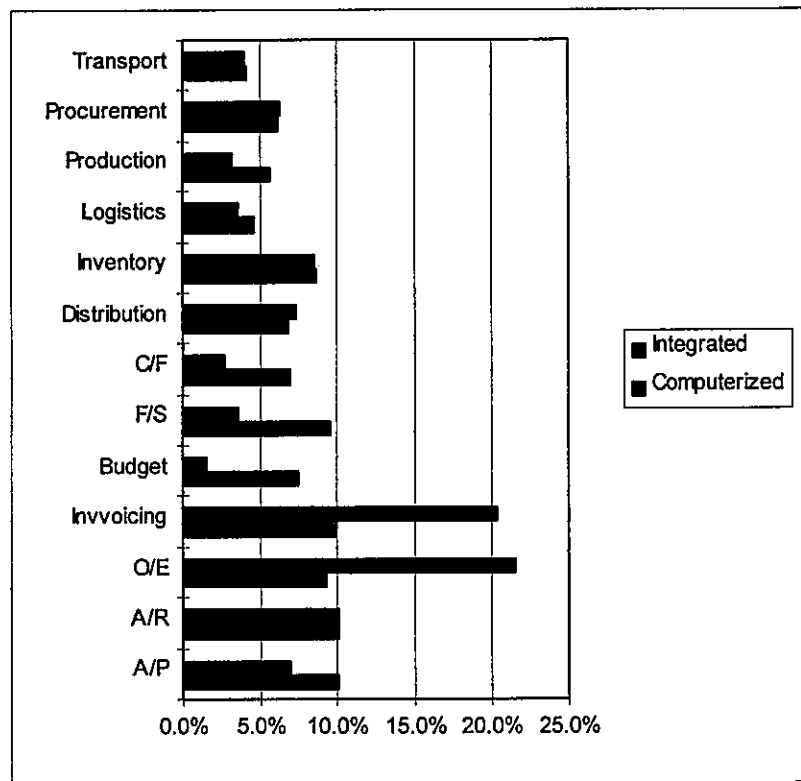
Figure 25: Organizations Planning to Use UN/EDIFACT



**LEVELS OF COMPUTERIZATION AND SYSTEMS INTEGRATION**

Respondents were asked to indicate which business process and/or function had been computerized in their respective organizations. As shown by the results, most organizations have computerized financial applications: such as Invoicing, 96.1% (95.6%, 1994), Accounts Receivable, 97.3% (95.4%, 1994), Accounts Payable, 96.2%, (95.3%, 1994), and Financial Statements, 95.0%, (93.6%, 1994). Also, a large proportion computerized functional management sectors like Inventory Control, 88.3%, (87.0%, 1994), Distribution Control, 74.0%, (76.2%, 1994), and Procurement with 68.6%, (72.3%, 1994).

Figure 26: Levels of Computerization and Systems Integration



## OTHER ELECTRONIC COMMERCE TECHNOLOGIES

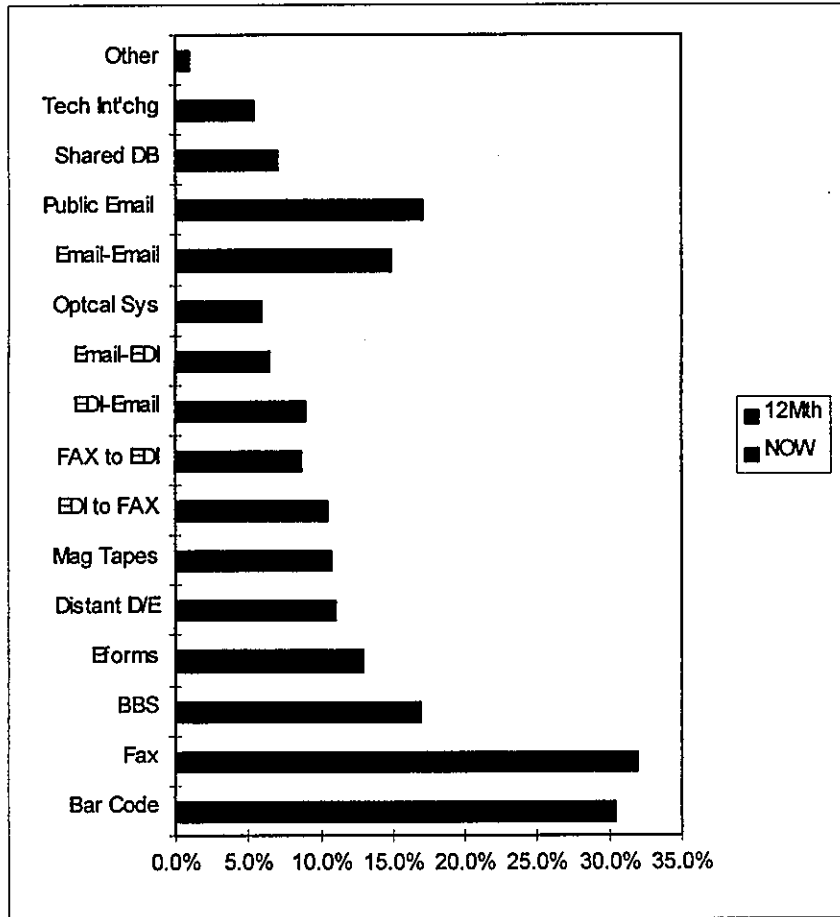
It is to be expected that EDI users do not rely exclusively on EDI for all transactions. In this respect, 86.9% of respondents use the fax as a high ranking second level EC support, (79.0%, 1994). Fax still by far the leading other Electronic Commerce Technologies used by EDI users. Bar coding follows with 49.4%, (43.0%, 1994) which is a natural and necessary complement to EDI for effective inventory control, and the exchange of magnetic media such as cartridges, magnetic tapes and so on remains high enough on the choice list of other EC technologies with 25.6%, (31.5%, 1994) but declining perceptibly some.

Technology hybrid systems linking EDI to FAX and FAX to EDI are receiving more popularity. Many times, EDI is perceived as being the exclusive domain of large organizations contributing to enhance their profitability through significant cost structure reductions while improving their market presence appreciably. EDI intensive applications such as just-in-time (JIT) in manufacturing and quick response (QR) in distribution have contributed to generate some negative perceptions in the market place most notably with smaller supplier organizations. SME's perceive the topdown effect as being imposed to satisfy the larger players with better returns while they have to foot the cost of EDI installation and often the additional working capital necessary to keep inventory on hand to satisfy the new requirements. This preconceived negative opinion and the easy use of fax contribute to the emerging popularity of these hybrid systems.

Such systems allow EDI technology users to send fax or Email messages to *EDI non-capable* trading partners. Major Canadian proactive EDI users (Hub's) now need to link their *EDI non-capable* business partners in such a way as to eliminate data re-entry for them and save costs for everyone.

Respondents were asked about which information technology they plan to implement within the next twelve months and the following answers were obtained: 22.2% stated they plan to implement bar coding (21.4%, 1994) more than likely for inventory control purposes and another 14.0% (11.2%, 1994) stated they plan to use electronic forms.

Figure 27: Usage of Other Electronic Commerce Technologies

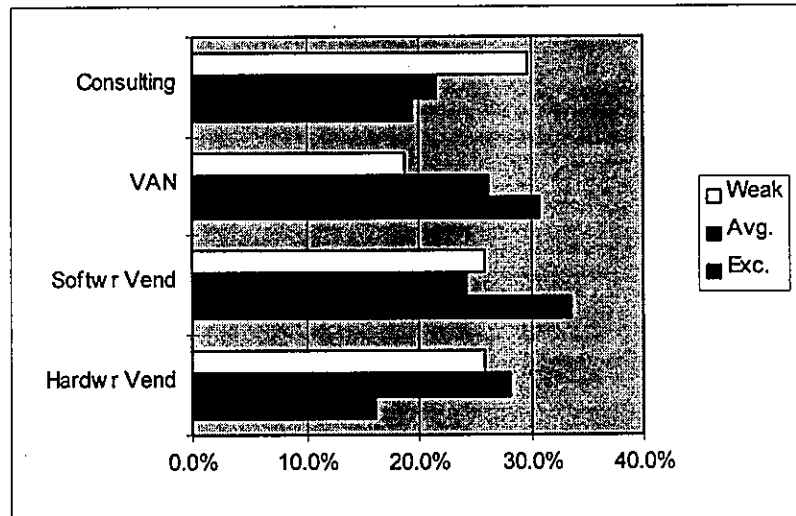


## EDI IMPLEMENTATION ASSISTANCE

### ASSISTANCE REQUIRED

The respondents were asked to rank the level of support obtained from the various available sources namely, consulting, VAN vendors, hardware and software vendors. Generally, the excellent response applied to software vendors where 38.8% said they had excellent support. VAN's ranked second with 36.4%. Systems consultants were third with 28.2%. Hardware vendor ranked fourth with 21.2%.

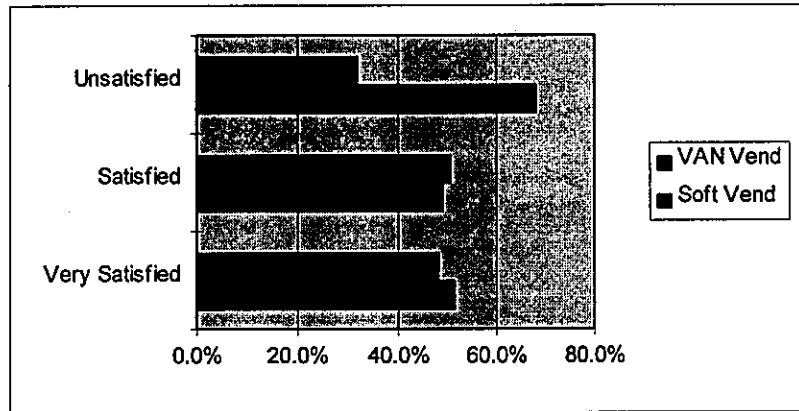
Figure 28: Support by Vendor Categories



**QUALITY OF ASSISTANCE BY TECHNOLOGY VENDORS**

EDI respondents appreciate the assistance provided by the various vendors of technology during the implementation process. **VAN services and software vendors stand out for the quality of assistance and support, followed by consultants and hardware vendors.** As expected, hardware problems are never much appreciated by respondents.

Figure 29: Degree and Quality of Assistance by Vendors

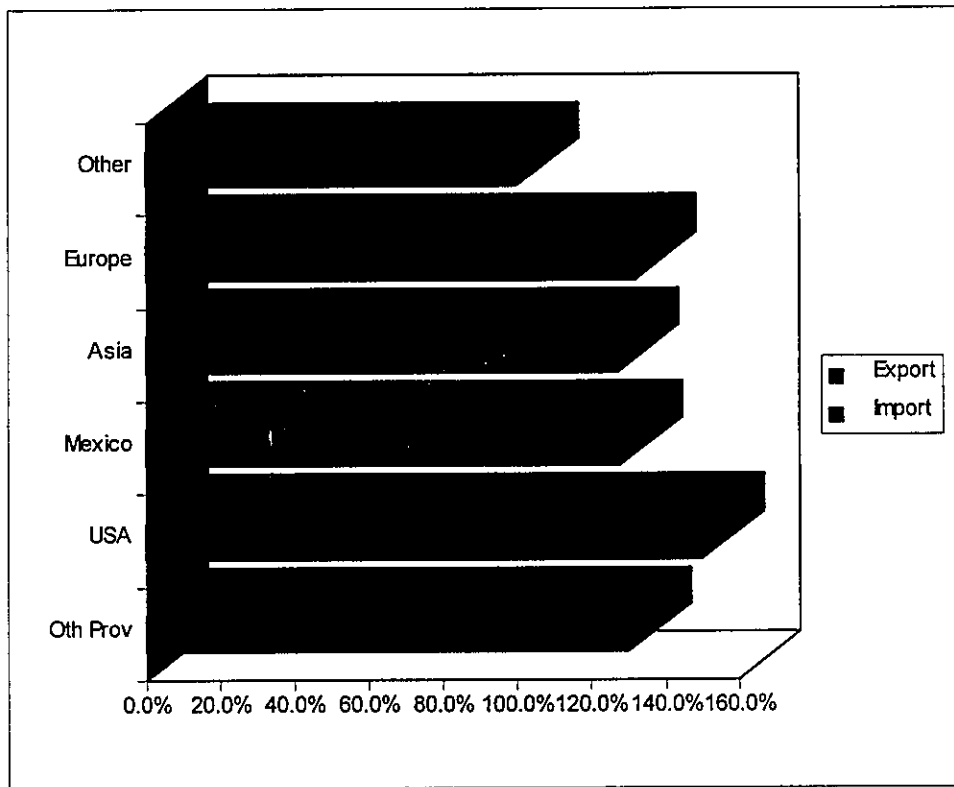


## OTHER CHARACTERISTICS OF EDI USERS

### EXTERNAL TRADE

This 1996 edition shows that EDI respondents still very active on the interprovincial and international trade scenes. One-third trades with Europe and one-quarter with Asia. Those companies should seriously evaluate the appropriateness of using the UN/EDIFACT Standard.

Figure 30: External Trade



### EDI FOR INTERNATIONAL TRADE

Despite the effect of the globalization of economic markets, only 13.1 % of EDI users actually use EDI for international trade.

### RESPONDENTS' SPECIFIC ROLES AND RESPONSIBILITIES

Respondents come from several distinct and diverse corporate levels and functions. 10.2% (11.4%. 1994) are from top management, but what is striking is the over representation of

the MIS function. Of the respondents, 599 or 43.7% are from information technology (52.0%, 1994), 14.0% (13%, 1994) are from control and financial management, the rest is largely fragmented amongst several different sectors.

This is strongly suggesting that the center of interest for EDI and EC tends largely to reside in the information technology function as opposed to the operational line management side of the business units. Given that EDI and the use of EC technologies represent new ways of doing business and that it is business to business relationships which have to be managed as economic partners, then over time line management will have to recoup for itself full managerial responsibility as though the technology is completely transparent.

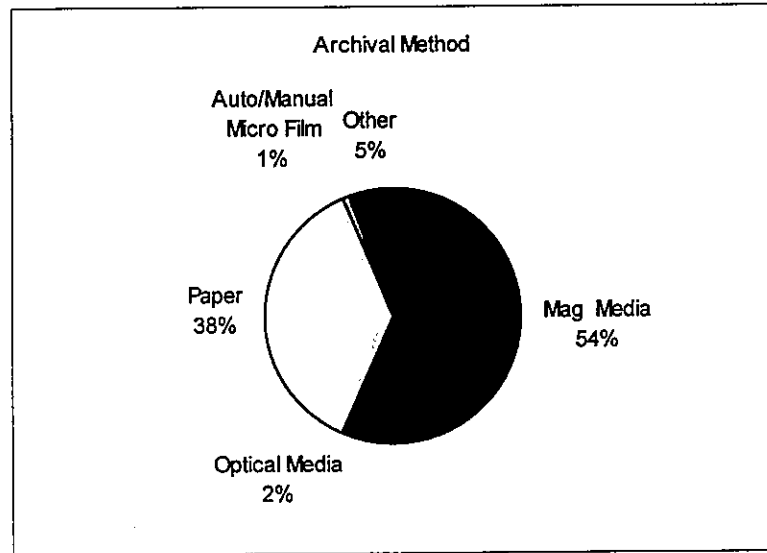
Figure 31: Levels of Respondents

MIS	304	21.9%
Director	277	20.0%
EDI and EC	112	8.1%
Coordinator	81	5.8%
CONTROLLER	69	5.0%
FINANCE	64	4.6%
GENERAL MANAGEMENT	59	4.3%
Vice President	58	4.2%
Analyst	58	4.2%
Supervisor	46	3.3%
PURCHASING	38	2.7%
President	26	1.9%
PRODUCTION / OPERATIONS	26	1.9%
Other	29	2.1%
MARKETING	22	1.6%
Senior Analyst	22	1.6%
Project Manager	21	1.5%
Accountant	16	1.2%
CUSTOMER SERVICE	16	1.2%
Logistics/Transport	14	1.0%
MATERIAL MGT / DISTRIBUTION	13	0.9%
CEO	10	0.7%
INVENTORY CONTRL	6	0.4%

### ARCHIVAL MODE

It is important to point out the critical nature of stored information as applies to the going concern taken as a whole, but it is of significant interest to get from the respondents exactly how they archive their information. Magnetic media in the form of streamer tapes and cartridges remain the most common approach, 59.3% of respondents. The other larger portion is for paper based documents, 41.5%. Only 2.6% use optical methods and even less 0.25% use micro filming whether automatic or manual.

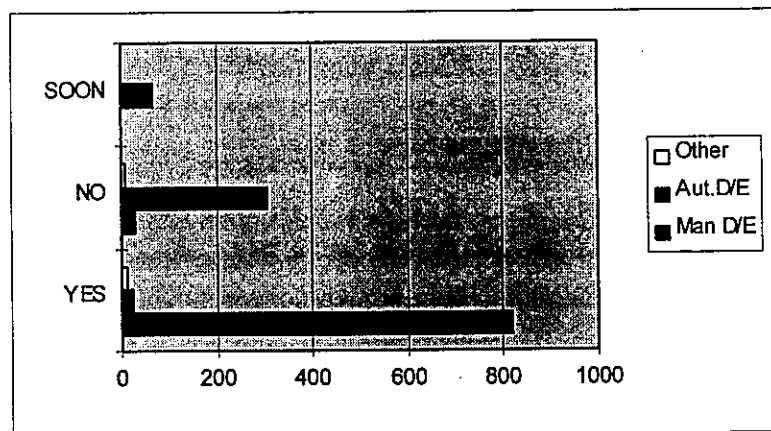
Figure 32: Archival Method



**DATA CAPTURE AND DATA ENTRY**

Respondents were asked how they recapture the data from transactions received by fax and the following are the answers: 94.4% reported it is done manually and only 3.1% have an automated data capture system, but 7.8% said they will consider an automated approach soon.

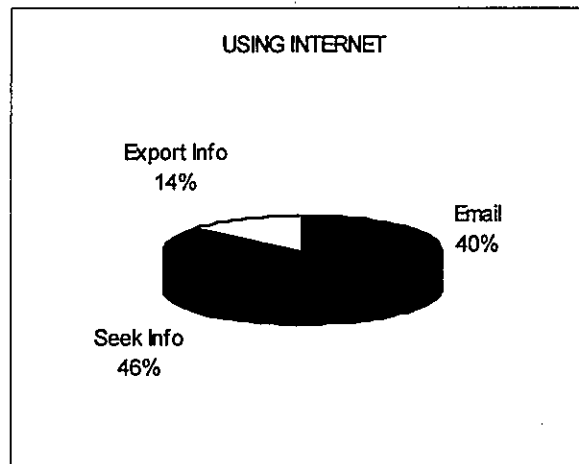
Figure 33: Manual or Mechanized Data Entry



## USING THE INTERNET

This section of the questionnaire is completely new. Since 1994, INTERNET has taken the world by storm. 66.2% of respondents reported using the INTERNET for Email. 78.1% use it for purposes of surfing the NET seeking information, while only 23.0% use it to disseminate information.

Figure 34: Using the INTERNET

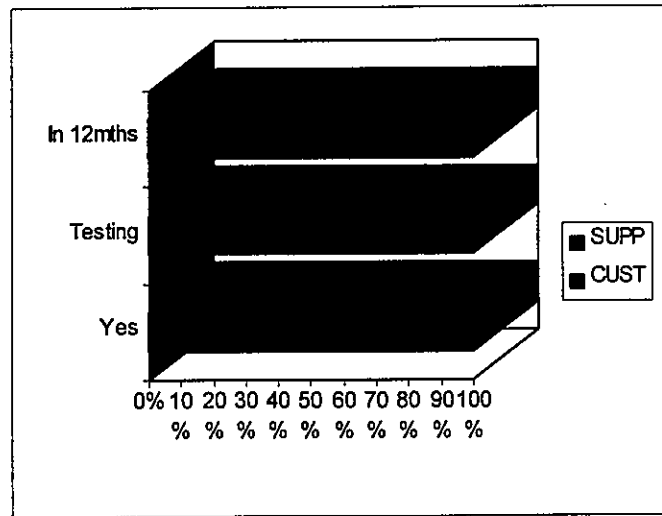


Despite his significant public recognition INTERNET has not really grown into its own full use for purposes of commercial transactions. When you consider that 50.2% of respondents suggested they are not interested in using the NET with customers while another 23.7% expect to do some testing in the next twelve months. On the other hand, 58.7% said they would not use it with suppliers while 21.2% expect to do some testing in the next twelve months. For those expected to do some testing, likely the use would match the proportions reported above, that is Email and surfing for information.

Given the actual development of the INTERNET, more time is needed to implement the right technology so the major hurdles of security, psychological comfort, and appropriate interfacing with other technologies and related problems are overcome.

We can surmise that the next EDI/EC survey report will focus substantially on the INTERNET use and impacts. However, at this time the following four variables are of central concern for the respondents. Lack of security was reported as a key concern by 318 respondents representing 43.4%. The second was insufficient resources 35.2%, and 30.3% reporting lack of knowledge about the NET, and the fourth expressed a lack of time, 24.2%.

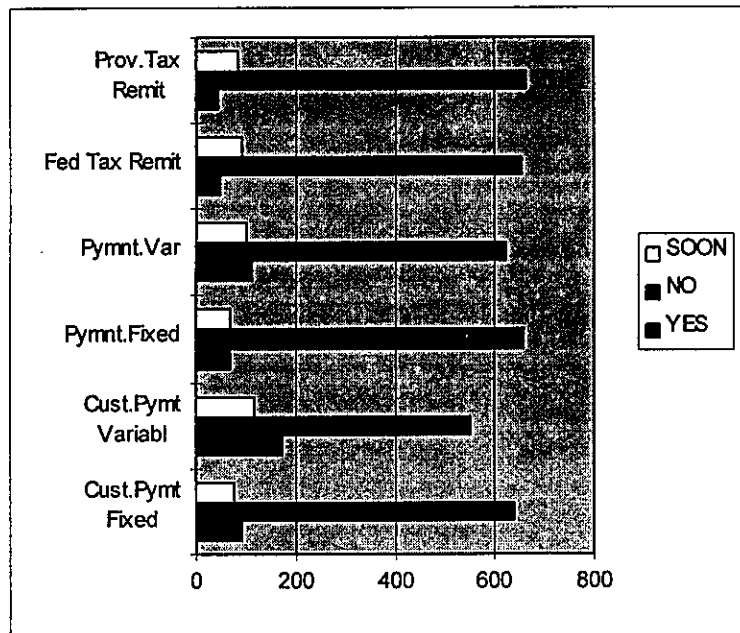
Figure 35: Planning to use INTERNET?



## FINANCIAL EDI AND PAYMENTS

The 1996 survey questionnaire measured the expected interim changes in that sector. Well, it did not materialize. **In fact, paper cheques remain far and away the most favored means of payments in the Canadian world of business today.** The percentages are very low (from 5.0% to 20.0%) for those organizations which are currently using FEDI or are planning to use it soon. Conversely the numbers against are very high (from 65.0% to 84.0%).

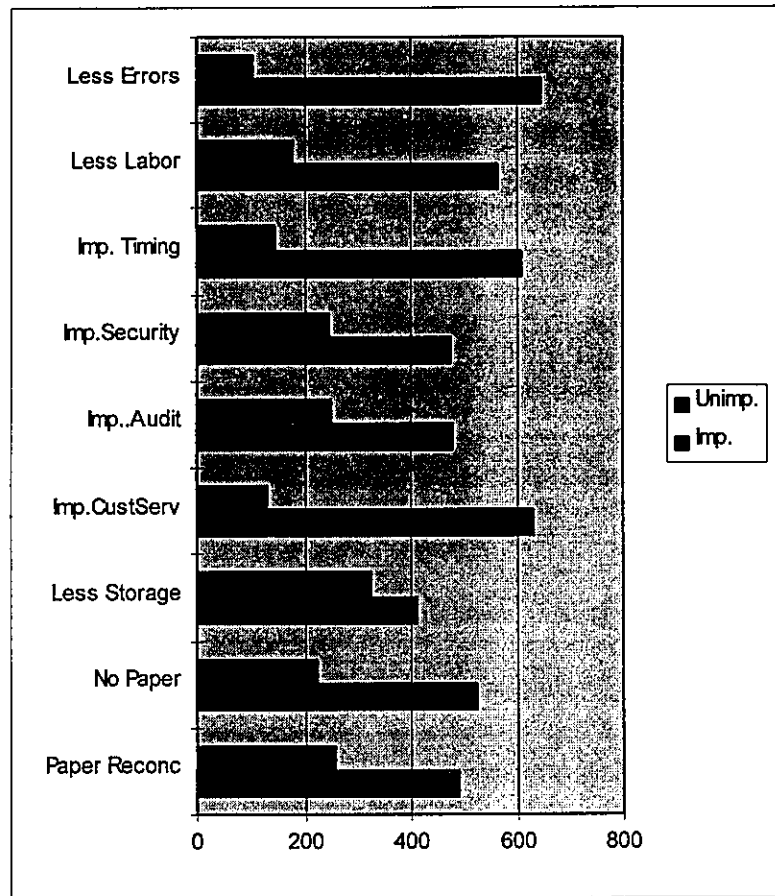
Figure 36: Planning to Use FEDI ?



When the respondents were asked which attributes they considered most important regarding payments, they stated that the reduction of errors stood the highest with 86.2%, followed by improved customer service with 82.9%, and improved timeliness of payments at 80.9%.

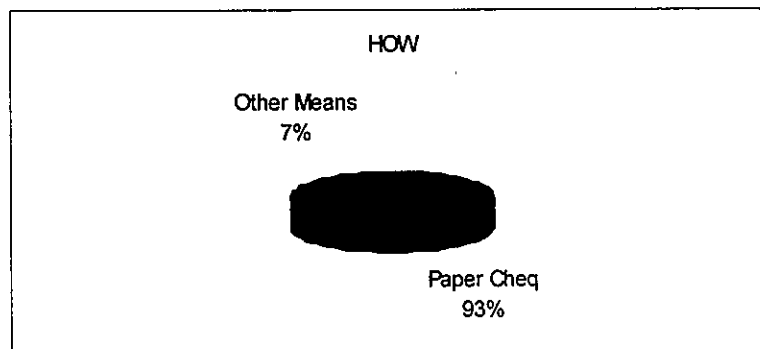
To the respondents, the reduction of labor content is an important issue and 75.8% would want to see a reduction in labor associated with payments. Another significant attribute was the reduction of paper and related storage cost and that registered at 65.5% and 55.8% respectively.

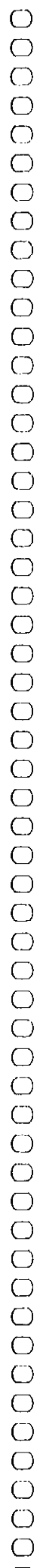
Figure 37: Importance of Each Attribute



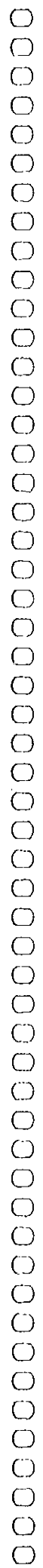
In general respondents prefer paper cheques as opposed to other methods of payments. 63.8% of respondents stated that they were not yet at that stage, but it sure does not say why. There has to be a significant component of psychological apprehensions regarding other means, conceivably associated with one's own ability to be in full control of one's cash flow environment.

Figure 38: Then How The Payments Made ?





# 1996 SURVEY QUESTIONNAIRE



# SURVEY on the Implementation of Electronic Data Interchange (EDI) and Electronic Commerce (EC) in CANADA

(Complete and return before January 26, 1996)  
(C) All Rights Reserved

## Section-I STAGE OF EDI IMPLEMENTATION IN YOUR ORGANIZATION

1.1 What stage of implementation are you at now?  
*Select only one*

- Pilot Project
- Implementation Under Way
- Implementation More than 80% Completed  
→ go to 1.2

- No EDI Capability Currently
- EDI Awareness, Information Level
- Feasibility Study, Cost/Benefit Analyses, ...
- Technological Choices, Software, Network, ...
- Implementation Suspended
- Other, Please Specify: \_\_\_\_\_  
→ in these cases skip to Section-V

1.2 Which type of EDI transactions now and/or within the next 12 months?

	Using	Test	Expct'd
Advanced Shipping Notice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bills of Lading	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Catalog, Product Lists, Prices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Credit/Debit Notes, Payments, Remittance Advice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inventory Level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Invoice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manifest/Ship Notice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Purchase Order	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Request for Info, RFP, RFQ	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Functional Acknowledgment (997, ...)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other, Please Specify: _____			

1.3 In terms of documents, what is the percentage represented by EDI to overall transactions?

- Less than 10% of all transactions
- From 10% to 29%
- From 30% to 59%
- From 60% to 79%
- More than 80%

1.4 In terms of dollar value, what is the percentage represented by EDI to overall transactions?

- Less than 10% of total value
- From 10% to 29%
- From 30% to 59%
- From 60% to 79%
- More than 80%

1.5 How long have you been using EDI with your business partners?

- Less than 6 months
- From 6 months to 2 years
- From 2 to 5 years
- From 5 to 7 years
- More than 7 years

1.6 Who are your EDI business partners?

- Producer/Manufacturer
- Distributor
- Retailer
- Bank or Other Financial Institution
- Government Agency or Department
- Public Institution (School, Municipality, Hospital)
- Carrier/Transport
- Intermediary/Broker
- Other, Please Specify: \_\_\_\_\_

1.7 Which is the main factor as rationale to start using EDI?

*Select only the main one*

- Request from Supplier(s)
- Request from Customer(s)
- Request from Bank or other Fin. Institution
- Request from Government Agency or Department
- Request from Public Institution, School ...
- Request from Carrier/Transport
- Request from Intermediary, Broker ...
- Suggestion Made by an EDI Vendor
- Suggestion Made by an Association
- Own Proactive Initiative
- Other, Please Specify: \_\_\_\_\_

1.8 Were you forced by a business partner to implement EDI?

- Yes
- No

1.9 How many EDI partners do you have?

	Supp	Cust	Oth
Only One EDI Partner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
From 2 to 10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
From 11 to 25	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
From 26 to 75	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
From 76 to 100	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Over 100 Partners			
<i>Please Specify: _____</i>			

1.10 What percentage, EDI partners represent to overall business partners?

- Less than 10%
- From 10% to 29%
- From 30% to 59%
- From 60% to 79%
- More than 80%

1.11 How many new EDI partners will be added in next 12 months?

	Supp	Cust	Oth
From 2 to 10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
From 11 to 25	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
More than 25	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1.12 What is the number of EDI documents/transactions monthly?

	Sent	Rec'd
Less than 100 per month	<input type="checkbox"/>	<input type="checkbox"/>
From 100 to 500	<input type="checkbox"/>	<input type="checkbox"/>
From 501 to 1,000	<input type="checkbox"/>	<input type="checkbox"/>
More than 1,000	<input type="checkbox"/>	<input type="checkbox"/>

1.13 What change do you anticipate in the volume of documents exchanged through EDI, over next 12 months?

- Major Increase, +30% in Volume
- Average Increase, +11% to 30%
- Small Increase, +1% to 10%
- No Change
- A Decrease

1.14 What percentage of documents exchanged with your suppliers is transmitted and received via EDI?

	Sent	Rec'd
None	<input type="checkbox"/>	<input type="checkbox"/>
Less than 10% of total number	<input type="checkbox"/>	<input type="checkbox"/>
From 10% to 29%	<input type="checkbox"/>	<input type="checkbox"/>
From 30% to 59%	<input type="checkbox"/>	<input type="checkbox"/>
From 60% to 79%	<input type="checkbox"/>	<input type="checkbox"/>
More than 80%	<input type="checkbox"/>	<input type="checkbox"/>

1.15 What percentage of documents exchanged with your customers is transmitted and received via EDI?

	Sent	Rec'd
None	<input type="checkbox"/>	<input type="checkbox"/>
Less than 10% of total number	<input type="checkbox"/>	<input type="checkbox"/>
From 10% to 29%	<input type="checkbox"/>	<input type="checkbox"/>
From 30% to 59%	<input type="checkbox"/>	<input type="checkbox"/>
From 60% to 79%	<input type="checkbox"/>	<input type="checkbox"/>
More than 80%	<input type="checkbox"/>	<input type="checkbox"/>

**Section-II IMPLEMENTATION IMPACTS**

2.1 Indicate whether using EDI resulted in a decrease or increase in:

	MjrInc	NoChg	MjrDec
Level of Manual Data Entry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Level of Inventories	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Level of Sales	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Number of Customers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Transaction Processing Time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transaction Errors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.2 Indicate whether using EDI resulted in a deterioration or improvement in the following qualitative items:

	Impr.	NoChg	Deter.
Access to Information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competitive Advantage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Customer Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Easy Collection of Statistics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Efficiency of Personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Efficiency in Management of Cash Flow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reliability of Data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trading Partners Relationship	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.3 Did EDI cause staff changes?

- No Effect on Personnel
- Reassignment of Personnel
- Laid off of Personnel
- New Personnel were Added
- Do not Know

2.4 Do you think that EDI contributed to the survival of your organization?

- No Effect
- Very Helpful
- Helpful
- Not Helpful
- Do not Know

2.5 Did your organization suffer any EDI implementation sabotage and/or negative/passive resistance?

- Yes
- No

**Section-III TECHNOLOGICAL ENVIRONMENT**

3.1 What means of communication are you using?

- Point to Point Links
- Third Party EDI Network, or Value Added Network (VAN)
- Other, Please Specify: \_\_\_\_\_

3.2 Which third party EDI network are you currently using?

Please Specify: \_\_\_\_\_

3.3 Are your major EDI partners using the same network as your organization?

- Yes,  No,  Do not Know

3.4 Which EDI translation software are you using?

Please Specify: \_\_\_\_\_



5.3 Indicate the relative significance of the following decision criteria regarding your selection of EC technologies?

Technology	Vry Imp	Imp	UnImp
Cost of Acquisition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Operational Cost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall Reputation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Superior Technical Capabilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Knowledge of Client's Business Vendor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vendor Size and Stability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vendor is the Key Player in Your Industrial Sector	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vendor is a Canadian Concern	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provide Full Range of EC Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.4 If you do receive transaction documents by FAX, how do you capture the data in order to re-use it in your computerized applications?

	Yes	No	Soon
Manual Data Entry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Automatic Data Entry, Scanner +Data Recognition, OCR, ICR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other, Please Specify: _____			

5.5 Indicate your interest in the following services?

	Int'd	NotInt'd
Converting FAX Messages to EDI	<input type="checkbox"/>	<input type="checkbox"/>
Converting EDI Messages to FAX	<input type="checkbox"/>	<input type="checkbox"/>
Automatic Recognition of Free Format Eforms	<input type="checkbox"/>	<input type="checkbox"/>
Intermediary Processing EDI Messages ...	<input type="checkbox"/>	<input type="checkbox"/>
Electronic Commerce Clearinghouse	<input type="checkbox"/>	<input type="checkbox"/>

Section-VI INTERNET

6.1 Are you currently using INTERNET in the following manner?

- Email
- Seeking Information
- Disseminate Information on your Organization, (Commercial Window)

6.2 Are you using or planning to use INTERNET within the next 12 months to exchange EDI documents with trading partners?

	Cust	Suppl
Yes, Currently	<input type="checkbox"/>	<input type="checkbox"/>
Yes, Now in Test Mode	<input type="checkbox"/>	<input type="checkbox"/>
Not Interested	<input type="checkbox"/>	<input type="checkbox"/>
Not Currently, Expect to Test Within 12 Months	<input type="checkbox"/>	<input type="checkbox"/>

6.3 If not, what are the main reasons?

- Lack of Knowledge about INTERNET
- Lack of Security on INTERNET
- Insufficient Resources
- Short on Time
- Other Please Specify: \_\_\_\_\_

Section-VII FINANCIAL EDI

7.1 Are you now using or expect to be using Electronic Payments within the next 12 months to process the following:

	Yes	No	Soon
Recurring Incoming Customer Payments (Same Amount)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recurring Incoming Customer Payments (Variable Amount)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recurring Outgoing Payments (Same Amount)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recurring Outgoing Payments (Variable Amount)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Federal Tax Payments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provincial Tax Payments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7.2 With respect to electronic payments, indicate the importance to your organization of each of the following issues?

	Imprt	UnImp
Elimination of Paper Based Reconciliations	<input type="checkbox"/>	<input type="checkbox"/>
Eliminating Paper Circulation	<input type="checkbox"/>	<input type="checkbox"/>
Reduce Storage Costs	<input type="checkbox"/>	<input type="checkbox"/>
Improving Customer Service	<input type="checkbox"/>	<input type="checkbox"/>
Improving Audit Trail	<input type="checkbox"/>	<input type="checkbox"/>
Improving Security in Processing Payments	<input type="checkbox"/>	<input type="checkbox"/>
Improved Timeliness of Payments	<input type="checkbox"/>	<input type="checkbox"/>
Less Labor Intensive	<input type="checkbox"/>	<input type="checkbox"/>
Reduced Error Rates	<input type="checkbox"/>	<input type="checkbox"/>

7.3 If you are not using electronic payments at this time:

- a) Why not?
  - Not Yet at That Stage
  - No Time to Implement
  - Insufficient Resources
  - No Incentive
  - Key Managers do not Want to
- b) Then, how do you actually make your payments?
  - Paper Cheques
  - Other Means, Specify: \_\_\_\_\_

7.4 Are you now using or planning to use payment cards in the next 12 months?

	Yes	No	Soon
Corporate Credit Card	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group Health Insurance Reimbursement Card	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section-VIII YOUR ORGANIZATION

8.1 Inclusive of all categories, how many employees are working for your organization across Canada?

- Less than 19 Employees
- 20 to 49
- 50 to 199
- 200 to 499
- 500 and Over

8.2 Does your organization have a base of operation (locations) in the following provinces?

- British Columbia
- Alberta
- Saskatchewan
- Manitoba
- Ontario
- Quebec
- New Brunswick
- Nova Scotia
- Prince Edward Island
- Newfoundland

8.3 Indicate the category which best describes your firm?

- Producer/Manufacturer
- Distributor
- Bank or Other Fin. Institution
- Government Organization
- Public Institution (School, Municip, Hospital)
- Carrier/Transporter
- Intermediary/Broker

- Wholesaler
- Retailer
- Association
- Other, Specify: \_\_\_\_\_

8.4 What is your firm's main sector of activity?

Specify: \_\_\_\_\_

8.5 Does your organization trade with:

	<u>Import</u>	<u>Export</u>
Other Canadian Provinces	<input type="checkbox"/>	<input type="checkbox"/>
United States	<input type="checkbox"/>	<input type="checkbox"/>
Mexico	<input type="checkbox"/>	<input type="checkbox"/>
Asia	<input type="checkbox"/>	<input type="checkbox"/>
Europe	<input type="checkbox"/>	<input type="checkbox"/>
Other, Specify: _____		

8.6 Does your organization use EDI for international trade?

- Yes
- No
- Do not Know

**IDENTIFICATION** (Staple business card or fill out)

Organization \_\_\_\_\_

Respondent Name \_\_\_\_\_

Position, Title and Administrative Unit \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_ PostCode \_\_\_\_\_

Phone ( ) \_\_\_\_\_ Fax ( ) \_\_\_\_\_

Electronic Mail Address \_\_\_\_\_

INTERNET WWW-Site \_\_\_\_\_ Dunn's No \_\_\_\_\_

**Returning the Questionnaire** (Return by MAIL or FAX before January 26, 1996)

Survey, 1996 EDI/EC in Canada  
 PO Box 65008  
 Ottawa, Ontario  
 K2G 5Y3  
 Fax (613) 723-8938

Enquête 1996 EDI/CE au Canada  
 Boîte postale 545, Succ. Desjardins  
 Montréal, Québec  
 H5B 1B6  
 Fax (514) 352-4596

For Information: (Ottawa) jenkins@fox.nstn.ca (Montreal) lauzony@ere.umontreal.ca



## METHODOLOGY OF THE 1996 EDITION

### QUESTIONNAIRES AND TARGETED RESPONDENT AUDIENCE

In the fall of 1995, two survey questionnaires were developed, a bilingual version for Quebec and an English only version for the other provinces. Given that both questionnaires were identical then it would become possible to generate a joint analysis of the data for comparative purposes. Then, a separate report was produced for Quebec by the *CEFRIO* published by the *Quebec EDI Institute* and was released in July 1996. The report can be obtained by calling 514-288-3736 in Montreal.

Both survey questionnaires were released across the land in January 1996 to firms likely to be EDI users. The actual mailing was done by the survey principals in cooperation with major EDI technology vendors. In general terms, the sampling was based on client lists of the major vendors (see the Acknowledgments) and members of the *EDI Council of Canada* and the *Quebec EDI Institute*. A followup reminder fax was strategically sent out to the 1994 respondents only.

The principals mailed out a grand total of 7046 questionnaires to organizations drawn from the available lists. Of those, 72 were returned due to wrong addresses. The rest representing 6974 reached 5915 different organizations meaning distinct company names.

### NUMBER OF RESPONSES

This mailing resulted in 1006 completed questionnaires being returned of which 60.8% were actually returned by mail and 39.2% by fax. There were 10 duplicate questionnaires which had to be discarded given that they were from the same organizations. The rule was designed such that only the first returned questionnaire would be retained and any duplicate ones be put aside. There were 22 rejected questionnaires because they were incomplete. All of this resulted in having 974 qualifying questionnaires as final tally.

### RESPONSE RATE

The actual response rate is simply the ratio of the qualified questionnaires received (974) to the actual number of potentially reachable separate organizations (5915) yielding a rate of 16.5%.

## ESTIMATED NUMBER OF EDI USERS IN CANADA

Unfortunately, it is impossible to establish the exact number of EDI user organizations in Canada when considering the various means of communication in use, point-to-point links being typically just such a case in point. However, the best educated estimates or guesstimates can be made by paying attention to a certain number of attendant factors.

A first factor should be the major EDI network services and EDI software vendors client base which collectively represented a total of 5915 separate and distinct organizations in December 1995. Second, it wasn't possible to guesstimate the number of EDI users making use of other EDI VAN services. Third, the question regarding the means of communication revealed that 15.0% of respondents are not using any EDI network, meaning other types of communications facilities and that cannot be measured.

Hence, in attempting to estimate the number of EDI user organizations in Canada the best estimate range is between 5500 and 6920. Our estimation was set conservatively at 5900. This number then becomes the reference base number for purposes of this report and associated analysis. This number is conservative when considering that *Revenue Canada Electronic Transmission Tax Filing Program* includes over 8000 organizations using a proprietary format.

## GROWTH RATE

In May 1992, the first edition of this survey reported a conservative estimate of 1650 EDI user organizations coast to coast. That had grown to a revised estimate of 3200 reported in the second edition of the survey in January 1994.

Accepting 5900 as a valid number represents a 35% annual compounded growth in EDI use since May 1990. This is quite consistent with the results obtained from other studies conducted by academics and other firms like the *EDI Group* and referenced in the annual directory *EDI, Spread the Word!* This *EDI "Yellow Pages"* is distributed at low charges to all EDI Council of Canada members.

## LIST OF FREQUENCIES



**SURVEY on the Implementation of  
Electronic Data Interchange (EDI)  
and Electronic Commerce in CANADA**

**Section - 1            STAGE OF EDI IMPLEMENTATION IN YOUR ORGANIZATION**

**1.1    What stage of implementation are your at now (N = 974) ?**  
Select only one

	<u>N</u>	<u>%</u>
Pilot Projet	44	4,52
Implementation Under Way	38	139,12
Implementation More than 80% Completed	45	246,41
No EDI Capability Currently	46	4,72
EDI Awareness, Information Level	44	4,52
Feasibility Study, Cost/Benefit Analyses, ...	11	1,13
Technological Choices, Software, Network	12	1,23
Implementation Suspended	4	0,41
Other, Please Specify:	14	1.44

**1.2    Which type of EDI transactions now and/or within the next 12 months ?**

	<u>Using</u>			<u>Test</u>		<u>Expct'd</u>		<u>Rep</u>	
	<u>N</u>	<u>%</u>		<u>N</u>	<u>%</u>	<u>N</u>	<u>%N</u>	<u>%</u>	<u>%</u>
Advanced Shipping Notice	259	30,58	42	4,96	132	15,58	433	51	
Bill of Lading	75	8,85	17	2,01	63	7,44	155	18	
Catalog, Product Lists, Prices	49	5,79	20	2,36	75	8,85	144	17	
Credit/Debit Notes, Payments Remittance Advice	107	12,63	31	3,66	115	13,58	253	30	
Inventory Level	41	4,84	16	1,89	40	4,72	97	11	
Invoice	389	45,93	53	6,26	114	13,46	556	66	
Manifest/Ship Notice	93	10,98	15	5,19	44	5,19	152	18	
Purchase Order	594	70,13	37	4,37	38	4,49	669	79	
Request for Info, RFP, RFQ	103	12,16	8	0,94	35	4,13	146	17	
Functional Acknowledgment (997, ...)	473	55,84	13	1,53	23	2,72	509	60	
Other, Please Specify:	195	23,02	1	0,12	0	0,00	196	23	

**1.3    In terms of documents, what is the percentage represented by EDI to overall transactions (N = 856) ?**

	<u>N</u>	<u>%</u>
Less than 10% of all transactions	437	51,05
From 10 % to 29 %	217	25,35
From 30 % to 59 %	134	15,65
From 60 to 79 %	41	4,79
More than 80 %	27	3,15

1.4 In terms of dollar value, what is the percentage represented by EDI to overall transactions (N = 847) ?

	<u>N</u>	<u>%</u>
Less than 10 % of total value	334	39,43
From 10 % to 29 %	237	27,98
From 30 % to 59 %	171	20,19
From 60 % to 79 %	71	8,38
More than 80 %	34	4,01

1.5 How long have you been using EDI with your business partners (N = 863) ?

	<u>N</u>	<u>%</u>
Less than 6 months	118	13,67
From 6 months to 2 years	326	37,78
From 2 to 5 years	279	32,33
From 5 to 7 years	87	10,08
More than 7 years	53	6,14

1.6 Who are your EDI business partners (N = 839) ?

	<u>N</u>	<u>%</u>
Producer/Manufacturer	317	37,78
Distributor	291	34,68
Retailer	404	48,15
Bank or Other Financial Institution	95	11,32
Government Agency or Department	87	10,37
Public Institution (School, Municipality, Hospital)	25	2,98
Carrier/Transport	86	10,25
Intermediary/Broker	53	6,32
Other, Please Specify:	66	7,87

1.7 Which is the main factor as rationale to start using EDI (N = 865) ?  
 Select only the main one

	<u>N</u>	<u>%</u>
Request from Supplier(s)	95	10,98
Request from Customer(s)	589	68,09
Request from Bank or other Fin. Institution	7	0,81
Request from Government Agency or Department	35	4,05
Request from Public Institution, School...	1	0,12
Request from Carrier/Transport	13	1,50
Request from Intermediary, Broker ...	1	0,12
Suggestion Made by an EDI Vendor	5	0,58
Suggestion Made by an Association	10	1,16
Own Proactive Initiative	152	17,57
Other, Please Specify:	6	0,69

1.8 Were you forced by a business partner to implement EDI (N = 854) ?

	<u>N</u>	<u>%</u>
Yes	521	61,01
No	333	38,99

1.9 How many EDI partners do you have (n = 1061) ?

	<u>Supp</u>		<u>Cust</u>		<u>Oth</u>	
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
Only One EDI Partner	61	23,11	125	18,66	65	51,18
From 2 to 10	124	46,97	410	61,19	42	33,07
From 11 to 25	29	10,98	89	13,28	4	3,15
From 26 to 75	26	9,85	31	4,63	5	3,94
From 76 to 100	24	9,09	15	2,24	11	8,66
Please Specify:		0,00		0,00		0,00

1.10 What percentage, EDI partners represent to overall business partners (n = 848) ?

	<u>N</u>	<u>%</u>
Less than 10 %	534	62,97
From 10 % to 29 %	147	17,33
From 30 % to 59 %	93	10,97
From 60 % to 79 %	43	5,07
More than 80 %	31	3,66

**Section - II IMPLEMENTATION IMPACTS**

**2.1 Indicate whether using EDI resulted in a decrease or increase in:**

	<u>MjrIncNoChg</u>		N	<u>MjrDec</u>		<u>Rep</u>		N	%
	N	%		%	N	%			
Level of Manual Data Entry	85	10,47	394	48,52	333	41,01	812	100,00	
Level of Inventories	24	3,22	687	92,21	34	4,56	745	100,00	
Level of Sales	69	9,15	678	89,92	7	0,93	754	100,00	
Number of Customers	23	3,05	726	96,29	5	0,66	754	100,00	
Transaction Processing Time	132	16,42	330	41,04	342	42,54	804	100,00	
Transaction Errors	54	6,76	408	51,06	337	42,18	799	100,00	

**2.2 Indicate whether using EDI resulted in a deterioration or improvement in the following qualitative items ?**

	<u>Impr.</u>		N	<u>Deter.</u>		<u>Rep</u>		N	%
	N	%		%	N	%			
Access to Information	268	32,80	537	65,73	12	1,47	817	100,00	
Competitive Advantage	399	49,69	400	49,81	4	0,50	803	100,00	
Customer Service	452	55,60	349	42,93	12	1,48	813	100,00	
Easy Collection of Statistics	163	20,35	634	79,15	4	0,50	801	100,00	
Efficiency of Personnel	359	44,43	414	51,24	35	4,33	808	100,00	
Efficiency in Management of Cash Flow	162	20,72	606	77,49	14	1,79	782	100,00	
Reliability of Data	462	57,39	330	40,99	13	1,61	805	100,00	
Trading Partners Relationship	532	65,12	268	32,80	17	2,08	817	100,00	

**2.3 Did EDI cause staff changes (N = 848) ?**

	<u>N</u>	<u>%</u>
No Effect on Personnel	567	66,86
Reassignment of Personnel	172	20,28
Laid off of Personnel	29	3,42
New Personnel were added	42	4,95
Do not Know	38	4,48

**2.4 Do you think that EDI contributed to the survival of your organization (N = 845) ?**

	<u>N</u>	<u>%</u>
No Effect	266	31,48
Very Helpful	112	13,25
Helpful	365	43,20
Not Helpful	38	4,50
Do not Know	64	7,57

2.5 Did your organization suffer any EDI implementation sabotage and/or negative/passive resistance (N = 848) ?

	N	%
Yes	105	12,38
No	743	87,62

SECTION - III TECHNOLOGICAL ENVIRONMENT

3.1 What means of communication are you using (N = 939) ?

	N	%
Point to Point Links	174	18,5
Third Party EDI Network, or Value Added Network (VAN)	726	77,0
Other, Please Specify:	39	4,15

3.6 Are you satisfied with the services obtained from:

	<u>VrySat.</u>		<u>Sat.</u>		<u>UnSat. Rep</u>		N	%
	N	%	N	%	N	%		
EDI Software Vendor	219	27,34	510	63,67	72	8,99	801	100,00
Network Services Vendor	205	26,80	526	68,76	34	4,44	765	100,00

3.8 Are you planning to use the International EDIFACT Standards within the next 12 months (N = 821) ?

	N	%
Yes	78	9,50
No	381	46,41
Do not Know	362	44,09

3.9 Indicate the current level of computerization of the following functions in your own organization ? Also specify which of those functions are integrated with EDI.

	<u>Computerized</u>				<u>Rep</u> N	<u>Integrated</u>				<u>Rep</u> N
	<u>Yes</u>		<u>No</u>			<u>Yes</u>		<u>No</u>		
	N	%	N	%		N	%	N	%	
<b>Financial and Accounting</b>										
Accounts Payable	794	96,24	31	3,76	825	123	18,64	537	81,36	660
Accounts Receivable	802	97,33	22	2,67	824	178	26,65	490	73,35	668
Order Entry	736	92,46	60	7,54	796	378	54,08	321	45,92	699
Invoicing	789	96,10	32	3,90	821	356	50,42	350	49,58	706
Budget Control	592	77,49	172	22,51	764	28	4,66	573	95,34	601
Financial Statement/Ledger	755	94,85	41	5,15	796	63	9,97	569	90,03	632
Cash Flow Management	554	74,86	186	25,14	740	47	8,13	531	91,87	578
<b>Functional Management</b>										
Distribution	542	74,04	190	25,96	732	130	22,69	443	77,31	573
Inventory	687	88,30	91	11,70	778	151	24,75	459	75,25	610
Logistics	370	54,81	305	45,19	675	63	11,50	485	88,50	548
Production	454	67,56	218	32,44	672	58	10,74	482	89,26	540
Procurement	492	68,62	225	31,38	717	111	19,01	473	80,99	584
Transport	322	47,49	356	52,51	678	70	13,01	468	86,99	538

3.10 How do you value assistance from suppliers of technology during the implementation stage ?

	<u>Exc'nt Avg</u>		N	<u>Weak</u>		<u>Rep</u>		N	%
	N	%		N	%	N	%		
Hardware Vendor	147	21,24	461	66,62	84	12,14	692	100,00	
EDI Software Vendor	305	38,80	397	50,51	84	10,69	786	100,00	
EDI Network Services Vendor	280	36,36	429	55,71	61	7,92	770	100,00	
Systems Consultants	177	28,18	354	56,37	97	15,45	628	100,00	

3.11 What types of studies were conducted prior to EDI implementation (N = 823) ?

	<u>N</u>	<u>%</u>
No studies at all	306	37,18
Sketchy Cost-Benefit Analysis (CBA)	254	30,86
Detailed CBA, Transaction by Transaction	53	6,44
Comparative Analysis of EDI Translation Software	195	23,69
Comparative Analysis of EDI Networks	167	20,29
Feasibility Study	149	18,10
Business Process Review, Functional, Flow Analysis	136	16,52

Section - IVLEGAL, SECURITY, AND AUDIT ISSUES

4.1 What type of Legal and Audit EDI Agreement do you have with trading partners (N = 790) ?

	<u>N</u>	<u>%</u>
None	478	60,51
Published Model by Outside Organization		
Which One	64	8,10
Specifically Tailored Agreement	248	31,39

4.2 How do you archive EDI messages (N = 800) ?

	<u>N</u>	<u>%</u>
Magnetic Media, Streamer Tapes, Cartridges	474	59,25
Optical Disk Media, Recordable CD, WORM	21	2,63
Microfilm Produced Automatically, COM	6	0,75
Microfilm Produced by Human Intervention	2	0,25
Paper	332	41,50
Other, Please Specify:	47	5,88

Section - V OTHER ELECTRONIC COMMERCE(EC) TECHNOLOGIES

5.1 What other EC technologies are you using now or plan to use within the next 12 months ?

	<u>Now</u>		<u>12MthsRep</u>		<u>Tot</u> <u>1+2</u>	<u>1+2 %</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>		
Bar Coding	436	49,38	196	22,20	632	71,57
Fax	767	86,86	55	6,23	822	93,09
Electronic Bulletin Board	188	21,29	135	15,29	323	36,58
Electronic Forms, Intra-Organization and Workflow	133	15,06	108	12,23	241	27,29
Electronic Links with a Partner for Distant Data Entry	149	16,87	76	8,61	225	25,48
Exchange of Magnetic Tapes or Cartridges	226	25,59	35	3,96	261	29,56
Link EDI to FAX	70	7,93	107	12,12	177	20,05
Link FAX to EDI	38	4,30	97	10,99	135	15,29
Link EDI to Public Electronic Mail (Email)	57	6,46	92	10,42	149	16,87
Link Public Email EDI	28	3,17	74	11,55	102	11,55
Optical Systems	37	4,19	62	11,21	99	11,21
Private Email (Intra-Org.)	280	31,71	64	7,25	344	38,96
Public Email (Extra-Org)	218	24,69	123	13,93	341	38,62
Shared Common Database with Partners	48	5,44	70	7,93	118	13,36
Technical Data Interchange (Drawings, Specs)	58	6,57	43	4,87	101	11,44
Other, Please Specify:	24	2,72	2	0,23	26	2,94

5.4 If you do receive transaction documents by FAX, how do you capture the data in order to re-use it in your computerized applications ?

	<u>Yes</u>		<u>No</u>		<u>Soon</u>		<u>Rep</u>	
	N	%	N	%	N	%	N	%
Manual Data Entry	818	94,35	28	3,23	2	0,23	848	97,81
Automatic Data Entry, Scanner +Data Recognition, OCR, ICR	27	3,11	307	35,41	68	7,84	402	46,37
Other	12	1,38	7	0,81	0	0,00	19	2,19

Section - VI INTERNET

6.1 Are you currently using INTERNET in the following manner (N = 503) ?

	N	%
Email	333	66,20
Seeking Information	393	78,13
Disseminate Information on your Organization, (Commercial Window)	116	23,06

6.2 Are you using or planning to use INTERNET within the next 12 months to exchange EDI documents with trading partners (N = 514) ?

	<u>Cust</u>		<u>Suppl</u>	
	N	%	N	%
Yes, Currently	29	5,64	15	3,42
Yes, Now in Test Mode	11	2,14	9	2,05
Not Interested	258	50,19	257	58,68
Not Currently, Expect to test Within 12 Months	94	18,29	64	14,61
	122	23,74	93	21,23

6.3 If not, what are the main reasons (N = 732) ?

	N	%
Lack of Knowledge about INTERNET	222	30,33
Lack of Security on INTERNET	318	43,44
Insufficient Resources	258	35,25
Short on Time	177	24,18
Other Please Specify:	133	18,17

Section - VII FINANCIAL EDI

7.1 Are you now using or expect to be using Electronic Payments within the next 12 months to process the following:

	<u>Yes</u> N	%	<u>No</u> N	%	<u>Soon</u> N	%	<u>Rep</u> N	%
Recurring Incoming Customer Payments (Same Amount)	91	11,29	640	79,40	75	9,31	806	100,00
Recurring Incoming Customer Payments (Variable Amount)	173	20,60	551	65,60	116	13,81	840	100,00
Recurring Outgoing Payments (Same Amount)	70	8,76	660	82,60	69	8,64	799	100,00
Recurring Outgoing Payments (Variable Amount)	113	13,50	624	74,55	100	11,95	837	100,00
Federal Tax Payments	50	6,28	655	82,29	91	11,43	796	100,00
Provincial Tax Payments	44	5,56	664	83,94	83	10,49	791	100,00

7.2 With respect to electronic payments, indicate the importance to your organization of each of the following issues ?

	<u>Imprt</u>		<u>UnImp</u>		<u>Rep</u>	
	N	%	N	%	N	%
Elimination of Paper Based Reconciliations	490	65,51	257	34,36	747	100,00
Eliminating Paper Circulation	522	69,79	226	30,21	748	100,00
Reduce Storage Costs	410	55,78	325	44,22	735	100,00
Improving Customer Service	632	82,94	130	17,06	762	100,00
Improving Audit Trail	478	65,66	250	34,34	728	100,00
Improving Security in Processing Payments	474	65,74	247	34,26	721	100,00
Improved Timeliness of Payments	610	80,90	144	19,10	754	100,00
Less Labor Intensive	566	75,77	181	24,23	747	100,00
Reduced Error Rates	648	86,17	104	13,83	752	100,00

7.3 If you are not using electronic payments at this time (N = 811) :

	<u>N</u>	<u>%</u>
<b>a) Why not ?</b>		
Not Yet at That Stage	517	63,75
Not Time to Implement	84	10,36
Insufficient Resources	132	16,28
No Incentive	175	21,58
Key Managers do not Want to	93	11,47
<b>b) Then, how do you actually make your payments ?</b>		
Paper Cheques	571	70,41
Other Means, Specify:	40	4,93

7.4 Are you now using or planning to use payment cards in the next 12 months ?

	<u>Yes</u>		<u>No</u>		<u>Soon</u>		<u>Rep</u>
	N	%	N	%	N	%	N
Corporate Credit Card	270	57,94	173	37,12	23	4,94	466
Group Health Insurance Reimbursement Card	88	10,96	706	87,92	9	1,12	803

Section - VIII YOUR ORGANIZATION

8.1 Inclusive of all categories, how many employees are working for your organization across Canada (N = 951) ?

	<u>Qué.Can.</u>	
	N	%
Less than 19 Employees	136	14,30
20 à 49	133	13,99
50 à 199	236	24,82
200 à 499	180	18,93
500 et plus	266	27,97

8.2 Does your organization have a base of operation (locations) in the following provinces (N = 909) ?

	<u>N</u>	<u>%</u>
British Columbia	264	29,04
Alberta	257	28,27
Saskatchewan	120	13,20
Manitoba	182	20,02
Ontario	630	69,31
Quebec	494	54,35
New Brunswick	135	14,85
Nova Scotia	145	15,95
Prince Edward Island	59	6,49
Newfoundland	80	8,80

8.3 Indicate the category which best describes your firm (N = 951) ?

	<u>N</u>	<u>%</u>
Producer/Manufacturer	459	48,26
Distributor	195	20,50
Bank or Other Fin. Institution	55	5,78
Government Organization	31	3,26
Public Institution (School, Municip, Hospital)	52	5,47
Carrier/Transporter	41	4,31
Intermediary/Broker	56	5,89
Wholesaler	70	7,36
Retailer	28	2,94
Association	3	0,32
Other, Specify:	52	5,47

8.4 What is your firm's main sector of activity (N = 795) ?

	<u>N</u>	<u>%</u>
Food Trade	129	16.23
Sporting goods	8	1.01
Houseware / Leisure / Toys / Hobbies	35	4.40
Insurance	11	1.38
Port Authority	3	0.38
Aviation/Aerospace	4	0.50
Customs Broker /FreighForwarder	45	5.66
General retailer	2	0.25
Electronic goods	17	2.14
Energy / Cable	19	2.39
Schools / College / University	6	0.75
Health Care Center	60	7.55
Gouvernement prov. & fed.	9	1.13
Bank / Financial Institution	7	0.88
Lawyer / Notary	2	0.25
Books / Printing	25	3.14
Furniture	16	2.01
Mines/Metallurgy	5	0.63
Municipality / City	14	1.76
Pulp & Paper	23	2.89
Plastics / Paints	31	3.90
Automotive Parts	42	5.28
Forms / Office products	9	1.13
Security goods	7	0.88
Industrial products	53	6.67
Health care products / Drugs	41	5.16
Hardware / Construction / Electric goods	50	6.29
Information Technology	30	3.77
Textile	59	7.42
Carrier	31	3.90

8.5 Does your organization trade with:

	<u>Import</u>		<u>Export</u>	
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
Other Canadian Provinces	98	65,08	228	65,08
United States	207	80,09	137	69,91
Mexico	70	58,19	97	69,83
Asia	143	72,38	87	54,60
Europe	141	74,62	84	57,40
Other, Specify:	59	96,72	2	3,28

8.6 Does your organization use EDI for international trade (N = 918) ?

	<u>N</u>	<u>%</u>
Yes	120	13,07
No	772	84,10
Do not Know	26	2,83

## 1996 SURVEY OBJECTIVES

The 1996 survey questionnaire was designed to update the available information about EDI and EC technologies in order to draw up the most current profile possible. More specifically the following items of information were sought:

- Number of firms currently using EDI
- Mode of EDI implementation in Canada, including typical applications, implementation process, and types of trading partners
- Relative importance of EDI in terms of volume and types of transactions
- Opinions of those managing an EDI implementation project on the following topics: EDI benefits, problems and barriers, and success factors
- Technology base including types of EDI translation software, EDI network VAN communication protocols, and processing platforms
- Other EC technologies used by EDI users
- Types of assistance needed in the implementation of EC technologies
- Strategic business programs used by organizations
- Interprovincial and international trade issues
- Current status regarding computerization relative to business functions and levels of integration
- Expected usage of EDI and EC technologies in the current year
- Other forms or means of communications used to exchange documents with trading partners
- Plans regarding the use of EDI within the next 12 months
- Special section on financial EDI (FEDI)
- Special section about the INTERNET
- Special section on the organization and respondent profile

