



**Efficient
Foodservice Response**

*"...to achieve a
low cost, high performing
supply chain."*

PURCHASE CYCLE PILOT



**LIPTON MONARCH - SERCA
FOODSERVICE EDI PILOT STUDY**



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I PREFACE

Peter Keen, one of the most published authors on E-Commerce and the Internet said, “*In the future, the success of any company will be determined by the strength of its supply chain.*”

We are experiencing a geometric explosion in technology, rendering laggards obsolete with each innovation. We are in the midst of a global marketplace, which is raising the bar in global competition. The escalation of competition will place increased pressure on productivity. This millennium will demonstrate that the strength of a company will be dictated by the strength of its supply chain. Companies who dominate their respective industries are companies that have a sustainable competitive advantage in managing their supply chain. The Electronic Commerce Council of Canada (ECCC) is at a critical stage as they are poised to play a pivotal role in changing the face of the Canadian supply chain landscape. ECCC is in the process of developing a series of products and services for e-Commerce that the Canadian market needs and wants.

Companies who prosper in the next millennium understand that if an emerging technology is not controlled by management, management will be controlled by the technology. The propensity towards best of class has resulted in an ever-growing love affair with the Internet. The Internet has emerged as a significant factor in making Canadian Companies more competitive.

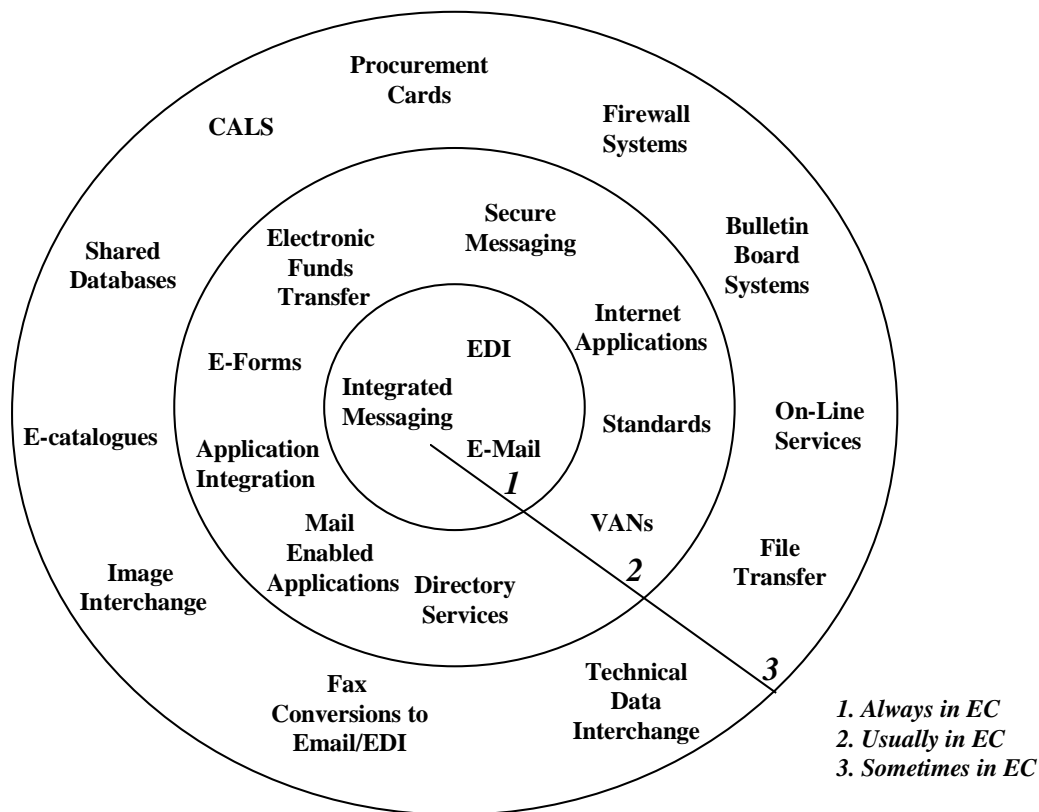
The effective integration of a company’s web presence with its internal processes will dictate who wins and who loses. In summary, the next millennium will create a world where companies compete on their ability to leverage new and emerging technologies. It will be supply chain against supply chain, rather than product against product. The following quote further highlights the importance of EDI.

“Electronic Data Interchange (EDI), Electronic Messaging (E-mail) and Electronic Forms (E-forms) have merged - creating what is currently referred to as electronic commerce (EC). EC continues to experience significant changes as the Internet and other information offerings compete with the traditional service providers for dominance of the inter-organizational communications market.”

Peter Keen

As these technologies evolve, they will spawn an entirely new set of needs for products and services, which, although linked to traditional applications, enhance the business process for the users. These relationships are illustrated in **Figure 1** below.

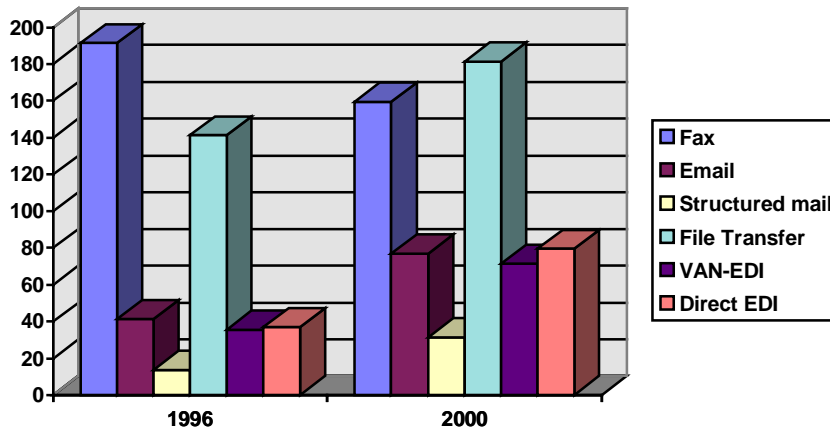
Figure 1 - The Components of EC (Gartner Group Chart)



However, there is no doubt that the demand for electronic inter-organizational information exchange services will continue to grow.

According to recent studies by Thomson EC Resources (now called Faulkner and Gray), the highest growth rates of expenditures compounded over the 5-year period 1996 – 2000, are for EDI at 19-21% and E-mail based services at 17-23%. It is expected that total annual expenditures for EC services in Canada will grow from \$460 Million to over \$600 Million (annually) by the year 2000 (Exhibit 1).

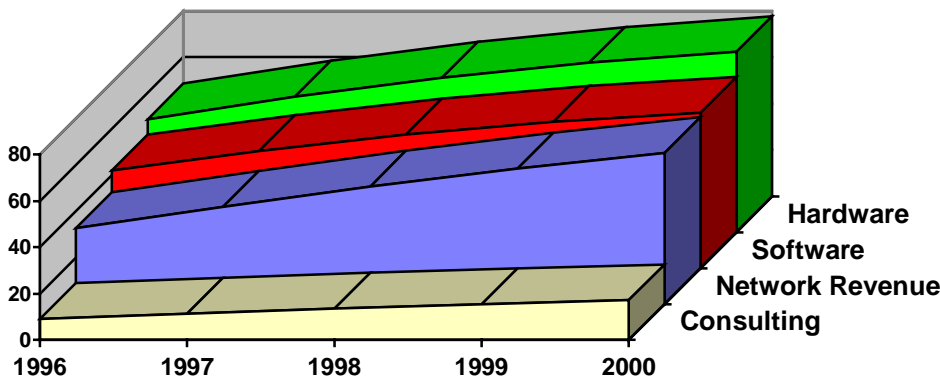
Exhibit 1: EC has been in Email and EDI over the previous 5 years. (Millions of dollars CDN)



During that same period, there was an overall decrease in the use of Fax as an Electronic Commerce tool, as well as a displacement of voice/phone as a business communications medium. Direct file transfer, while the most prevalent form of information exchange (it constitutes over 30% of data exchange), will not grow at as significant a rate (6.5%). Nevertheless, file transfer will continue to be the largest form of data exchange for some years to come.

Furthermore, the overall market for external purchases of products and services to support EC programs will grow at a compounded rate of 14% (cumulative growth of 70.9%), with network revenues and client server software showing the strongest growth rates (Exhibit 2).

Exhibit 2: EC external purchase expenditures 1996 – 2000. (Millions of dollars CDN)



There are some significant issues in the changing shape of the market itself.

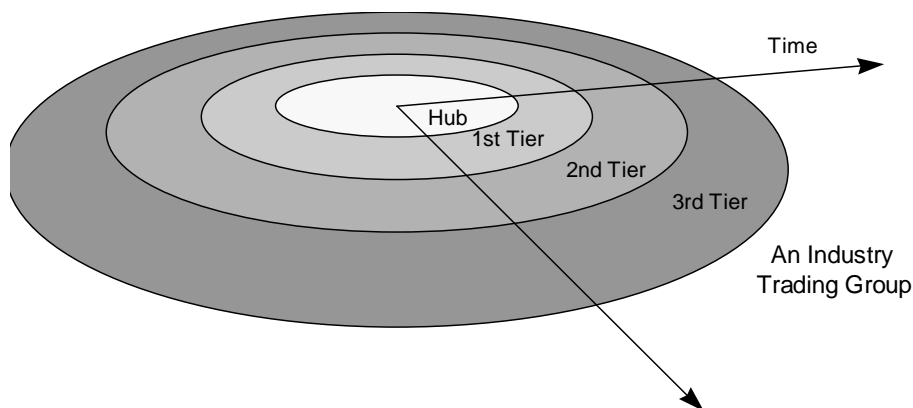
Specifically, some of the key factors that need to be considered are:

- The use of electronic means for exchanging information has moved from the large corporations (\$1 Billion +) to medium sized organizations and the SMEs (Small/Medium Enterprises - i.e., organizations with less than 100 employees). EC is becoming a major

consideration in their selection of strategic partners for business services. For many companies it is a condition of doing business.

- Many large corporations have already forced their tier 1 suppliers to use EC/EDI. Tier 1 is, in turn, forcing their tier 2 suppliers into EC/EDI. As there are more tier 1 and tier 2 suppliers than large corporations, it is expected that the number of customers will increase dramatically in the next twelve to eighteen months. In addition, these customers will demand more support from the EC market in the form of integrated and cost effective solutions, rather than the selection of individual products (Exhibit3).

Exhibit 3: Increasing Demand in Electronic Commerce/EDI



- While EDI still dominates the Electronic Commerce market as a business to business tool, structured e-mail (E-Forms), and regular electronic mail (E-Mail), both Internet enabled and proprietary systems are expected to play an increasingly important role in the expectations for electronic business solutions. The future transactional opportunities for successful network providers will be in the effective marketing of Messaging Services as a major part of their product mix.
- The Internet is a viable and more cost-effective alternative to using traditional telecommunications services. This will have an effect on transactional services through VANs - although *the use of the Internet for business to business transactions is based on an entirely different set of needs than the consumer applications*. New technologies allow for the secure movement of “EDI-like” transactions using a technology known as eXtensible Markup Language (XML), which will complement traditional VAN based EDI, and is now generally considered under the umbrella of EDI.

The most significant changes that have taken place in the EC market over the past few years are:

- More organizations are now prepared to implement some form of electronic information exchange with their trading partners. The pressure from major food industry initiatives in the retail, manufacturing as well as the government is beginning to approach critical mass.
- Inter-organizational information exchange has evolved from EDI, which is restrictive and technically difficult, to a more general Electronic Commerce (EC) approach, which includes the exchange of E-Forms and E-Mail - as well as EDI.

- The drive for EC is now coming from many mid sized customers as well as from large hub organizations. Furthermore, the Gartner Group reported that it is expected that the public sector will be making a major push to implement EC in order to achieve their expenditure reduction programs - once the “downsizing” activities have reached maximum. This timing suggests that Governments are rapidly approaching the time when they will need to implement real and meaningful programs for process improvement.

The ECCC in conjunction with the EFR committee is committed to paving the way for the Food Service industry to achieve critical mass in deploying EDI transaction sets in the supply chain. The Lipton-Monarch / SERCA Pilot in this document was designed to demonstrate our commitment to help create an information exchange for all of our members by having Lipton Monarch and Serca share their experiences with EDI. The EDI transaction sets deployed in the pilot clearly demonstrate the potential savings that will accrue as well as to the strengthening of customer relationships. Leading companies today all have one thing in common, the ability to effectively leverage technology for a competitive advantage.

II INTRODUCTION AND OVERVIEW

Efficient Food service Response (EFR) is a food industry initiative whereby major stakeholders within the foodservice industry are working together to reduce non value added activities within the supply chain through the use of key enablers such as EDI, bar coding and E-Commerce. The success of EDI⁽¹⁾ is largely dependent on the ability of the participants to deploy the processes and infrastructure required to guarantee the integrity of the information. Contained within appendices A&B of this document are more detailed descriptions of the EDI process as well as a glossary of terms. If you are new to this process, it will be useful to read these appendices before you read the main body of this document.

This document has been developed in response to an industry request to more clearly define a roadmap for the deployment of Electronic Data Interchange (EDI) for Efficient Foodservice Response (EFR). It has been designed to compliment other EFR best practice initiatives (identified in the EFR mission in pages 7 & 8). The “pilot” approach for each of these three EFR initiatives is being used in order demonstrate the potential savings that could be realized from fully leveraging, bar coding and standard product identification, EDI and E-commerce in the supply chain.

This document will therefore assist organizations faced with the challenge of justifying the resources and financial commitment required for EDI by highlighting the financial benefits that can be realized from correctly leveraging technology. It is also designed to compliment other EFR best practices but it is not designed to be an implementation guide for EDI.

The EFR’s vision is to leverage the knowledge gained from these pilots to create a series of benchmarks for best practices that can be utilized throughout the EFR supply chain. Critical to the success of the pilot discussed within this document which relates specifically to EDI initiatives conducted by Lipton/Monarch and SERCA was the commitment and dedication of all of its participants and we wish to thank them for their efforts.

EFR is focused on leveraging technology for a sustainable competitive advantage with respect to EDI transaction sets. ECCC in conjunction with the EFR Committee are committed to the elimination of paper based transactions through the deployment of EDI transaction sets. We are confident that the knowledge gained from this pilot will assist you in achieving your EDI goals.

¹ Electronic Data Interchange (EDI) is the electronic transmission of business documents from computer to computer using a public standard.

III EFR MISSION

Efficient Foodservice Response (EFR) is the voluntary undertaking of planned and directed activities amongst all partners in the supply chain to achieve a low cost, high performing supply chain. The purpose is to eliminate inefficiencies, thereby enhancing the ability of each party to compete fairly and vigorously. Each functional component in the chain works in unison with the other to increase value, while minimizing the cost burden on any other supply chain component. Thus, the supply chain is more synchronized, flexible, reliable and more responsive to customer demands, with short cycle times and lower total chain costs from the raw material ingredient supplier to the end consumption.

EFR is a coordinated foodservice initiative designed to align manufacturers, distributors and operators to maximize supply chain responsiveness and minimize costs. This mission is initially accomplished via three strategies that comprise a number of interrelated activities. The initiatives within each strategy progress from basic to advanced capabilities allowing diverse organizations to develop unique implementation paths within a common EFR framework. To implement these three EFR strategies the industry established three committees, working under the direction of a Senior Steering Committee. These committees, composed of manufacturers and distributors (please see appendix X for a detailed list), are responsible for overseeing the following strategies.

1. **Product Identification/Bar Codes** - to implement and use standard identification codes as per industry standards and guidelines, including bar codes on SKUs, cases and pallets.
2. **Electronic Commerce** – for the purpose of EFR, Electronic Data Interchange (EDI) has been the focus of the Electronic Commerce Committee. The purpose is to integrate EDI into common business practices, from the order through to reconciliation.
3. **Supply Chain Demand Forecast** – to develop a framework that facilitates trading partner discussion of all the prerequisites for an accurate and efficient demand-forecasting program.

In order to facilitate the introduction of these initiatives the three industry committees were assigned the following tasks;

- ◆ Assess the current situation within the foodservice industry supply chain through investigation, surveys and analysis (form hypotheses, establish assumptions, objectives and scope)
- ◆ Initiate and conduct pilots and /or studies to determine the “Business Case”, critical success factors, and barriers to implementation.
- ◆ Publish “Best Practices” recommendations in reports targeted to each industry
- ◆ Establish a measurement framework via Scorecards and Benchmarks

The three EFR strategies noted above have been designed to create a more effective and efficient supply chain. Consequently, implementation of these strategies will create reciprocity between the trading partners in an environment of cooperation. The success of EFR’s objectives is largely dependent on the commitment of senior executives to deploy the required resources for industry wide change.

1. **Operational Evaluation:** - EDI is more than a technology, it is a business methodology best delivered through a strategic implementation plan. An operational plan of an organization’s business procedures is the central element of a prepared EDI strategic plan. This plan determines how a company’s internal departments function. It is recommended, whenever possible that an activity based costing exercise (or some other costing exercise based on accepted business principles) should be conducted to ascertain the costs associated with each business process.

2. **Implementation:** - Testing and Deployment. – After top management has reviewed the strategic plan and approved each implementation recommendation, the project team can then pull together all the elements of the implementation plan. A phased approach in implementing and rolling out EDI transaction sets is preferred as obstacles can be addressed and minimized in sequence. We recommend the implementation of no more than two EDI transaction sets at a time to limit implementation complexity. Further, data synchronization and integrity of source data utilized by EDI transactions should be addressed first. This will give your data integrity and your team credibility. Errors left unresolved will add significant costs to the implementation downstream.
3. **Infrastructure:** - It is highly likely that computer systems and internal business applications will need to be modified and /or enhanced. EDI management software will be required and communications services contracted. It is important to document all potential costs and savings throughout the entire process. Once everyone is confident that the system is working, the umbilical cord can be cut and EDI “go live” for your company.
4. **Critical Mass** – The full benefits of EDI will only be fully realized though implementation with enough partners to represent critical mass. The more trading partners that implement EDI, the more you can automate your business functions and the greater the potential for increased productivity and savings.

IV MORE ABOUT THE EDI BUSINESS OPPORTUNITY & PILOT STRATEGY

Electronic Data Interchange, or EDI, offers companies the opportunity to change the way that they do business. Automating the flow of information between trading partners will reduce errors through more effective communication. EDI will speed your business cycle and reduce the cost of major business processes.

Justifying the investment required for EDI will require two selling cycles. An internal sell to convince key internal stakeholders and an external one to convince your trading partners.

The impact of EDI on the supply chain goes far beyond the procurement cycle. The effective deployment of EDI transaction sets allows companies to improve quality and reduce the cost of output.

EDI has proven its value in helping to achieve benefits in a number of areas:

- ◆ Increased responsiveness to customers and customer service.
- ◆ More effective product planning and execution.
- ◆ Reduced operating costs through reductions in clerical, material and systems costs
- ◆ Improved delivery in goods and services.
- ◆ Significant reductions in errors and corresponding savings

The second major benefit of EDI is a more effective business strategy. Supply chain initiatives such as Just-In-Time and CRP will help improve performance through better product planning and execution, thus reducing costs. However, this can only be accomplished through a coordinated supply chain that includes error free fast transmission of business critical information.

The EFR pilot approach used for EDI designed to determine potential savings that could be realized from deploying EDI transaction sets in a controlled environment. The greater the inefficiency the greater the savings. The primary focus of the pilot was to identify inefficiencies in the current purchase cycle process that would be addressed through the deployment of EDI transaction sets.

A primary focus of the pilot was the identification and elimination of errors that would be significantly reduced through automation and deployment of EDI transaction sets. A primary hypothesis of the pilot was the perceived correlation between more effective communication between trading partners and the corresponding impact on error reduction. It is our belief that the full savings potential will be realized when critical mass is achieved with your trading partners. The potential savings outlined in this document have been determined in accordance to the savings that will accrue through productivity. The savings potential has not been adjusted to reflected implementation costs.

Pilot Steps

1. Assessment of current situation with respect to resources, skills and technology
2. Identification of major cost drivers in current practices and opportunities for improvement
3. Process map of key activities and identification of resources consumed
4. Define Pilot objectives and goals including timelines
5. Analyze and tabulate results comparing pre versus post EDI costs
6. Roll-out the strategies outlined in the pilot

V LIPTON MONARCH & SERCA FOODSERVICE PILOT

Background

The food service industry is underdeveloped with respect to the deployment of EDI transaction sets. The Lipton Monarch and SERCA Foodservice pilot was designed to determine potential savings that could be realized from deploying EDI transaction sets. This pilot was designed to help develop a Canadian EFR enabler Roadmap.

The pilot was launched in the first quarter of 1999 and was to conclude in the first quarter of 2000. Critical to the success of the pilot was the deployment of the required infrastructure to synchronize the respective databases. SERCA Foodservice was utilizing two EDI transactions (850 Purchase Order and the 855 Purchase Order Acknowledgment) with targeted suppliers. Their vision was to increase the number of trading partners using 850 and 855 transactions as well as sequentially to roll out 832 (Price/Sales Catalogue) and 810 (Invoice) transaction sets.

Lipton Monarch, on the other hand, had significant experience with 810 and 850 transaction sets, which complimented SERCA's experience with 850s. The implementation of the 832 transaction set between Lipton Monarch and Serca required a significant commitment from both parties, given the arduous task of data synchronization for price/sales catalogues. Manual processes were mapped by both parties in order to determine points of synergy and opportunities for the automation for all transaction sets.

Objective

The Lipton Monarch and SERCA Foodservice pilot was designed to determine best practices for implementing four Purchase Cycle EDI transaction sets and to determine potential savings from deployment. The pilot was designed to leverage learning through the creation and deployment of cross-functional project teams.

Key participants included representation from Purchasing, Finance, Warehousing, Distribution and Information Technology. Critical to the success of the pilot was a clear understanding of the current cost of manual processes that would facilitate savings.

Methodology

Activity Based Costing (ABC) Methodologies were used to help identify potential cost savings through the identification of inefficient activities and processes. The key findings from this pilot or from ABC information obtained from this pilot will not, in isolation lead to actions and decisions leading to improved profits and operating performance. Management must institute a conscious process of organizational change to secure the full benefits and potential savings that can be realized from leveraging EDI.

As shown in the exhibit below, an ABC approach is valuable in identifying both the appropriateness as well as the cost of various activities undertaken by a corporation. ABC can be a critical input when a company is about to make strategic decisions and/or try to achieve operational improvements. In justifying the cost/benefit of the increased usage of EDI, an ABC exercise might therefore be a valuable justification tool. If you would like to learn more about the overall ABC approach, appendices C & D should be useful background reading.

Activity-Based Cost Management: Strategic Decisions and Operational Improvements



Lipton Monarch was able to leverage the key learning from an extensive ABC study, which they had conducted over a two-year period just prior to this EFR pilot. At the outset of the pilot, SERCA Foodservice conducted an activity analysis on the accuracy level of current transactions in their procurement process in order to identify potential savings. While a full ABC study was not conducted by SERCA for purposes of this pilot, key ABC methodologies were deployed to identify cost drivers and their corresponding impact on productivity.

The following list identifies the major drivers of inefficiencies within the supply chain:

- ◆ Errors (pricing, promotions, dates)
- ◆ Missing Information
- ◆ Unexplained deductions

Each one of these cost drivers resulted in a significant number of incremental activities being performed and therefore in resources being consumed by the affected departments at a significant cost.

Identified Improvement Opportunities

- ◆ More customers on EDI
- ◆ Reduce the error rate on invoices and Purchase Orders
- ◆ More accurate information on pricing and effective dates
- ◆ Increased communication i.e. pricing and promotional changes
- ◆ Automation of points of communication

General Implementation Tips for EDI as Revealed by the Pilot

To maximize the chances for a successful implementation, your company is encouraged to do the following:

- ◆ Obtain Senior Management support and financial commitment.
- ◆ Measure and analyze current system and process performance levels prior to the study.
- ◆ Understand the inefficiencies currently in place prior to commencing the project.
- ◆ Create flow charts to truly understand your current processes so as to eliminate redundant steps before implementing EDI.
- ◆ Limit the design Scope, keep it simple. Focus your EDI implementation on the synchronization of generating a P/O. Adding additional functionality at the onset could potentially delay your project completion, and/or add significant cost with minimal benefit.
- ◆ Assign a separate and full-time business owner (Process) and technology owner (IT) in order to balance the requirements of business processes and users with system capabilities and limitations. Both owners must fully understand EDI transactions sets, implications and functionality.
- ◆ Ensure you have the flexibility to send, receive and process the effective date qualifier (i.e. order or ship date) that most accurately communicates the manufactures terms of sale for price changes, promotions and product availability. Carefully determine whether the order date or ship date is more accurate. The date qualifier should reflect the manufacturers actual effective date.
- ◆ Ensure that you have adequate and qualified staff to complete the project. It will not be a short-term effort.
- ◆ Continually monitor actual levels versus expectations.
- ◆ Ideally, the 832-transaction set should be deployed first if you have not as yet embarked on any of these four transaction sets, as the accuracy of information provided by the implementation of the 832 transaction set is critical to all the others. Too often at the pilot stage there is a propensity to deploy other transactions sets prior to 832 due to the complexity of rolling out 832 transaction sets. Following the 832, it is recommended to proceed with 850, 855 and 810 respectively.

Conclusions

Lipton Monarch experienced a 34% savings in its cost to serve SERCA in the six areas on the chart shown on the following page. SERCA also identified significant savings in the following areas:

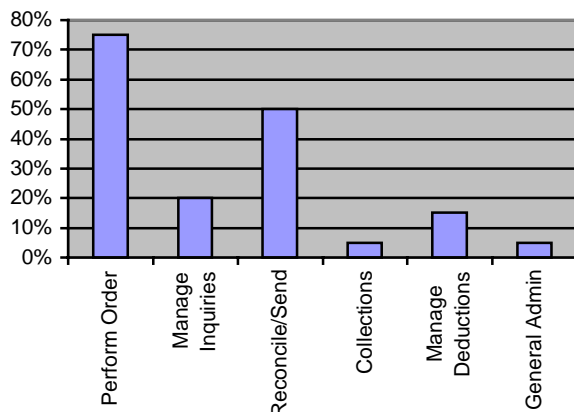
- Total debit/credit memo ratio to invoices reduced from 40% to 10%.
- Pricing errors reduced from 15% to 6.6%.

The remaining 6.6% error rate was due to management error not data integrity. SERCA's potential savings have been determined on a vendor by vendor basis therefore results will vary in accordance to the efficiency of the vendor in question. The cost saving is most often determined by the potential labour savings as well as the reduction in consumption of other resources.

It is also important to point out that the end result of this initiative may be the re-deployment of resources in a more efficient manner rather than the elimination of the resource in question. A logical outcome of deploying EDI transaction sets is the shift from administrative to selling time at the front lines, and a shift from reconciling to analyzing your business. This is perceived to be one of the “soft” benefits to be gained from employing EDI transaction sets.

Figure 1.1

Total Savings as a Percentage of Total Costs



Lipton Monarch:

For Lipton Monarch, the savings determined by this pilot were a direct result of the automation of business functions made possible through the implementation of the four EDI Transactions. The efficiencies and savings were realized in three main business functions, these were:

- ◆ Customer Service
- ◆ Billing/Accounts Receivable
- ◆ General Administration

As previously noted, by implementing the four EDI transactions Lipton Monarch experienced a 34% cost reduction. These savings as charted above were an accumulation realized in the following processes in the Lipton Monarch/SERCA relationship:

- ◆ A 75 % saving in the order management/performing order process – in the handling of SERCA foodservice Purchase Orders. This was as a result of the 850 implementation and increases in error free purchase orders due to data synchronization.
- ◆ A 20% saving in inquiry management due to data synchronization.
- ◆ A 50% savings in billing and reconciliation due to the implementation of the 810, Purchase Order Acknowledgement and data synchronization.
- ◆ 5% savings in collection and a 15% saving in deduction management due to reduced unexplained deductions and more accurate invoices.
- ◆ A 5% savings in general administration.

SERCA:

For SERCA the potential savings that could be realized from deploying the four EDI transaction sets were identified by determining the potential savings that would be realized as a direct result of error reductions in the Purchase Cycle Pilot. SERCA's initial activity analysis indicated that a significant amount of their resources were consumed by correcting errors and therefore recognized the potential savings. SERCA therefore conducted a manual audit of Lipton Monarch invoices in a controlled time frame before and after deploying EDI transactions sets. In the period prior to deploying EDI transaction sets, the number of invoices containing an error were estimated to be 43%. (Errors that were incurred as a result of damage or other factors falling outside the scope of EDI were omitted from the sample to avoid a sampling bias) In the period following the deployment of EDI transaction sets, the number of invoices containing an error fell below 10% (7%). In accordance to the rules of statistical analysis the sample size was dictated by the homogeneity of the error factor. SERCA analyzed all Lipton Monarch's invoices in a controlled time frame dictated by the homogeneous nature of key findings.

It is important to point out that the savings outlined in this pilot are driven by one vendor for SERCA and the vendor in question had already embarked down the EDI path. It is believed that the potential savings for SERCA cascaded across all vendors to be even more significant! The potential savings outlined in the pilot can be traced to more efficiently utilizing current resources in the Purchase Order Cycle and not from the elimination of the resource in question.

- ◆ Customer Service
- ◆ Billing/Accounts Receivable
- ◆ General Administration

APPENDIX A - ELECTRONIC DATA INTERCHANGE (EDI)

Electronic Data Interchange (EDI) is the application-to-application transfer of business data using a recognized industry standard. This standard incorporates both the format and layout of the data as well as the communication protocol used in the transmission of the data. In other words it concerns the file structure of the data as well as the method or manner in which the data is sent.

The EDI standards currently endorsed by the EFR committee are the **VICS** (Voluntary Inter-industry Communication Standards) **Standards**. With the onset of the year 2000, the release of VICS being endorsed is **4010**. The endorsement of this standard is consistent with other industry initiatives (i.e. ECR, ECRx etc.)

How Does EDI Work?

EDI is a process, which allows companies to transmit data electronically using a **non-proprietary public standard**. The primary goals of EDI are to more effectively and efficiently communicate with your business partners by exchanging common business documents electronically. Traditional documents would include but not be limited to

- ◆ Price/Sales Catalogues
- ◆ Purchase Orders
- ◆ Purchase Order Acknowledgments
- ◆ Invoices

This integration not only improves the efficiency but also speeds up the communication between the two participating parties.

In order to understand the EDI process there are a few technical concepts or definitions that must be understood. They are as follows:

Transaction Set – Term used to describe an existing business document. These transaction sets have specific numbers assigned to them to clearly identify to all participants the document or process being discussed. Example: A purchase order carries the transaction set number **850**. Anyone in the world discussing an **850**-transaction set knows the discussion is centered on a Purchase Order.

Translator/Translation Software – Software that changes various machine languages into EDI format/language.

Mapping – Process that takes data from one system format and puts it into another format in a very specific and defined manner. Placement and sizing of the data must conform to industry standards. In this case VICS would define the standards.

Communications – Process which sends the data to the intended receiver. Software used in this process uses some type of communication protocol to send data from one location to another.

VAN – Value Added Network. This is an independent third party communication company that handles the transferring of data from one company to another. Services provided include security and visibility of the communication process as well as back up in the event of disaster (Intranet, Extranet, Internet).

Mailbox – Location within VAN environment which stores documents. These mailboxes can only be accessed using specific codes known only to the owner of the mailbox. Security is maintained as part of the VAN services.

Process Flow for Purchase Order

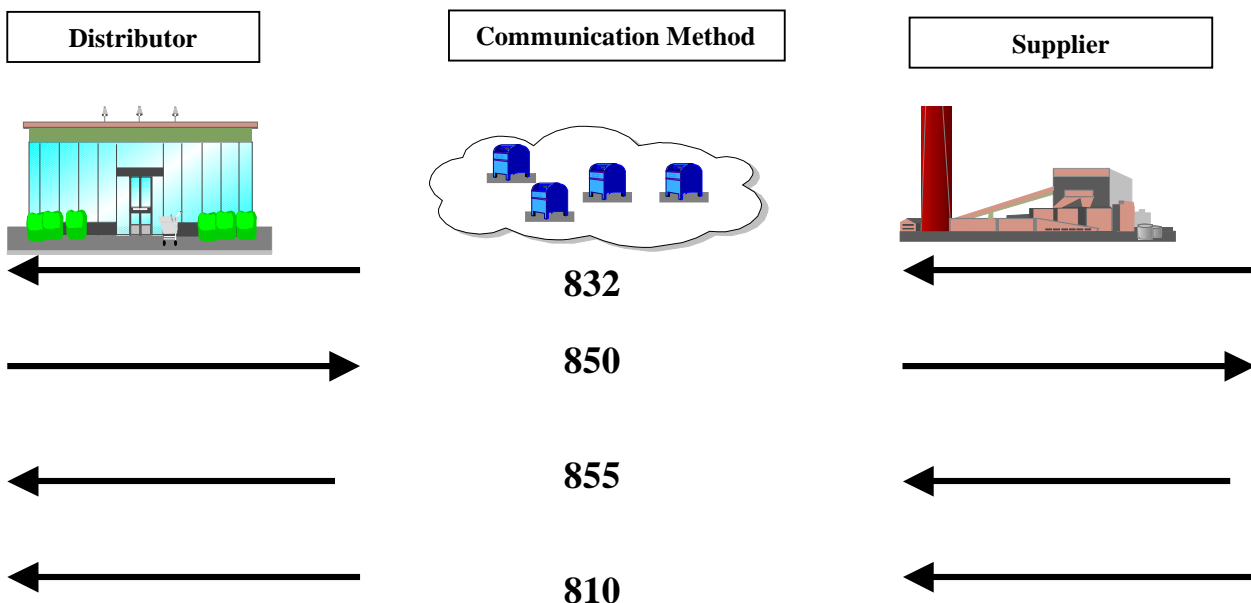
- ◆ Purchase Order is generated within Distributors purchasing system
- ◆ File is sent to EDI translator
- ◆ File is translated into EDI format and sent VAN
- ◆ VAN distributes PO to the suppliers mailbox
- ◆ The supplier picks up purchase order from his mailbox
- ◆ PO is translated from EDI format into computer readable language
- ◆ PO is automatically loaded into manufacturers order entry system - no data entry required

EDI Transaction Sets

The following is a list of the most common EDI transaction sets currently being used in the foodservice industry.

Transaction Set Number	Description
832	Price/Sales Catalogue
850	Purchase Order
855	Purchase Order Acknowledgement
810	Invoice

Transaction Set Flow



EDI TRANSACTION SETS

832 - Price Sales/Catalogue

The 832 Price/Sales Catalogue transaction set allows companies to exchange product information electronically thereby eliminating the need for re-keying by the recipient of the data. All products related information that is required for item master set-up is contained within this transaction set. They include:

- U.P.C codes,
- SCC-14s (Shipping Container Codes)
- Item description
- Product sizing, dimensions, cube, weight, special handling etc
- Packaging configuration i.e. pack, size, unit of measure
- Pricing / Terms

General information such as U.P.C. code descriptions etc. can be set up and made available to a broad range of customers. Specific information such as pricing or terms is usually set up on a more confidential basis and has higher levels of security surrounding them. In many instances a supplier will carry multiple pricing files to ensure the integrity of the data.

850 – Purchase Order

The 850-purchase order is a transaction set that allows a distributor to order product from a supplier. The 850 transaction set currently includes all the data normally seen in a paper version of a purchase order in an electronic format. The cost savings associated with this transaction realized by all stakeholders. Significant savings occur in data entry, transmission and modification. Automation of the PO process will significantly reduce errors and productivity levels.

855 – Purchase Order Acknowledgement

The 855-purchase order acknowledgement is a transaction set that gives the distributor early visibility to the status of the purchase orders that was sent to the manufacturer. It will confirm product availability for the requested delivery date as well as confirm that the pricing sent on the PO was correct. Product availability will allow the distributor to second source the product if necessary while the pricing confirmation will minimize pricing disputes at time of payment.

810 – Invoice (Manufacturer/Supplier to Distributor)

The 810-Invoice is an electronic transaction set which eliminates the need for sending a hard copy, paper invoice. The manufacturer/supplier sends it to the distributor indicating payment details. Within the transaction set would be all the relative data needed to effect a payment for the shipment(s) of goods. The cost savings associated with this transaction are usually seen on the recipient's side of the transmission. Since the information is in electronic format, the recipient can upload the information directly into their payment system thereby avoiding the expense of data entry.

APPENDIX B –GLOSSARY

Activity Based Costing	An accounting method that enables a business to understand more precisely <i>how</i> and <i>where</i> it makes a profit. In ABC, all major activities within a cost center are identified and the cost of performing each are calculated—including costs those cross-functional boundaries. The resulting costs are then charged to the product, product line, customer or supplier that caused the activity to be performed.
Broker	Business which acts as an agent for a manufacturer and may sell product to Distributors/Operators.
Canadian Food & Drug Retail and Foodservice Implementation Guideline for EDI	The Canadian EDI Implementation Guide for the Grocery, Foodservice and Retail Chain Drug Industries
Communications	Process which sends the data to the intended receiver. Software used in this process uses some type of communication protocol to send data from one location to another.
Data Mapping	Process that takes data from one system format and puts it into another format in a very specific and defined manner. Placement and sizing of the data must conform to industry standards. In this case VICS would define the standards.
Distributor	Business which buys for resale to the operator.
EDI Translator	Computer software used to perform the conversion of application data to and from the X12 standard
EDI Mailbox	Location within VAN environment which stores documents. These mailboxes can only be accessed using specific codes known only to the owner of the mailbox. Security's maintained as part of the VAN services.
Electronic Data Interchange (EDI)	The computer application to computer application exchange of business information in a standard format.
EFR	Efficient Foodservice Response
Intranet	An Intranet is a private network that is contained within an enterprise. It may consist of many linked local area networks. The main purpose of an Intranet is to share company information with employees over the Internet in a secure environment.

Extranet	An Extranet allows levels of accessibility. Whereas Intranets are accessible only to people of the same organization extranets allow the sharing of information with external companies over the Internet in a secure environment.
Master Data Synchronization/Item Maintenance	The EDI process of aligning data between the manufacturer’s database and the retailer’s database
Manufacturer/Supplier	Business which sells to the Distributor/Broker
Operator	A company, such as a restaurant chain, who purchases product from the distributor and provides services to the end consumer
VAN	Value Added Network. This is an independent third party communication company, which handles the transferring of data from one company to another. Services provided include security and visibility of the communication process as well as back-up in the event of disaster
VICS EDI	Voluntary Inter-Industry Commerce Standard for Electronic Data Inter-change

APPENDIX C – A Bit about Activity Based Costing

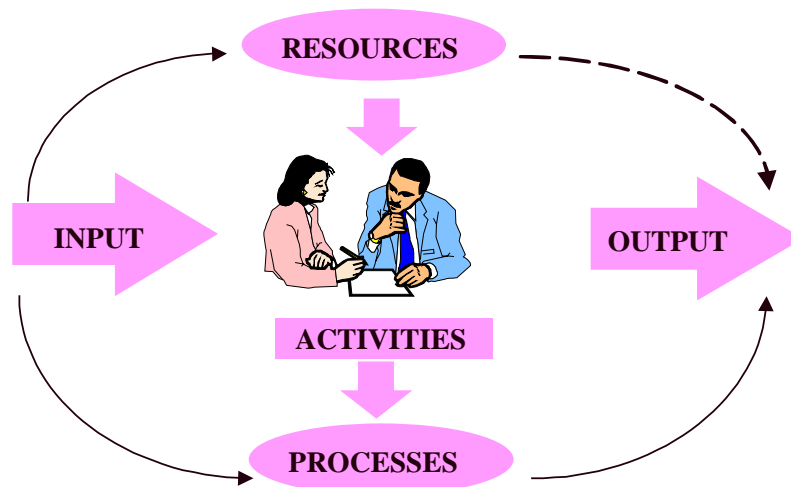
“Management’s challenge is to translate Critical Business issues into measurable goals that can be targeted, achieved and monitored by focusing on improving process. The key is to look beyond the narrow confines of existing systems to a set of controls that include all stakeholders.”

Robert Eccles “The Performance Measurement Manifesto”

The challenges facing the Food Service Industry are not new. Most organizations have identified a need to accurately determine how the resources they consume are reflected in the services they provide. The need to provide improved service with reduced resources has resulted in a requirement for full cost visibility and a clear understanding by all the affected staff members. Such an understanding not only provides insights into how efficiently and effectively activities and processes are being conducted but also identify potential areas of internal improvement and implications of the product/service/client mix. A better understanding of an accurate activity - based costing and management (ABC/ABM) system can serve as a basis for decision making; as the foundation for defensible charge-back or cost recovery systems; as the data-set for planning, re-engineering and re-organization analysis; and as the backbone for performance measurement and activity- based budgeting initiatives.

Fully appreciating what activities, processes and outputs truly cost, and fully understanding the components which make up that cost, is often the cornerstone to improving overall organizational effectiveness.

Activities are the Building Block



MEASURABLE ACTIVITY ATTRIBUTES

- TIME
- COST
- QUALITY
- VOLUME

Performance Measurement Provides the Feedback Mechanism

True gross profit will include all costs associated with moving a product from the manufacturer to the consumer. Costs associated with listing, promoting and processing payments are often overlooked. Companies often find out the hard way that it costs more to support a vendor than the margin provides.

Activity Analysis

Why? Prioritize utilization of resources to meet department and process goals and strategies

What?

1. Value
2. Cost Driver / Root Causes and Disconnect
3. Activity Budgets

How? Identifies activities that consume resources that either enhance or inhibit performance



ACTIVITIES WILL AFFECT PERFORMANCE

- Cost
- Efficiency
- Effectiveness
- Organizational Goals
- Quality
- Cycle Time
- Customer Satisfaction

ABC Identifies...

Hidden Losses

- Procurement
 - Small Quantities
 - Manual ordering
 - Manual Funds Transfer
- Distribution
 - Deliver Changes
 - High Shrink
 - Volatile Demand
- Marketing / Sales
 - Frequent promotions
 - High Maintenance

Hidden profits

- Procurement
 - Large Order quantities
 - Automated Ordering
 - Electronic Funds Transfer
- Distribution
 - Uniform Delivery
 - Low Shrink
 - Stable Demand
- Marketing / Sales
 - Minimal Promotions
 - Low Maintenance

Industry Focus for Savings

- ◆ 25-75% reduction in deductions due to invoice pricing and product delivery discrepancies
- ◆ 10-40% improvement in number of accurate purchase orders
- ◆ 1000-2000 hours saved per year in paper, administrative and keypunch
- ◆ 80% improvement in speed to market for new items, price changes and promotions (832)

How ABC Information Offers Direction for Reducing Costs

Classification of Improvement Opportunities by Type



Not all can be deployed, given resource constraints and other priorities, but significant opportunities were identified.

In summary ABC has strong ties to EFR because you cannot make decisions on performance improvement unless you understand your true costs. ABC was designed as a management tool that assists in decision-making by providing accurate information that makes you focus on process and opportunities for improvement.

VI IMPLEMENTATION OPTIONS

The Lipton Monarch SERCA Foodservice pilot leveraged existing electronic commerce experience, applications and technological infrastructure. Given that all companies may not have the same available resources, may not possess the same level of technical infrastructure, or may not be dealing with the same transactional volume, it is possible to replicate this pilot using a number of different alternatives available to companies.

This appendix has been designed to provide guidance to companies on the range of EC/EDI products and services available to companies based on EC/EDI experience and infrastructure. For ease of reference, these services have been broken down by business function. For a more complete list of EC/EDI services and service providers please refer to the Electronic Commerce Service Providers Directory available free of charge from the Electronic Commerce Council of Canada at www.eccc.org.

It is important to note that this section outlines a number of the services and EDI software packages available to engage in EDI/EC. It does not address integration with internal business applications; data warehousing and other IT issues that are necessary to successfully roll out an automated data synchronization process. Based on the availability of internal IT resources it may be necessary to contract outside resources to integrate business application with EDI/EC solutions in order to automate the process.

A company checklist has been included permitting your company to self-assess its technological infrastructure/experience, allowing your company to select the appropriate services for your business needs. Utilize the company checklist to determine which technical section applies to your company and then reference the appropriate section. Please note that solutions that are marked with **(M)** only apply to manufacturers.

Self-Assessment Checklist

Information Technology and Business Processes						
Indicator	Level 0	Level 1	Level 2	Level 3	Level 4	Score
Information & Technology Integration	Uses paper-based approach to handling all critical information needs	Manual, independently managed “systems” with initial integration concepts being discussed, but not executed	Limited connecting/sharing of systems between “partners” at the product-line level	Successful system connections with distributor partner at the SKU level that allows for pre-authorization of product placement	Full distributor and manufacturer integration at the SKU level across all products including authorization, POS data, table maintenance and inventory levels	
Order Placement (“How”)	Manual ordering process by distributor	Joint manual process by distributor and manufacturer by fax or electronic support (hand-helds)	Electronic supported (EDI) ordering (hand-helds) initiated with high degrees of manual intervention/changes	CAO/electronic ordering executed with limited intervention/approvals/reorder labour, and considers “3-track” item movement system (normal, seasonal and promotional)	Dynamic CAO executed by integrated supplier/retailer based on accurate perpetual inventories and product movement.	
Billing (“How”)	Manual billing process. Invoice mailed or faxed	Automated (but not EDI) some manual processing still required	EDI 810 is being implemented and rolled out for invoices.	EDI 810 integrated with A/P, A/R system. Distributor testing EDI 856 and pallet barcodes for ERS (Evaluated Receipt Settlement)	Full ERS system rolled out to trading partners, EDI 810 phased-out.	
Automated A/R & cash application	Manual A/R and cash application system.	Semi-automated A/R and cash application system with manual input.	Manufacturer uses banding lockbox network for select data capture and transmission for automated A/R application.	Manufacturer uses all banking facilities (lockbox, EDIBanx, etc.) to receive EDI 820 and paper remittances; A/R system, updated for open invoices and any deductions/chargebacks.	Combination of EDI 820 Y 812 used for communication of pay order and remit detail as well as any debt/credit transactions.	
Payment	EFT not available, manual documentation/cash or check used for payment.	Automated (but not EDI) cash or check processing utilized.	EDI 820 is being implemented and rolled-out for payment of invoices.	EFT used in payment of invoices with EDI 820 sent; includes reverse payments.	EDI 820 and 812 fully utilized for all debit/credit transactions to expedite payment/receipts.	
Total (Page A)						

EDI Specific						Level 4	Level 3	Level 2	Level 1	Level 0	Score
Purchase Orders (850)	No EDI 850 capability; POs are received by mail or fax from the Trading Partner.	EDI 850 being tested; compatibility issues being addressed with Trading Partner.	EDI 850 being used with data; quality issues being jointly addressed.	EDI 850's received containing accurate data are communicated on a regular basis; total integration of the ordering process.	POs are received in a timely manner resulting in joint benefits; reduced cycle time, improved inventory management and reduced administrative costs.						
Purchase Orders Acknowledgment (855)	No EDI 855 capability – confirmation/adjustment/substitution made by phone/fax	EDI 855 being tested; compatibility issues being addressed with Trading Partner.	EDI 855 being used with data; quality issues being jointly addressed.	EDI 855 in use, no quality issues, integrated with shipping/PO management systems	EDI 855s rolled out with all major trading partners						
Invoices (810)	No EDI 810 capability; invoices are sent by mail or fax to Trading Partner.	EDI 810 being tested; compatibility issues being addressed with Trading Partner.	EDI 810 being used with data; quality issues being jointly addressed.	EDI 810 transmitted and processed on a regular basis, total integration of the invoicing process.	Invoices are transmitted and processed in a timely manner resulting in joint benefits. Improved PO/Invoice match rate, simplified payment process and reduced administrative costs.						
Functional Acknowledgments (997)	No EDI 997 capability.	EDI 997 being tested; compatibility issues being addressed with Trading Partner.	EDI 997 being used with data quality issues being jointly addressed.	Acknowledgments are received, sent and processed in a timely manner (ie. 12 hours)	Acknowledgments are received, sent and processed in real time resulting in joint benefits, such as eliminated of duplicated or missing orders.						
Table Maintenance (832/889)	No EDI 832/889 capability.	EDI 832/889 being tested. Manual table maintenance process in place.	832/889 transactions being used with data quality issues being jointly addressed.	Some transactions are transmitted and processed on a regular basis; total integration of table maintenance process addressed with Trading Partner.	EDI 832/889 transactions transmitted in a timely manner resulting in joint benefits. Improved order quality, reduced deductions and reduced administrative costs.						
						Total page B					
						+ Total page A					
						Subtotal					
Divided by 9											
Total Score											

Instructions

1. Review the questions outlined in the two tables
2. Obtain input from IT and business functions as required
3. For each indicator select the level that best applies to your company
4. Mark the number for that level in the score box at the end each line (i.e. level 0 = 0, Level 3 = 3)
5. Complete the table completely and add results to obtain an average score

I Level 0 - No EDI/EC

Electronic Commerce Service Providers have created a broad range of products and services that enable companies with little or no EDI/EC infrastructure and experience to easily implement a limited EDI/EC program with little training and small capital investment.

Minimum Requirements:

Fax Machine (Purchase Orders, Invoices and P.O. Acknowledgements only)
PC with Internet Connection

Typical Cost Range:

Minimal (\$500.00 +)

Purchase Order, Purchase Order Acknowledgment and Invoice:

Fax-to-EDI (M)

Available from multiple service providers, fax-to-EDI services are the most basic services offered that enable companies with limited EDI/EC resources or experience to easily implement EDI within their company. The user completes a standardized fax form that is then faxed to the service provider. The service provider then scans the fax and converts it into an EDI transaction, which is then sent to the recipient and received in the conventional manner. The process is reversed for documents being sent in the opposite direction. This type of system does not permit integration to business application of any kind. Cost of entry for this type of service is very low, with a per use charge typically applying.

Webforms (M)

Webforms are EDI based services offered by many VANS. They comprise an Internet based form residing on a secure web-site hosted by the VAN and accessed by a web browser. The user of this type of system keys enters information into the webform that is retrieved by the VAN and converted into an EDI document. The document is then sent to the recipient and received in the typical manner. Amongst other functionality, users of webforms can receive purchase orders and transmit purchase order acknowledgements and invoices. Cost of entry for this type of service is typically very low with a per use charge and monthly service charge applying.

Data Synchronization:

ECCnet

ECCnet is the cross industry central data repository for product data synchronization operated on a not-for-profit basis by the Electronic Commerce Council of Canada. This system allows manufacturers to load product information to one location where it is stored, converted into an 832 and then transmitted to an authorized trading partner.

For manufacturers, a number of different alternatives are available to upload information to ECCnet permitting companies to utilize the service regardless of their technological capabilities. ECCnet permits the use of a webform or FTP (file transfer protocol). Distributors must utilize an EDI 832 to receive product information. Costs for this service are based on an annual membership to the ECCC and a nominal per SKU cost. Contact the ECCC for more details.

II Level 2/3 - Medium EDI/EC

An equally broad range of solutions is available for companies with a medium level of EDI/EC experience and infrastructure. Choice of software, services and EDI/EC strategy for companies in this category is heavily dependent on existing systems, applications and long term business requirements.

Minimum Requirements:

P.C. with modem

Typical Cost Range:

Several thousand dollars to tens of thousands of dollars depending on complexity

Purchase Order, Purchase Order Acknowledgment and Invoice:

Desktop P.C. EDI Translators

Available from all major VANs, PC based translators are EDI translation and communications software packages that permit smaller companies to engage in EDI with their trading partners. Relatively inexpensive to purchase, a PC based translator will permit the user to map, send and receive a broad range of EDI documents, including the transaction sets used in the Lipton Monarch SERCA Foodservice pilot. Typically these packages require more extensive training than the previous two options, and offer only limited integration with business applications. Cost of entry for this type of package is typically several thousand dollars, plus a PC and a modem.

EDI Translators (PC -LAN, Server, Mainframe)

VANs also offer a complete range of EDI translators for varied application environments. These include PC translators interfaced to a LAN, to translation software that resides directly on the server or mainframe and interacts directly with enterprise software. Functionality can range from basic, with limited integration possible, to extremely complex with full integration to major business applications. As a general rule of thumb the more functionality the greater the cost of the package and the greater the requirement.

Direct 832

Companies utilizing any of the EDI packages outlined above also possess the capability to transmit an 832 directly to a trading partner without utilizing the ECCnet Service. As a cautionary note, use of the 832 with multiple trading partners may require separate mapping for each trading partner, significantly increasing the cost and complexity of the data synchronization process.

III Level 4 - High EDI/EC

Unlike the previous two sections, companies with a high degree of EDI/EC experience likely already possess the technological infrastructure to replicate this pilot. In many cases companies that fit into this category may already be engaged in components of this pilot with multiple trading partners. For such companies successful implementation of an automated data synchronization program is dependent on leveraging existing investments in technology and experience. Considerations for companies in this category include:

- 1) What will be the cost/benefit for the company
- 2) Will existing business applications (i.e. item master database) permit automated import/export of 832 information?
- 3) Where is all the required information to generate an 832 located? Is it in more than one application? Is the data accurate? What types of data integrity processes are in place?
- 4) How much modification of internal systems and processes is necessary?
- 5) What are the resources necessary to implement such a process?
- 6) Does the company possess the internal resources to implement system/business modifications, or is outside expertise required?

One can see therefore that there is a wide range of costs, benefits and approaches available in pursuing this EDI, E-Commerce opportunity. If you would like to read more about EDI before embarking on your initiative, a list of related publications is provided in Appendix E for your benefit.

APPENDIX D – GETTING STARTED

Contacts: For additional information contact the Electronic Commerce Council of Canada (416) 510-8039

<http://www.eccc.org>

Related Publications:

All the following publications are available from:

The Electronic Commerce Council of Canada
885 Don Mills Road, Suite 301
Don Mills, Ontario
M3C 1V9

Canadian Food & Drug Retail, and Foodservice Implementation Guideline for EDI

This ECCC publication includes the EFR approved 810, 850 and 855 transaction sets, the 810, 850, 852, 855 and 856 for ECRx applications and the ECR approved 810, 850, 852, 855, 856, and 882. In addition the publication contains industry specific business examples to assist companies with implementation.

EDI'99 CD-ROM

This CD-ROM publication includes Adobe Acrobat Reader® to view and print pages and chapters exactly as they appear in the printed manual. It contains multiple versions of the UCS/WINS and VICS EDI and well as global EDI guidelines for Retail, EANCOM 98 and the EDIFACT Standard on which they are based.

VICS 4010 Architectural Guide

This manual provides all level of company management with a thorough understanding of the positive impact and inherent changes EDI will have on the organizational business structure. The text explores the issues associated with EDI implementation, the business functions and the processes affected, and the use of EDI documents within the major business functions. This edition includes sections on advanced management issues, data communications, EDI and bar codes, and EDI implementation-planning checklist.

VICS EDI Business Examples

These examples have been prepared as an aid in implementing many of the VICS EDI transaction sets. Currently there are six sets available, including:

- The Basic Set
- The Commission Sales Report Set
- The Financial Set
- The Order Status Set
- The Replenishment Planning Set
- The Transportation Set

Canadian ECR/EFR Manuals

Improving Supply Chain Effectiveness

Partners in Customer Service

Road Map to Continuous Replenishment

Implementing Electronic Data Interchange

Value Chain Analysis and Activity Based Costing

An Overview of Category Management.

Bar Code Scanning Integrity

Product Identification and Barcoding Basics For the Canadian Foodservice Industry

Related Websites:

Data Interchange Standards Association, Secretariate for X-12

<http://www.disa.org/>

Efficient Consumer Response

<http://www.ecr.ca/en/> (Canada)

<http://www.ecr-central.com> (US)

ECRx

<http://www.eccc.org/ecrx/>

Efficient Foodservice Response

<http://www.efrcanada.org/en/>

Electronic Commerce Council of Canada

<http://www.eccc.org/>

Uniform Code Council Inc. (USA)

<http://www.uc-council.org/>

For more electronic commerce related sites visit the [ECCC website](http://www.eccc.org/)

APPENDIX E

Special Thanks to Lipton Monarch and SERCA for their commitment to the pilot and sharing the results with the food service industry. Also thanks to the following individuals who made a significant contribution to the development of this document.

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- ◆ Bridge Brand Food Services
- ◆ CARA Foods
- ◆ Campbell Soup
- ◆ CCGD
- ◆ CFBA
- ◆ Clover Group
- ◆ Dellixio
- ◆ ECCC
- ◆ FCPMC
- ◆ GFS Canada
- ◆ Gordon Food Service
- ◆ H.J. Heinz
- ◆ Hub Meat Packers
- ◆ IBM Canada
- ◆ Janes Family Foods
- ◆ JM Schneider
- ◆ KPMG
- ◆ Lipton Monarch
- ◆ McCain Foods
- ◆ McCormack Bourrie Sales & Marketing
- ◆ Nabisco
- ◆ Neate Roller Ltd
- ◆ Nestle Canada
- ◆ Parmalat
- ◆ PJB Marketing & Sales
- ◆ Procter & Gamble
- ◆ Reliable Food Supplies
- ◆ Summit
- ◆ Unilever
- ◆ Versa Cold Storage
- ◆ W.T. Lynch



*“...to achieve a
low cost, high performing
supply chain.”*



LIPTON MONARCH - SERCA
FOODSERVICE EDI PILOT STUDY



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