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BARRIERS TO SME e-PROCUREMENT SOLUTIONS IN CANADA: A SURVEY

By

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McMaster eBusiness Research Centre (MeRC)
DeGroote School of Business

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ABSTRACT

Many SMEs (Small and Medium Enterprises) handle procurement through an inefficient combination of manual processes, including paper records, phone calls, e-mails, and faxes. This can lead to problems such as limited financial reporting, lack of readily accessible management information, lower levels of vendor compliance, and unauthorized spending. There are e-procurement solutions that can address these issues, but most of these tend to be expensive, complex, require technical expertise to install and maintain, and are usually oriented towards larger firms. The purpose of this study was to examine the barriers perceived by Canadian SMEs to e-procurement. A total of 53 companies responded to the questionnaire in a survey distributed primarily by e-mail during June and July 2003. Findings from the survey indicate that e-procurement in Canadian SMEs has a slow acceptance rate compared to other Internet-based solutions. Major findings were that many companies were not familiar with e-procurement solutions, and almost half indicated they would not be considering such solutions within the next three years. In justifying implementation of e-procurement, cost control and ROI were ranked as the highest motivators, followed by competitiveness and supplier requests, with strategic decision ranked the lowest. Among the lowest barriers to implementing e-procurement were security and financial support. The most favoured option of implementing e-procurement was working with suppliers that promoted it, and the least favoured was an outsourced solution. Application functionality was rated the highest importance and the lowest was price. Not surprisingly medium-sized firms were more favourably disposed than small firms to e-procurement. Finally, our findings indicated that SME managers in general have a limited understanding of e-procurement solutions and vendor offerings.

KEYWORDS

Barriers to adoption, e-procurement, Internet-based solutions (IBS), small and medium enterprises (SMEs)

EXECUTIVE SUMMARY

1. Introduction

Most Canadian small to medium enterprises (SME) try to manage procurement through an inefficient combination of labour-intensive, manual processes including paper-based record keeping, phone calls, emails and faxes. This time-consuming approach leads to other problems, such as limited financial reporting, lack of easily accessible information, low-level vendor compliance, and frequent unauthorized spending.

There are, however, e-procurement solutions available that address these issues. Why haven't Canadian SME companies readily adopted these new technologies? What are the barriers impeding Canadian SMEs from developing Internet commerce and embracing e-procurement to reduce the waste of resources within the supply chain?

The paper examines the barriers to Canadian SME eBusiness solutions on the procurement side, the level of e-procurement adoption rates, and associated parameters. The paper also recommends possible improvements for Canadian SMEs and e-procurement solution vendors.

The research paper will present the findings based on a survey taken over a one-month period, June 2nd - July 8th, 2003. A total of 165 questionnaires were distributed by e-mail. 53 responses were received by July 8, 2003, representing a response rate of 32%. The survey was made up of 41 questions designed to gather information about company background, and other information relating to e-procurement. Industries covered in the survey included: manufacturing, professional services, retail/wholesale and distribution.

Our findings demonstrate that adoption of e-procurement among SMEs in Canada faces relatively slow acceptance rates compared to other Internet based solutions (IBS). In addition, our research challenges the most commonly heard reasons behind the sluggish exploitation of e-procurement solutions, as well as IBS in general. These reasons include the cost of projects and infrastructure, as well as security issues associated with the adoption of new eBusiness technologies.

2. Major Findings

Major findings derived from the survey include:

- Many SMEs are not familiar with e-procurement solutions. Almost half of the respondents indicated that they will not be considering implementing e-procurement solutions within the next 3 years, or have no opinion about implementation.
- Security and financial support, contrary to common belief, are among the lowest barriers to implementing e-procurement.
- Outsourcing e-procurement implementation was identified with the lowest probability as an SME e-procurement solution, while the more traditional approach of suppliers instigating solutions was the most favoured option.
- Price was the lowest rated e-procurement importance criteria, while application functionality was the highest.
- As expected, a large discrepancy between small (<50 employees) enterprises and medium (50-499 employees) enterprises was indicated in terms of partial or total automation of purchasing systems. Small enterprises are much less likely to have their systems automated.
- On average, 72.4% of respondents felt that adoption of e-procurement is a safe move, while 24.4% had no opinion.
- SMEs in general have a very limited understanding of e-procurement solution offerings.

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INTRODUCTION AND BACKGROUND

1.1 OVERVIEW

For the purposes of this report, Canadian SMEs (Small and Medium Enterprises) are identified as companies with less than 500 employees. It is important to note that SMEs account for an amazing 88% of Canadian employment[1]. Although it has been proven that most strategically sound e-Business initiatives are associated with increased ROI, a relatively large percentage of Canadian SME businesses are cautious about investing in eBusiness initiatives. However, there is also an evident trend of moving forward with further eBusiness initiatives. For example, a recent survey by Accenture Canada showed that 68% of all Canadian businesses currently employing a CRM strategy are confident that such activity is becoming even more important in the slowing economy. The survey also identified that among businesses not employing a CRM strategy, 48% believe the need to adopt such a strategy is becoming more important[2]. That means that over 83% of Canadian business feel that this kind of e-business strategy is an important factor in today's environment.

1.2 WHAT IS e-PROCUREMENT?

E-procurement is defined as an Internet-based purchasing system that offers electronic purchase order processing and enhanced administrative functions to buyers and suppliers, resulting in operational efficiencies and potential cost savings. E-procurement solutions feature the most common business and commercial practices and the technical capabilities offered by the Internet. This provides cost-saving opportunities to suppliers, buyers and their customers, and therefore savings across the entire supply chain. Therefore, we do not consider general email, electronic fax or voice communication solutions as e-procurement.

Before 1999, e-procurement was mostly conducted either by buyers accessing a variety of different suppliers' Web sites with widely differing levels of functionality, or by using point-to-point, often home-grown systems which can prove costly to implement and to continue developing. In the point-to-point model, either the suppliers or the buyers are required to reformat cataalogues for each trading relationship they establish. EDI (Electronic Data Interchange) had been used since the 1970s for the transfer of structured business documents, but competing standards, high barriers to entry and lack of suitability for real-time transactions meant that take-up was limited mainly to larger companies, or those markets dominated by a few powerful buyers (automotive). Truly open commerce marketplaces did not exist, and are only now starting to live up to their promises.

Today, buyers and sellers are offered a number of different business-to-business models enabling them to transact electronically, through many e-procurement models.

1.3 GENERAL INTERNET BASED SOLUTIONS – USE IN CANADA

Internet Based Solutions (IBS) include any solution that can be identified as eBusiness solution. For example, Customer Service and Support solutions, Customer Development and e-Marketing, e-Commerce, e-Procurement and Supply Chain Management are all accounted for as IBS.

Accenture Canada findings are further reinforced with another study conducted by CeBI (Canadian e-Business Initiative) in *Net Impact Study Canada* [3]. The key findings show the following:

- 50.2 per cent of Canadian SMEs are currently using or implementing IBS
- A further 20.3 per cent intend to adopt IBSs within the next three years

Clearly, the IBS is becoming a very important ingredient of most Canadian SME strategies. The same study however, also indicates that Internet adoption for SMEs in Canada lags by almost 20% in comparison with the American SMEs (adoption rate of 61%). The study also indicates that 28.4% of Canadian SMEs do not have plans to implement an IBS at least until 2005 (see Figure 2.1).

The study also identifies the most commonly adopted IBS and there is overwhelming evidence that customer-focused solutions are the most widely adopted solution averaging slightly over 52% adoption. On the other hand, other IBS operations focusing on less visible operations are less common and the adoption rate percentage is in the low 20s (see Figure 2.2). Lack of information and uncertainty around the cost and benefits of eBusiness are the most identifiable reasons for discrepancies.

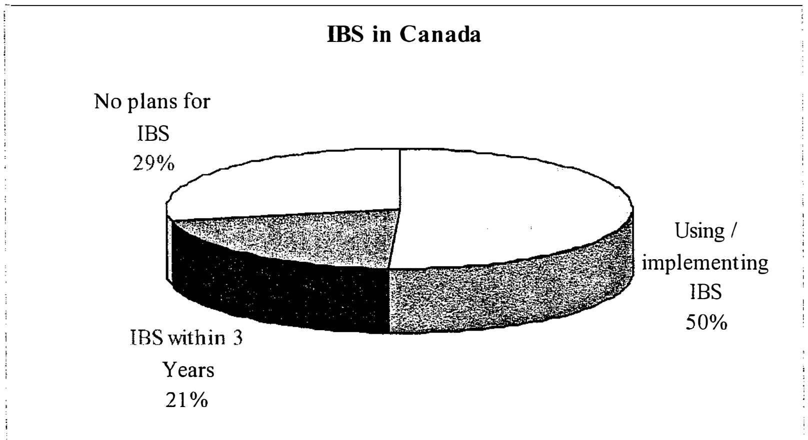

Figure 1.1 IBS use in Canada

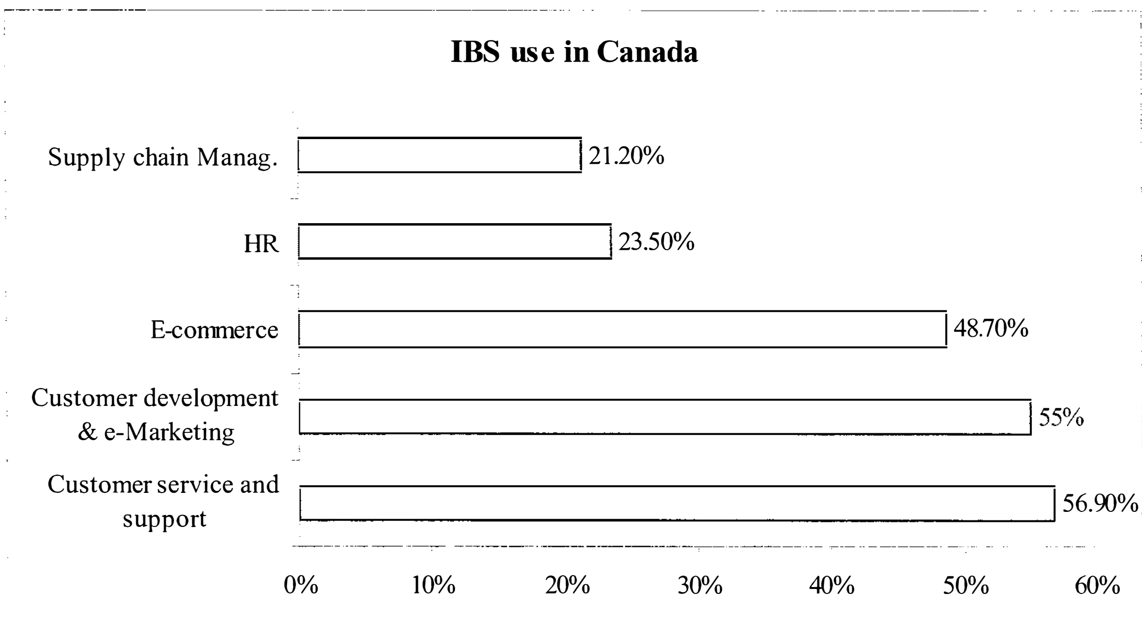

Figure 1.2 IBS use in Canada (by solution type)

1.4 SWOT ANALYSIS OF SMEs IN CANADA

SMEs in Canada are adopting IBSs at a rate somewhat below American SMEs and slightly ahead of their European counterparts. Overall, Canadian SMEs have a good opportunity to enjoy steady growth in IBSs over the next several years. The foundations for this growth have been laid but the responsibility for further action lays with both the Government and SME leaders. The Government has an important role in promoting eBusiness solutions. The following SWOT analysis is based on the latest CeBI report, published in May 2003 [4].

Strengths	Weaknesses
• Infrastructure: broadband connectivity • Public sector support for e-Business • Canadian public SMEs outpaced their U.S. and EU counterparts on a number of financial and non-financial dimensions • More Canadian SMEs note financial benefits • Smaller Canadian firms (50-100 employees) tended to outperform medium-sized firms in the adoption of certain IBS	• Canadian eBusiness is lagging globally: falling behind key trading partners in Net-commerce, usage and readiness • 28.4% of Canadian SMEs had no intention of adopting IBS • U.S. and EU SMEs realized slightly greater revenue increases attributable to IBS adoption • Smaller Canadian firms tended to under-perform their medium-sized Canadian counterparts in realized financial benefits
Opportunities	**Threats**
• Financial benefits associated with IBS adoption were similar among Canada, the U.S. and the EU • Canada has superior Internet infrastructure and public policy support for eBusiness • Canadian SMEs must find new customers, perhaps from abroad	• Canada will be satisfied with good versus superior international performance • Canadian SMEs tended to adopt fewer IBS concurrently than U.S. SMEs • Getting the message to non-adopters about the benefits of IBS may become difficult and expensive • Little known about small Canadian firms (<100 employees)

Table 1.1 Canadian SME SWOT analysis

1.4.1 MACRO e-PROCUREMENT TRENDS

The results of Purchasing's 2002 Benchmark e-procurement survey show buyers creeping along in e-procurement plans, compared to the plans revealed in a 2000 survey [5]. More buyers today feel they are adequately prepared to make the most of online buying tools than two years ago, but buyers say their companies are not dedicating enough resources for e-procurement training. Data security and integrity issues persist in the e-procurement realm and buyers continue to shun the public online marketplaces in favour of private networks with approved suppliers. The 2002 survey showed a decline in the percent of solutions in favour of hosted tools, with 38% of buyers saying they are in favour of using hosted procurement tools for non-production buying. This emerging trend of outsourcing is also evident in Canada. However, the use of online collaboration with suppliers is growing most rapidly, jumping from 10% to 21% in fewer than two years.

The survey also shows evidence of a relatively low adoption rate change between 2000 and 2002, indicating that post dot-com crash behaviour among U.S. companies is more cautious.

1.5 MEASURING e-PROCUREMENT BENEFITS

That there is potential for savings to be made from e-procurement is beyond dispute. The most accepted success rate calculation for e-procurement is based on yearly reductions in purchase prices and savings from lower process costs. However, this is only an estimate, while continuous measurement of the effectiveness of the key performance measures is vital to the successful management and delivery of benefits realization. Therefore, e-procurement benefits measurement drives behaviour and is a key element in making a success.

The following classification list includes the principle metrics that will demonstrate a return on investment (ROI) in e-procurement investment[6]:

- *Hard benefits* (directly measurable), that are required to deliver enhanced shareholder value and thus gain approval, such as price savings and process cost reduction;
- *Soft benefits* (indirect benefits), whose direct effect on cash flow may be difficult to quantify accurately (i.e. individual time freed up through more efficient processes); but may well be indicative of progress; and
- *Intangibles*; which are beneficial but are not directly measurable in financial terms. It is important not to misclassify "soft" but measurable benefits as intangible, just because measurement may be more difficult. Intangibles include:
    - Cultural change: recognition of strategic sourcing as a longer-term market differentiator, end-user attitude shift, and ease of implementing world class internal processes;
    - E-platform: e-procurement as a step towards value-adding structures;
    - Financial approval for all spending: ability to ensure that all spending meets organization standards; and
    - High visibility of supplier performance: "live" feedback from end-user to buyers.

It is also important not to "double count" benefits which are achievable through other means such as procurement centralization around an enterprise resource planning (ERP) system.

In order to identify e-procurement cost savings as distinct from those achieved through other procurement best practices, the measurement system needs to discriminate between "business as usual" savings and those directly attributable to the implementation of e-procurement systems.

1.6 BARRIERS TO e-PROCUREMENT

According to an analysis by Canadian e-Business Opportunities Roundtable, there are four identified key barriers to the adoption of eBusiness among Canadian SMEs:

- Lack of information and education
- Uncertainty surrounding the costs and benefits of eBusiness
- Access to and availability of strategic eBusiness resources
- Security concerns

Our literature search shows that barriers to e-procurement solutions are almost identical to this list, which relates to the eBusiness barriers in general. However, another identifiable barrier is lack of scalable e-procurement tolls and services for SMEs. In the recent CeBI report, it was suggested that most of the vendors do not offer an e-procurement toolkit acceptable to SMEs. A key reason is that vendors do not find SMEs as lucrative a market as larger corporations. Furthermore, vendors feel that SMEs have been very slow in adopting e-procurement solutions and therefore have been concentrating on large enterprises where the pay-off is greater.[7]

2. SME e-PROCUREMENT SURVEY PROJECT

2.1 PROBLEM STATEMENT

Most Canadian small to medium enterprises (SME) try to manage procurement through an inefficient combination of labour-intensive, manual processes, including paper-based record keeping, phone calls, emails and faxes. This time-consuming approach leads to other problems, such as limited financial reporting, lack of easily accessible information, low-level vendor compliance, and frequent unauthorized spending. However, there are e-procurement solutions available that address these issues. Why haven't Canadian SME companies readily adopted these new technologies? What are the barriers impeding Canadian SMEs from utilizing Internet commerce and embracing e-procurement to reduce waste of resources within the supply chain?

2.2 OBJECTIVES

The objective of this survey is to present a general understanding of the e-procurement processes and technologies of Canadian SMEs. Also, the survey analyzes procurement technology strategy frameworks and examines the SME industry drivers of procurement technology strategies.

Another objective was to understand which industries are early e-procurement adopters and to determine the perceived risks and benefits associated with the e-procurement solutions. The end goal will be to derive recommendations to the Canadian SME and solution vendors.

The main areas examined include the following:

- e-Procurement adoption justification criteria
- Perception of barriers to adoption
- Selection importance criteria
- Knowledge of vendor solution offerings
- State of eBusiness involvement in general

2.3 METHODOLOGY

Primary findings are based on an electronic and paper version of the survey (see appendix B) conducted June 2nd-July 8th, 2003. A total of 53 surveys were received by July 8, 2003, representing a response rate of 32% of the companies contacted. However 12 surveys were removed from the analysis because the company size was over the predetermined boundary to large enterprises at 500 employees.

During a survey distribution we elected to specifically target key decision makers in either IT or purchasing departments. We split the target companies into two groups of small and medium enterprises and then made direct calls to individuals to complete the survey. Please see figure 3.1 to see the distribution of functional responsibilities of the respondents. Secondary research was obtained from other sources that include industry and academic journals and publications.

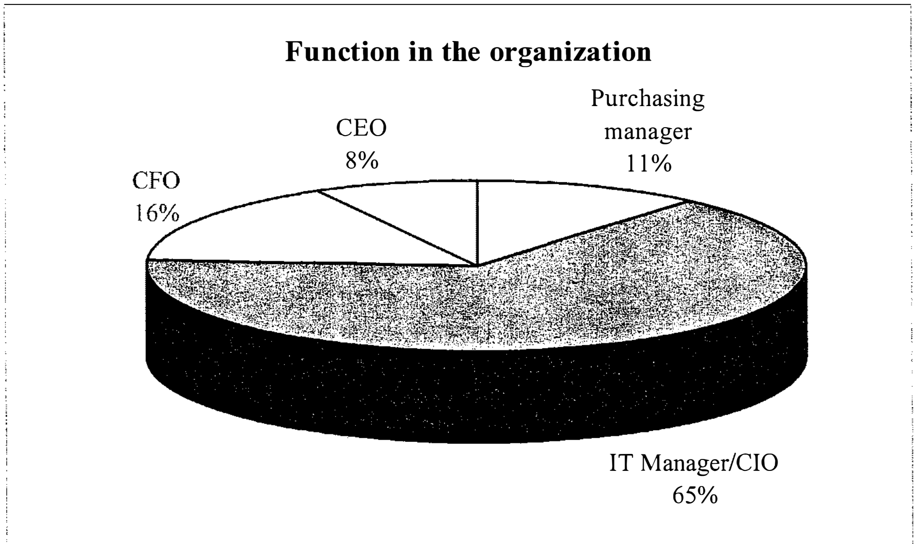

Figure 2.1 Functional responsibilities of respondents

2.4 SME AND e-PROCUREMENT DEFINED

SMEs (Small and Medium Enterprises) are identified as companies with less than 500 employees. It is important to note that SMEs account for 88% of Canadian employment[8]. As stated in section 2.2, e-procurement is defined as an Internet-based purchasing system that offers electronic purchase order processing and enhanced administrative functions to buyers and suppliers, resulting in operational efficiencies and potential cost savings. E-procurement solutions feature the most common business and commercial practices and the technical capabilities offered by the Internet. This provides cost-saving opportunities to suppliers, buyers and their customers, and therefore savings across the entire supply chain. Therefore, are not considering general email, electronic fax or voice communications as e-procurement.

2.5 Demographics

Our survey focused on SMEs (less than 500 employees). We split SMEs into four groups according to number of employees:

- <20
- 20-49

Small

- 50-149
- 150-499

Medium

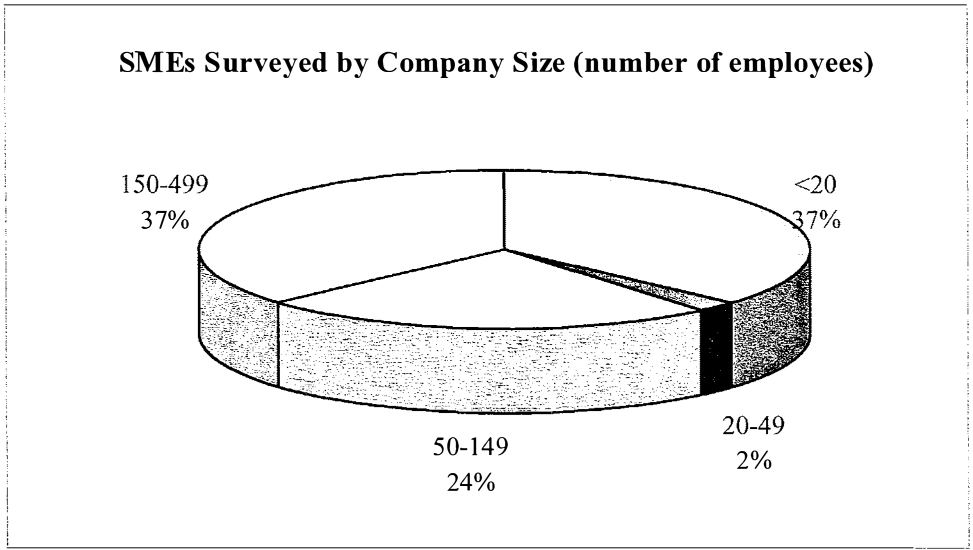

Figure 2.2 SMEs surveyed, by number of employees

Our original intention was to identify five industry categories, but due to limited survey data from SMEs in communication and utility industries we have consolidated them into three categories:

- Manufacturing
- Retail, Wholesale and Distribution
- Professional Services (majority are health industry related services)

Furthermore, a lack of breadth in survey data points from respondents in many different industries, and along different points in the technological adoption curve could easily skew trend analysis in a relatively small survey size such as this one. A much larger number of responses would be required to obtain statistically valid findings. However, we have assumed that over 50% of our data is from SME companies in the early adopter category.

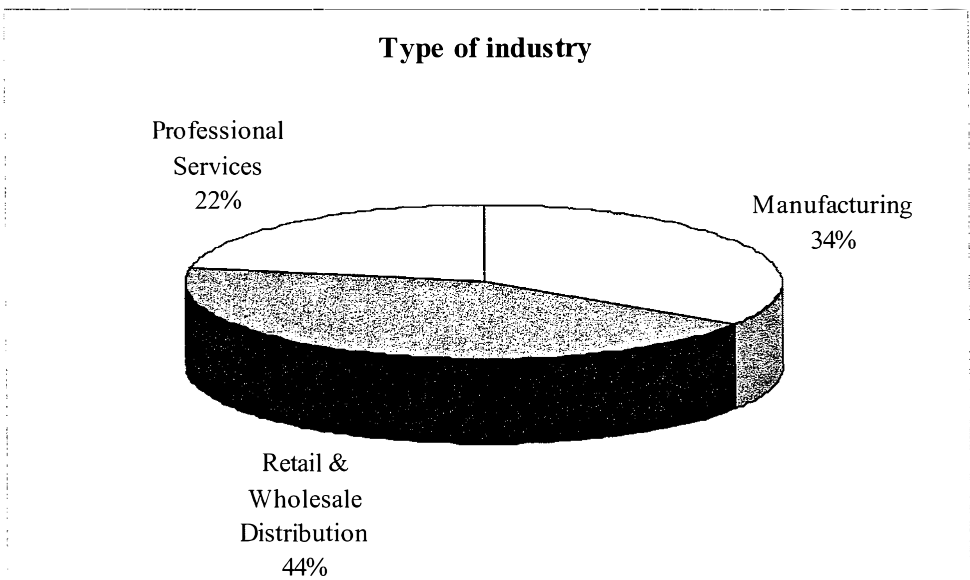

Figure 2.3 SMEs by industry type

3. SURVEY ANALYSIS

3.1 OVERVIEW

This section contains an overview of SMEs procurement practices and overall level of IT use and integration. As previously identified by CeBI, Canadian businesses in general, enjoy a relatively strong IT presence and connectivity. This foundation is important for successful implementation of e-procurement and eBusiness practices.

However, while there appears to be a strong DSL foundation infrastructure to support e-procurement, many comments made by the surveyed companies suggest that there is a relatively poor understanding of e-procurement solutions. There is also a tendency of respondents to not under-stand the overlapping of procurement and inventory control product solutions within best of breed, supply chain execution and management systems and integrated enterprise solutions. There is also a lack of understanding in outsourcing, web services and procurement applications. This further confuses the SME market in their comprehension of eBusiness.

3.2 SURVEY RESPONSES AND FINDINGS

3.2.1 GENERIC

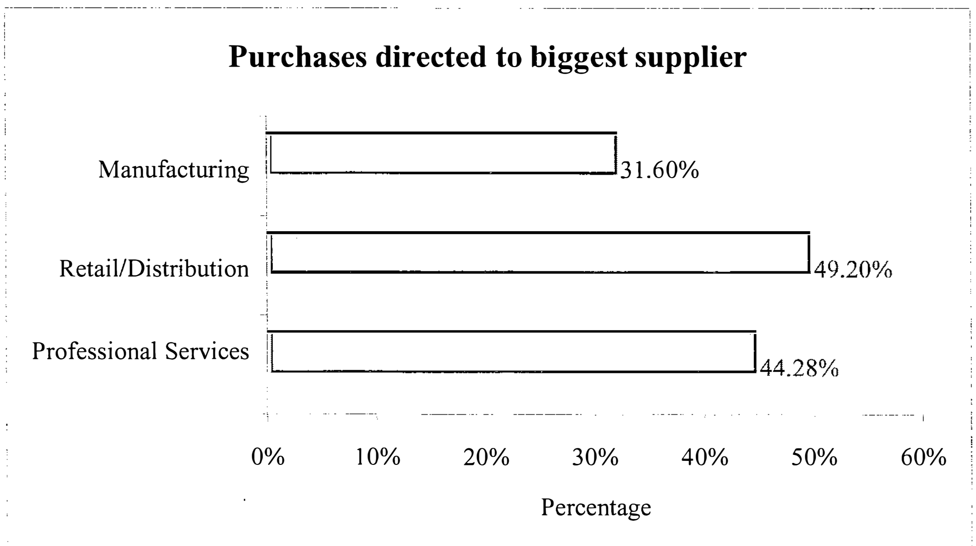

Figure 3.1 Purchases directed to biggest supplier

The percentages we obtained were much larger than expected. We believe that this question required further breakdown of industry verticals, enterprise size and supplier network to be more significant. The survey response size could also have been a factor as outlying data points possibly distorted the overall average results. For example, one wholesale distributor obtained 80% its products from one vendor.

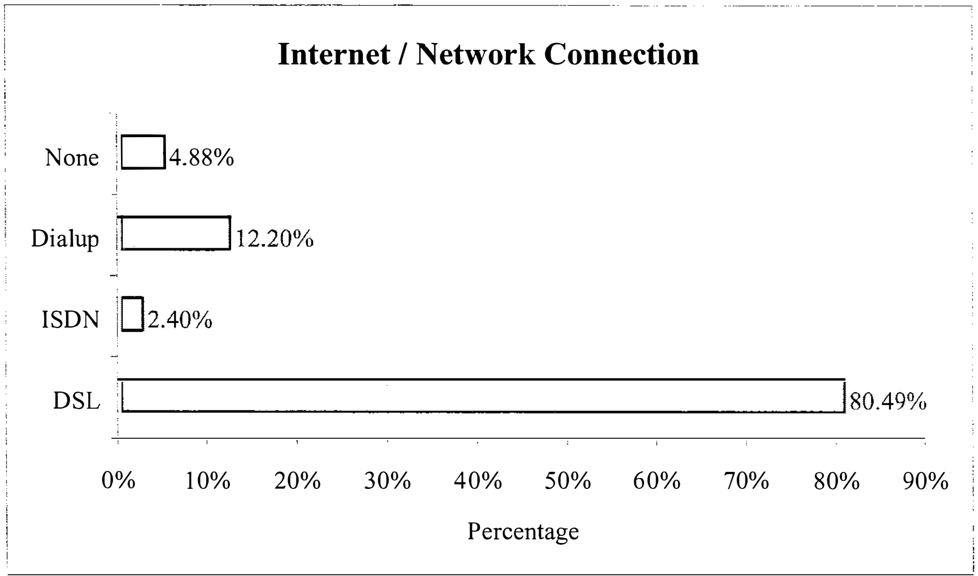

Figure 3.2 Type of Internet / network connection

As expected, most SMEs in our survey employ broadband connectivity. Only the smallest businesses (<20 employees) still appear to utilize dialup network access. This is significant, given the fact that Canadian businesses tend to have a worldwide edge in the foundation for eBusiness[4]. This can also infer that almost 95% of small to medium sized companies are utilizing the Internet, and most likely e-mail for some form of communication.

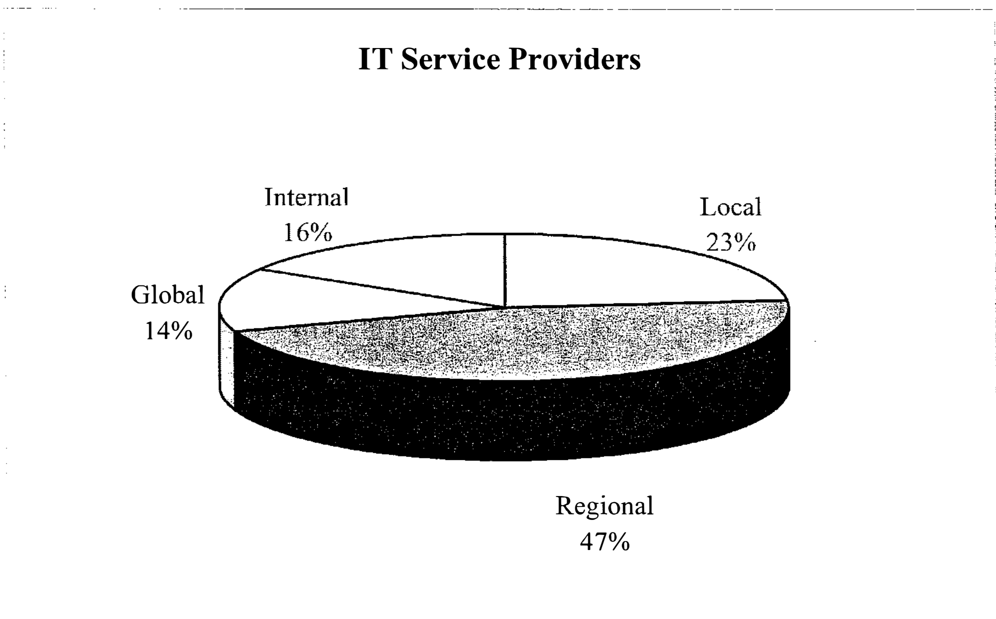

Figure 3.3 Type of IT service providers used

The significance we can derive here is that the SME market tends to buy from a direct sales force. The regional suppliers are more localized and have the expertise and size to implement solutions in the SME.

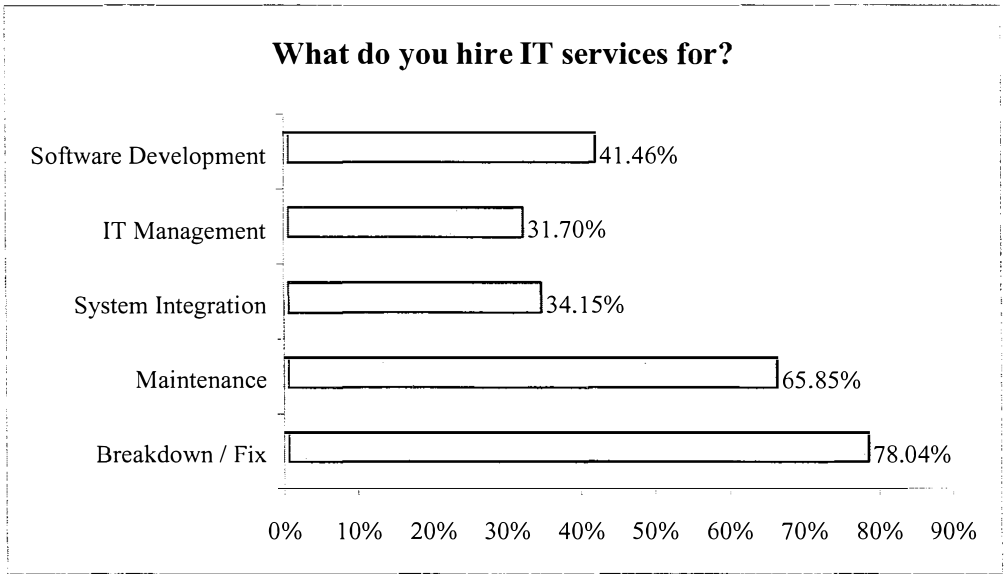

Figure 3.4 IT services

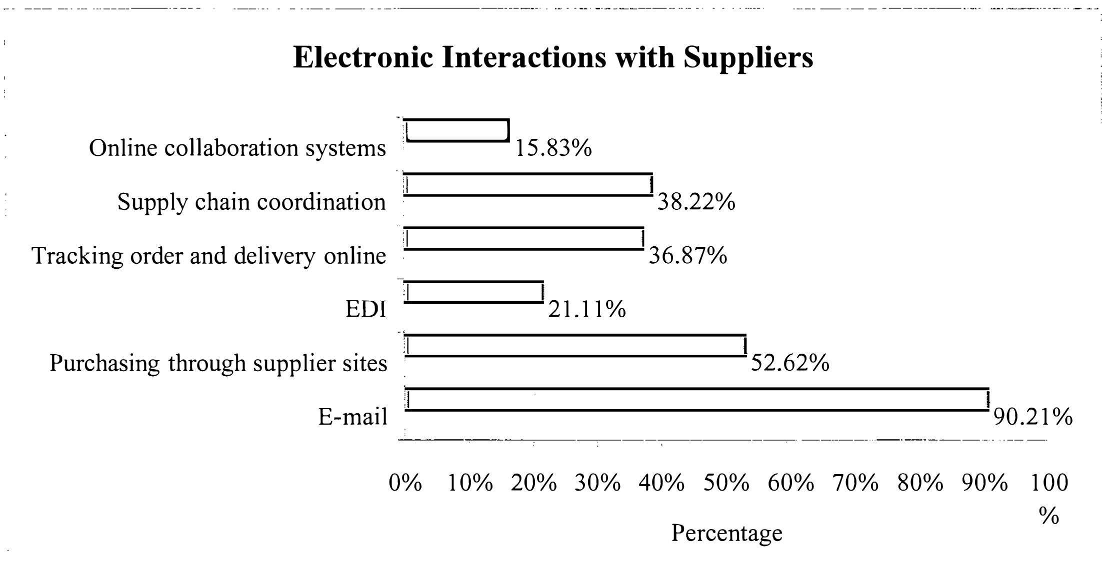

Figure 3.5 Type of electronic interactions with suppliers

One key component that was omitted from the survey was fax interactions. From conversations with respondents to the survey we found that email has replaced over approximately 90% of fax interactions. It is interesting to note that while 21% of the respondents utilize EDI, only two survey respondents outside of the automotive vertical employ EDI transactions. Another interesting observation is that 52% of respondents make purchases through supplier sites. They could actually be utilizing outsourcing services without recognizing it.

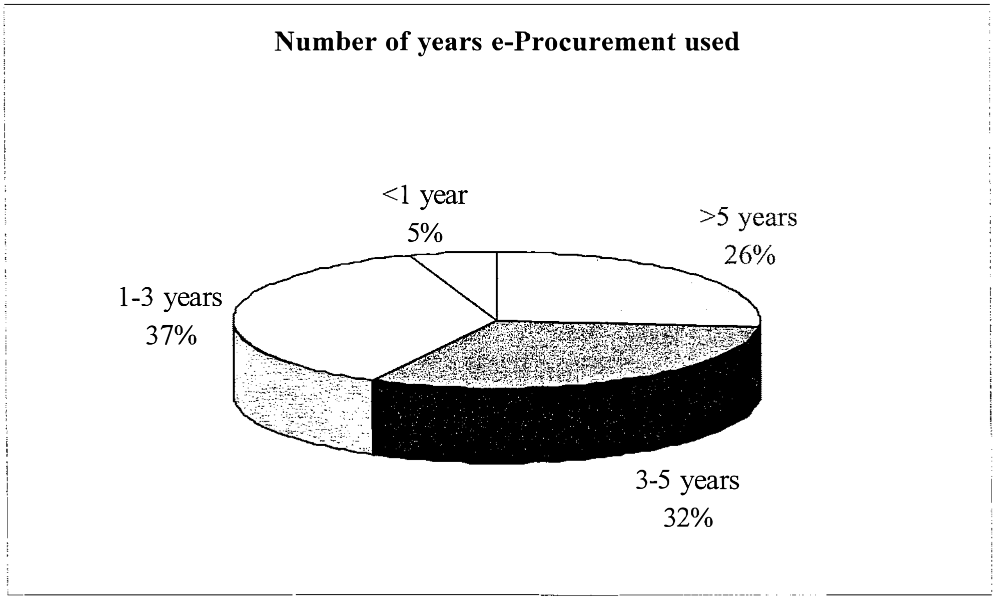

Figure 3.6 Number of years e-Procurement used

Implementation of e-procurement solutions seems to have reached a plateau in the last year. This goes hand-in-hand with the economy downturn and reduced IT spending. As expected, most implementations occurred between 1999-2002, led by Y2K initiatives. A surprising 26% of respondents have been using e-procurement for over 5 years, which leads us to believe that a large number of respondents in our survey are in the early adopter segment.

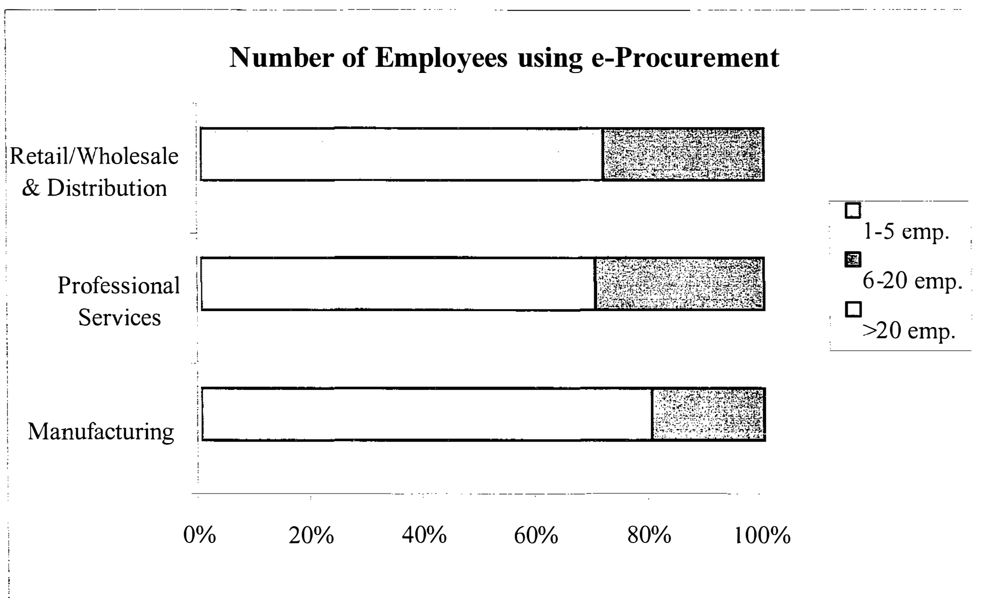

Figure 3.7 Number of employees using e-Procurement, by industry

The number of employees using e-procurement is as expected, indicating that most SMEs have a limited number of people using the system. This indicates that training employees for e-procurement solutions should not represent a major challenge, as there are a few that will need it. In addition, it is interesting to note that there were no more than 5 employees using e-procurement solutions in the mid-market. This could mean that medium-sized companies are benefiting from the use of e-procurement and require less staff to make purchasing decisions.

A better question could have been asked in the survey inquiring the number of people required for purchasing functions before and after use of e-procurement. The data derived from this survey question provides no further insight into e-procurement.

Not unexpected, but relatively important indicator of e-procurement knowledge offerings shows that overall there is a low level of understanding of those offerings. This is further reinforced but the fact that almost half of respondents that have not implemented e-procurement are either not considering it all, expecting to implement it in more than 3 years, or have no opinion on the matter.

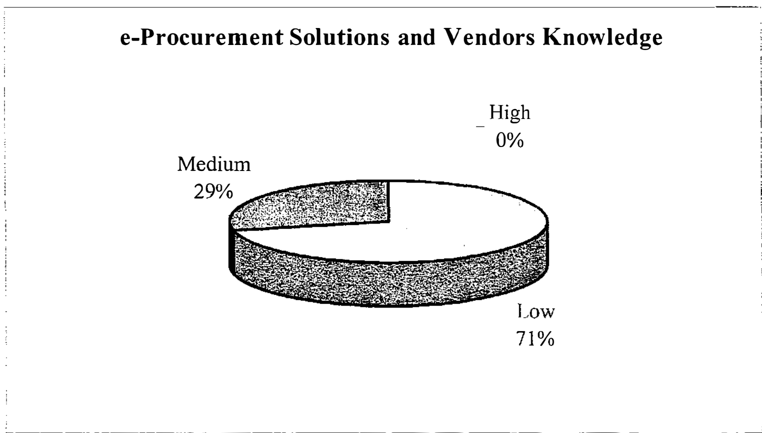

Figure 3.8 e-Procurement solutions and knowledge about vendors

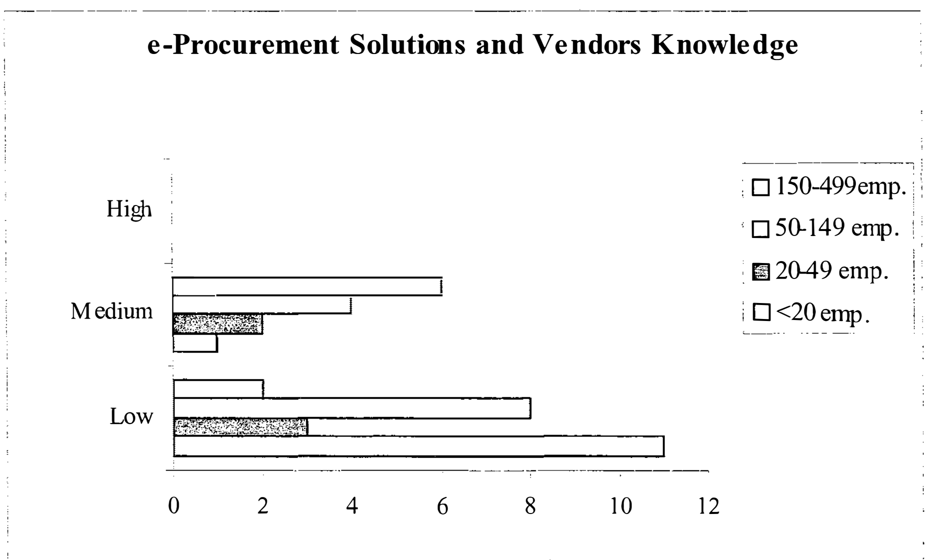

Figure 3.9 e-Procurement solutions and knowledge about vendors, by company size

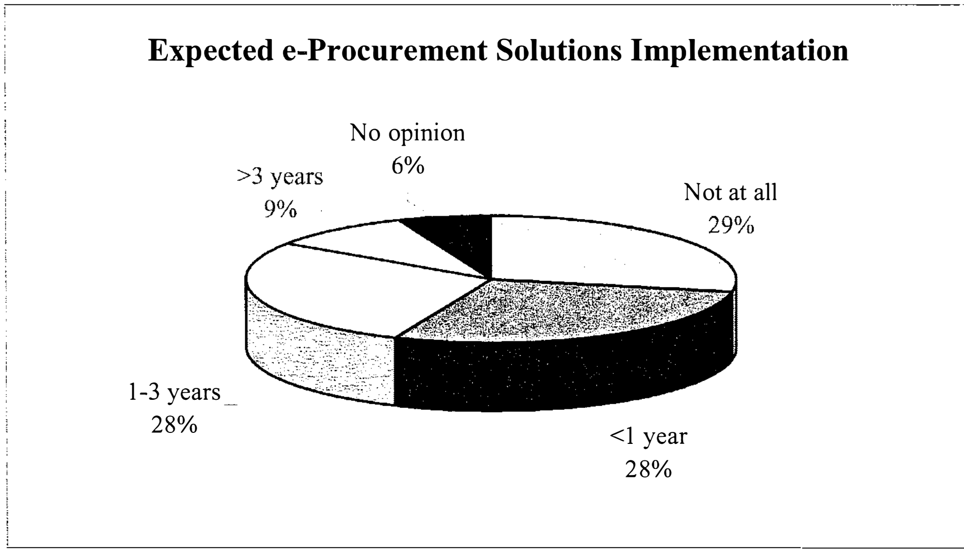

Figure 3.10 Expected e-Procurement solution implementation

3.2.2 e-PROCUREMENT ADOPTION JUSTIFICATION

This section of the survey identifies justification for implementing e-procurement. It did not raise any unexpected results but it was interesting to verify that most companies do not consider e-procurement to be of long-term strategic importance. Cost control and ROI were by far the most important criteria in justifying a move or considering implementation of e-procurement. An interesting observation is that the retail, wholesale and distribution industry segment identified "requested by suppliers" as one of the lowest reasons for justifying e-procurement, while professional services indicated it to be of relatively high importance. This would indicate that the size of the suppliers in certain vertical markets drives e-procurement implementation. For instance, in the healthcare industry, the suppliers are relatively large wholesale organizations, while in the automotive industry there are many small suppliers who have been forced to integrate due to the demands of their customers (the automakers and aftermarket) and not their suppliers.

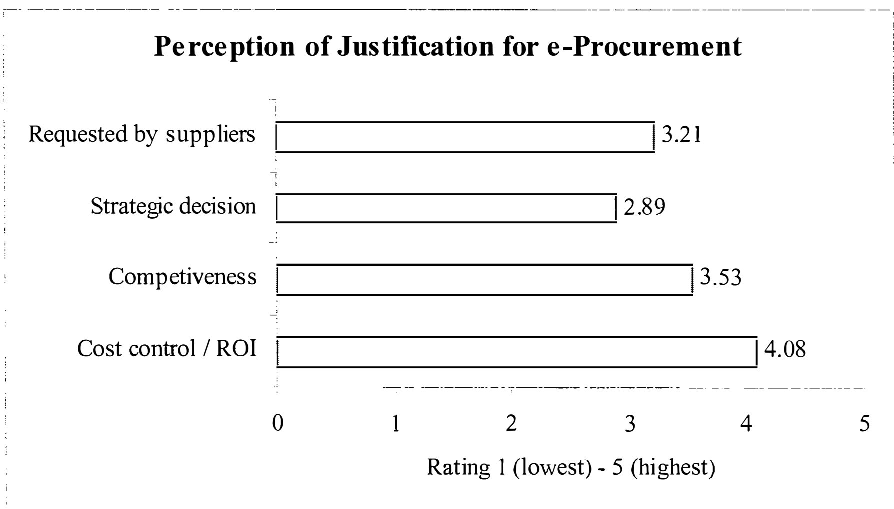

Figure 3.11 Perception of justification for e-Procurement implementation

Cost controls and ROI was listed as the main reason as SMEs in Canada have to monitor contract leakage and purchasing decisions in their organization. This appears to become more and more important as the size of the company grows.

3.2.3 PERCEPTIONS OF ADOPTION BARRIERS

The most important part of the survey is the identification of adoption barriers. Our most important findings were:

- Lack of management support is the largest barrier to implementation of e-procurement; the co-existing indication that it is not regarded as a strategic decision reinforces this finding
- Another barrier is the high cost uncertainty and, even more importantly, the uncertainty about the benefits that e-procurement offers
- Surprisingly information and data security was not considered a significant barrier

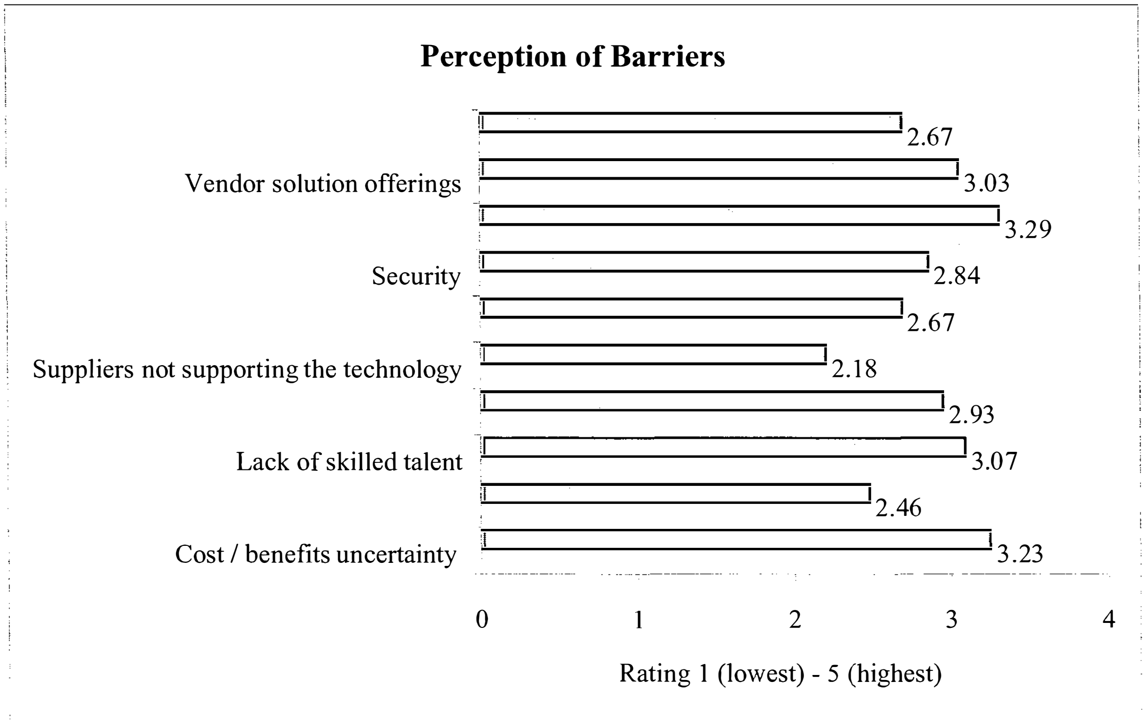

Figure 3.12 Perceptions of barriers for e-Procurement implementation

An interesting observation was the large standard deviation in our results regarding the lack of skilled talent. The data are not shown, but the midpoint of 3.07 that is shown is deceiving because for some companies this was their greatest barrier while for others it was their least. Generally this was the greatest concern for smaller companies and not a concern for the upper mid-sized companies. This corresponds to issues regarding skilled talent. From conversations with the survey respondents, it appears harder to keep skilled workers in smaller organizations than in larger companies. It would be interesting to see if this concern is mirrored across all vertical markets (we cannot derive this from the survey data).

3.2.4 SELECTION IMPORTANCE CRITERIA

This section offered more unexpected findings. Application functionality and the ease of installation and integration were the most important selection criteria. The cost of software maintenance has a surprisingly low ranking. The biggest surprise was that price is not a highly rated criterion. This might be due to the fact that e-procurement has not been widely considered in a selection process. Therefore, survey participants did not fully understand the costs involved. This further emphasises that uncertainty of benefits is the single greatest reason in selecting an e-procurement solution.

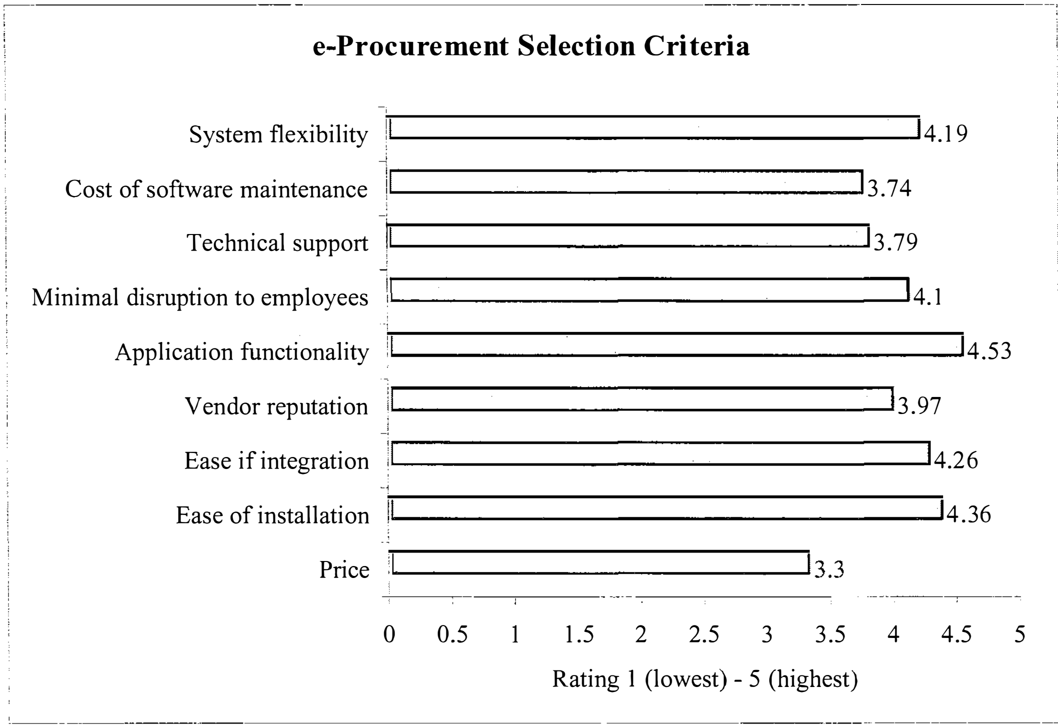

Figure 3.13 e-Procurement selection criteria

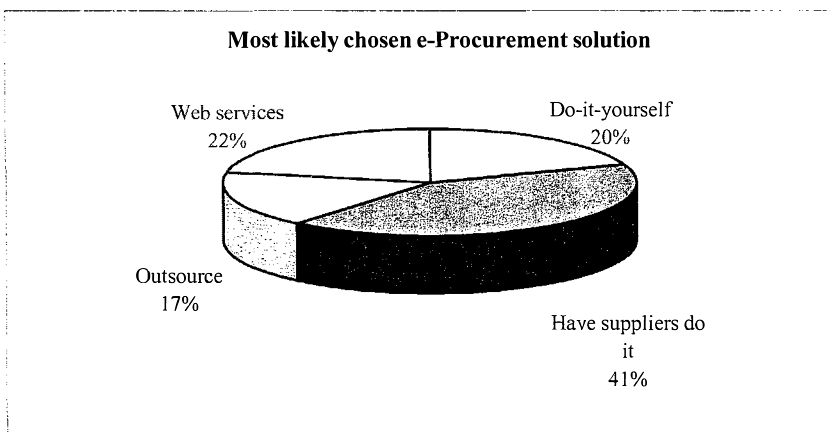

Figure 3.14 Most likely choice of e-Procurement solution

Another surprising finding is the large outsourcing number. This could be attributed to having early adopters completing the survey and not having the full spectrum of the marketplace in the survey breadth. This also highlights the shift to software being sold as a service to the SME market and not a do-it-yourself project for SMEs. See the recommendations for more details.

3.3 E-PROCUREMENT PRODUCT OFFERINGS

E-procurement is defined as an Internet-based purchasing system that offers electronic purchase order processing and enhanced administrative functions to buyers and suppliers, resulting in operational efficiencies and potential cost savings. E-Procurement solutions also feature the most common business and commercial practices and the technical capabilities offered by the Internet. Needless to say there are many e-procurement product offerings that meet the above requirements.

There are a number of different e-procurement models. The earliest model relied on a point-to-point connection such as Electronic Data Interchange (EDI). In the EDI framework, each buyer or seller has to adjust their transaction parameters for each of their trading partners. Two other models, developed to streamline the procurement process, are becoming increasingly common. In the sell-side model, the vendor's information is hosted on its own (or a service provider's) server and accessed from within the buyer's procurement system. In the buy-side model, the information from multiple vendors is organized into an application that resides on the buyer's or third party (exchange) server.

To discuss the e-procurement product offerings, we categorized the e-procurement solutions offerings under the general headings of Procurement Applications (Enterprise and Best of Breed), Internet Commerce, Outsourcing Solutions, and Purchasing Exchanges. It is important to note that, within each of these categories, different e-procurement models can exist. The variations and differences in solution models and differing utilization rates in different verticals cause confusion and misunderstanding among Canadian SMEs and within the market in general. This is compounded by the lack of understanding of eBusiness solutions. Appendix A includes a classified listing of e-procurement vendors, and the solution types are described in the following.

3.3.1 PROCURMENT APPLICATIONS

3.3.1.1 BEST OF BREED SOLUTIONS

Best of breed, or point procurement solutions, offer robust and usually rich functionality for a specific vertical or market. However, best of breed systems, since they are designed specifically to excel in just one or a few applications, can also pose challenges, such as increased training and support, complex interfaces with other systems, duplicate data entry, and redundant data storage.

3.3.1.2 ENTERPRISE SOLUTIONS

ERP is an acronym for Enterprise Resources Planning, an integrated set of applications which uses database technology and a single interface to access and process information for a company or organization. Typically, such applications include financial, human resources, order processing, purchasing, manufacturing and distribution. ERP can also include customer relationship management (CRM), e-commerce, warehouse management and other popular applications, though sometimes a third-party vendor supplies these. An ERP can reduce production and inventory costs, improve customer service, help forecast product demand, and ensure material and human resources are available when needed.

Because each module of an ERP system may not be as feature-rich as an application designed for a specific functional area, industry experts debate whether an ERP solution is superior to interfacing several best-of-breed systems. ERP vendors, however, offer the advantage of straightforward software integration. For e-procurement to work, the software must hook into back-end financial systems, a complex process that generally requires middleware software. E-procurement software from ERP companies comes pre-integrated and each module just plugs into the rest of the ERP suite of software. Most large companies have migrated to ERP and vendors are now targeting medium- and small-sized companies to maintain their sales growth.

3.3.2 OUTSOURCING SOLUTIONS

Less than 10 years ago there was only one service provider known – an Internet Service Provider (ISP). During the past few years multiple new service providers have been formed to fill the growing requirement for technology service providers other than ISPs. One of the first service provider categories was ASP (application service providers). The idea behind the ASP is to provide firms with a relief from daunting challenges of finding, hiring, inspiring and training technical personnel to manage their applications in house. In a nutshell, an ASP offers software applications on a pay-per-use or service basis via the Internet and leased lines.

There are a variety of ASPs, differentiated from other types through their delivery models, and generically identified by the term xSP, which might mean a: storage service provider (SSP), management service provider (MSP), business service provider (BSP), security application service provider (SASP), wireless application service provider (WASP), and so forth.

The distinguishing characteristics of an xSP are the following:[9]

- It delivers its services through a network
- It manages service remotely
- It offers one-to-many services
- It is service fee based

Outsourcing from an xSP is often used by a company that has in the past provided its own services in-house. Typically (but not always), companies that contract services to an xSP have experienced cost reductions, while at the same time they are able to focus more on their core business instead of their network operations.

Outsourcing is a trend that is becoming more common in information technology and other industries for services that have usually been regarded as intrinsic to managing a business. In some cases, the entire information management of a company is outsourced, including planning and business analysis as well as the installation, management, and servicing of the network and workstations[10]. (See Figure 3.15)

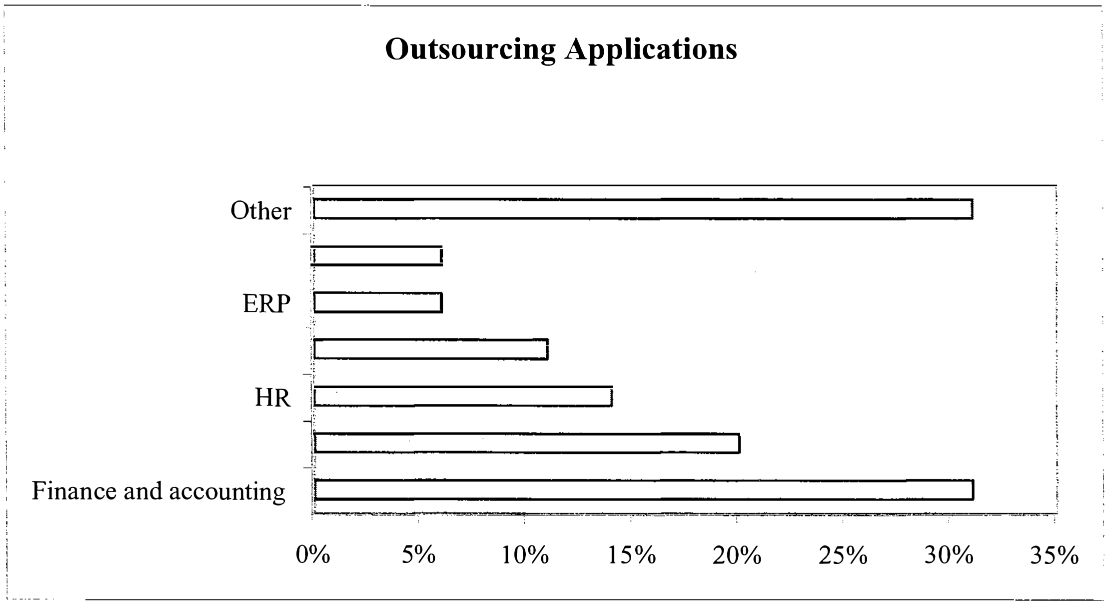

Figure 3.15 Outsourcing applications[11]

Some of the current trends in IT service provider outsourcing are outlined below.

- Information technology vendors are moving away from focusing on one service provider category such as an ASP to a more general approach, to service the broader xSP market. This trend is an indication that the service provider market is changing and expanding. For example, IBM has changed the name of its ASP Prime program to xSP Prime.[12] IBM has shifted its strategy from being strictly an ASP to the much broader market of all xSPs, including the necessary software and hardware solutions. "We started to develop xSP Prime a couple months ago because so many service providers other than ASPs and ISVs (independent service vendors) wanted to get involved," says Jill Kanatzar, program director for xSP Prime at IBM.[13] "The minute we deliver an xSP offering on a retail level, we have begun to compete with other providers in the market with whom we could have this collaborative relationship. I would rather be a supplier, a wholesaler, and a provider of IBM solutions and technologies to all of the xSP players in the marketplace than build my business around a single one and potentially alienate players in the market."[14]

- Are ISPs moving into xSP territory? Recent research examining the ISP market for xSP services suggests that ISPs are planning to add the necessary xSP features to compete in the SME market. A recent report entitled "ISP to xSP: Putting the Service in Service Provider" suggests that ISPs have begun witnessing strengthening demand for extensive services beyond core offerings such as Web hosting. The services being considered include management services, security services, Web casting, and expanded network services.[15]

- Users want flexibility from applications management; support for constantly changing applications, personalized business and applications management services, and change-ready contracts.[16] The need for flexibility is a bigger driving force than cost savings, in outsourcing applications management. This report also noted that clients consider ASPs only for non-mission critical applications, due to security concerns. In addition, users trade off functionality and applications control when outsourcing packaged applications, and customers are demanding better-tailored solutions.

- Traditional ASPs over the past several months have turned to the business-to-business sector to find new revenue streams. However, the success of ASPs in this sector is in question at this point since, although the prospects are good, many companies in the ASP sector have not formulated strong business plans and are still struggling to increase customer adoption of their new business models.[17]

- For many IT departments, system and network management has been a nightmare (either due to lack of experience or resources) therefore outsourcing will continue to grow as companies need to concentrate on the core needs of their business rather than on IT departments. This is particularly valid for small and medium size companies that do not have the necessary technical expertise to operate IT departments.

3.3.2.1 OUTSOURCING PROCUREMENT

The procurement service provider (PSP) model, which looks like an ASP for procurement, is a new method of doing e-procurement. PSPs take care of catalogues, content and supplier relationships. By outsourcing procurement, organizations are able to re-deploy resources more efficiently and thereby enhance their core competencies, as well as obtain access to price discounts through aggregated buys and the reduction of maverick spending on indirect goods. Companies can further leverage outside expertise in analyzing and managing the purchasing process as well as best-in-class hosting facilities, which in turn can help improve performance levels. Estimates of averaged cost savings vary, based upon the areas targeted for improvement and current level of inefficiency. For example, a company can potentially realize: [18]

- 5 to 7 percent cost savings by aggregating catalogue purchasing
- 10 to 15 percent reduction in maintenance, repair and operations (MRO) expenses, depending on the commodity
- 10 to 12 percent savings via strategic sourcing and
- 2 to 4 percent savings from the payment process, utilizing a shared services model

3.3.3 INTERNET COMMERCE SOLUTIONS

Internet Commerce solutions integrate suppliers and buyer procurement processes through protocols, interfaces and custom solutions. An ICP (Internet commerce provider) is a company that sells software and services to integrate purchase and sales transactions. Products and services can be pre-packaged, customized or some combination of these. Typically, a pre-packaged ICP product lets a merchant set up an e-commerce solution using one of several design templates, arranges for secure transactions, and provides order tracking. An ICP may also provide services related to order fulfillment and procurement, such as shipping and customer relations. Some Internet access providers (IAP) and Web design shops also act as ICPs, offering customized services or serving as a vendor.

3.3.4 PURCHASING EXCHANGES

Exchange solutions or (e-marketplaces) exist to bring together many buyers and suppliers into a single Internet-hosted system, often with a goal of reducing prices through aggregated buying power, increasing collaboration between companies in a single industry sector or providing the opportunity of e-procurement to companies who would normally be too small to benefit. Exchange solutions are particularly suitable for spot markets, offering a means of distributing excess inventory quickly and at low cost. They also lend themselves well to markets where tendering processes and reverse auctions are frequently used to source goods, and the advantages of bringing many competing suppliers together in one place and time are obvious. In particular, many exchanges are being set up today to cater to vertical markets, sometimes with competing organizations collaborating to provide industry-wide solutions.

4. RECOMMENDATIONS

4.1 RECOMMENDATIONS TO SMEs

There are many benefits available to a Canadian SME organization looking at an e-procurement strategy. These are:

- Automating the purchasing process to reduce manual entry and lower error rates
- Reducing uncontrolled buying
- Providing a tracking system that standardizes codes and product catalogues
- Reducing paperwork
- Offering 24x7 access

Before embarking on an e-procurement solution, however, the company's sourcing strategy must be effective. This would involve reviewing expenditures, determining market complexity or uniqueness, developing a sourcing strategy and reviewing the entire procure to pay process.

Depending on the results of this analysis, Canadian SMEs should consider:

1. **Using other e-commerce tools** - E-commerce is also conducted through the more limited electronic forms of communication such as e-mail, facsimile or fax. Many small businesses cannot justify the ROI of investing in e-procurement or they may be in a specialized vertical market. For some of these businesses procurement solutions should be limited to basic e-mail communication with suppliers and perhaps supplier based buy-side procurement solutions.
2. **Utilizing managed services and/or an outsourcing solution –** this solution provides the SME with a flexible menu of services that can exactly fit the organization's business needs. This solution can be offered as a subscription or transaction-based model offering with pay-as-you-go characteristics that reduce overhead and maintenance costs. This solution can also usually integrate with internal systems and provide prearranged and man-aged supplier relationships.
3. **Utilizing a purchasing exchange within a market vertical -** Another option is to utilize an exchange. Canadian SMEs can independently, or as a co-operative venture with other organizations, build a vertical exchange to leverage supplier networks. However, the tran-sparency of data and confidentiality may be a concern for those involved.

4.2 RECOMMENDATIONS TO VENDORS

Recommendations for overcoming barriers to Canadian SME adoption of e-procurement in general are in line with overall recommendation for overcoming barriers to adoption of e-Business.

1. **Information and education** – Canadian SMEs need to be better educated about e-procurement solutions and offerings. As we have noticed in our survey, many small enterprises have very little or no understanding of e-procurement. Once companies are better educated about e-procurement, they will be able to make rational decisions about adopting such solutions.

2. **Refocus on benefits to the SME market** – Vendors need to offer scalable solutions for specific SME market needs. So far most solution offerings are aimed exclusively at me-dium to large enterprises that have complex requirements for both system integration and

application functionality. Once these offerings are scalable to SME needs, their price points should be more attractive. This is an area were vendors should consider utilizing the ASP model themselves, or through partners, by offering the software and/or services through a subscription- or transaction-based model. However, our survey indicates that vendors should realize that functionality and integration concerns are paramount to potential SME customers.

3. **Offer the outsourcing alternative** – As detailed above, outsourcing is another very lucrative and promising trend for SME e-procurement. It offers financial attractiveness and does not require a great deal of technical expertise. Outsourcing can be beneficial to both SMEs, end customers and vendors, improving the effectiveness of the entire supply chain.

4. **Utilize value added resellers –** Non-regional vendors especially must use valued added resellers or a direct sales force in the Canadian marketplace to target Canadian SMEs. Our survey indicates that Canadian SMEs prefer to buy from local or regional vendors.

5. CONCLUSIONS

We have examined the barriers to e-Business solutions on the procurement side, the level of e-procurement adoption rates, and associated parameters, within the SME (Small and Medium Enterprise) in Canada. We also recommended possible improvement solutions for both the Canadian SME and e-procurement solution vendors.

This research paper has highlighted the opportunity and mutual benefits for Canadian SMEs and e-procurement solution providers in the area of outsourcing and managed services. Possible future studies to determine the feasibility and applicability of outsourcing and managed services for Canadian SMEs, including ROI analysis and contract leakage studies within SME organizations, should be initiated. The need to investigate market verticals and the role of industry association e-procurement exchange solutions within a market should also be considered as potential areas of investigation.

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APPENDIX – VENDORS

VENDORS SUPPLYING e-PROCUREMENT SOLUTIONS TO THE CANADIAN SME MARKET

The Canadian SME marketplace has many software and service organizations supplying its needs. The landscape is in a state of flux, however, as currently many consolidations and changes are occurring in the software industry. This is pushing many of the so-called "best of breed" suppliers into the integrated supply chain or ERP solution categories. There are also the integrators and consulting firms that develop solutions for the Canadian SME market. Due to the complexity of the current situation, we have roughly categorized the four main solution areas as 1) Best of Breed or Point Solution Vendors, 2) Integrated Solutions such as ERP or Supply Chain solutions, 3) Internet Commerce vendors, providing e-business services and integration tools, and 4) Outsourcing ASPs and hosted purchasing exchange solutions.

This list is by no means complete but covers the majority of the medium to larger players in the marketplace.

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www.ibsca.com

J.D. Edwards

J.D. Edwards provides strong vertical ebusiness solutions to the mid-market. PeopleSoft is currently in the process of acquiring J.D. Edwards.

Headquarters
One Technology Way
Denver, CO 80237 U.S.A.
Tel: 303-334-4000
www.jdedwards.com/

Microsoft

Microsoft Business Solutions offers business management software and services that help small and midsize organizations automate processes, make more profitable decisions, and accelerate growth.

http://www.microsoft.com/businesssolutions/default.mspx

Microsoft (CANSYS)

CANSYS Incorporated, located in Concord Ontario, is one of the top resellers of Microsoft Business Solutions in Canada. CANSYS has been awarded the Microsoft Business Solutions President's Club award four years in a row. We focus entirely on the sale, implementation and support of Solomon and Great Plains using a combination of proven industry experience, project management and technical expertise. CANSYS is proud of our twenty-year tradition of providing automated project and distribution business solutions to Canadian businesses. We have implemented hundreds of corporate information solutions for companies of all sizes and in a variety of industries.

www.cansys.com

Mapics

MAPICS provides economical software solutions built around the business processes of manufacturing - from design, planning and production, to sales, shipping and service. Using ERP software as the foundation, CRM, supply chain and other strategic extensions can be applied depending on the required solution. MAPICS recently acquired Frontstep Software (Feb.13, 2003). They primarily target the SME market and have been very successful to that end.

MAPICS World Headquarters

1000 Windward Concourse Parkway, Suite 100
Alpharetta, Georgia 30005 U.S.A.
Tel: 678-319-8000
Fax: 678-319-8368
www.mapics.com

Oracle Corporation

Small Business Suite

http://www.oracle.com/outsourcing/sbs/

PeopleSoft

PeopleSoft is the world's leading provider of application software for the real-time enterprise. PeopleSoft's Internet software enables organizations to reduce costs and increase productivity by directly connecting customers, suppliers, partners, and employees to business processes online, in real time. PeopleSoft's applications include: Supply Chain Management, Customer Relationship Management, Human Capital Management, and Financial Management. They typically target large enterprises however are in the process of acquiring J.D. Edwards to obtain access to the mid-market. Oracle Corporation is also currently pursuing PeopleSoft in a hostile takeover attempt.

PeopleSoft Inc., Worldwide Headquarters
4460 Hacienda Drive
Pleasanton, CA 94588-8618
800-380-SOFT (7638)
925-225-3000
www.peoplesoft.com

SAP

www.sap.com

Shop 9000 - Lilly Software (System 2000)

Shop 9000 produces and markets Windows based Enterprise Resource Planning (ERP) and related software to the manufacturing industry. Shop 9000 and VISUAL Manufacturing software provide manufacturers with the software tools required to effectively run their business. Designed for SME businesses.

www.shop9000.com

SSA Global Technologies

SSA GT is a leading provider of enterprise solutions for medium to large companies worldwide. SSA GT delivers integrated e-business solutions including business intelligence, e-procurement, customer relationship management, and supply chain management applications.

Headquarters
500 West Madison, Suite 1600
Chicago, IL 60661
Tel +1 312 258 6000
Fax +1 312 474 7500
www.ssax.com

3. INTERNET COMMERCE

Advanced Data Exchange

ADX helps medium to large enterprises automate all of their supply chain transactions – such as purchase orders, PO acknowledgements, shipping notices and invoices –by providing easy, outsourced any-to-any translation services for all of their suppliers and customers. ADX has strategic alliances with Ariba, Oracle, IBM, Sterling Commerce, and WebMethods, and relationships with over 250 of America's leading enterprises.

ADX – Advanced Data Exchange
39655 Eureka Drive
Newark, CA 94560 U.S.A.
Contact: David Michaud
Tel: 510-493-5308
Fax: 510-493-5099
www.adx.com

Aucxis

Aucxis is a provider of real-time trading and financial technologies for e-Marketplaces. The company has an established customer base of over 150 markets within the perishable commodities industry, facilitating more than 125,000 transactions per hour. Together with a network of financial and technology partners, Aucxis has developed a financial trading platform for the allocation and management of financial collateral for real-time trading. Aucxis intends to use this platform to introduce additional financial services products such as foreign exchange, credit insurance, credit financing and settlement services. Aucxis is headquartered in Toronto, Canada and has operations in North America, Europe and Australia.

220 King Street West, Ste. 200
Toronto, ON M5H 1K4 Canada
Tel: 416-214-1587
www.aucxis.com

AXS-One Inc.

AXS-One Inc. is a provider of electronic commerce (e-commerce) solutions.

301 Route 17 North
Rutherford, NJ 07070
United States of America
201-935-3400
www.axsone.com

Backsoft

Enterprises worldwide use Backsoft software to increase the speed and productivity for those responsible for extending their business to the Internet. Whether that includes web-enabling applications, building enterprise-level web applications, or managing the content of those applications, Backsoft software is ideal for the rapid development efforts required for e-Business success.

6960 Professional Parkway, Suite 100
Sarasota, FL 34240 U.S.A.
Tel: 941-907-6655
www.backsoft.com

ChanneLinx, Inc.

ChanneLinx technology allows companies to move outside of the enterprise and connect with customers and suppliers faster and more cost effectively than ever before. The company's customers incorporate ChanneLinx solutions to achieve 100% compliance with Electronic Data Interchange (EDI) efforts, improve their level of customer satisfaction by connecting customers to accurate account information, or to centrally present product information for purchase or sale.

www.channelinx.com

CocoCommerce, Inc.

CocoCommerce, Inc., provides a business-to-business (B2B) transaction management platform to enterprises and marketplaces that enables trading partners to manage the fulfillment, payment and settlement of transactions online.

www.cococommerce.com

Computer Associates

Computer Associates International, Inc. (NYSE: CA) is a leading worldwide provider of solutions and services for the management of IT infrastructure, business information and application development.

Headquarters
One Computer Associates Plaza
Islandia, NY 11749, USA
Tel: 631-342-6000
Product Information: 1-800-225-5224
Fax: 631-342-6800
http://www.cai.com/

Global eXchange Services

GXS integrates electronic transactions between and within companies and their extended global supply chain. Global eXchange Services (GXS) operates one of the largest B2B e-commerce networks in the world, with more than 100,000 trading partners. The GXS network processes 1 billion transactions annually, accounting for $1 trillion in goods and services. With more than 35 years' experience as an e-commerce pioneer, GXS provides supply chain services and software to 60 percent of the Fortune 500. GXS recently acquired Celarix April 6, 2003.

100 Edison Park Drive
Gaithersburg, MD 20878 U.S.A.
Tel: 301-340-4000
http://www.gxs.com

IBM Canada

IBM unites hundreds of systems and software applications, and enables seamless integration across the business through open standards.

New Orchard Road
Armonk, NY 10504 U.S.A.
Tel: (914) 499-1900
http://www.internet.ibm.com/

Information Analytics

Managed Web Hosting services allow you to delegate all aspects of your website including installation, administration and maintenance. Services include domain, web and email hosting, lists, conferences, ASP, JSP, Cold Fusion, Front Page, databases and e-commerce.
Web Services develop web-centric application solutions utilizing industry standard technologies such as SQL, XML, JSP and ASP. Web-based solutions offer a high degree of portability and interoperability, offering you an efficient and cost-effective means of leveraging your investment in legacy systems.

134 South 13th Street, Suite 700
Federal Trust Building

Lincoln, Nebraska 68508 U.S.A.
Tel: 402-477-8300 or toll free 866-477-8300
Fax : 402 476-4596
www.informationanalytics.com

Sterling Commerce

Sterling Commerce, a wholly owned subsidiary of SBC Communications Inc. (NYSE:SBC) is one of the world's largest providers of business integration solutions. With more than 30,000 customers in a vast range of industries, Sterling Commerce is a recognized pioneer in electronic commerce through its longstanding expertise in EDI. Today, as customers explore new ways to improve business performance via the Internet, Sterling Commerce continues to innovate its software and services to further the global adoption of e-commerce while offering its customers strategic solutions that leverage existing technology.

Headquarters
4600 Lakehurst Court
Dublin, Ohio 43016-2000 U.S.A.
Tel: 614-793-7000
Fax: 614-793-4040
www.sterlingcommerce.com

Syntax.net

Syntax.net is a full service business solution integrator specializing in Enterprise Resource Planning (ERP), Business Intelligence (BI) and e-business. With almost 30 years of experience, Syntax.net combines the best hardware, software and services to help its customers gain a competitive advantage.

8250, boul. Décarie, bureau 400
Montréal, Québec, H4P 2P5 Canada
1-87-SYNTAX4U
Tel: 514-733-7777
Fax: 514-733-0091
www.syntax.net

WebMethods, Inc.

WebMethods, Inc. (Nasdaq:WEBM) is the leading provider of integration software. The webMethods integration platform allows customers to achieve quantifiable R.O.I. by linking business processes, enterprise and legacy applications, databases and workflows both within and across enterprises. By deploying the webMethods integration platform, customers reduce costs, create new revenue opportunities, strengthen relationships with customers, substantially increase supply chain efficiencies and streamline internal business processes.

P.O. Box 3793
432 Lakeside Dr.
Sunnyvale , CA 94088-3793 U.S.A.
Tel: 408-962-5000
Fax: 408-962-5329
www.webmethods.com

4. PURCHASING EXCHANGES AND OUTSOURCING

Amphire

Amphire is an application solution provider delivering solutions to streamline the food service supply chain. Their technologies provide an end-to-end replenishment solution for the operators, distributors and suppliers of the $270 billion U.S. foodservice market.
Amphire Solutions, Inc, is the leading provider of Internet based supply chain solution that seamlessly connects distributors, suppliers and operators in the food industry. The Amphire product suite enables all industry trading partners to communicate electronically without the use of expensive dedicated hardware and software. With flexible and reliable products, Amphire has made participating in the eBusiness world a reality for trading partners of all sizes.

4355 Emerald Drive, Suite 290
Boise, ID 83706 U.S.A.
Tel: 877-515-0002
www.amphire.com

Biomni

Biomni provides unique, flexible request management solutions to assist in accelerating the business process chain for outsourcers, key corporate verticals and government organisations. With composite solutions addressing everything from best of breed electronic procurement, employee self-service and strategic sourcing, Biomni comes with a 12-year pedigree in electronic procurement and internal request management solutions.

www.biomni.com

ChemConnect

ChemConnect was founded in 1995 as a bulletin board site, and has since then established itself as a leader in helping companies optimize their purchasing and sales processes for chemical feedstocks, chemicals, plastics, and related products through the use of e-commerce. The company is committed to innovating and improving transaction processes for buyers and sellers in multiple industries around the world.

www.chemconnect.com

Clarus Corporation

B2B procurement and trading services provider Clarus powers e-marketplaces and enables corporate purchasing. Clarus' flagship eProcurement software provides increased speed-to-market, content services, various analytics components, and global capabilities like multi-currency, tax, and support for several languages. Clarus' eMarket application integrates buyer and seller services such as content and contract management, auctioning, and billing. Clarus' ClarusNet B2B platform provides a range of standard trading services such as content management, supplier enabling, payment settlement, auctioning, and wireless capabilities. Clarus' customers include Blue Cross, MetLife, MasterCard, Parsons-Brinckerhoff, The Container Store, and First Data Corporation. Clarus' partners include Bonn, CrossTier.com, LabBook, Omicron, and Impresse.

www.claruscorp.com

Commerce One

Commerce One is a leading provider of advanced software that helps businesses collaborate with their partners, customers and suppliers. From its initial roots in Internet-based software applications to its establishment of the world's largest e-commerce trading network, Commerce One has consistently been at the forefront of delivering advanced technologies that help global businesses collaborate with their partners, customers and suppliers over the Internet. Commerce One has defined many of the open standards and protocols established for business networks today and our global customer base represent leaders in a wide range of industries.

4440 Rosewood Drive
Pleasanton, CA 94588 U.S.A.
Contact: Annie Vinje
Phone: 925-520-4075
Fax: 925-520-4630
www.commerceone.com

Commerx, Inc.

Commerx, Inc. is a provider of Web-hosted procurement and supply chain solutions that enable manufacturing companies to transact business on the Internet.

www.commerx.com

CoreHarbor, Inc.

CoreHarbor, the leading managed service provider, focuses exclusively on hosting and managing a suite of spend management solutions including spend analysis, sourcing, procurement, co-tracts, payments, tax compliance and catalog management. By leveraging CoreHarbor's expertise and ongoing management and support, organizations will achieve and sustain the greatest value and cost savings. CoreHarbour was just purchased by USi.

11475 Great Oaks Way, Suite 225
Alpharetta, GA 30022
Tel: 770-453-9001, ext. 121
Fax: 770-453-9601
www.coreharbor.com

eBreviate, A.T. Kearney Procurement Solutions

eBreviate, a global eSourcing leader and integral part of the A. T. Kearney Procurement Solutions unit, offers a full spectrum of online eSourcing tools and technologies to radically transform strategic sourcing into an efficient and effective process with the right value proposition for buyers. Global and mid-market companies, governments, and the net markets that serve them, are turning to eBreviate for eSourcing leadership because eBreviate is enabling the entire strategic sourcing process—from end to end.

A.T. Kearney Procurement Solutions Inc
101 California Street, 16th Floor
San Francisco, CA 94111
Tel: 415- 912-5200 or 888- eBreviate
Fax: 415-912-5189
www.atkearneyprocurementsolutions.com

FacilityPro

FacilityPro delivers procurement-outsourcing services to clients in the manufacturing, real estate and service industries. Clients typically engage FacilityPro to rapidly identify and reduce costs and to sustain savings over time through one or more of the following services: expenditure analysis, strategic sourcing, compliance management, and material logistics & planning.

1200 Ashwood Parkway, Suite 450
Atlanta, GA 30338 U.S.A.
Contact: Michael Sharp
Tel: 678-731-8544
Fax: 678-731-8744
www.facilitypro.com

Ketera Technologies

Ketera Technologies provides spend management solutions as an 'on demand' service, providing companies with the technology and services need-ed to control and reduce corporate spending at a low cost of ownership. Ketera Spend Management includes applications for spend analysis, sourcing, e-procurement, and supplier enablement. Ketera was co-founded by American Express.

2029 Stierlin Court, Suite 120
Mountain View, CA 94043 U.S.A.
Contact: Brian Desmond
Tel: 650-903-5600
Fax: 650-903-4153
www.ketera.com

Noosh

Noosh offers procurement and lifecycle management solutions for marketing and business communications -- print, direct mail, interactive media, point-of-sale materials, and packaging. Companies that replace manual, time-consuming processes with Noosh achieve dramatic cost savings, productivity, and cycle time improvements.

3235 Kifer Road, #200
Santa Clara, CA 95051
Contact: Lou Braun
Tel: 888-286-6674, ext. 6020
Fax: 408-830-0001
www.noosh.com

Online Purchasing Center

The Online Purchasing Center is an online purchasing community focused on providing a neutral, web-based platform for automobile dealers and their suppliers.

By using the Online Purchasing Center, buyers and suppliers have the opportunity to perform safe, effective, and efficient transactions, leading to a more successful and profitable business for all participants.

The Online Purchasing Center marketplace is an environment that enables buyers and suppliers to utilize the Online Purchasing Center as a value-added purchasing solution.

The Online Purchasing Center provides a variety of different purchasing options, including the Premier Partner System, the Purchase Order System, and the Exchange System.

Dealer Purchasing System
6700 Hollister

Houston, Texas 77040 U.S.A.
Tel: 713-718-1800 or Toll-Free: 888-260-7612
Fax: 713-718-1495
http://www.opc4dealers.com/

Pantellos

Pantellos helps customers minimize costs, maximize service and efficiency, and improve business results by offering deep industry and supply chain expertise, a broad suite of supply chain services, an active trading community and leading-edge technologies.
Our business strategy, based on three key themes of Commerce, Community and Collaboration, has been developed to bring the most value possible to the Pantellos trading community. Commerce, the foundation layer, provides an efficient, Internet-based platform that supports marketplace trade.

The Community layer delivers the building blocks that enable buyers and suppliers to work together to meet specific supply and demand needs. At the Collaboration layer, Pantellos acts as a catalyst to optimize the entire supply network. We work with trading parties to develop and implement innovative services for the toughest supply chain challenges.

www.pantellos.com

Staples Contract

Staples Contract provides office supply solutions to medium- and large-sized organizations. The business works collaboratively with customers enabling procurement professionals to efficiently manage highly cost-effective custom procurement programs. Staples Contract is a division of Staples, Inc., an $11 billion retailer of office supplies, business services, furniture and technology to consumers and businesses.

500 Staples Drive
Framingham, MA 01702
Phone: 877.520.5465
www.staplescentral.com

SupplyAccess, Inc.

SupplyAccess, Inc. is a provider of strategic e-procurement solutions, private-labeled sell-side applications, and networked market exchanges for global corporations, government and educational entities. The company's flexible hosted/ASP model facilitates business-to-business direct procurement of a broad line of information technology (IT) and materials, repair and operation (MRO) products and services, as well as a carefully targeted set of vertical market exchanges, including maintenance parts and services for the aviation industry.

www.supplyaccess.com

Trade Ranger

Trade-Ranger is the global destination for online procurement in the oil and gas, and chemical industries. We connect buyers and suppliers in the upstream, downstream, chemical and retail sectors; collaborate with companies in implementing e-procurement strategies; and guide development of industry-wide content and transaction standards.

We are an independent, neutral and secure hub that encourages and enables the exchange of information and industry knowledge. Trade-Ranger's services and capabilities offer its members the ability to transact end-to-end electronically, enabling process and cost savings for both suppliers and buyers. Trade-Ranger is leading the way in making the vision of seamless connectivity between suppliers and buyers a reality.

www.trade-ranger.com

USI

USi is an ASP. They are a world leader in hosted PeopleSoft and Microsoft Exchange, with a mature and growing Siebel Systems offering.

One USi Plaza
Annapolis, MD 21401-7478
Tel: 410-897-4400 Toll Free: 800.839.4USI
Fax: 410-573-1906
www.usi.com

Yantra Corporation

Yantra helps companies unlock value from their extended trading networks. With Yantra's software, companies can efficiently reach new customers, sell complementary products and services, reduce inventory, coordinate outsourcing partners, and improve customer service levels. The company's solutions leverage a suite of applications to manage orders and inventory across Demand, Supply, Distribution, Service and Private/Public Trading Networks. Clients include a diverse list of leading manufacturers, retailers, outsourced logistics providers and trading exchanges such as: Allogis, APL Direct Logistics (formerly GATX), Chempoint, Converge, Eastman Chemical, Honeywell, Motorola, Reality, Rockport, Target, Texas Instruments and VerticalNet.

www.yantra.com

5. PROCUREMENT CONSULTING

ADR International

ADR International, a leading global purchasing consulting firm, creates and implements unique programs that change how companies purchase goods and services.

24 Frank Lloyd Wright Drive, Lobby C, PO Box 366
Ann Arbor, MI 48106-0366 USA
Tel: 734-930-5070
Fax: 734-930-5080
http://www.adrna.com/

6. OTHER POTENTIAL CANADIAN SME VENDRS NOT CLASSIFIED

Database Systems Corp.
Datastream Systems, Inc.
DETERMINE
diCarta
Digital River, Inc.
Diligent Software Systems
Direct Sourcing Solutions, Inc.
EasyLink Services Corporation
ECbridges, Inc.
ecGain
Ecometry
Ectone
edeal Services Corp
Edict Systems
EDS CoNext
eFinNet
eGuanxi, Inc.
Elcom
e-LYNXX Corporation
Emergent
Enable Systems
Entomo, Inc.
EPIC Systems, Inc.
Epicor Software Corp.
ePlus
Erogo
eSchoolMall
ESIZE Procurement Solutions
Exemplary
ExpertCommerce, Inc.
Extensity, Inc.
Extreme Logic
Felspar
Fisher Towne & Associates
FreeMarkets
Frictionless Commerce
Genie Systems Inc.
Get Real Systems
GlobalServe
Glovia International
GoCo-op
GT Nexus Inc.
Hartronix Computer Solutions
Hunter Business Consultants
Healy Hudson
HigherMarkets, Inc.
Hubspan
iCan SP, Inc.
ILOG
iMerchants Limited
IndustryHub Inc.
Innotrac Corp.
Inovaware
insevo
Instill Corp.
Interbiz
INTERSHOP Communications
IPNet Solutions Inc.
IQNavigator
IT4profit
Izodia
Kewill
LANSA
LeftBrain, Inc.
M&D Systems
Made2Manage Systems
Magic Information Systems
Marrakech
MaterialNet
Merkatum
MRO Software Inc.
Needa Solutions
neoIT
NEOMAlogic
net32.com, Inc.
Netegrity
Networld Exchange
NIC Commerce Inc.
Nistevo
NONSTOP Solutions
ObjectStorm, Inc.
Optimum Pay
Palmas Development Corp.
PanamaTech, Incorporated
Paramount Technologies, Inc.
Payformance Corporation
PolyDyne Software Inc.
Portum AG
Proalpha Software Corp.
Promiles Canada
Proclare NV
ProcureNet, Inc.
Profile Systems
Procuri, Inc.
ProMost Inc.
Prorizon Corp.
PurchasePro.com, Inc.
PurchasingNet, Inc.

PYA Solutions Inc.
QRS
Quadrem
Qvalent
Radiant Systems, Inc.
Redmind, Inc.
Rennaissance Software Inc.
Reqio Ltd
Restaurant Efficiencies Inc.
Riverton.com
Rockwell Software
Sands Solutions Group
SciQuest
Servigistics
ShipVertical
SIENNA Technologies
Simplexis
SKYVA International
SmartOps Corp.
SOFTCARE
SoftCo
Stronghold Technology Group
Surebridge, Inc.
SurePay
SynerDeal
SYSPRO
Talaris Corp.
Tallán, Inc.
Tecsys Inc.
Technology Solutions Company
The Procurement Centre
ThreeCore, Inc.
Trade Solution Group
TRADEC Inc.
Trancentrix, Inc.
TransactPlus
Traveldoo Technologies
UPS Supply Chain Solutions
USinternetworking, Inc.
Verian Technologies, Inc.
Verticalnet Software, Inc.
Vglue
Vinimaya
V Vision Logistics
Vista Technology Group
Voxa
Vsource
Webplan Inc.
wallmedien
WorldCrest
Xporta Inc.
Zeborg, Inc.

MeRC

McMaster eBusiness Research Centre

McMaster eBusiness Research Centre (MeRC)
DeGroote School of Business
McMaster University
1280 Main St. W. MGD A201
Hamilton, ON
L8S 4M4

Tel: 905-525-9140 ext. 27027
Fax: 905-528-0556
Email: ebusiness@mcmaster.ca
Web: http://merc.mcmaster.ca