FINAL REPORT TO THE ONTARIO
MINISTRY OF ECONOMIC DEVELOPMENT AND TRADE

June 2005

Conducting Business in the Information Economy:

Building ICT Capacity in Small & Medium Enterprises in Eastern Ontario

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Executive Summary

Small and medium based businesses (SMEs) are not adopting Information and Communication Technologies (ICT) at a rate commensurate with advances in technology. The use of ICT has a positive impact on a SMEs ability to compete both locally and in the world economy.

The purpose of this study was to examine the use of ICT by SMEs in rural Eastern Ontario; and to ascertain the challenges experienced by Internet service providers (ISPs) in the provision of high-speed Internet access to these SMEs.

The study, which included the interview of forty-five businesses and ten high-speed ISPs, provided for some interesting results.

91% of the SMEs who participated in this study demonstrated an overwhelming interest in adopting increased information and communication technologies.

Benefits of increased adoption of ICT were identified as increased sales, decreased expenses, improved productivity and competitiveness. Other comments included the ability to present themselves as more professional organizations and a better ability to export.

The SMEs identified three main issues as inhibitors to adopting increased ICT: lack of high-speed connectivity; lack of community based ICT resources and lack of time to implement these technologies.

96% of SMEs interviewed were connected to the Internet. Of those that were connected, 75% were connected via a dial-up connection. 76% indicated that they were not able to obtain a broadband connection, however 97% would use broadband if it were available. Some businesses advised that they could obtain broadband connectivity, but the cost was unrealistic, so they considered a high-speed connection to be unavailable.

Businesses were willing to pay for broadband service at a reasonable cost. 27% were willing to pay a connectivity fee of $75 or more monthly.

There were numerous, valid reasons why a high-speed connection to the Internet is crucial to competitiveness of businesses interviewed. In some cases high speed Internet was considered necessary for a firm's survival. It was clearly evident that high-speed connectivity in rural communities remains an issue that needs to be resolved without further delay.

Regarding the supply of high-speed connectivity, ISPs indicated that they don't have a sufficient business case to expand their services into remote, harder to service areas. There exists some belief that if SMEs better understood the benefits of broadband service there would be increased demand for service, which would result in some increased supply.

Access providers have expressed concern that 'lead tenants' such as the MUSH sector (municipal government, universities/colleges, schools and hospitals) are often not available as clients as these lead tenants have been included in publicly sponsored infrastructure systems, leaving the less profitable tenants to the private sector providers.

Access to ICT resources has been identified as an issue. While SMEs' general understanding of ICT was good for their immediate needs, there was little evidence of insight or consideration for enhanced applications. There was, however, good evidence of a desire to learn more, given their time constraints. The availability of these resources should stimulate use of enhanced ICT however ICT training resources are not easily available in these communities. This includes the development of tools to demonstrate the business case for broadband connectivity. The ISPs stated that creating a greater demand for high-speed connectivity would potentially enhance their ability to expand their services.

Community stakeholders (e.g. chambers of commerce, Community Futures Development Corporations) in general demonstrated a lack of understanding of ICT issues. While they were interested in encouraging the use of e-business they stated a need to understand e-business better before they could provide assistance to SMEs.

Websites that include facilities for customer interaction have been shown to be beneficial yet only half of the SMEs had websites that were 'dynamic'. While there was some recognition by SMEs of the value of this type of website, it was evident that SME understanding and knowledge in this area was poor, thus there exists an opportunity to provide training in this regard.

Furthermore, only 11% of SMEs were taking payments for products and services online. While not all businesses would benefit from online payment systems, many would, however, e-payment needs to be demystified and examples provided.

There appears to be a good opportunity to increase SMEs' ability to export their products and services outside of the area. 78% stated that their clients were a mix of both local and out of the area clients (including out of Canada).

Greater than 50% of the businesses stated that more than 50% of their incoming and outgoing calls were long distance calls. As VoIP becomes more prevalent, those SMEs that are not able to acquire this service due to broadband constraints will be at a further disadvantage.

Of the three aforementioned inhibitors to SME adoption of Internet Business Solutions (IBS), lack of high-speed connectivity and availability of resources are issues that need to be addressed. Broadband services are not widely available, yet the applications that underlay IBS require this capability. On the other hand, simply providing high-speed connectivity will not necessary lead to adoption of IBS. There also needs to be a supply of community-based ICT resources including a training component. SMEs require the ability to 'see' the technologies. The resources that assist SMEs with the adoption of IBS were limited and not easily available.

The SMEs appear to be caught between a desire to move forward in the electronic economy and the constraints of old economy tools. There was strong evidence that they had embraced both electronic means of doing business and the Internet as a tool for conducting business. However, the SMEs seemed to have reached a 'glass ceiling'. They are making good use of known e-business solutions, such as online banking, but without high-speed connectivity, these SMEs are constrained from further adoption of enhanced services.

There were several recommendations that came out of this project. The recommendations generally fell into three categories: high-speed connectivity; training and other resources. High-speed connectivity is more than the funding of a network; connectivity also includes a training component and there may be an opportunity to leverage funds from other sources. Various training scenarios and methods were recommended, including training on the business case for high-speed use; and Internet Business Applications. Other resources included demonstrations of both applications and connectivity; the building of a portion of a network so it can be seen; a warehouse of best practices information; the qualification of consultants and support for additional government field staff.

Concurrent with the development of this project, two national studies were released. The results of this project were similar to the results that were achieved in the national reports. Although the studies[5, 6] were conducted on a national scale and were conducted using SMEs that did not have less than 20 employees, some of the findings that were similar included: the ability to qualify consultants; SMEs lack internal and external skills to implement advanced applications; and a lack of time to implement new applications.

Increasing the productivity and competitiveness of local small and medium businesses through the use of ICT has been shown to have a positive impact on the local economy. The provision of connectivity and training should be viewed as an investment in rural communities, an investment that produces stronger and more self-sustaining communities. While some of the recommendations provided herein do represent a capital cost, some recommendations particularly around training could be doable using existing resources.

It should be recognized that the SMEs, the ISPs and the community stakeholders that participated in this project were keen, helpful and positive. However there was evidence of desperation – they know they need to move to enhanced applications, but these applications typically require a high-speed Internet connection. The SMEs have a sense of being locked in, wishing to move ahead, but constrained by a lack of resources and high-speed connectivity.

Background

There has been much discussion around the ability of rurally based Small and Medium Enterprises (SMEs) and their ability to compete on a level playing field in the information economy. Economic development in rural communities is adversely affected without broadband as existing businesses find it difficult to compete with their urban counterparts and new businesses can choose to locate in alternate communities where 'IT' services are readily available.

Recent national studies[5,6] have indicated that Canadian Small and Medium Enterprises (SMEs) are not advancing as quickly as their international counterparts into more advanced 'Internet Business Applications' (IBS or e-business). Studies[1, 2, 3] also show a direct correlation between the uses of advanced ICT; e-business; high-speed Internet connectivity; and improved economic activity. SMEs[4] have a large potential of benefiting from e-business activities. However adoption of enhanced e-business applications requires a high-speed connection to the Internet.

National studies on the adoption of ICT by SMEs have indicated that challenges in the implementation e-business solutions include lack of:

- Understanding of the business case
- Local resources to implement i.e. qualified / trusted consultants / ISPs
- Internal capacity including financial and human resources
- Access to broadband

The purpose of this project was to gain a better insight into the status of rurally based, Eastern Ontario SMEs in their understanding, ability and challenges in conducting business over the Internet and to assist these SMEs in identifying possible solutions. A further component was to understand the challenges faced by ISPs provide wider broadband coverage that would serve rural SMEs.

This project was based on a small sampling of 45 SMEs and 10 ISPs in each of the Counties of Peterborough, Haliburton and City of Kawartha Lakes. These communities share many common aspects and as a region are sometimes referred to as a natural community. Boards of Education, District Health Councils, and other organizations / groups transgress County 'borderlines'. Located between the large urban centres of the GTA and Ottawa, this area has a large potential for economic growth. This region is an area of primarily small / owner-operator businesses, including many businesses that operate from a home office. Within the communities of City of Kawartha Lakes, Peterborough and Haliburton, there are approximately 11,000 businesses, not including those businesses that operate in these areas on a seasonal or part week basis (i.e. a sole owner operating from a summer residence).

SMEs in rural Ontario are located in both towns and villages as well as more remote areas. Technologies such as DSL and cable have been options for communities with a more concentrated population where vendors have been able to establish a reasonable business case. Sustainable business cases in low-density population areas continue to be a challenge for vendors.

Newer technologies such as satellite and wireless technologies may provide alternative solutions, however these technologies are not one-stop solutions. Satellite, although available at almost all locations, is more costly and has drawbacks such as latency. Advancements in technologies such as Wi-Max will bring connectivity closer to the remote user, but these technologies are just now being deployed.

Use of enhanced Internet Business Solutions (IBS) has been shown to improve a firm's productivity, with the potential of increasing sales and decreasing expenses. Applications such as 'shopping baskets' and online payment systems are becoming staples for websites. Suppliers are now requesting that supplies be ordered online. Reservation for hotels over the Internet is now the norm.

It was the intent of this report to obtain a first hand view of the ICT situation in Eastern Ontario from the perspective of both SMEs and ISPs. The format of one-on-one interviews at the SME and ISP places of business was utilized to allow the organizations to speak within a comfort zone, while at the same time providing the ability to ascertain the validity of their comments. The workshops were designed in a similar fashion, which is as a 'roll-up-your sleeves', round table format to facilitate uninhibited discussions amongst area SMEs and community stakeholders.

Methodology

An integral component of the project was the design of the methods of identifying SME participants and the design and testing of a suitable questionnaire to identify the status of SME use of information and communication technologies within a rural Eastern Ontario setting. As high-speed connectivity was recognized as a factor in the adoption of ICT, the project included an examination of high-speed use and any constraints such as availability, pricing and quality of service. The project also included the design of a method of identifying the challenges of ISPs in their provision of service in the areas not served by high-speed connectivity. The following documents the methods that were used to meet the above project requirements.

Project Timing

Recognizing that connectivity is a dynamic issue, on a best effort basis, the interviews were conducted on a 'today' basis. In other words: the information obtained from both ISPs and SMEs were from that day's status only, excluding any changes such as connectivity that would be happening at some point in the future.

Identification of SME Participants

Our task was to identify 15 SMEs from each region that represented:

- As many industry sectors as possible
- An even distribution of representation from the communities (settlements)
- An even distribution of business size (by employee)
- SMEs that could potentially benefit form enhanced IBS applications regardless of their existing level of ICT use.

Initially, local community 'stakeholders' were engaged (including chambers of commerce, community development corporations etc.) to assist with the identification of SMEs. Additional SMEs were identified from peer recommendations. From the recommendations, we attempted to choose SMEs that represented each area in accordance with the above criteria.

Identification of ISP Participants

Based on the assumption that there exists numerous providers of dial-up service in all of areas of the study, we targeted ISPs that were capable of providing high speed service, regardless of whether or not they actually provided that service in any of the settlements in a given region. Several 'regional' ISPs were identified – these being ISPs whose home territory was in one or more of the three regions. Our selection was based primarily on known area providers. Included in the list of ISPs were two independent telcos.

It is recognized that most DSL providers (including those out of the area) are able to provide DSL service through a purchase of Bell's wholesale DSL service, but only where Bell offers this service in a given settlement.

Focus Group / Workshops

The original intent of the workshops was to invite the SMEs who participated in the survey process to attend a workshop to participate in discussions with community peers who were also in various stages of adopting enhanced IBS. As a result of these discussions, recommendations were to be developed that would identify next steps. One workshop was to be held in each of the three regions.

Questionnaires

The project involved the development of two questionnaires – one each for the SME group and the other for the ISPs.

The purpose of the questionnaires was to obtain a clearer picture as to i) the general skill and understanding level of SMEs re ICT including enhanced applications and ii) to identify any constraints that existed in their pursuit of further adoption of ICT. All questionnaires were maintained anonymously and questioning did not include requests for financial information.

SME Questionnaire

The questionnaire that was developed for the SMEs consisted of roughly 160 questions, divided into 5 categories:

A. Business Description	
	Designed to obtain a general description of the business including size (employees); age; location; long distance phone usage; marketing dollars; ICT strategies and ICT literacy.
B. Internet Connectivity	
	Designed to ascertain the connection types and speed currently in use; available connection types (speeds, costs) and perceived needs for connection types and speeds.
C. Website	
	Designed to determine existing and future website features and the use of business-to-business components.
D. Other ICT Applications	
	General questioning on use of other electronic applications within the business and use / needs for further use of applications including e-marketing; other enhanced applications.
E. ICT Resources	
	This section was developed to better understand the existing ICT resources and requirements for future needs.

ISP Questionnaire

The questionnaire that was developed for the ISPs was divided into 3 categories:

A. Services Provided	
	Designed to ascertain the services provided and the costs
B. Service Area (Connectivity)	
	Designed to determine the services available in each 'settlement' and if that settlement was within the ISPs 'service area'. Also any future plans (optional).
C. General Comments	
	Designed to allow ISPs to state their general comments including challenges of working with SMEs; future coverage plans / requirements to undertake and willingness to work with other providers.

Project Notes

The following documents the key learnings that resulted from the process of developing and implementing the methods described above.

Project Purpose

Regardless of attempts to identify this project as primarily a study of business use and adoption of the Internet, interest in the project was peaked when the connectivity component of the project was identified.

Project Limitations

The project focused on SMEs that currently were located in one of the three regions. With one exception, the project / process did not include a component to identify and quantify the needs of new businesses or part-time / seasonal residents and/or visitors who may conduct their businesses remotely from their cottage or summer residence.

Identification of SMEs

The identification of SMEs for the study proved to be the largest challenge of the project. The process of utilizing community stakeholders to identify suitable SMEs resulted in the identification of only a handful of SMEs. In the end, many of the SME recommendations came from individuals who themselves had been interviewed, and they knew of other SMEs who would be willing to be interviewed. The latter process may have identified similar businesses that had connectivity issues.

An effort was made to ensure that the SME sampling included both a geographical and sectoral representation of the three regions. With several townships in each region and 19 potential sectors it was not possible to achieve a full and good distribution of the forty-five SMEs. Ultimately the SMEs did not fully reflect the local SME community including considerations for geographic location, business size and industrial sector. Additionally many of the SMEs were located in major towns and were not necessarily located away from the town centres.

SME Sampling

As a result of the above-described issues, the SME sampling was not truly random and was to some extent skewed, favouring smaller SMEs who were more than likely not able to acquire high-speed connectivity.

Identification of Communities

Rural Eastern Ontario is comprised of numerous small communities. These communities typically are a focal point for the larger surrounding areas and in many cases a large portion of the population of that community in fact resides outside of the community centre. The technology that provides broadband connectivity typically is located in community centres; connectivity in the outlying areas of a given community, although typically included in 'connectivity' statistics; may not in fact be able to receive broadband connectivity, Technologies such as 'DSL' are limited to distances from the service point of usually less than approximately 4.5 kilometres. Wireless solutions, although they may achieve greater distances from a community centre are restricted too often by 'line-of-site' issues.

For the purposes of this project we undertook to identify all communities including those that are recognized only locally as a 'community'. These communities or 'settlements' were often little more than a crossroads. Use of settlements as the locator basis provided for a best-case denominator for location identification. As a result of using this method, in excess of 130 settlements were identified.

Wherever possible we attempted to relate businesses with the closest settlement, however it should be noted that even at this level businesses were often located between settlements; and their connectivity was not necessarily at the level experienced by the closest community. The quality (or availability) of a high-speed connection potentially may differ from one business location to the neighbouring business location.

Project Results

The participants in this survey, including the small and medium sized businesses, the community stakeholders, and the Internet solution providers, were positive in their comments and suggestions. But they are also concerned – they're looking for assistance which has too many times been promised and not delivered.

Following are the results of the study.

Project Results – SMEs

The following is a summary of the results of the 'SME' survey. Actual results by region and in total are recorded in Appendixes I to VI. Forty-three of the forty-five interviews were conducted one-on-one with the business owner with most interviews conducted at the place of business.

The recommendations provided by the participants, in our opinion, were sincere, honest and most importantly were provided as positive recommendations to those who have an interest in developing the rural economies of Ontario.

Business Description

83% of those surveyed had less than 20 employees. Just less than half of the businesses surveyed had less than 5 employees. 65% of the SMEs had been in business 10 years or more. 87% were 'year-round' businesses, although employment fluctuated widely in several instances between the winter and summer seasons.

78% stated that their clients were a mix of both local and out of the area clients (including out of Canada). We believe that this indicates a good ability for SMEs to export their products and services outside of the area with the potential for increased activities.

82% claimed that their rural location was beneficial and over 76% could not easily move their business. These numbers represented businesses that owned their building, had clients that purchased locally or had other 'ties' to the local community. Future studies might examine the reasons why SMEs found their location beneficial – perhaps as an identifier for the attraction of new and/or maintenance of existing businesses.

Respondents indicated that their primary contact with clients is by telephone at 33%; in person contact was next at 18%; email at 17%, while fax and other contact methods were identified at 16% of all contacts.

Perhaps indicative of the location of clients, 57% of business stated that 50% or more of their incoming calls were long distance. For outgoing calls, 53% stated that 50% or more of the calls were long distance. This result should be viewed as important for future VoIP considerations.

The bulk of their marketing dollars is spent through newspapers / flyers / trade publications (at 48%); with 26% being spent on web / email activities.

The SMEs were asked to self-rate themselves on their ICT (literacy) skills (including user, technical, strategy formulation, vendor selection and function management skills). Over 50% of businesses surveyed rated themselves at good to excellent in each of the categories. Due to the nature of the questions, the responses were difficult to quantify.

60% of the SMEs claimed to have an ICT business strategy/plan. It should be noted that this figure includes those that had a plan that was not necessarily written down.

For ICT related purchases, 68% of the respondents made their selection for ICT vendors based on those they knew. Only 5% used an RFP (request for proposal) / tendering format.

Internet Connectivity

96% of SMEs interviewed were connected to the Internet. Only one SME was not connected, however the business had a new owner who was going to subscribe to a DSL connection in the near future. Of those that were contacted, 75% were connected via a dial-up connection.

80% were not satisfied with their connection. 86% of the SMEs would be willing to change their plan, most in favour of increased bandwidth; and with little concern over the type of technology with the exception of capital expenses for wireless connections and reliability and expense issues for satellite technology.

Existing Internet connections were being used for a variety of purposes including email (24%); file transfer (20%), and in the case of larger firms, inter-office connections. While not specifically documented it was generally understood that increased bandwidth would provide for greater use of file transfer facilities etc. In other words the percentage use might change if broadband connectivity was available.

76% of those surveyed claimed that they were not able to obtain a broadband connection. Of those that were able to obtain a connection, some were not happy with the connection quality with instances of slow speeds, and 'disconnects' claimed by some respondents. Some also advised that they could obtain broadband connectivity, but the cost was unrealistic (i.e. $22 k for a tower), so they considered a high-speed connection to be unavailable. 97% of those that could not get a broadband connection stated they would use broadband if it were available.

What were SMEs willing to pay for high-speed service?

Monthly Subscription Costs				
< $30 / mo	$30-40	$41-50	$51-75	> $75/mo
9%	21%	27%	12%	27%

Up Front Capital Costs for Equipment and Installation				
< $100	$100-$200 *	$250-500	> $500	
15%	39%	15%	18%	

(* Several noted that this was comparable to TV/satellite costs)

Website

71% of the SMEs had a website; 93% stated they believed their competitors had a website, an indication that some of the surveyed SMEs need to address lack of a website.

Of the 29% who did not have a website; 38% of those indicated lack of time was a factor and 15% stated cost was an issue. 69% of those without a website felt that they would get one within a year.

Regarding PIPEDA (Personal Information Protection and Electronics Documents Act), 67% of those surveyed were aware of the act. This study did not investigate the extent of that awareness.

59% of those with a website had a non- interactive ('static') design. 53% had investigated a 'dynamic' (interactive) design; 68% stating that they would consider a dynamic site. Although 11% stated cost as a factor for not having dynamic site, the majority had 'other' reasons (42%) or did not respond (37%). There appeared to be some recognition of what constituted a 'dynamic' site, however this appeared to be an area where the participants could benefit from qualified assistance. Since most enhanced e-business websites are built using the dynamic format, this is perhaps a high priority area.

The results for the 'B2B' questions are recorded below, however it appeared that only a few of the SMEs interviewed conducted any type of online, B2B activity with the exception of c), "Integration with customer / supplier databases" where 8% of the respondents claimed to interact with other systems. With the exception of 3 marinas, the SMEs that were conducting B2B activities were typically larger firms connecting with remote/head offices and / or supplier databases. As a result of the sampling being skewed towards smaller businesses these results may not necessarily be representative of all area SMEs.

Other ICT Applications

100% of those surveyed used an electronic bookkeeping system. This question and those from '1.a' to '1.e' inclusive were included to get a sense as to the SMEs adoption of electronic means of doing business regardless of use of the Internet, The results indicate that SMEs were making use of electronic applications. 93% indicated that they did their banking online - another indicator of the SME adoption of electronic means including the adoption of the Internet to conduct secure, business transactions.

Only a few SMEs had any kind of on-line resources for employees, however this again may be indicative of the size of the SMEs surveyed.

80% of the respondents had multiple computers. 61% of these connected their computers over a local area network (LAN). 84% reported that they conducted regular computer backups with 51% maintaining off-site copies.

Only 38% conducted some form of e-marketing (67% in Peterborough County). From discussion with SMEs this is an area that is not well understood and assistance would likely be welcomed.

Other ICT Applications (continued)

51% stated that their suppliers had requested or preferred that ordering be done online. General discussion indicated SMEs were aware that suppliers would request this more often in the foreseeable future. 42% were making payments for their supplies online.

84% stated that their customers made a request for further information as a result of an online presence. This may indicate that there are additional opportunities to add information and/or additional processes to existing websites. Where applicable 33% stated that clients were requesting to register on-line (i.e. accommodations)

Only 11% were taking payments online. Of those taking online payments, 40% used a third party e-payment provider and 40% used other means including the collection of charge card details via (unsecure) email. None of the respondents made use of an internal 'secure' server for payments. Of those that did not accept online payments, only 21% claimed that clients were requesting this facility. Marinas, for example, could not identify any use for online payments.

The higher-end / enhanced ICT application examples that were used in the survey were not applicable to most of the survey respondents. For instance, sales force automation is not likely required for owner / operator businesses where the owner is also the 'sales team'. However a sales application was identified at a workshop session where an enhanced ICT application enabled one very small business to triple the number of employees. Within the SMEs general sphere of business activities they appeared to be knowledgeable about potential applications. However there were very few instances of innovative uses of applications identified.

ICT Resources

The following are the primary challenges and barriers identified by the SMEs to adopting increased ICT. A higher percentage indicates a higher indication that the item is considered a barrier.

- Availability of qualified consultants - 24%
- Availability of qualified tech support
    - Installation of hardware / peripherals / networking - 16%
    - Maintenance of hardware / peripherals / networking - 22%
- Availability of qualified ICT Vendors
    - Hardware / peripherals / networking - 18%
    - Computer software - 20%
- Availability of peer networking - 24%
- Lack of Community Resources – these organizations were perceived as potentially good resources for e-business knowledge - % n/a
- Internal technical knowledge - 20%
- Internet Connectivity - 71% (see 'Connectivity Examples' below)
- Financial constraints - 0%
- Availability of software - 13%

The following were identified as the benefits of adopting increased ICT.

- More professional / better image / credibility
- Allow business to improve public awareness of business services / products
- Better ability to promote business
- Business more efficient through automation - do more / quicker; time savings
- Improved ability to interact with suppliers / clients
- Improved ability to provide better customer service
- ICT is environmentally friendly
- Better ability to export
- Ability to install local server (on-line reservation system/server located in-office)
- Ability to do online lien searches, purchases through auctions
- Better ability to provide sales support

Other Comments

The following general comments were provided during the interview process. These responses were not specific to any question.

- Identification of a need for local resources
- Consultants / technical expertise – need an ability to 'qualify them'
- Lack of time to implement new / advanced applications
- Technology (connectivity is an issue)
- Access to mentoring
- Require the ability to interact with head offices / remote offices
- Ability to connect between local buildings
- Benefits to rural may be greater than urban

Connectivity Examples:

The following were provided as specific examples of the need for increased connectivity. Please note that there were several instances of connectivity issues, these are a sampling only. A number of these were mentioned on more than one occasion.

- Resorts:
  - Increasingly guests are requesting access to a high-speed Internet connection.
  - Lost sales for conventions, meetings etc. – more requests for high-speed Internet connections.
  - More convenient to have on-line reservation system on local server
- Remote / Head Office Setups
  - Businesses that have other company offices located outside of the area need to be able to communicate with these offices in real time. There were a few examples of situations where the businesses are considering a move out of the rural community to be closer / able to connect with other offices
- On-line Purchasing And Bidding:
  - Online auctions (such as an auto auction) - require the ability to be immediately transacted. The delays caused by dial up connections result in lost deals

- Large File Transfers
  - SMEs such as architects, artists etc. need to transfer large files (import and export). Currently some of these files are being received via email – large emails on a dial-up system cause bottlenecks – emails are then delayed or can't be received.
  - Video cam – showing i.e. snow (ski), water (fishing) conditions
- Human Resources / E-Learning for Employees
  - Employees are being requested to do training on their own time from home. Although the business itself may have a high-speed connected, the employees' home connection may be too slow to allow the employee access to the company's HR resources
- New / Incoming Business Opportunities:
  - Instances of new / existing businesses wanting to relocate from urban location but need to have high-speed connectivity

Project Results – ISPs

The following is a summary of the results of the 'ISP' survey. Seven of the interviews were conducted one-on-one with the service provider at their place of business. One national provider did not respond. Direct PC discontinued offering their satellite service just prior to the commencement of our study. Telesat Canada's new Ka band service through its F2 satellite was not available during the period of our study.

The broadband coverage in the City of Kawartha Lakes seemed to be greater than in the other two regions. This may be a result of the gentler topography of this region compared to the rougher topographies of Haliburton and (northern) Peterborough Counties.

Service Coverage:

Dial-up service appears to be available in all areas surveyed although we received reports of some locations attaining speeds of less than 20 Kbps. High-speed cable access is available in some of the larger communities.

With the exception of communities served by independent telcos (southern Peterborough County and the Cambray area of the City of Kawartha Lakes), DSL is only available within Bell's DSL footprint. Third party providers have the capability of purchasing wholesale DSL from Bell, however they are limited to Bell's footprint. Since Bell Sympatico did not respond to our survey request (despite numerous requests), the results recorded below include an estimate of the communities served by Bell's DSL.

Wireless services are available in various communities with more coverage expected. However some existing users have expressed problems with quality. Based on feedback by SMEs, coverage does is not as extensive as claimed by the ISPs and is highly dependant on a number of local factors particularly in the study area with its characteristic hill and valley topography and rocky, treed terrain. The service availability can be extended both in regards to distance and penetration, but this is usually achieved with the use of higher and more expensive towers and / or repeater towers and equipment. Often end-users require expensive tower equipment to receive service.

At least one satellite service appeared to be available for all areas within the study. The cost was generally perceived as too high to be considered by many SMEs. Many SMEs expressed concerns about reliability perhaps due to their experiences with other (TV) satellite services. A few SMEs stated that the degree of latency of satellite services made services such as virtual private networks (VPNs) unworkable. At the completion of the interview portion of this study Telesat, through resellers, began offering satellite service over the 'Ka Band'. Telesat's target clients are the hard to serve clients.

Our study attempted to determine service availability by individual settlement. Although most ISPs complied with this request, the use of local settlement as a denominator produced questionable results. In many instances, the verification of service availability can only be ascertained through a site test. Particularly in wireless based solutions, service may differ from neighbour to neighbour. Stating that a community is serviced, while perhaps true does not necessarily mean that service is ubiquitous in that community. Results that show a community as 'served' in some situations may be misleading.

In one notable instance in Warsaw (Peterborough County) a SME hired a crane to determine the height required to receive wireless service. At 100 feet a signal was detected. It is entirely possible that other Warsaw area SMEs are capable of receiving a wireless signal without 100-foot towers, but this can only be determined by a site test. It should be noted that site tests are dynamic in that any change in a number of factors (i.e. height of transmitter on tower or something as simple as the height of a neighbour's trees). Further studies need to determine a more micro method of determining service availability.

ISP Challenges

Many ISPs indicated that SMEs generally have a lack of understanding of broadband technology and of the benefits that high-speed service can deliver. Often SMEs advise the ISPs that the price for high-speed services is too high, however all costs relative to dial-up use were not necessarily factored into the cost of that service.

There also seems to exist some uncertainty around demand perhaps in part to the challenge of identifying potential users.

A challenge also exists for ISPs in that they often have to make a business case for delivery of services in areas where lead or anchor tenants subscribe to public sector systems. As a result ISPs are left with the less profitable clients.

What Would It Take To Implement More / Wider Coverage In Terms Of Investment And Infrastructure?

The areas of this study include areas of rough terrain and varying topography. Remote and rural areas of this nature provide a real challenge to ISPs. Large investments for towers are required. Sometimes the cost can be $150,000 just for a tower. As a result, the cost to the customer is more than typical 'urban' pricing.

ISPs have suggested a few ways of making the cost more equitable to the costs of easier to serve areas. These suggestions included government assistance through grants to assist with capital expenditures. It was recognized that one time government funding is not valuable unless the project is sustainable after any government funding is gone.

Some felt that demand should drive supply however unless SMEs better understood the benefits of broadband service, demand alone might not be sufficient. Assistance towards creating a greater demand would also assist ISPs in expanding their services.

Assistance with capital expenditures was not always the highest priority on the ISP wish list. On more than one occasion, ISPs could potentially fund capital costs provided there was a suitable revenue stream. Anchor tenants such as the MUSH sector (municipal government, universities/colleges, schools and hospitals) are a must. ISPs needed some more profitable customers to go with the lower profit clients. Smart Systems for Health (SSH) was mentioned as a lost opportunity on more than one occasion. There was also some mention as well about Ministry of Education systems.

One ISP noted that the challenges are not always technical in nature. Partnerships between ISPs and between stakeholders take time to develop. There are legal and technical arrangements that need to be made and there exist other 'soft' issues such as a trust factor. There is also a time factor as these relationships are put into place. Projects also require a management component. Not only does each entity have to move cooperative arrangements through their own organizations, but also time is required to build partnerships between stakeholders.

Project Results - Workshops

While the intent of the workshops was primarily aimed at discussing the challenges and recommendations of increased adoption of ICT applications, at all three workshops, 'connectivity' was the primary topic of discussion.

There was a general consensus that SMEs can no longer wait for high-speed connectivity; that they must make connectivity decisions now, subscribing to any service that is currently available - to some extent regardless of the cost and suitability. The ongoing potential for a public sector assisted community network was viewed as an inhibitor to SME investment in capital costs to acquire connectivity. Generally speaking SMEs would rather hear 'no' than vague, indefinite promises for a community or government-assisted system, which may or may not provide more affordable and better quality access to the Internet.

SMEs need to better understand the various technology options. What are the benefits and drawbacks etc. to the various technologies? Some SMEs felt that seeing the technology would help them with a better understanding – "build something and they will come" philosophy. There was a belief that you don't have to build it all at once, however there is an advantage to starting somewhere. A comparison was made to the early deployment of ABM machines at bank locations. Initially there was hesitancy from the standpoint of both supply and demand, however once users discovered the convenience of ABMs, banks could not install them quickly enough to keep up with the newly discovered demand.

The concept of holding a community 'ICT' trade show was discussed including consideration to having an event marketed to a specific business type and sector.

A referral was made to a consulting study that found that SMEs have only ½ hour a week (time factor) to investigate new issues for business, thus, the learning curve for adoption of new technologies has to fit into a compressed window.

There was an interest to conduct a connectivity gap analysis. As a note a broadband gap analysis has since been undertaken for Eastern Ontario with an anticipated completion date of late fall 2005.

Training issues were discussed. A need to train the trainer (i.e. community champions) was identified. Identified potential opportunities included a potential for increased / enhanced services at CAP sites ('Super CAPS'). A suggestion was made for a government 'ICT' help line (similar to health). The potential for student training, similar to an earlier CAP program wherein students visited businesses on site to demonstrate websites and email use was mentioned.

Classification of consultants was confirmed as an issue.

Several of the SMEs that were present at the meeting provided their examples of why connectivity was important to their business. One example was provided of a very small business that was using enhanced e-business tools. As a result of the use of enhanced application, that business, which had less than 5 employees, has experienced increased business and as a result has increased their employee level significantly.

Discussion was also held on the SME ICT knowledge. Within the SMEs general sphere of business activities they appear to be ICT knowledgeable. However with additional resources SMES may be able to go beyond the norm.

Recommendations / Next Steps

The following is a summary of the recommendations that were gathered from the SME and ISP interviews and from the three workshops. For the purposes of this report the recommendations are divided into three categories namely: High-Speed Connectivity, Training and Other Resources.

High-Speed Connectivity

Access to high-speed Internet for all SMEs at an affordable cost is an immediate requirement. The majority of the SMEs that were involved in this project had connectivity issues and they were vocal about the lack of good connectivity. In several cases, the SMEs were constrained in the further development of applications over the Internet; to the point that some were considering a move out of the community. One comment that perhaps spoke for many businesses was that a year ago, connectivity was not an urgent issue, now the need is immediate and further delays will cause businesses harm.

The SMEs were realistic in their suggestions for connectivity. Most recognized the challenges faced by the ISPs and they did not expect any government to fully fund a local system. Further investigation may show that some government funding could potentially leverage good investment from other levels of governments, and from the private sector. There also appeared to be a 'disconnect' between the SMEs claiming they could not obtain connectivity and the ISPs claiming they could not easily sell broadband.

There needs to be an equal component of training to ensure that SMEs understand the business case (value) of high-speed connectivity and if broadband connectivity becomes available, sufficient knowledge of how to make use of it.

Training

1. Develop and provide a mechanism to assist community stakeholders to improve their understanding and knowledge of ICT. A 'train the trainer' component would assist the stakeholders by enhancing their ability, understanding and role in SME ICT development. The stakeholders, once they have a better understanding of ICT, should be able to provide their clients (members etc.) with added value.

2. Undertake a campaign to educate potential high-speed users of the benefits. This is in response to ISPs' claim that broadband is a hard sell. Direct financial benefits include reduced need for phone lines, better use of staff time (slow downloads/ uploads, 'disconnects') versus the perceived higher cost of a broadband subscription. This may be done through a variety of means, however the fact that SMEs have little available time to attend training classes, there may be some benefit to bringing the training to the SME (In-house training).

3. Undertake a campaign to educate SMEs on some lower level enhanced Internet Business Applications such as online payment systems, e-marketing initiatives, interactive websites (dynamic sites) including facilities for human resources, FAQs, service, other product information and shopping baskets.

Other Resources

1. Seeing is believing. Provide an opportunity to demonstrate the technologies, both for applications and connectivity. Demonstrations must also include a list of advantages and disadvantages. Some suggestions in this regard included a community 'IT' information night where providers could demonstrate their applications and connectivity services.

2. Develop and instigate a method of qualifying consultants and other providers. This applies to consultants providing websites and e-business applications, software and hardware providers and ISPs. Most of the SMEs utilized family members or those known to them for supplies and services.

3. Install public access terminals to demonstrate enhanced Internet Business Applications. These sites might be done in conjunction with existing programs such as the 'Community Access Program' (CAP).

4. Develop a resource to identify best-case (and worst-case) applications. There may exist interim solutions that will allow a SME to adopt more enhanced services. They need to know what these are. For example:

    a. If high-speed does not reach the remote client, a local Wi-Fi network solution may suffice in the interim.
    b. In place of a local server utilized to enable an online reservation system, consideration for remotely hosted servers

5. Provide community-based facilitators. Communities typically have a wealth of knowledgeable people who would be willing to help, however there may be a hesitation or lack of a clear understanding as to how to 'champion' a project. In many cases all that is required is a sounding board. Government field staff who are both knowledgeable and available to work with community champions are a good resource, providing, if nothing else moral support and guidance.

Summary

Businesses do what they do best – operating their businesses. Adopting ICT is time consuming with a long and ever changing learning curve. Resources are limited and can be confusing due to the vast array of technologies and services that change at a pace that history has not seen to date. However, SMEs need to continue adopting ICTs in order to remain competitive.

Within the SMEs general sphere of business activities those surveyed for the study appeared to be ICT knowledgeable. Most used online banking services and electronic bookkeeping systems, but there is a need to adopt more innovative use of e-business applications.

So whose responsibility is it to ensure our rural SMEs are able to compete in the global markets? Do we let market forces drive change? In a perfect world this might work, however countries around the world have recognized the same challenges we face. Today, third world countries are developing programs and infrastructure to meet the requirements to conduct business in the new economy. At the very least we need to foster adoption and use of e-business activities by providing the resources required by our rural SMEs.

Rural economies are no longer dependant on resource and tourist based industries that require roads and bridges to deliver their goods to market. The electronic highway is now becoming as important in the delivery of goods to market as roads and bridges, yet our priorities continue to be focused on more visible and traditional infrastructure.

The access providers that participated in this study recognize the need to develop sustainable enterprises that will survive beyond one-time government grants. Installation of towers, fibre networks and the like are high cost capital expenditures. Investment in this capital infrastructure will produce benefits beyond the business owner alone. This infrastructure will enhance the ability for SMEs, and therefore the community, to have stronger economies. The infrastructure becomes an investment for the community no different perhaps than roads or bridges.

Connectivity *and* enhanced IBS are inter-twined – no value in one without the other. Several valid examples of SMEs who wanted to adopt enhanced e-Business application but could not due to the lack of affordable broadband service were provided. Needless to say, there would be limited benefit to deploying broadband services to clients that were not interested in e-Business applications. At least two reports by Statistics Canada[1,2] support the foregoing statement. With an increase in service provision, it is expected that there would also be an increase in requests for training.

Appendices

Appendix I. Notes to SME and ISP Surveys

General

After use at the 45 interviews there were areas of the questionnaire that were identified as requiring some amendments. If future studies are undertaken the questionnaires developed within this project should form a good basis for future redesigns.

SME Questionnaire

The SME survey was developed to ascertain both the existing level of SMEs' understanding of ICT and to discover areas where SMEs would benefit from additional resources and training. This was developed as a pilot questionnaire.

Please note that some questions (i.e. Section A, #8) were multiple-choice. In these instances only % percentages are shown. In other instances, questions were dependant on the results of other previous questions (i.e. Section B, question 1). In these cases, the total responses reflected only those who responded accordingly to previous question.

- The survey was not well suited to head office / remote office scenarios such as Home Hardware, Sears, Canadian Tire. These are examples of major local employers. While the local office may not make use of enhanced ICT applications, the 'head-office' corporation did. For example, there was an instance where a local outlet of a large catalogue chain did not do local marketing, maintain a website etc. Future questionnaires would need to address instances where head office / remote office situations exist.
- Some questions were in the wrong section or were redundant/similar to other questions located in other sections
  - i.e. Section D #4c – Can customers make payments online. This should be located in Section C: Website
- Some questions were added after the survey process had commenced
  - i.e. Section B, 11d – how much for any set up and any equipment
- Questions where the results were questionable – questions too gray
  - i.e. Section A Questions 11 a to e

ISP Questionnaire

The survey was too detailed in Section 'A'. As a result most ISPs did not complete the full survey. The national providers were slow to respond to the survey and one major national provider did not respond at all.

One ISP challenged the service categories under wireless in section A.

A few of the regional providers did supply information on a community by community basis.

Business Size

National studies have varied re business size definitions. This study considered small business as those with less than 20 employees.

Validity of Responses

The scope of this project did not include confirmation of the information provided by either the SMEs or the ISPs. For example, we were aware in more than one instance where a SME claimed that they could not receive a high-speed connection, yet a local ISP claimed that service was available to that SME. The reverse was also evidenced.

Additionally, with perhaps a few unconfirmed exceptions the ability to obtain a high-speed Internet connection is available throughout the three regions through a satellite connection. However the cost of this type of connectivity is often considered too high by SMEs and the quality of service is considered poor or unreliable to the extent that many SMEs do not consider this service to be an alternative. Thus they consider high-speed as not available when in fact it is available.

Statistical Significance

The three regions in total have more than 11,000 businesses, most, if not all fit within the SME business size of less than 500 employees.

This study of 45 businesses in a community of 11,000 businesses has a 'confidence level' of 14.58 %. To achieve a level of 10 % (normal rate) 95 businesses would have to be interviewed. However, since the SME sample was not truly random, this significance test may overstate the accuracy of the results. The project was intended as a starting point to gauge issue around use of e-business tools by SMEs in small towns and rural Ontario.

Appendix II: SME Survey - Section A - Business Description

Question			Item	CKL		Haliburton		Peterborough		All	
				No.	%	No.	%	No.	%	No.	%
1.		**Number of employees**	<5:	7	47	8	53	6	40	21	47
			5-10	3	20	3	20	6	40	12	27
			11-20	2	13	1	7	1	7	4	9
			21-100	2	13	2	13	2	13	6	13
			100+	1	7	1	7	0	0	2	4
			Nil	0	0	0	0	0	0	0	0
2.		**Number of years in business**	<5	3	20	2	13	4	27	9	20
			5-10	2	13	1	7	2	13	5	11
			11-20	4	27	4	27	4	27	12	27
			20+	6	40	8	53	3	20	17	38
			Nil	0	0	0	0	2	13	2	4
3.		**Clients are located**	Locally	2	13	1	7	0	0	3	7
			Out of Area	2	13	2	13	2	13	6	13
			Both	10	67	12	80	13	87	35	78
			Nil	1	7	0	0	0	0	1	2
4.		**Business tied to the area or could be anywhere i.e. owned building**	Yes	11	73	11	73	12	80	34	76
			No	2	13	3	20	2	13	7	16
			N/A	0	0	0	0	0	0	0	0
			Nil	2	13	1	7	1	7	4	9
5.		**Business location**	Home Office	5	33	6	40	3	20	14	31
			Standalone	1	7	0	0	1	7	2	4
			Mall	0	0	1	7	0	0	1	2
			Office Bldg	2	13	0	0	0	0	2	4
			Ind/Comm Bldg	3	20	0	0	1	7	4	9
			Other	3	20	8	53	10	67	21	47
			Nil	1	7	0	0	0	0	1	2

SME Survey - Section A - Business Description continued

Question			Item	CKL		Haliburton		Peterborough		All	
				No.	%	No.	%	No.	%	No.	%
6.		**Do they consider their rural location to be beneficial**	Yes	12	80	11	73	14	93	37	82
			No	0	0	3	20	1	7	4	9
			N/A	2	13	1	7	0	0	3	7
			Nil	1	7	0	0	0	0	1	2
7.		**Is the business**	Seasonal	1	7	1	7	2	13	4	9
			Year Round	13	87	14	93	12	80	39	87
			Nil	1	7	0	0	1	7	2	4
8.		**Forms of communication with clients (Rank - 1 is highest)**	Phone		37		22		46		33
			Fax		15		18		13		16
			Email		16		20		13		17
			In Person		17		21		14		18
			Other		15		18		15		16
			Nil		0		0		0		0
			% of Total		100		100		100		100
9.		**What percentage of calls are long distance**									
	a)	**Incoming**	<15	1	7	3	20	3	20	7	16
			16-30	4	27	2	13	0	0	6	13
			31-50	1	7	2	13	3	20	6	13
			51-74	4	27	4	27	3	20	11	24
			75+	5	33	4	27	6	40	15	33
			Nil	0	0	0	0	0	0	0	0
	b)	**Outgoing**	<15	0	0	2	13	2	13	4	9
			16-30	4	27	3	20	2	13	9	20
			31-50	1	7	2	13	3	20	6	13
			51-74	4	27	4	27	2	13	10	22
			75+	5	33	3	20	6	40	14	31
			Nil	1	7	1	7	0	0	2	4

SME Survey - Section A - Business Description continued

Question			Item	CKL		Haliburton		Peterborough		All	
				No.	%	No.	%	No.	%	No.	%
10.		**Marketing: Percentage of marketing dollars spent on**	TV		4		5		2		4
			Radio		9		7		6		8
			Newspaper/Flyer		41		38		28		36
			Trade Publ'n		6		5		25		12
			Website		17		22		15		18
			Email		4		12		9		8
			Other		18		11		14		15
			% of Total		100		100		100		100
11.		**ICT Literacy - the contacts understanding of ICT is**									
	a)	**User skills**	Poor	0	0	0	0	0	0	0	0
			Fair	2	13	3	20	1	7	6	13
			Good	7	47	6	40	7	47	20	44
			Excellent	6	40	6	40	7	47	19	42
			Nil	0	0	0	0	0	0	0	0
	b)	**Technical skills**	Poor	1	7	0	0	1	7	2	4
			Fair	4	27	8	53	7	47	19	42
			Good	6	40	2	13	3	20	11	24
			Excellent	4	27	5	33	4	27	13	29
			Nil	0	0	0	0	0	0	0	0
	c)	**ICT strategy formulation skills**	Poor	2	13	1	7	1	7	4	9
			Fair	3	20	4	27	5	33	12	27
			Good	9	60	5	33	6	40	20	44
			Excellent	1	7	5	33	3	20	9	20
			Nil	0	0	0	0	0	0	0	0

SME Survey - Section A - Business Description continued

Question			Item	CKL		Haliburton		Peterborough		All	
				No.	%	No.	%	No.	%	No.	%
11.	**d)**	**ICT vendor selection skills**	Poor	1	7	2	13	1	7	4	9
			Fair	3	20	3	20	6	40	12	27
			Good	7	47	6	40	6	40	19	42
			Excellent	3	20	4	27	2	13	9	20
			Nil	1	7	0	0	0	0	1	2
	e)	**ICT function management skills**	Poor	1	7	1	7	4	27	6	13
			Fair	7	47	4	27	5	33	16	36
			Good	5	33	5	33	4	27	14	31
			Excellent	2	13	4	27	2	13	8	18
			Nil	0	0	1	7	0	0	1	2
12.		**Does the company have an ICT business strategy/plan (website, other e-business)**	Yes	9	60	10	67	8	53	27	60
			No	6	40	5	33	7	47	18	40
			N/A	0	0	0	0	0	0	0	0
			Nil	0	0	0	0	0	0	0	0
13.		**How do they make selections for ICT vendors**	RFP	1	5	0	0	2	10	3	5
			Known	14	74	11	65	13	65	38	68
			Other	4	21	4	24	4	20	12	21
			N/K	0	0	2	12	1	5	3	5
			% of Total	19	100	17	100	20	100	56	100

Appendix III: SME Survey - Section B – Internet Connectivity

Question			Item	CKL		Haliburton		Peterborough		All	
				No.	%	No.	%	No.	%	No.	%
1.		**Are they connected to the Internet**	Yes	15	100	14	93	15	100	44	98
			No	0	0	1	7	0	0	1	2
			Not Sure	0	0	0	0	0	0	0	0
			Nil	0	0	0	0	0	0	0	0
Yes, they are connected											
2.		**How are they connected**	Dial-Up	9	60	10	71	14	93	33	75
			Cable	2	13	0	0	0	0	2	5
			Microwave	1	7	0	0	0	0	1	2
			Radio	0	0	1	7	0	0	1	2
			Satellite	0	0	1	7	1	7	2	5
			T1	1	7	0	0	0	0	1	2
			DSL	2	13	2	14	0	0	4	9
			Note Sure	0	0	0	0	0	0	0	0
			Nil	0	0	0	0	0	0	0	0
			Total of 1 - 'Yes	15	100	14	100	15	100	44	100
3.		**Choice of ISP (for type indicated in item 2)**	One Only	7	47	3	21	0	0	10	23
			Several	7	47	11	79	15	100	33	75
			Not Sure	0	0	0	0	0	0	0	0
			Nil	1	7	0	0	0	0	1	2
			Total of 1 - 'Yes	15	100	14	100	15	100	44	100
4.		**Are they satisfied with the connection (‘’)**	Yes	6	40	3	21	0	0	9	20
			No	9	60	11	79	15	100	35	80
			Not Sure	0	0	0	0	0	0	0	0
			Nil	0	0	0	0	0	0	0	0
			Total of 1 - 'Yes	15	100	14	100	15	100	44	100
5.		**How long have they had the existing connection type**	<1 Year	2	13	3	21	1	7	6	14
			1-2 Years	3	20	1	7	1	7	5	11
			3-5 Yrs	5	33	1	7	3	20	9	20
			5+ Years	3	20	4	29	7	47	14	32
			Not Sure	1	7	3	21	3	20	7	16
			Nil	1	7	2	14	0	0	3	7
			Total of 1 - 'Yes	15	100	14	100	15	100	44	100

SME Survey - Section B – Internet Connectivity *continued*

Question			Item	CKL		Haliburton		Peterborough		All	
				No.	%	No.	%	No.	%	No.	%
6.		Subscription Plan, In the foreseeable future									
	a)	Alter the plan?	Keep	5	33	0	0	0		5	11
			Change	9	60	14	100	15		38	86
			Cancel	0	0	0	0	0		0	0
			Not Sure	1	7	0	0	0		1	2
			Nil	0	0	0	0	0		0	0
			Total of 1 - 'Yes	15	100	14	100	15		44	100
	a(i)	If yes, alter the bandwidth?	Increase	9	100	14	100	15		38	100
			Decrease	0	0	0	0	0		0	
			Not Sure	0	0	0	0	0		0	
			Nil	0	0	0	0	0		0	
			Total of 6a - Change	9	100	14	100	15		38	100
	a(ii)	If yes, alter the technology? (i.e. DSL type)	Yes	9	100	13	93	15		37	97
			No	0	0	0	0	0		0	0
			Not Sure	0	0	1	7	0		1	3
			Nil	0	0	0	0	0		0	0
			Total of 6a - Change	9	100	14	100	15		38	100
7.		The connection is primarily used for	Email		25		26		22		24
			File Transfer		20		19		22		20
			Website		22		25		15		20
			Browsing		18		15		17		17
			E-Commerce		8		9		15		11
			Other		7		6		8		7
			Total: (% of Total)		100		100		100		100
No, they are not connected											
8.		Why Not	Cost			0		0		0	
			Doesn't See Value			0		0		0	
			Benefits Not Apparent			0		0		0	
			No (perceived) need			0		0		0	
			Other			1	100	0		1	100
			Nil			0		0		0	
			Total of 1 - 'No':			1	100	0		1	100

SME Survey - Section B – Internet Connectivity *continued*

Question			Item	CKL		Haliburton		Peterborough		All	
				No.	%	No.	%	No.	%	No.	%
Broadband (High Speed Internet)											
9.		Are they able to obtain broadband access	Yes	7	47	4	27	0	0	11	24
			No	8	53	10	67	15	100	33	73
			Not Sure	0	0	1	7	0	0	1	2
			Nil	0	0	0	0	0	0	0	0
10.		Would they consider satellite access if available?	Yes	9	60	11	73	9	60	29	64
			No	2	13	1	7	1	7	4	9
			Not Sure	4	27	3	20	4	27	11	24
			Nil	0	0	0	0	1	7	1	2
11		If Broadband is not available									
	a)	Nearest known availability of broadband									
	b)	Would you use it if it was	Yes	8	100	9	90	15	100	32	97
			No	0	0	0	0	0	0	0	0
			Not Sure	0	0	0	0	0	0	0	0
			Nil	0	0	1	10	0	0	1	3
			Total of 9 - 'No'	8	100	10	100	15	100	33	100
	c)	How much would you be willing to pay per mo.?	<$30	2	25	0	0	1	7	3	9
			$30-40	2	25	1	10	4	27	7	21
			$41-50	1	13	5	50	3	20	9	27
			$51-75	2	25	0	0	2	13	4	12
			$75+	1	13	3	30	5	33	9	27
			Nil	0	0	1	10	0	0	1	3
			Total of 9 - 'No'	8	100	10	100	15	100	33	100
	d)	How much for any set up and any equipment?	<$100	4	50	0	0	1	7	5	15
			$100-$200	2	25	3	30	8	53	13	39
			$250-$500	2	25	3	30	0	0	5	15
			>$500	0	0	2	20	4	27	6	18
			Nil	0	0	2	20	2	13	4	12
			Total of 9 - 'No'	8	100	10	100	15	100	33	100

SME Survey - Section B – Internet Connectivity *continued*

Question			Item	CKL		Haliburton		Peterborough		All	
				No.	%	No.	%	No.	%	No.	%
12.		If Broadband is available									
	a)	If not using broadband, why not?	Cost	0	0	0	0	0	0	0	0
			Doesn't See Value	0	0	0	0	0	0	0	0
			Benefits Not Apparent	0	0	0	0	0	0	0	0
			No (perceived) need	0	0	0	0	0	0	0	0
			Other	1	14	1	25	0	0	2	18
			Nil	6	86	3	75	0	0	9	82
			Total of 9 – 'Yes'	7	100	4	100	0	100	11	100
	b)	Do you consider the cost to be affordable?	Yes	6	86	3	75	0	0	9	82
			No	0	0	0	0	0	0	0	0
			Not Sure	0	0	0	0	0	0	0	0
			Nil	1	14	1	25	0	0	2	18
			Total of 9 – 'Yes'	7	100	4	100	0	100	11	100
	c)	If a higher speed were available,									
	c(i)	Would they use it	Yes	6	86	4	100	0	0	10	91
			No	0	0	0	0	0	0	0	0
			Not Sure	0	0	0	0	0	0	0	0
			Nil	1	14	0	0	0	0	1	9
			Total of 9 – 'Yes'	7	100	4	100	0	100	11	100
	c(ii)	Speed	256 kbps	0	0	0	0	0	0	0	0
			1.5 Mbps	1	14	1	25	0	0	2	18
			10 Mbps	0	0	1	25	0	0	1	9
			100 Mbps	0	0	1	25	0	0	1	9
			Nil	6	86	1	25	0	0	7	64
			Total of 9 – 'Yes'	7	100	4	100	0	100	11	100

SME Survey - Section B – Internet Connectivity *continued*

Question			Item	CKL		Haliburton		Peterborough		All	
				No.	%	No.	%	No.	%	No.	%
12.	**c(iii)**	At what price?	<$30	0	0	0	0	0	0	0	0
			$30-40	0	0	0	0	0	0	0	0
			$41-50	1	14	1	25	0	0	2	18
			$51-75	0	0	0	0	0	0	0	0
			$75+	4	57	3	75	0	0	7	64
			Nil	2	29	0	0	0	0	2	18
			Total of 9 – 'Yes'	7	100	4	100	0	100	11	100
	c(iv)	How much for any set up and any equipment?	<$100	1	14	0	0	0	0	1	9
			$100-200	0	0	0	0	0	0	0	0
			$250-500	0	0	0	0	0	0	0	0
			>$500	0	0	0	0	0	0	0	0
			Nil	6	86	4	100	0	0	10	91
			Total of 9 – 'Yes'	7	100	4	100	0	100	11	100
12.	**d)**	Are they aware of any new Broadband initiatives	Yes	7	47	5	33	1	7	13	29
			No	1	7	2	13	1	7	4	9
			Not Sure	1	7	0	0	0	0	1	2
			Nil	6	40	8	53	13	87	27	60
	d(i)	If yes, Who									

Appendix IV: SME Survey - Section C – Website

Question			Item	CKL		Haliburton		Peterborough		All	
				No.	%	No.	%	No.	%	No.	%
1.		Do they have a website	Yes	12	80	8	53	12	80	32	71
			No	3	20	7	47	3	20	13	29
			Nil	0	0	0	0	0	0	0	0
2.		Do competitors have a website	Yes	15	100	13	87	14	93	42	93
			No	0	0	0	0	1	7	1	2
			Not Sure	0	0	0	0	0	0	0	0
			Nil	0	0	2	13	0	0	2	4
3.		Are they familiar with PIPEDA legislation	Yes	11	73	9	60	10	67	30	67
			No	4	27	4	27	5	33	13	29
			Not Sure	0	0	2	13	0	0	2	4
			Nil	0	0	0	0	0	0	0	0
Yes, they have a website											
4.		Address (URL)									
5.		Hosting									
	a)	By	Themselves	2	17	0	0	0	0	2	6
			External Provider	9	75	8	100	11	92	28	88
			Nil	1	8	0	0	1	8	2	6
			Total of 1 - 'Yes'	12	100	8	100	12	100	32	100
	b)	If 'themselves'	Internally	2	17	0	0	0	0	2	6
			Collocation	0	0	0	0	0	0	0	0
			Server Farm	0	0	0	0	0	0	0	0
			Other	0	0	1	13	0	0	1	3
			Nil	10	83	7	88	12	100	29	91
			Total of 1 - 'Yes'	12	100	8	100	12	100	32	100
6.		When was the website last updated?	< 1 month	10	83	5	63	9	75	24	75
			2-6 months	1	8	2	25	0	0	3	9
			6 months	0	0	1	13	2	17	3	9
			1-2 years	0	0	0	0	0	0	0	0
			> 2 yrs	0	0	0	0	0	0	0	0
			Nil	1	8	0	0	1	8	2	6
			Total of 1 - 'Yes'	12	100	8	100	12	100	32	100

SME Survey - Section C – Website *continued*

Question			Item	CKL		Haliburton		Peterborough		All	
				No.	%	No.	%	No.	%	No.	%
7.		Does the site include any customer service and support applications	Yes	5	42	3	38	4	33	12	38
			No	5	42	3	38	4	33	12	38
			N/A	1	8	1	13	2	17	4	13
			Nil	1	8	1	13	2	17	4	13
			Total of 1 - 'Yes'	12	100	8	100	12	100	32	100
8.		Is the site	Dynamic	4	33	2	25	5	42	11	34
			Static	7	58	6	75	6	50	19	59
			Nil	1	8	0	0	1	8	2	6
			Total of 1 - 'Yes'	12	100	8	100	12	100	32	100
9.		If dynamic									
	a)	Do they make the changes – (Content Management System)	Yes	4	100	2	100	4	80	10	91
			No	0	0	0	0	1	20	1	9
			Not Sure	0	0	0	0	0	0	0	0
			Nil	0	0	0	0	0	0	0	0
			Total of 8 - Dynamic	4	100	2	100	5	100	11	100
	b)	Has dynamic type been beneficial	Yes	4	100	2	100	4	80	10	91
			No	0	0	0	0	0	0	0	0
			Not Sure	0	0	0	0	1	20	1	9
			Nil	0	0	0	0	0	0	0	0
			Total of 8 - Dynamic	4	100	2	100	5	100	11	100
10.		If static									
	a)	Have they investigated a dynamic site	Yes	3	43	3	50	4	67	10	53
			No	4	57	2	33	1	17	7	37
			N/A	0	0	0	0	0	0	0	0
			Nil	0	0	1	17	1	17	2	11
			Total of 8 - Static	7	100	6	100	6	100	19	100

SME Survey - Section C – Website *continued*

Question			Item	CKL		Haliburton		Peterborough		All	
				No.	%	No.	%	No.	%	No.	%
10.	**a(i)**	If yes, why didn't they go dynamic	Cost	0	0	1	17	1	17	2	11
			Doesn't See Value	1	14	0	0	0	0	1	5
			Benefits Not Apparent	0	0	0	0	0	0	0	0
			No (Perceived) Need	0	0	0	0	1	17	1	5
			Other	2	29	3	50	3	50	8	42
			Nil	4	57	2	33	1	17	7	37
			Total of 8 - Static	7	100	6	100	6	100	19	100
	a(ii)	If no, would they consider dynamic	Yes	6	86	3	50	4	67	13	68
			No	0	0	0	0	0	0	0	0
			Not Sure	0	0	1	17	0	0	1	5
			Nil	1	14	2	33	2	33	5	26
			Total of 8 - Static	7	100	6	100	6	100	19	100
11		If they make web sales, where are their customers located	Local	2	17	0	0	0	0	2	6
			Out of Canada	0	0	0	0	0	0	0	0
			Local & Canada	4	33	2	25	2	17	8	25
			Out of Area, In Canada	3	25	2	25	2	17	7	22
			All	1	8	2	25	6	50	9	28
			Nil	2	17	2	25	2	17	6	19
			Total of 1 'Yes'	12	100	8	100	12	100	32	100
12.		If applicable, does the website include a B2B component?									
	a)	Support for online transactions	Yes	2	17	2	25	2	17	6	19
			No	3	25	3	38	2	17	8	25
			N/A	5	42	2	25	6	50	13	41
			Nil	2	17	1	13	2	17	5	16
			Total of 1 'Yes'	12	100	8	100	12	100	32	100
	b)	Product design / order	Yes	1	8	1	13	4	33	6	19
			No	4	33	3	38	2	17	9	28
			N/A	5	42	3	38	4	33	12	38
			Nil	2	17	1	13	2	17	5	16
			Total of 1 'Yes'	12	100	8	100	12	100	32	100

SME Survey - Section C – Website *continued*

Question			Item	CKL		Haliburton		Peterborough		All	
				No.	%	No.	%	No.	%	No.	%
12.	**c)**	Integration with customer / supplier databases	Yes	3	25	3	38	2	17	8	25
			No	2	17	4	50	3	25	9	28
			N/A	5	42	1	13	5	42	11	34
			Nil	2	17	0	0	2	17	4	13
			Total of 1 'Yes'	12	100	8	100	12	100	32	100
	d)	Delivery Options	Yes	0	0	0	0	2	17	2	6
			No	4	33	4	50	1	8	9	28
			N/A	6	50	3	38	7	58	16	50
			Nil	2	17	1	13	2	17	5	16
			Total of 1 'Yes'	12	100	8	100	12	100	32	100
	e)	Service/warranty support	Yes	0	0	1	13	2	2	3	9
			No	4	33	5	63	2	2	11	34
			N/A	6	50	1	13	6	6	13	41
			Nil	2	17	1	13	2	2	5	16
			Total of 1 'Yes'	12	100	8	100	12	12	32	100
	f)	Support for multiple payment methods	Yes	0	0	1	13	2	2	3	9
			No	3	25	6	75	2	2	11	34
			N/A	6	50	0	0	6	6	12	38
			Nil	3	25	1	13	2	2	6	19
			Total of 1 'Yes'	12	100	8	100	12	12	32	100

SME Survey - Section C – Website *continued*

Question			Item	CKL		Haliburton		Peterborough		All	
				No.	%	No.	%	No.	%	No.	%
No, they do not have a website											
13.		Why Not?	Cost	0	0	0	0	2	67	2	15
			Doesn't See Value	0	0	1	14	0	0	1	8
			Time	2	67	2	29	1	33	5	38
			Benefits Not Apparent	0	0	0	0	0	0	0	0
			No (Perceived) Need	0	0	1	14	0	0	1	8
			Other	1	33	2	29	0	0	3	23
			Nil	0	0	1	14	0	0	1	8
			Total of 1 'No'	3	100	7	100	3	100	13	100
14.		Will they get one in the next 12 months	Yes	2	67	4	57	3	100	9	69
			No	0	0	1	14	0	0	1	8
			Not Sure	1	33	1	14	0	0	2	15
			Nil	0	0	1	14	0	0	1	8
			Total of 1 'No'	3	100	7	100	3	100	13	100

Appendix V: SME Survey - Section D – Other ICT Applications

Question			Item	CKL		Haliburton		Peterborough		All	
				No.	%	No.	%	No.	%	No.	%
1.		Internal Office Applications									
	a)	Accounting/Finance system									
	a(i)	Electronic	Yes	11	73	10	67	15	100	36	80
			No	3	20	5	33	0	0	8	18
			N/A	0	0	0	0	0	0	0	0
			Nil	1	7	0	0	0	0	1	2
	a(ii)	Type	Custom	4	27	3	20	2	13	9	20
			Off-Shelf	6	40	6	40	11	73	23	51
			Desktop	1	7	2	13	2	13	5	11
			Nil	4	27	4	27	0	0	8	18
	b)	Sales Orders, invoices - electronic?	Yes	10	67	8	53	9	60	27	60
			No	5	33	5	33	4	27	14	31
			N/A	0	0	2	13	2	13	4	9
			Nil	0	0	0	0	0	0	0	0
	c)	Purchase Orders – electronic?	Yes	5	33	4	27	3	20	12	27
			No	7	47	6	40	2	13	15	33
			N/A	3	20	5	33	10	67	18	40
			Nil	0	0	0	0	0	0	0	0
	d)	Inventory Records – electronic?	Yes	5	33	6	40	3	20	14	31
			No	5	33	5	33	5	33	15	33
			N/A	5	33	4	27	7	47	16	36
			Nil	0	0	0	0	0	0	0	0
	e)	Payroll – electronic?	Yes	10	67	6	40	11	73	27	60
			No	5	33	8	53	1	7	14	31
			N/A	0	0	1	7	3	20	4	9
			Nil	0	0	0	0	0	0	0	0
	f)	On-line banking – electronic?	Yes	10	67	9	60	14	93	33	73
			No	5	33	5	33	1	4	11	24
			N/A	0	0	1	7	0	0	1	2
			Nil	0	0	0	0	0	0	0	0

SME Survey - Section D – Other ICT Applications *continued*

Question			Item	CKL		Haliburton		Peterborough		All	
				No.	%	No.	%	No.	%	No.	%
1.	**g)**	HR such as Employee									
	g(i)	E-learning / training facility	Yes	7	47	3	20	0	0	10	22
			No	3	20	6	40	10	67	19	42
			N/A	4	27	4	27	5	33	13	29
			Nil	1	7	2	13	0	0	3	7
	g(ii)	'Handbook' (secure site)	Yes	2	13	1	7	1	7	4	9
			No	6	40	7	47	6	40	19	42
			N/A	4	27	4	27	7	47	15	33
			Nil	3	20	3	20	1	7	7	16
	h)	Computer backup system									
	h(i)	Regular backups?	Yes	13	87	11	73	14	93	38	84
			No	2	13	2	13	1	7	5	11
			Not Sure	0	0	1	7	0	0	1	2
			Nil	0	0	1	7	0	0	1	2
	h(ii)	Off-site storage?	Yes	8	53	6	40	9	60	23	51
			No	7	47	9	60	6	40	22	49
			Not Sure	0	0	0	0	0	0	0	0
			Nil	0	0	0	0	0	0	0	0
	i)	Do they have a firewall in place	Yes	12	80	9	60	9	60	30	67
			No	3	20	6	40	4	27	13	29
			Not Sure	0	0	0	0	0	13	2	4
			Nil	0	0	0	0	0	0	0	0

SME Survey - Section D – Other ICT Applications *continued*

Question			Item	CKL		Haliburton		Peterborough		All	
				No.	%	No.	%	No.	%	No.	%
1.	**j)**	LAN system									
	j(i)	Multiple computers?	Yes	12	80	13	87	11	73	36	80
			No	3	20	2	13	4	27	9	20
			Not Sure	0	0	0	0	0	0	0	0
			Nil	0	0	0	0	0	0	0	0
	j(ii)	Connected thru LAN?	Yes	11	92	6	46	5	45	22	61
			No	1	8	7	54	6	55	14	42
			Not Sure	0	0	0	0	0	0	0	0
			Nil	0	0	0	0	0	0	0	0
			Total of j(i) - Yes	12	100	13	100	11	100	36	100
	k)	Do they use an anti-virus program?	Yes	13	87	13	87	13	87	39	87
			No	1	7	2	13	2	13	5	11
			Not Sure	0	0	0	0	0	0	0	0
			Nil	1	7	0	0	0	0	1	2
	l)	Software licensing – are records kept?	Yes	13	87	14	93	12	80	39	87
			No	1	7	1	7	1	7	3	7
			Not Sure	0	0	0	0	1	7	1	2
			Nil	1	7	0	0	1	7	2	4
	m)	Contact Management system?	Yes	12	80	8	53	8	53	28	62
			No	2	13	6	40	4	27	12	27
			Not Sure	0	0	1	7	1	7	2	4
			Nil	1	7	0	0	2	13	3	7
2.		Any customer development through e-marketing	Yes	4	27	3	20	10	67	17	38
			No	10	67	11	73	4	27	25	56
			N/A	0	0	0	0	0	0	0	0
			Nil	1	7	1	7	1	7	3	7

SME Survey - Section D – Other ICT Applications *continued*

Question			Item	CKL		Haliburton		Peterborough		All	
				No.	%	No.	%	No.	%	No.	%
3.		Online Procurement									
	a)	Do suppliers prefer / request on-line ordering / other ICT solutions	Yes	8	53	6	40	9	60	23	51
			No	5	33	5	33	3	20	13	29
			Not Sure	0	0	0	0	1	7	1	2
			Nil	2	13	4	27	2	13	8	18
	b)	Are payments for supplies made on-line?	Yes	6	40	7	47	6	40	19	42
			No	7	47	5	33	8	53	20	44
			N/A	1	7	0	0	0	0	1	2
			Nil	1	7	3	20	1	7	5	11
4.		Online Sales									
	a)	Do customers frequently make telephone / email requests for additional information on company & / or products / services	Yes	11	73	13	87	14	93	38	84
			No	1	7	2	13	1	7	4	9
			Not Sure	0	0	0	0	0	0	0	0
			Nil	3	20	0	0	0	0	3	7
	b)	Where applicable, do clients request the ability to register etc. online?	Yes	6	40	4	27	5	33	15	33
			No	0	0	4	27	1	7	5	11
			Not Sure	0	0	0	0	1	7	1	2
			N/A	5	33	6	40	6	40	17	38
			Nil	4	27	1	7	2	13	7	16
	c)	Can customers make payments online?	Yes	3	20	2	13	0	0	5	11
			No	9	50	9	60	11	73	29	64
			N/A	1	7	1	7	2	13	4	9
			Nil	2	13	3	20	2	13	7	16
	d(i)	If online payments accepted, what method?	Internal	0	0	0	0	0	0	0	0
			3rd Party	2	67	0	0	0	0	2	40
			Other	0	0	2	100	0	0	2	40
			Nil	1	33	0	0	0	0	1	20
			Total of 4c 'Yes'	3	100	2	100	0	100	5	100

SME Survey - Section D – Other ICT Applications *continued*

Question			Item	CKL		Haliburton		Peterborough		All	
				No.	%	No.	%	No.	%	No.	%
4.	**d(ii)**	If internal, use 'secure' server? (i.e. certificate)	Yes	0	0	0	0	0	0	0	0
			No	0	0	0	0	0	0	0	0
			Not Sure	0	0	0	0	0	0	0	0
			Nil	3	100	2	100	0	0	5	100
			Total of 4c 'Yes'	3	100	2	100	0	100	5	100
	d(iii)	If no, do customers request online payments	Yes	1	11	2	22	3	27	6	21
			No	6	67	5	56	7	64	18	62
			Not Sure	1	11	0	0	0	0	1	3
			Nil	1	11	2	22	1	9	4	14
			Total of 4c 'Yes'	9	100	9	100	11	100	29	100
5.		Other applications utilized									
	a)	Sales-force automation	Yes	1	7	1	7	0	0	2	4
			No	5	33	3	20	1	7	9	20
			N/A	6	40	9	60	12	80	27	60
			Nil	3	20	2	13	2	13	7	16
	b)	Supply-chain management	Yes	0	0	0	0	0	0	0	0
			No	3	20	2	13	1	7	6	13
			N/A	10	67	11	73	12	80	33	73
			Nil	2	13	2	13	2	13	6	13
	c)	Other	Yes	0	0	0	0	2	13	2	4
			No	2	13	1	7	1	7	4	9
			N/A	3	20	4	27	6	40	13	29
			Nil	10	67	10	67	6	40	26	58

Appendix VI: SME Survey - Section E – ICT Resources

Question				CKL		Haliburton		Peterborough		All	
				No.	%	No.	%	No.	%	No.	%
1.		What are the major barriers (perceived or real) to adopting (more) ICT									
	a)	Availability of qualified Consultants		3	20	3	20	5	33	11	24
	b)	Availability of qualified technical support i.e.									
		(i)	Installation of hardware / peripherals / networking	2	13	1	7	4	27	7	16
		(ii)	Maintenance / repair of hardware / peripherals / networking	2	13	4	27	4	27	10	22
		(iii)	Computer software issues (installation, repair, upgrade, licensing etc.)	0	0	3	20	2	13	5	11
		(iv)	Internet Connectivity (i.e. web / email / ftp access)	1	7	1	7	4	27	6	13
	c)	Availability of qualified ICT vendors i.e.									
		(i)	Computer hardware / peripherals / networking	2	13	2	13	4	27	8	18
		(ii)	Computer software	4	27	3	20	2	13	9	20
		(iii)	Internet Connectivity	3	20	1	7	4	27	8	18
		(iv)	Website hosting / design	0	0	1	7	3	20	4	9
		(v)	Other ICT Vendors	1	1	0	0	0	0	1	2
	d)	Availability of peer networking (Is there a local technology network that can be taped into for information and support?)		1	1	4	27	6	40	11	24
	e)	Availability of 'community' based resources including:									
		(i)	Chambers of Commerce	8	8	11	73	12	80	31	69
		(ii)	Community Development Corporations	7	7	9	60	9	60	25	56
		(iii)	Economic Development Corporations	7	7	6	40	8	53	21	47
		(iv)	Youth programs	5	5	6	40	6	40	17	38
		(v)	Other	3	3	2	13	1	7	6	13
	f)	Internal Technical knowledge (do they have access to skilled workers, who could implement, maintain, etc ICT solutions)		2	2	2	13	5	33	9	20
	g)	Internet Connectivity		8	8	11	73	13	87	32	71
	h)	Financial constraints		0	0	0	0	0	0	0	0
	i)	Availability of software		2	2	2	13	2	13	6	13
	j)	Other		6	6	6	40	2	13	14	31

SME Survey - Section E – ICT Resources *continued*

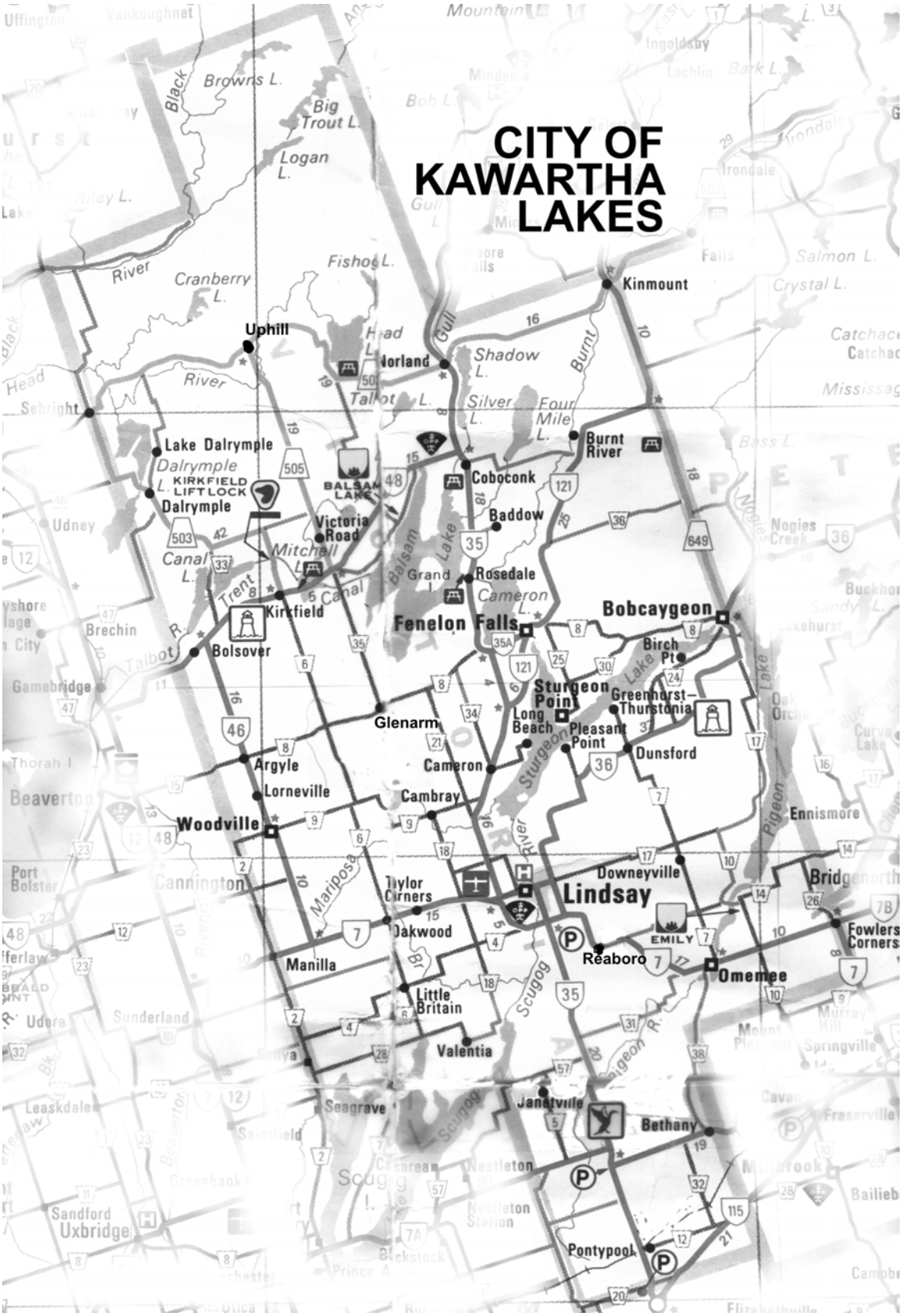
Question			Item	CKL		Haliburton		Peterborough		All	
				No.	%	No.	%	No.	%	No.	%
2.		Would they would like to adopt (increased) ICT	Yes	12	80	15	100	14		41	91
			No	0	0	0	0	0		0	0
			Not Sure	0	0	0	0	0		0	0
			Nil	3	20	0	0	1		4	9
3.		What would be the benefits of (increased) ICT	Increased Sales		27		32		29		29
			Decreased Expenses		17		21		17		18
			More Productive		20		21		24		22
			More Competitive		20		12		19		17
			Other		17		15		12		14
			Total (% of Total)		100		100		100		100

Appendix VII: Distribution of SMEs By Sector

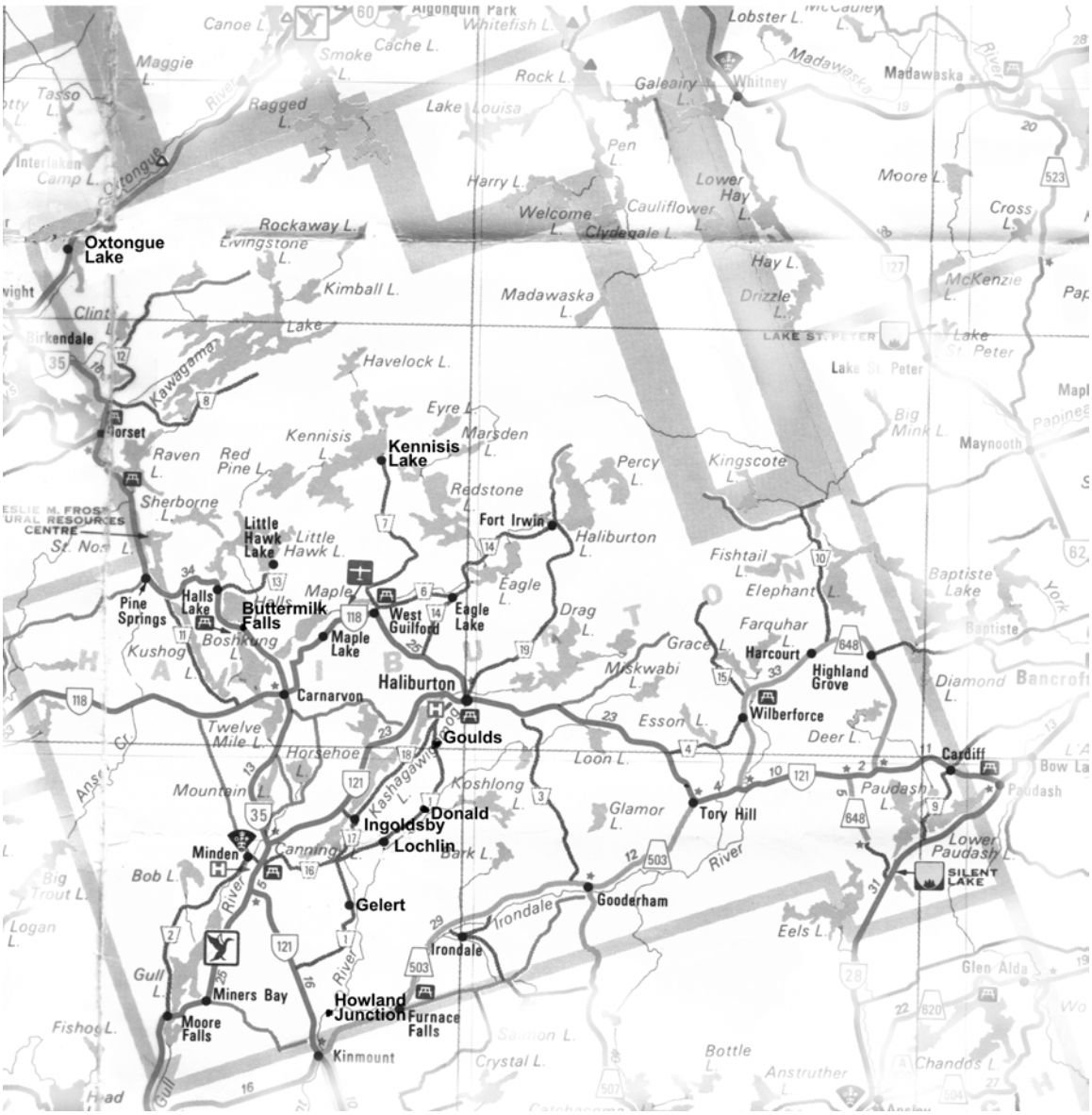
Sector	# of SMEs
Accommodation and Food Services	6
Administrative and Support, Waste Management and Remediation	1
Agriculture, Forestry, Fishing and Hunting	0
Arts, Entertainment and Recreation	2
Construction	0
Educational Services	0
Finance and Insurance	1
Health Care and Social Assistance	0
Information and Cultural Industries	8
Management of Companies and Enterprises	1
Manufacturing	2
Mining and Oil and Gas Extraction	0
Other Services (except Public Administration)	2
Professional, Scientific and Technical Services	3
Public Administration	0
Real Estate, Rental and Leasing	1
Retail Trade	18
Transportation and Warehousing	0
Utilities	0
Wholesale Trade	0
Total	45

Appendix VIII: Distribution of SMEs By Location

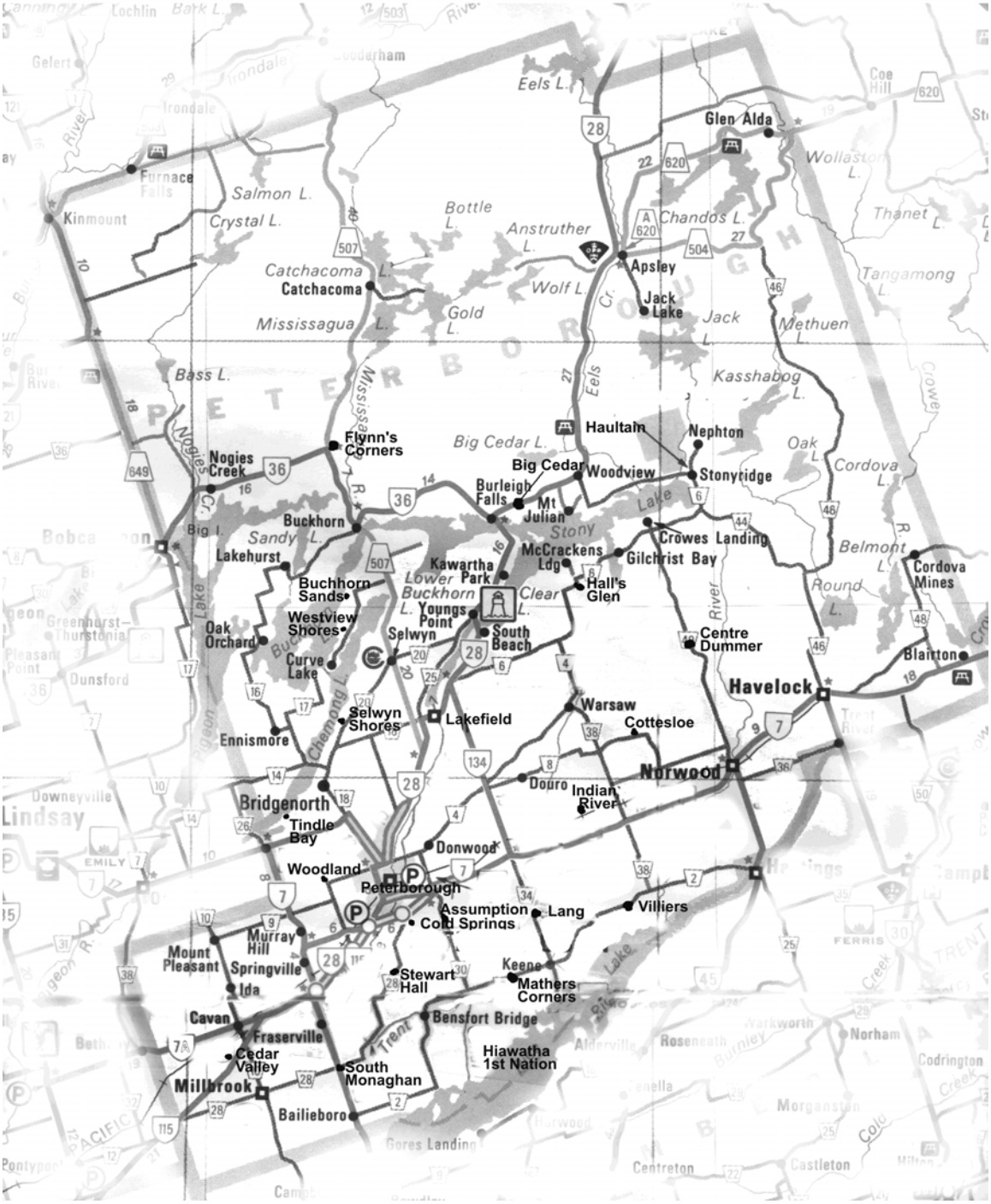
County (City)	Nearest Community	No. of SMEs
City of Kawartha Lakes	Bobcaygeon	1
	Cameron	1
	Downeyville	1
	Dunsford	1
	Kinmount	4
	Lindsay	2
	Little Britain	1
	Oakwood	1
	Omemee	1
	Sunderland	1
	Woodville	1
	Total for City of Kawartha Lakes	15
County of Haliburton	Dorset	2
	Eagle Lake	2
	Haliburton	4
	Harcourt	1
	Minden	5
	Moore Falls	1
		15
County of Peterborough	Apsley	6
	Buckhorn	2
	Douro	2
	HallsGlen	1
	Warsaw	1
	Youngs Point	3
	Total For County of Peterborough	15
	Total All Communities	45


CITY OF KAWARTHA LAKES
Kinmount
Uphill
Norland
Shadow L.
Burnt River
Lake Dalrymple
Dalrymple L.
KIRKFIELD LIFT LOCK
Dalrymple
Victoria Road
Coboconk
Baddow
Mitchell L.
Canal L.
Grand I.
Rosedale
Cameron L.
Kirkfield
Fenelon Falls
Bobcaygeon
Bolsover
Birch Pt
Sturgeon Point
Greenhurst–Thurstonia
Long Beach
Pleasant Point
Glenarm
Dunsford
Argyle
Cameron
Lorneville
Cambray
Woodville
Ennismore
Downeyville
Lindsay
Taylor Corners
Oakwood
Manilla
Reaboro
Omemee
Little Britain
Valentia
Janetville
Bethany
Seagrave
Pontypool
Sandford
Uxbridge
Fowlers Corners
EMILY
Balsam Lake
Sturgeon R.
Scugog R.
Pigeon R.
Mariposa
Gull R.
Talbot R.
Trent Canal

HALIBURTON COUNTY



PETERBOROUGH COUNTY



Appendix XII: References

1. "Firms using broadband technology are more likely to adopt other advanced information and communication technologies." *(Statistics Canada – The Daily, April 20, 2005)*
2. "A major factor in rising e-commerce, particularly in the private sector, is the adoption of high-speed access to the Internet. ..The use of high-speed Internet access enables many other technologies to be utilized more effectively. ..Large firms are more likely to have advanced features necessary for e-commerce on their website than small firms." *(Statistics Canada – The Daily, April 16, 2004)*
3. E-commerce may represent a small percentage of economic activity today, but private sector forecasts predict that the value of e-commerce will continue to have enormous growth. The International Data Corporation (IDC) estimates that the global e-commerce market will grow to about to $6.5 trillion by 2006. This would be a 333 percent increase since 2003. *(Statistics Canada, Survey of Electronic Commerce and Technology, 2004).*
4. E-commerce provides many benefits such as expanded markets, lower-cost regional and transnational trade, reduced overhead costs, better inventory management, a greater ability to service niche markets, and the ability to better service customers. SMEs, in particular, can benefit as e-commerce and the Internet are removing some of the scale advantages that only large firms enjoyed. *(Statistics Canada, Survey of Electronic Commerce and Technology, 2004).*
5. "Strategies for Increasing SME Engagement in the e-Economy" *(Canadian e-Business Institute – Sept.04)*
6. "Making Connectivity Work for Canada" (Canadian e-Business Institute – Sept.04)
7. "Ontario will be the place to be when our citizens are equipped to compete with people all over the world .. Ontario's economy depends on trade ..We will focus on two critical elements of our infrastructure: electricity and transportation " *(Getting Results For Ontario, Progress Report 2004)*