
futures west
l'avenir de l'ouest
The New Frontier:
Enterprise and E-Business
in Western Canada.
WD
DEO
Western Economic Diversification Canada
Diversification de l'économie de l'Ouest Canada
Canada

Western Economic Diversification Canada

Canada

THE NEW FRONTIER:

ENTERPRISE AND E-BUSINESS IN WESTERN CANADA

Report prepared for Western Economic Diversification Canada by: KPMG

Foreword

by

the Honourable Ron J. Duhamel

Secretary of State for
Western Economic Diversification

The New Frontier contributes to an important aim of the federal government's electronic-commerce strategy — to help make Canada a world leader in electronic business by developing awareness of the jobs and growth potential of e-business. My Department commissioned this study because we wanted a better understanding of how well small and medium-sized businesses in the West are meeting the challenges of the new digital economy.

Western Economic Diversification Canada focuses on those smaller businesses — the driving spirit behind nearly 80 per cent of the new jobs across the country and in the West. I'm convinced that the winning competitive edge will go to businesses that are ready to seize the opportunities of the e-business revolution. As this study shows, there are several understandable reasons why some are not getting involved. Certainly e-business has some costs, but the cost of not doing e-business could be the highest cost of all.

With the publication of ***The New Frontier***, we now have a much clearer picture of the possibilities of e-business in Western Canada. I invite you to explore those possibilities — and the significant opportunities for your business.

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Executive Summary

The advent of e-business in the past five years has caused companies to either radically restructure their conventional means of doing business or at least consider that the adoption of e-business is in their future. Today, many "virtual companies" completely rely on e-business to survive. On the other hand, many companies are strictly "bricks and mortar," struggling to find the time, money and, sometimes, the reason to develop an e-business component. And, there are hybrid companies that use both virtual and conventional business practices.

E-business—a consumer's utopia. An e-business store is open 24 hours a day, seven days a week. And there are a plethora of choices: what company or country you purchase from, what to buy, what price you want to pay, or how you want goods or services delivered. Often items are cheaper to purchase on-line, attracting the consumer to purchase items over the Internet. Indeed, instead of purchasing groceries in person, companies have sprung up where you place an order on-line and have the groceries delivered to your door—within hours, often at cheaper prices. No longer do you have to spend time traveling to a store. You can purchase clothes, books, furniture, CDs—you name it—through the Internet. Instead of being an atypical service, consumers are beginning to expect to shop on-line and, in some cases, prefer this method of service delivery.

SMEs lagging—the "big" companies who have succeeded in the e-business world get the headlines. We seldom hear of small to medium-sized enterprises (SMEs) that overcome the odds. These success stories go untold. "Canadians have not communicated their own success stories about companies becoming e-savvy[1]." SMEs are rising to the challenge, but they are in a state of transition. SMEs are only now beginning to recognize the value of having on-line services or access for their clients or for other businesses. Other SMEs have grasped the concept entirely and conduct all of their business through the Internet. Success is about leadership—does management have the insight to forecast the impact of e-business on the firm? Does a business have the staff and resources to invest in e-business?

[1] *Boston Consulting Group, "Fast Forward: Accelerating Canada's Leadership in the Internet Economy". January 2000.*

A. Challenges for SMEs—e-business, a significant investment in light of uncertainties

SMEs have challenges similar to big business but the economics of scale make it riskier for SMEs to invest in e-business technology. Challenges are often the same for SMEs whether they practice conventional or virtual business:

- **Financial resources**—having enough money to invest in technology and other related costs for developing an e-business strategy, or including e-business as a strategy to their existing operations.

- **Human resources**—having staff to develop a new type of business, having the appropriate skill base within the organization, attracting and retaining employees with applicable skills.

- **Time**—finding the time to invest in the development and implementation of an e-business component.

- **Risk taking**—daunting for an SME compared to larger organizations, particularly in ventures that are still relatively new, unfamiliar and uncertain.

B. Remaining competitive—U.S. and large enterprises lead e-business

While there may be internal challenges to adopting an e-business model, external markets are forcing SMEs to reevaluate their market position. The obstacles SMEs face in making the transition to e-business are often difficult to overcome and can significantly impact their competitiveness, both domestically and internationally. The most significant threat to Canadian SMEs is that U.S. companies get too far ahead and become more competitive and more ready for e-business sales in Canadian markets. Canadian firms could suffer from an U.S. competitive edge. On the other hand, the opportunity for Canadian SMEs is that e-business broadens their potential for direct sales in the U.S. and global markets. This opportunity can only be realized if Canadian SMEs are as ready (or more ready) to do e-business than their U.S. counterparts. The onset of e-business could, in fact, erode one of Canada's biggest trade advantages—that being our physical proximity to the relatively huge U.S. market.

Often overshadowed by the notoriety given to larger companies, SMEs are the cornerstone of the Canadian economy.

- Of all established businesses in Canada, 97.6 per cent have fewer than 50 employees.

- SMEs account for almost 60 per cent of Canada's private sector employment.

- SMEs have created 81 per cent of new jobs in Canada over the past decade.

C. WD asks—"Are SMEs in Western Canada ready for e-business?"

Western Economic Diversification Canada (WD) commissioned KPMG Consulting LP to assess the status of e-business among SMEs in Western Canada. Over the months of March and April 2000, KPMG surveyed and interviewed 135 organizations (see Appendix A for participant list) from the following three categories:

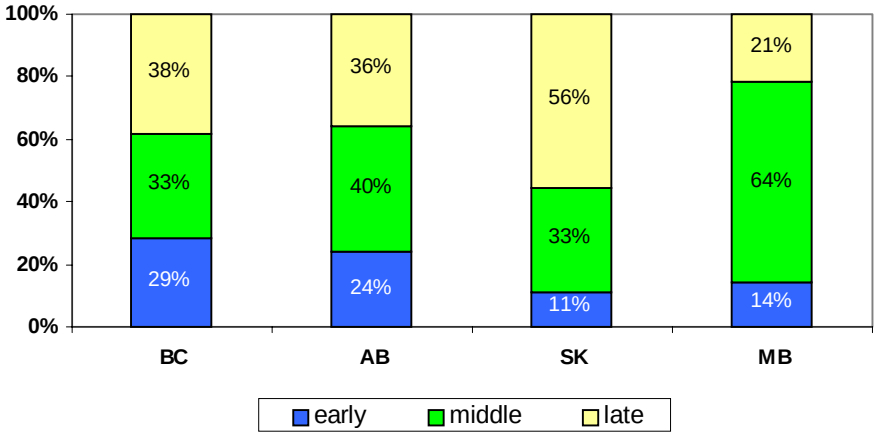
- Small- and medium-sized enterprises (59 per cent).
- Suppliers of e-business solutions (19 per cent).
- Leaders in e-business in Western Canada's public and private sectors (22 per cent).

The organizations represented the four western provinces of British Columbia (28 per cent), Alberta (42 per cent), Saskatchewan (13 per cent), and Manitoba (18 per cent). Although not statistically valid, the results of the survey bear significant contributions to the overall picture of e-business in Western Canada.

D. SMEs alert to the e-business challenge

The earliest e-business adopters among SMEs are Alberta (24 per cent) and B.C. (29 per cent) and the latest are in Saskatchewan (56 per cent) with Manitoba SMEs surveyed rating themselves as moderate (64 per cent).

Exhibit I-1
SMEs adoption of e-business (n=69)



An overwhelming consensus of all respondents is that e-business will dramatically impact SMEs in Western Canada:

- Fifty per cent (50%) of the SMEs saw e-business as a great opportunity to expand their existing businesses to other parts of the world.

- Sixty-seven per cent (67%) of SMEs have a budget for developing e-business in 2000.

- Ninety six per cent (96%) of SMEs stated that they have access to e-mail and the Internet at their workplace.

- Eight per cent (80%) of Suppliers stated their e-business sales revenue in 1999 was over a half million dollars.

- Thirty-nine per cent (39%) of Suppliers stated that adopting e-business is mandatory if companies wish to remain in business.

E. Defining the e-business challenges

The opportunities of the new e-business frontier are tempered by a number of challenges. The main challenges are:

- **Need for information**—Respondents stated that there is an imbalance between suppliers and customers. Suppliers are offering solutions to buyers who are generally unaware of e-business trends, issues, developments and the manner that it is impacting their respective industries. SMEs often feel overwhelmed—too much information, a "new/different" technical language and unsure of what is needed for current and future business needs.

SMEs overwhelmed:

"Lots of information is available but it is almost overwhelming to a small-medium business person. Instead of taking action, they do nothing."

"There is a lack of information on the hands-on information, the 'how to' stuff."

- **Lack of confidence**—Even when SMEs are convinced about the benefits of adopting e-business strategies, they lack confidence about suppliers and the potential customer base. Many SMEs are reluctant to change and hesitant to take the risk because they are unsure about the relevance of e-business to their specific line of business. As well, questions arise about whether or not the initial and on-going investment will generate profits, not just revenue.

SMEs skeptical and unsure:

"Widely known certification standards or professional designations are undeveloped in the industry, standards typically give confidence to uneducated buyers."

"What can e-business do for a company? I'm skeptical."

- **Lack of resources and skills**—SMEs, Suppliers and Leaders state that it is difficult for SMEs to find, attract and retain qualified staff. This shortage of technically skilled people is a problem across Canada. In addition to the lack of resources, there is also a shortage of time and lack of money to invest in an e-business strategy.

SMEs need skilled staff:

"Skilled workforce/support services are lacking."

"We compete with the U.S. for local skill sets."

- **Poor access to capital**—Having access to venture capital or any type of funding is another barrier for SMEs and Suppliers. Developing and implementing an e-business strategy can be very expensive for an SME and many look for financial assistance to make the first step. Yet many SMEs don't know whom to approach for venture capital: "How do you access venture capital—especially in Western Canada?"

SMEs need investment capital:

"Accessible capital is limited and Web sites add an extra expense."

"Early stage venture capital is lacking."

F. SMEs, e-business suppliers and government—room enough for three?

- **Is government needed/wanted?**—Some SMEs need assistance in establishing a strong presence on the Internet. While some respondents state that government should not interfere in e-business, the vast majority (82 per cent) of SMEs note that government has a role to play. Governments have gotten out of the "business of being in business" and, for the most part, no longer give financial grants to business. Some SMEs believe that government should provide financial assistance; but most respondents want information about where to access loans for business development and who to contact for venture capital.

- **Information is critical**—SMEs frequently mention that an information "portal" is needed for SMEs and consumers in Western Canada. Today, information on e-business is produced by the suppliers and is scattered across many Web sites.

- **Supporting e-business planning**—Part of the next wave for on-line technology will be the amalgamation and coordination of information—a type of "one-stop shopping" for citizens and consumers. SMEs need meaningful and neutral information on e-business planning: the availability of venture capital, funding options, the cost of starting up an e-business enterprise, and the types of technical architecture and infrastructure needed for operating an e-business. For the consumer, offering a gateway to on-line businesses in Western Canada is viewed as timesaving for the consumer and beneficial for SMEs in Western Canada. E-business means that purchasing dollars are spent in the local economy attracting virtual shoppers from "anywhere in the world."

- **A role for government**—SMEs value government facilitating and coordinating e-business initiatives in Western Canada. Each of the western Canadian provincial governments has initiatives in place to expedite the new e-business economy. Industry and business associations, who often work with government on industry and economic policy, are also gaining savvy about e-business as a threat or opportunity. They are exploring and defining their role in relation to their members and the direction that e-business may take. Governments, working together—with industry and business associations can help to ensure that a coordinated and participative approach is taken to the formulation and execution of e-business strategies.

G. Leadership in the new frontier

The transition to an e-business economy constitutes an opportunity for SMEs in Western Canada. Traditionally a region of pioneers, entrepreneurs, and risk-takers, the e-business frontier can be expanded in Western Canada through public/private partnerships:

- **Roundtables**—conducted across Western Canada for discussing this report and launching "go forward" initiatives.

- **Consultations**—between levels of government to clarify their roles in the e-business revolution.

- **Engaging**—SME owners and senior management and SME representatives such as the Chambers of Commerce and industry associations to enhance their members' awareness/knowledge of the opportunities and threats of e-business.

The sponsors of this study believe that e-business will fundamentally affect the way in which SMEs in Western Canada are able to compete, launch new products, initiate new business ventures, integrate with their supply chain and generally conduct business:

- **Microsoft**—"E-business should hold particular promise for small and medium enterprises as they can seek out partners to expand supply chains or they can extend their product into new markets. The small and medium organization will also have the ability to market their products to a whole new global customer base if they choose."

- **Cisco Systems Canada**—"e-business has the potential to make transactions that are more accurate, timely, and lower cost."

- **ICET**—The role government should be taking to assist SMEs in the development of e-business is that "they should be facilitating the development of initiatives to foster new awareness and technology development initiatives. They should step back significantly from the picture and allow industry associations carry the ball. This means the government should be including industry associations in all of their e-business strategies."

- **Westmost**—"Computing and communications technology will (continue to) be greater enablers for locations previously unable to connect to and/or access markets."

The focus on SMEs distinguishes this report from the many others addressing the growth of e-business today. Overall, SMEs are in a state of transition—their conventional means of doing business are being challenged and replaced by a system that is still being defined. The redefining of the workplace and shopping place is a global phenomenon that will impact both the business-to-business and business-to-consumer relationships, as well as how we work and play, live and learn. Who will benefit and who will not are today being settled by size, capital and enterprise. To compete successfully begins with a wake-up call.

II

Background

A. Study objectives

KPMG Consulting LP was commissioned by Western Economic Diversification Canada (WD) to assess the status of e-business among small and medium-sized enterprises (SMEs) in Western Canada. The study was designed to assess the current state of e-business, the challenges confronting SMEs and their readiness to embrace e-business as a response to these challenges:

E-business suppliers were also contacted to comment on the state of e-business readiness of SMEs. Given that suppliers are usually the first-point-of-contact that SMEs have in an e-business venture, they are a source of pertinent knowledge. As well, public and private leaders who are involved with or have knowledge of the e-business economy were also asked about their perceptions of e-business readiness amongst SMEs in Western Canada.

To complement and supplement the survey, additional research was undertaken of select issues:

- Opportunities for special interests and home-based businesses.
- The state of the telecommunications infrastructure.
- A competitive analysis with jurisdictions outside of Western Canada.

The objective of the study is to provide WD with information on the challenges and opportunities SMEs in Western Canada face in developing, implementing and maintaining an e-business. Having this information will assist WD to determine their role in this new, virtual economy.

B. Research methodology

In consultation with WD, KPMG Consulting LP designed research surveys distributed in March/April 2000 to SMEs, Suppliers and Leaders across Western Canada. Preference was given to conducting oral interviews, whether face-to-face or via the telephone; otherwise, surveys were e-mailed or faxed throughout KPMG's service network. To complement the primary research, independent research studies were conducted on home-based businesses, the opportunities available to special interest groups, the state of the supporting telecommunications infrastructure in Western Canada, and an e-business competitiveness assessment. At a more general level, other e-business studies and reports were taken into consideration.

1. SME survey

Approximately 140 surveys were distributed to SMEs across Western Canada through the assistance of industry and business associations and KPMG offices in each of the four provinces. Eighty were returned completed. To ensure a balanced representation of industries participating in the survey, industries were selected along traditional categories as used by Statistics Canada to guide the survey distributors and inteviewers.

- Aerospace and Defense
- Construction
- Consumer Goods, Retail, Personal and Business Services
- Financial Services
- Health, Pharmaceutical, Agriculture and Food Manufacturing
- Oil and Gas, Chemicals, Primary Metals and Industrial Machinery
- Forestry, Paper and Allied Products
- Telecommunications, Computers, Information Technology and Utilities
- Tourism
- Transportation, Storage and Motor Vehicles

Exhibit II-1
Proportion of SME respondents by province

Province	SMEs by per cent
British Columbia	27.5
Alberta	42.3
Saskatchewan	12.5
Manitoba	17.5
Total	100.0

2. Supplier survey

Suppliers are key sources of information for SMEs and were identified as representing:

- Electronic Commerce (e.g., Amazon.com, Cisco, Dell)
- Internet Intermediaries (e.g., Yahoo, E*Trade, TravelWeb.com)
- Internet Applications Infrastructure (e.g., Netscape, Microsoft, Adobe)
- Internet Infrastructure (e.g., Cisco, Corning, AOL)

Suppliers were chosen through the assistance of industry and business associations and word-of-mouth. Fifty-five surveys were distributed across the West; 25 were returned for analysis.

3. Leader survey

Participants were chosen from business and industry associations (e.g., Alberta's Information, Communications and Electronics Technology Alliance and WESTMOST) and government bodies located in Western Canada or whom had knowledge of e-business located elsewhere in Canada. Forty surveys were distributed and 30 were returned for analysis. In most cases, telephone or in-person interviews were conducted.

C. WD—changing mandate over time

Like many governmental bodies, WD is reconsidering its mandate with the advent of e-business. Since WD's establishment in 1987, the mandate has been to promote the development and diversification of the economy of Western Canada and to advance the interests of the West in national economic policy. SMEs have been the focus of WD since its establishment. Working in cooperation with industry associations, financial institutions and the four western provinces, WD addresses the needs of small business and business services in a variety of ways.

To achieve its mandate in Western Canada, WD currently focuses its efforts in four key areas of activity:

- **Capital Services**—Helping small businesses in "new economy" sectors access WD-sponsored loan programs; providing information on alternative sources of industry sectors: biotechnology; health; information technology and telecommunications; environmental technology; advanced materials and advance manufacturing technology; knowledge-based industries; agricultural value-added processing; and tourism.

- **Western Canada Business Service Network**—Creating a "single-window" source of information for small businesses in the West. In partnership with other business service organizations, WD's programs and services are now accessible from over 100 points of service in rural and urban centres of British Columbia, Alberta, Saskatchewan and Manitoba. The Western Canada Business Service Network includes Community Futures Development Corporations, Women's Enterprise Initiative offices, Canada Business Service Centres and WD offices throughout Western Canada.

- **Business Services**—Enhancing supplier development programs to help small business sell to government markets; advocating at the national level on behalf of Western businesses; simplifying and streamlining regulations affecting small business; and consolidating the delivery of trade and export support programs.

- **Alliances**—Helping established industry alliances to enhance the competitiveness and growth of industries vital to Western Canada, promoting community economic development in rural areas through Community Futures Development Corporations and urban centres through urban development initiatives. Developing new private and public sector partnerships would streamline the delivery of programs and services to small businesses throughout Western Canada.

WD serves SMEs through information on its Web site; however, the virtual component is noticeably absent. For example, information is available on starting a business, exporting and financing, accessing capital and selling to government, but nothing is yet available on how to start up an e-business or gain a technology "edge."

Like most organizations, the new e-business economy has created the opportunity for WD to evaluate its original mandate and strategies. This study is to contribute to developing a plan that is designed to meet the needs of WD's stakeholders and partners and one which will not overlap with existing initiatives, whether in the public or private sector. Through this study and a series of roundtables, WD will continue to engage its stakeholders and partners to develop a coordinated strategic plan for SMEs and e-business in Western Canada.

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The results of the study and associated recommendations may help align governments' role with objectives to expedite the development and competitiveness of e-business in SMEs in Western Canada.

III

Taking Stock—e-business In Canada and the U.S.

A. O Canada!—moving to a more connected nation

In the past two years, the media and the public have been made aware of the rapidly changing e-business world. Indeed, many reports have been commissioned on the state of technology or e-business in Canada and in some cases, in specific provinces. One of the most recent and thorough studies on SMEs and e-business was conducted by the Canadian Federation of Independent Business (CFIB). In their 1999 report, "Virtually a Reality," CFIB found that Internet use among SMEs is growing rapidly. The report's findings conclude that:

- Sixty-one per cent (61%) of business owners are connected to the Internet—almost double the number from 1997.

- Eighty-eight per cent (88%) of business owners employing between 100 to 499 employees are "Internet connected."

- Internet use among small firms, those employing fewer than five people, has moved past the 50 per cent mark for the first time.[2]

In December 1999, Forrester Research classified nine provinces in terms of their technology-use across five features: technology optimism, home PC ownership, PC use at work, Internet adoption and on-line purchasing.[3] Some of the findings are:

- **Fast lane:** Alberta, British Columbia and Ontario set the pace in Canada. Led by Alberta—with nearly 30 per cent higher Internet penetration than the national average and 15 per cent higher home and work PC usage. Residents of these three provinces adopt technology more rapidly than the rest of Canada.

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[2] *Canadian Federation of Independent Business, "Virtually a Reality," 1999.*

[3] *Michael Gazala, Forrester Research Inc., "Mapping Canada's Technology Zones," The Forrester Brief, 17 December 1999.*

- **Middle of the road:** Manitoba and Quebec float comfortably in the middle although their profiles are quite different. Quebec is a province of extremes: IT scores poorly in every category but technology optimism, where it crests 10 per cent above the average. Manitoba is literally in the middle of the road: close to the national average on a variety of indicators, from PC use at work to activities performed on-line and long-distance phone bills.

- **Slow lane:** New Brunswick, Nova Scotia, Prince Edward Island (PEI) and Saskatchewan trail behind with work PC usage as much as 50 per cent below—and Internet penetration as much as 60 per cent below—the national average.

Some of the factors that distinguish fast-lane provinces from slow-lane provinces are:

- **Level of income and purchasing power**—linked to higher use of technology.

- **Higher levels of education**—better-educated people tend to be white-collar workers with PCs at work or at home.

- **Urban residency**—a cosmopolitan lifestyle encourages rapid introduction to technology.

- **Life motivation**—life motivation drives people to adopt certain technologies (e.g., entertainment).

Finally, the January 2000 Canadian E-business Opportunities Roundtable report, *"Fast Forward: Accelerating Canadian Leadership in the Internet Economy,"* notes that Canada faces a choice between being a global e-business leader or a laggard[4]. The report is a wake-up call for businesses across Canada, big and small, to become more aware about, if not adopt, an e-business model. The Roundtable identified six priority areas for accelerating Canada's e-business leadership and examined several stumbling blocks. Some of the findings included:

- Canada is poised to become a leader in the Internet economy given its sophisticated infrastructure, its highly connected population and its early policy initiatives.

- Canada already has the highest share of global e-business revenues after the U.S. with the Internet economy representing $28 billion in revenues and 95,000 jobs.

- Some of the barriers include: a lack of "urgency" to adopt e-business, Canada is a small market with a limited number of on-line customers, a shortage of talent to fill ICT positions, and a false sense of security that e-business will not impact their conventional means of doing business.

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[4] *Canadian e-business Opportunities Roundtable, "Accelerating Canadian Leadership in the Internet Economy." January 2000.*

Canada—fast forward

The co-chairs of the Roundtable, David Pecualt and John Roth, state: "This report is a clarion call to Canadian businesses, large and small and across sectors, to seize the opportunity now…Canadian companies need to move quickly and decisively to protect their home markets and expand their markets. We are already seeing too many Canadian consumers and businesses on U.S. Internet sites, too few Canadian businesses migrating on-line, and too many Internet entrepreneurs taking their ideas, talents and businesses to more dynamic congenial markets."[5]

B. E-business in the U.S.—early but growing rapidly

Most statistics about e-business draw from U.S. experiences and events; less is known about the Canadian e-business landscape. How do the United States and Canada compare in terms of readiness and distinguishing challenges and solutions?

The report, *"E-commerce: Small Businesses Venture On-line"* of the U.S. Small Business Association[6] examines small businesses' use of electronic commerce. Although it focuses on the United States, it is one of the most informative studies on e-business and SMEs—a report Canadians can look to for benchmarking purposes. Some of the 1999 findings include:

- The percentage of small businesses with access to the Internet nearly doubled from 1996 to 1998 from 21.5 per cent to 41.2 per cent, respectively.
- Small businesses that use the Internet have higher revenues, averaging $3.79 million in 1998 compared to $2.72 million overall.
- Seventy-eight per cent (78%) of small business owners declare "the ability to reach new and potential customers" as their primary reason for having a Web site; 35 per cent of small business owners maintain a Web site.
- The most common barrier for small businesses to adopt e-business is the cost.
- Internet sales account for less than 1 per cent of total retail sales in the U.S. economy.
- Only 1.4 per cent of Internet use among small businesses is directed toward e-business sales.
- On-line retail marketing is experiencing about 200 per cent annual growth; traffic on-line has been doubling every 100 days.
- Only 5 per cent of consumers who visit the World Wide Web become customers.

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[5] *Boston Consulting Group, "Industry Leaders Launch Six-Point Strategy for Acceleration of Canada's Growth on Global Internet Economy," January 2000.*

[6] *Office of Advocacy, U.S. Small Business Administration, "E-commerce: Small Businesses Venture On-line," July 1999.*

- Estimates of e-business vary widely. In 1997, small businesses earned an estimated $3.5 billion in e-business sales. Projections for the beginning of the next decade range from $25 billion to over $300 billion.

C. Canada and the U.S.—increased competition from e-business

In looking at the U.S.-Canada trading relationships, overall the U.S. dominates. Over 84 per cent of Canadian exports go to the U.S., and over 68 per cent of imports to Canada come from the U.S.[7] Because of the increasing significance of e-business in the economies of both Canada and the U.S., and because of the importance of the U.S. for Canadian trade, it is necessary to take stock of how Canadian SMEs compare to their U.S. counterparts in making the transition to e-business. The potential impact of e-business to help or hinder Canada maintain its balance-of-trade advantage with the U.S. should not be underestimated.

Differentiating between business-to-business e-business (B2B) and business-to-consumer e-business (B2C) is necessary for understanding the drivers of change for SMEs. SMEs are involved in both supply-chain e-business activities (B2B) and direct on-line sales and marketing (B2C). Some SMEs do only one and not the other, and many do both. Ultimately, however, the consumer defines the market for e-business products and services provided by SMEs. For example, an SME supplying computer software to automobile manufacturers (B2B) is indirectly affected by consumer demand for automobiles produced by the auto industry. On the other hand, developing a Web site so that consumers can order and purchase publications and music on-line (e.g., http://www.amazon.com/) is a more direct B2C e-business application.

Two significant drivers for change emerge for SMEs, both in Canadian and U.S. markets:

- Market demand is making B2C e-business necessary. The e-business buyers market is growing fast in North America. More people simply expect it[8].

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[7] *Source: Statistics Canada, 1998 export-import statistics.*

[8] *There is no shortage of studies and surveys to validate this point. For example, according to a recent Angus Reid study which covered 34 countries, Canada is second only to the U.S. in terms of Internet use—56 per cent of Canadians used the Internet between November 1999 and January 2000, compared with 59 per cent of Americans—see reference to this study in http://www.angusreid.com/services/p_face.htm. This study also shows that the U.S. is the e-commercial leader in the world. Thirty-one per cent of U.S. adults have bought on-line compared to 18 per cent of Canadian adults.*

- The economic benefits of e-business are now more obvious to an increasing number of business enterprises[9]. The economic rationale of B2B e-business for SMEs is more convincing today to more business people than it has been in the recent past[10].

D. B2C—Canada growing but lagging behind the U.S.

The e-business market for B2C has matured significantly in both Canada and the U.S. over the past two years. A wide variety of successful SMEs in Canada have adopted e-business solutions to increase sales and manage their customer relationship. The success of e-business applications, however, continues to depend on the pace of consumer demand for e-business solutions. To the extent that consumers are making on-line purchases, SMEs e-business applications grow and flourish.

A very small but representative example of a successful B2C application for SMEs in Canada is Belbin's Grocery Ltd. in St. John's, Newfoundland. Belbin's provides a Web site (http://www.belbins.com/) that allows customers to move from phoning and faxing their orders, to doing it on-line, in a way that retains the old-fashioned values for which the company is known. Without a demand from consumers for this on-line service, Belbin's would not be successful, no matter how ingenious their Web site might be. Another small but significant example of a successful SME B2C application that is consumer driven involves selling auto insurance on-line. Belair Direct, an insurance firm operating in Ontario, Quebec and New Brunswick, successfully provides this service on its Web site (http://www.belair.com/).

According to a recent worldwide survey done by the Angus Reid Group, Canada as a nation is almost as wired to the Internet as the largest economy in the world[11]. The study further suggests that the Canadian on-line consumer market is growing, as Canadians have good access to the Internet and are "well-connected." However, this is a two-edged sword for Canadian SMEs. The more Canadians have access to the Internet, the more easily they are able to purchase goods and services south of the border. For example,

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[9] *For example, e-business economies include more efficient distribution mechanisms, productivity gains, better customer service and improved inventory control.*

[10] *Canadian small businesses have bought and sold approximately $670 million in goods and services over the Internet in 1999, according to a recently released (March 8, 2000) study conducted by SES Canada Research. This SES study also concludes that 44 per cent of small businesses in Canada plan to engage in e-business by the end of 2000, compared to 27 per cent that had engaged in e-business as of Spring 1999. The study predicts that the Canadian SME e-business market could grow to $1 billion by the end of 2000. See reference to this study in http://www.sesresearch.com/.*

[11] *Other nations that are in the leading edge of Internet usage are Sweden, Australia and Switzerland, in that order. Reference: The Face of the Web, by Angus Reid Group, March 2000.*

more people are directly booking air flights, cruises, hotel rooms and rental cars on-line than ever before, both in Canada and the U.S. Projections by the Travel Industry Association of America suggest that the number of people buying travel services on-line in the U.S. will grow from 41 million in 1998 to 72 million in 2002 (http://www.tia.com/press/fastfacts11.stm). Undoubtedly, some of these 72 million will be Canadians.

Emergence of a large on-line North American market provides an exciting new market potential for Canadian SMEs. On the other hand, it is a threat if the U.S. SMEs are better poised to adopt e-business and, as a result, better able to tap into the Canadian marketplace with their goods and services. Very often, success depends on who gets there first.

The Boston Consulting Group (Canada) in a recent study[12] pointed to a supply-side deficit for Canadians in B2C e-business. Along with greater choice in Web sites, Canadian consumers cite "better selection and prices" as the main reasons they shop on-line at U.S.-based Web sites instead of Canadian Web sites.

The top 10 reasons why Canadians prefer to shop at U.S. sites underscore the threat to Canadian SMEs of U.S. e-business. In an IBM and Retail Council of Canada report[13], the following reasons were cited (in descending order of significance):

- Better selection of goods and services
- Better prices
- More sites
- The quality of the goods and services
- Better customer service
- Product availability
- Convenience
- Detailed information
- Better advertising
- Fewer restrictions

These 10 reasons underscore the importance for Canadian SMEs to adopt electronic technology, whether for B2B or B2C e-business. It is not an exaggeration when in

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[12] *Fast Forward: Accelerating Canada's Leadership in the Internet Economy. Report to the Canadian E-business Opportunities Roundtable by the Boston Consulting Group (Canada), January 2000.*

[13] *e-Retail, The Race is On, IBM and Retail Council of Canada, 1999.*

July 1997 the White House released a document that declared that e-business is a revolution, "... a revolution that is just as profound as the change in the economy that came with the Industrial Revolution"[14]. Canadian SMEs need to move beyond using the Internet simply to maintain their corporate Web presence and to use their Web sites primarily as on-line brochures, to the more significant use of the Internet to sell products, provide customer support and reduce operating costs.

E. B2B—American suppliers pose a new threat

Transactions between companies over the Internet have also grown in recent years. These business-to-business (B2B) transactions constitute a significant aspect of the Internet's growing impact in e-business, since more and more firms are turning to the Web to procure goods and services. The on-line procurement industry is reported to be doubling in size every year.[15]

A very interesting U.S.-based e-business application (http://www.suppliermarket.com/), involves procurement transactions for suppliers and buyers of manufactured materials, and enables companies to do on-line bidding for sales transactions. The site serves as a virtual marketplace—matching suppliers with buyers. This is a good example of a simultaneous threat and an opportunity for Canadian SMEs.

"…many Canadian companies may become complacent about the opportunities and threats of the Internet. But the risks of inertia are substantial and potentially permanent."[16]

F. E-business awareness and financing—key obstacles to Canadian enterprise

Small businesses in Canada, as well as in the U.S., face many barriers to adopting e-business. These include a lack of knowledge about the technology and its costs, insufficient information about the benefits of e-business and potentially applicable business models, a shortage of technically trained employees, complex and discouraging e-business implementations, and the absence of qualified assistance. By failing to participate in e-business, SMEs may be missing the opportunity for lowering costs, increasing productivity, expanding market access and improving relationships with customers and business partners alike.

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[14] *President William J. Clinton and Vice President Albert Gore, Jr., A Framework for Global Electronic Commerce, July 1, 1997.*

[15] *The World Almanac and Book of Facts 2000, Primedia References Inc., New Jersey. 1999.*

16 Source: Fast Forward: Accelerating Canada's Leadership in the Internet Economy" The Boston Consulting Group, January 2000.

The major obstacle for Canadian SMEs, compared to the U.S., is the lack of awareness and understanding of the significance of e-business as a new economic business model. The related benefits in productivity, communications, marketing, distribution and customer service are generally unrealized. Canadian SMEs are much more conservative than their U.S. counterparts, and are more reluctant to jump into the e-business transformation process. This is in part because of the lack of awareness about e-business as a new business model, as a new way of doing business that impacts on everything that SMEs do "from soup to nuts." One study[17] notes that "most small business decision-makers [in Canada] have not used the Internet to buy or sell anything and among those who have engaged in e-business, the dollar value of the transactions remains relatively low." This suggests that Canadian SMEs are still more cautious and conservative in their approach to e-business than their U.S. counterparts.

The second major obstacle for SMEs in Canada, in comparison to the U.S., is the lack of access to funding for the transition to e-business. The main issue is the business climate in Canada surrounding venture capital. The U.S., by all accounts, has a much less conservative investment climate with more financing options available to SMEs. U.S. banks, for example, are much more likely to provide transition financing to U.S. SMEs than are Canadian banks to Canadian SMEs. Gaps continue to exist between the demand by SMEs for debt financing and the willingness of financial institutions to supply it. This is largely because of asymmetries in Canada regarding the ability of financial institutions to judge which SMEs would be good credit risks.

A study by the Canadian Federation of Independent Business (CFIB)[18], however, suggests that Internet providers and banks are increasing support to SMEs (although not necessarily financial support). The study concluded that selling over the Internet is a large hurdle for Canadian SMEs, as it involves issues such as computer system and software costs, credit card usage, liability issues and employee skills development. Issues such as encryption, security and government standards are also considerations that SMEs must take into account when setting up e-business systems. The CFIB report notes that fortunately Internet providers and banks are providing SMEs support in these areas, and encouraging SMEs to understand and eventually increase their business through this tool.

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[17] *SES Canada Research study in http://www.sesresearch.com/.*

[18] *Virtually a Reality—Results of 1999 CFIB Survey on Internet Use Among Small- and Medium-sized Firms, Canadian Federation of Independent Business, December 1999—www.cfib.ca/research/reports.*

G. SME support mechanisms—U.S focused to support e-business

Many SMEs in Canada are now looking more carefully at e-business, and appear to be more ready to jump in[19]. As well, they are using a wide range of information sources to develop their skills and understanding. The CFIB survey suggests that SMEs receive e-business advice from a variety of sources:

- Fifty-eight per cent (58%) use the knowledge of staff and other business associates.
- Forty per cent (40%) use the Internet, their network of business advisors or specific trade associations.
- Thirty-five per cent (35%) use consultants, magazine publications and equipment vendors.
- Twenty-five per cent (25%) use friends and family.
- Eleven per cent (11%) use government sources.

Our interviews indicate that Canada is lagging behind the United States with respect to support mechanisms for SMEs. In the past, government efforts were directed toward getting Canadians connected to the Internet. It was assumed that SMEs would follow at their own pace, and at their own expense. The consensus is that this has not happened fast enough. It appears that U.S. SMEs are faster to take advantage of the support that they do get compared to Canadian SMEs. In Canada, a greater effort may be required to prompt SMEs to adopt e-business solutions. In Canada, some large organizations like Bell and IBM provide support for small firms that do business with them, but generally large Canadian firms are not as active in engaging smaller suppliers in making the transition to e-business as their U.S. counterparts.

Government in the U.S. is better equipped to help small business make the transition to e-business. For example, the Small Business Administration (SBA) of the U.S. Federal Department of Commerce makes sure that funding programs for government procurement purposes establish a "set-aside" component to provide funding by having large firms involve small business. A percentage of the procurement dollar is "set-aside" for small businesses. This U.S. federal government approach provides a significant incentive for large and small U.S. businesses to work together. Consequently, they are more ready to collaborate in the transition to e-business.

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[19] The CFIB study (see footnote 13 for reference) indicates that in the opening half of 1999, 61 per cent of business owners said they were connected to the Internet—almost double the number measured by the CFIB just two years earlier.

The U.S. government also has initiatives to train federal government employees who have contact with small businesses on the use of the Internet. They are to identify commonly used government products and forms that should be moved to the Internet to enable small businesses to use the Internet to interact with government. They will also develop outreach plans to enhance electronic access to information and services that can assist small businesses in developing their skills to use the Internet for electronic commerce.

Canadian government policies and programs have been focused on getting Canada connected and wired to the Internet:

- Developing policies and frameworks for privacy
- Consumer protection
- Cryptography
- Digital signatures
- Addressing tax related issues concerning e-business

Along with the United States, Canada has helped to foster continuation of the duty-free status of electronic transactions and further agreements that WTO rules and commitments, and their liberalizing effects, apply to e-business. Canada's policies are in synch with the U.S. in this matter. The danger for Canadian SMEs is that the U.S. could outstrip Canada, using the Internet as a Trojan horse to gain greater access to our markets if our businesses are not as competitive in the transition to e-business. A preventative measure would be for Canadian public and private institutions to step up their support to help Canadian SMEs make the transition to e-business.

* * *

In the next chapter we present the perspectives of western Canadian SMEs regarding the threats and opportunities of e-business.

IV

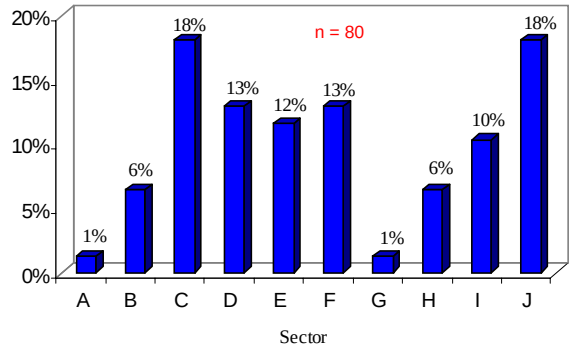
Taking Stock—SMEs and e-business

SMEs in Western Canada may be experiencing similar challenges to SMEs elsewhere, but the results of our survey reveal that there is an evident energy and drive to learn more about e-business. This section will examine these and other findings to establish a better understanding of the readiness (and obstacles) to adopt e-business in Western Canada.

A. Background of SME respondents

To develop a better understanding of western Canadian SMEs' current views on the impact of e-business, 80 SMEs (targeting companies with 100 or fewer employees) from the four western provinces were surveyed. Exhibit IV-1 illustrates the broad participation of respondents across different industries.

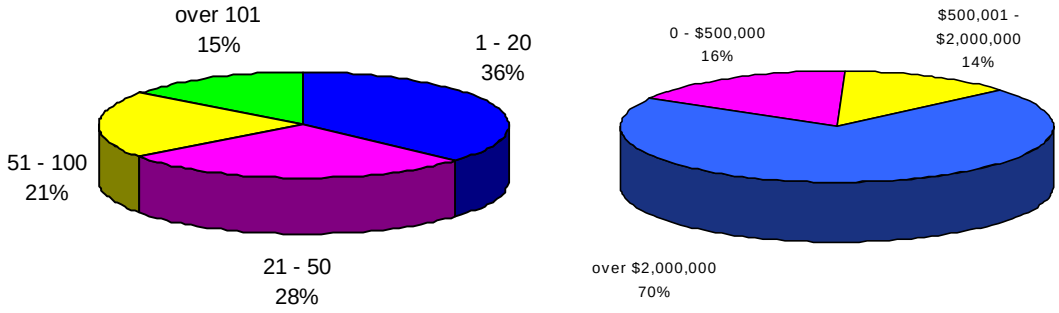
Exhibit IV-1
Responses by industry sector



A - Aerospace & defence
B - Construction
C - Consumer goods, retail, personal & business services
D - Financial services
E - Health, pharmaceutical, agriculture, food manufacturing
F - Oil & gas, chemicals, primary metals, industrial machinery
G - Forestry, paper & allied products
H - Telecommunications, computers, info technology, utilities
I - Tourism
J - Transportation, storage, motor vehicles

SMEs were also asked to state the number of full-time employees (FTEs) in their company and their sales revenue for 1999; about 50 per cent surveyed employ between 21 and 100 FTEs and earn just over $2 million per year.

Exhibit IV-2
Number of FTEs and annual sales revenue (1999)



B. Early adopters—transaction-intensive SMEs

SMEs were asked to state whether they saw their organization as an *early*, *middle* or *late* adopter of e-business. More than 40 per cent of SMEs surveyed consider themselves to be a middle adopter of e-business and only one-fifth (21 per cent) perceive themselves as an early adopter of e-business. One-third (35 per cent) perceives themselves to be late adopters.

Exhibit IV-3
Adoption of e-business

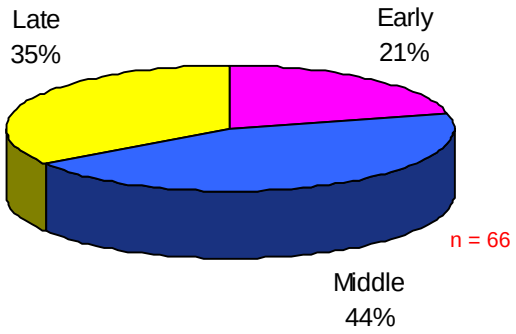
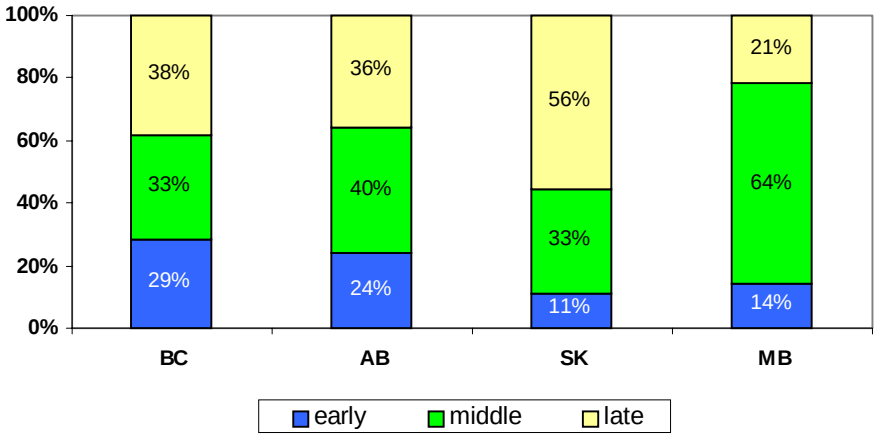


Exhibit IV-4 portrays the distribution of SMEs who assess themselves as early, middle or late adopters by province. While Alberta and British Columbia appear to have the highest proportion of "self-assessed" early adopters (29 per cent and 24 per cent), while Manitoba has the highest proportion of middle-adopters (64 per cent). Saskatchewan has the highest proportion of "self-assessed" late adopters (56 per cent).

Exhibit IV-4
SMEs adoption of e-business (n=69)



SMEs who rank themselves as early adopters tend to come from two categories of industry:

- Financial Services and Telecommunications; and
- Computers, Information Technology and Utilities.

Those who identify their companies as late adopters are disproportionately weighted from several industries including:

- Construction
- Transportation, Storage & Motor Vehicles
- Health, Pharmaceutical, Agriculture & Food Manufacturers
- Oil & Gas, Chemicals, Primary Metals & Industrial Machinery

The early adopters of e-business are from industries that are transactional in nature, such as those found in Financial Services. The late adopters are from the more traditional, industrial type businesses that deal more in the production or transportation of physical goods.

Smaller companies tend to view themselves as early adopters of e-business, whereas companies with larger numbers of employees view themselves as late adopters.

- Fifty-four per cent (54%) of those who state that their company is an early adopter have 20 FTEs or less.
- Forty-three per cent (43%) of middle adopters employ 20 FTEs or less.
- Fifty-seven per cent (57%) of late adopters employ more than 50 FTEs.

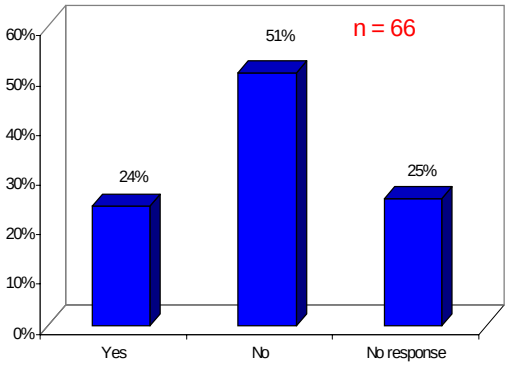
Early adopters are not necessarily the largest revenue generators. Those who consider themselves to be early adopters generate less than $500 thousand in sales revenue. Conversely, 86 per cent of those that claim to be late adopters generate revenues in excess of $2 million.

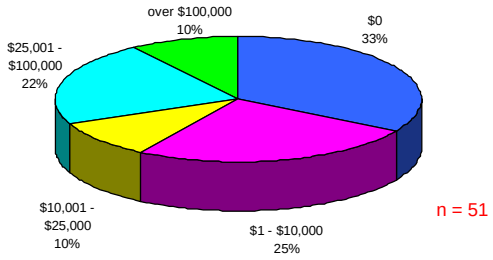
C. Plans and budgets for e-business

Respondents were asked if they had an e-business plan and a budget for developing e-business in the year 2000.

Two-thirds of the SMEs have a budget for e-business for 2000, but only one-quarter (24 per cent) of SMEs have a specific plan for developing e-business. Given that 42 per cent of all SMEs state that they had budgeted more than $10,000 for e-business for year 2000, a number of SMEs are apparently budgeting for e-business without formal planning. The budget for e-business varies considerably from $500 to $6 million. Those who state they *did* have an e-business plan were planning on spending an average of $53,000 for year 2000, compared to only $27,000 for those who *did not* have a plan.

Exhibit IV-5
SMEs— per cent with e-business plan and estimated e-business budget (2000)

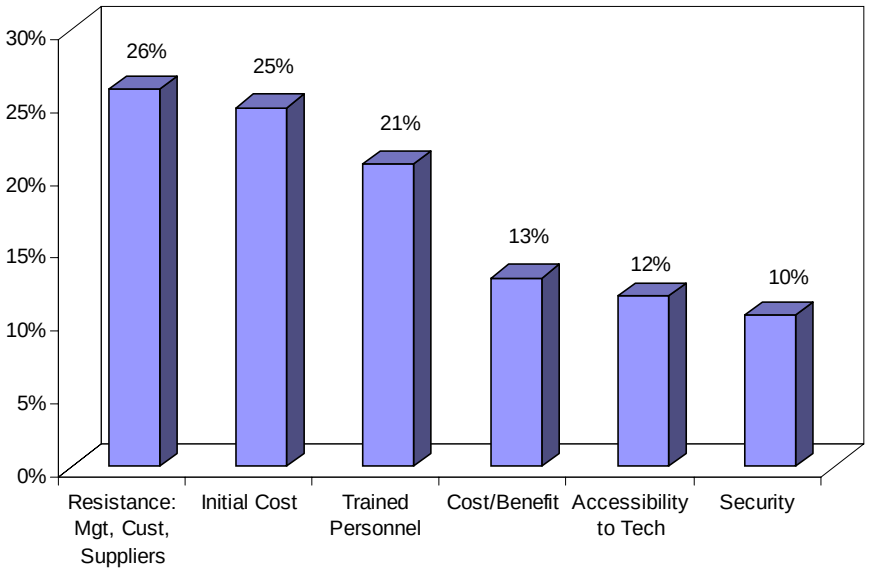




D. Challenges to developing e-business

SMEs were asked what the top three challenges are to developing e-business for their organization, and then for their industry as a whole. The challenges are similar to those given for their industry, and center around six main issues.

Exhibit IV-6
SMEs challenges for developing e-business



- **Management/industry/customer resistance**—SMEs state that there is resistance to developing e-business because of the uncertainty of its applicability for their business or industry. Some state that their senior managers do not see the need for their company to adopt new technology. Others stated that e-business is not currently used by suppliers, distributors or customers in their industry; therefore, they are hesitant to be the first.

- **Initial cost**—SMEs providing this feedback state that the development and implementation of an e-business application would be too costly. Some mention that they would have to purchase new hardware, while others state that they would need to hire a full-time employee to convert and maintain the system.

- **Trained personnel**—SMEs are concerned that they do not have staff that are familiar with e-business applications; their existing personnel would require training on the use of the new system and be required to troubleshoot when necessary.

- **Cost versus benefit**—SMEs are concerned that investing funds to convert to e-business would not pay off in the long run.

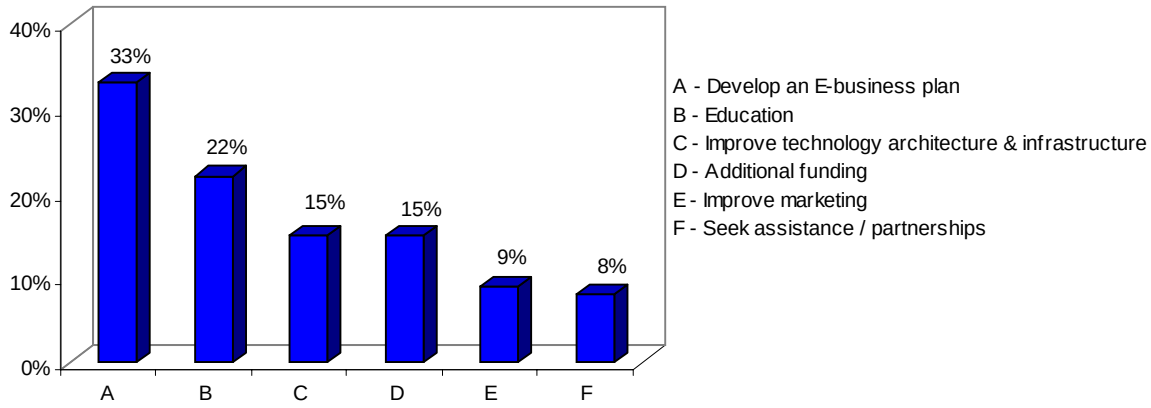
- **Accessibility to technology infrastructure**—SMEs state that either their business, suppliers or customers do not have access to high-speed Internet connections, therefore there is little point in converting.

- **Security**—SMEs are also concerned about the security of transmitting financial data or sensitive information via the Internet.

E. Solutions to challenges

SMEs were also asked to list potential solutions for their particular business, as well as their industry. As with the challenges, proposed solutions for their organization were similar to those given for their industry. The solutions as identified by the SMEs include:

Exhibit IV-7
SME solutions to success in developing e-business



- **Developing an e-business plan**—Respondents state that e-business opportunities have largely been ignored and that senior managers need to set aside time to develop a specific plan for the company. They state that e-business needs to be embraced by the decision-makers rather than ignored or considered irrelevant for their business. Some of the specific comments included:

  – "Change attitudes and comfort with e-business."

  – "Make it a priority and set time aside."

  – "Develop a strategic plan with measurables."

  – "Develop an e-business strategy and allocate specific resources (human and financial)."

- **Educate themselves**—In general, there is a lack of knowledge regarding e-business within the company, particularly at the senior management level. Respondents recommend that SMEs should send their management to specific e-business courses or seminars and they should read publications that write about the topic.

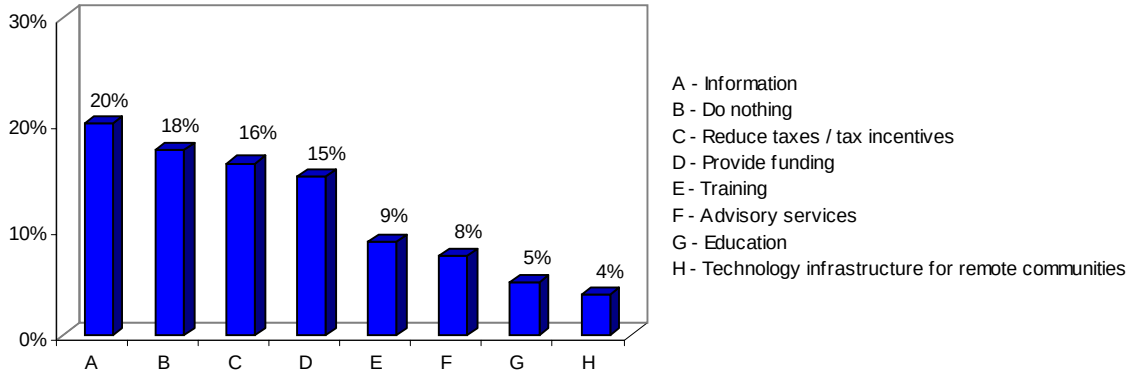
- **Improve technology infrastructure**—Respondents whose business is in a rural area suggest that telecommunications/cable companies and/or the government need to upgrade the technology infrastructure so that all people have access to rapid Internet connections.

- **Funding for training**—Government bodies should provide e-business training directly or fund training programs for SMEs in order to better understand the industry.

F. Role of government—inform, finance or get out of the way?

To assist WD in determining their future role in the e-business environment, SMEs were asked what they viewed government's role for assisting the transition to e-business.

Exhibit IV-8
How governments should assist SMEs develop e-business —1st preference



SMEs state, for the most part, as their first preference, that government should assist SMEs to become more e-business savvy. Some of the suggestions are:

- **Provide information/education**—20 per cent of SMEs note that government should supply information on e-business. Many of the given challenges to adopting electronic commerce had an underlying theme. Respondents view themselves as uninformed about the entire industry and the impact of e-business on them. Issues such as security of transactions, potential for growth and technology requirements for conducting e-business require SME owners/managers to become more informed.

- **No role**—18 per cent of SMEs state that the government should not have any role in the e-business industry as it relates to SMEs. The most frequently given reason is that government involvement tends to be costly and ineffective.

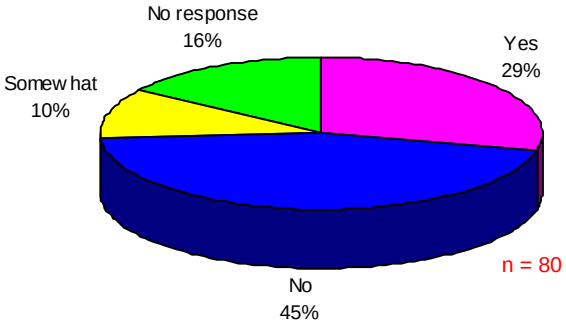
- **Tax reductions/incentives**—16 per cent of SMEs state that the best way for government to help was to reduce taxes for SMEs and/or provide incentives for implementing e-business technology, such as swifter and larger write-offs for equipment and software.

Other suggestions include providing financial assistance through loans or simply providing information about whom to contact about venture capital. Linked to the information, is the need for training programs whether provided directly by WD or through a partnership arrangement.

G. SME relationships

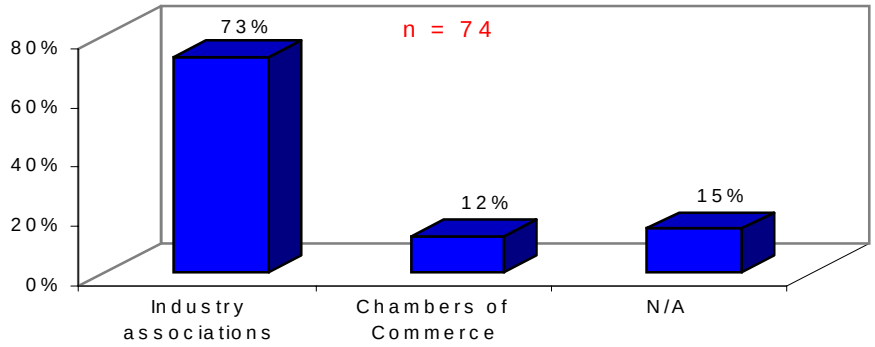
SMEs were asked if they are familiar with the services of WD and to state the types of business associations to which they belonged. Almost half of the SME respondents state that they are not familiar with WD services, implying that not only does WD have to determine their future e-business strategy, but their overall communications strategy as well. Branding WD as "e-business portal" for Western Canada, with links to provincial and local governments and SMEs, would be a vital component of any e-business strategy.

Exhibit IV-9
Familiar with WD services?



Many of those who state they belong to industry associations, belong to more than one. Only 12 per cent of respondents belong to Chambers of Commerce. Respondents indicate a higher level of satisfaction with industry associations than Chambers of Commerce.

Exhibit IV-10
SMEs business associations



H. Conclusions

1. Impact uncertain

Most SMEs, especially those from more traditional industries such as construction or transportation, are not certain how e-business will affect them.

Only 25 per cent of SMEs have an e-business plan, and 33 per cent do not plan on spending any money on developing e-business capabilities in the year 2000. Respondents also suggest that e-business is not a priority and that senior management is not investing enough time to consider its potential impact.

2. "Wait and see" approach

SMEs are taking a "wait and see" approach to e-business, and are not likely to act until either their suppliers, competitors or customers begin to use the technology.

For those SMEs that have not adopted e-business, they state that their industry is not being affected by it. Some note that their customers did not use this type of technology so they do not see the need for providing it. Others mention that their suppliers are not converting to e-business, so investing in the technology makes no sense. These SMEs may begin to implement e-business technology once others in their industry initiate this activity.

3. The information gap

SMEs lack information about e-business; filling in this gap is viewed as the best role for government.

Many of the uncertainties that SMEs mention are because they lack knowledge about e-business. For example, the security of transactions conducted over the Internet is an issue for many respondents. This issue could be resolved through greater access to information. The public appears to have a limited understanding about what e-business entails, and therefore is unaware of how they could benefit from it. Filling this information gap is an important role for government to assist SMEs and their industries.

4. Industry association involvement

SMEs are more involved with industry associations than Chambers of Commerce or WD.

Nearly three-quarters of SMEs belong to at least one industry association, while 12 per cent belong to Chambers of Commerce. Almost half (46 per cent) are unfamiliar with WD.

5. Early adoption

SMEs that have fewer employees and smaller revenues view themselves as early adopters of e-business when compared to SMEs with more employees and higher revenues.

SMEs with greater human and capital resources do not view themselves as leading the transition to e-business, whereas the smaller firms do. Regardless, larger SMEs do not see themselves as moving quickly to incorporate forms of electronic commerce—they are aware a transition is taking place, but compared with smaller SMEs, are not likely to be a part of it.

I. Venture capital—difficult to access in Western Canada

Venture capital funds increased dramatically throughout all of North America in 1999. In the U.S., a record $46.55 billion (U.S. funds) was raised, a 67 per cent increase over 1998. Canada experienced a similar increase of 60 per cent as its venture capital funds increased to $2.7 billion (Canadian funds) in 1999 from $1.7 billion in 1998. The total number of financings for 1999 in Canada was 989, an 8 per cent drop from the previous year. However, the average size of financing per deal increased from $1.5 million in 1998 to $2.75 million in 1999.

The four western provinces show lower increase (45 per cent) compared with the rest of Canada (69 per cent), with all except Saskatchewan having more financing for 1999 compared to 1998. The four provinces combined account for 20 per cent of all venture capital funds invested in Canada—with British Columbia attracting more than 50 per cent of the regions total of $464 million.

Exhibit IV-11
Comparative venture capital investment

	1999		1998	
	$ (millions)	per cent	$ (millions)	per cent
British Columbia	250	9	147	9
Alberta	129	5	93	6
Saskatchewan	39	4	34	2
Manitoba	46	2	26	2
Ontario	1,257	46	629	37
Quebec	727	24	531	32
Atlantic Canada	61	2	34	2
Foreign Countries	231	8	162	10
Total	2,740	100	1,656	100

Companies working in the technology sector received the most sector-specific venture capital for 1999 at 80 per cent. The Computer-Related industry dominated all others as it consumed 36 per cent of all funds invested. Other industries that took a large share of funds included Communications (13 per cent), Biotechnology (12 per cent) and Electronics (10 per cent). Companies in the traditional sectors only accounted for 20 per cent of funds in Canada.

Venture capital firms are more likely to invest in SMEs than in larger companies[20].. SMEs (less than 100 employees) accounted for 75 per cent of all funds invested for 1999. The form of investment most preferred by investors is Common Shares.

Early stage financing and expansion financing dominate all placements. Early stage receives 44 per cent of all venture capital, and expansion placements receive 41 per cent. Acquisitions/buyouts and turnaround placements receive the remainder.

J. Observations

1. **Except for British Columbia, the western provinces have a difficult time attracting venture capital.** Venture capital is attracted to specific regions or clusters. In the U.S., northern California attracts 36 per cent of all venture capital. Similarly, Ontario receives 46 per cent of Canada's venture capital. The West attracts 20 per cent of Canada's venture capital—of which half goes to B.C. Venture capital is growing slower in the West than in the rest of Canada (+45 per cent for the West versus +69 per cent for the East over 1998). Until recognized clusters of expertise are developed in Western Canada, SMEs in these provinces will have difficulty accessing capital to grow.

20 MacDonald & Associates Ltd. 2000.

2. **SMEs in the Computer-Related, Communication and Biotechnology industries are the most attractive for venture capitalists.** Venture capitalists look for high growth prospects, and small companies in the technology industry present the best opportunity. Companies in traditional industries are finding it increasingly difficult to access venture capital.

3. **Venture capitalists look for equity positions when investing.** SMEs must be willing to give up a degree of ownership/control of their companies in order to access venture capital. In Virginia, companies called "Internet incubators" help fledgling dot.com's network with experts in technology, finance, marketing, etc., to help them succeed. In return for this assistance, the dot.coms will give up as much as 50 per cent ownership to the incubating companies. While 50 per cent may seem like a large portion to forego, start-up companies know that it is critical if they are going to succeed.

* * *

In the next chapter we investigate the opportunity that e-business represents for several select interests, starting with home-based businesses.

V

Impact of E-business—Opportunities Analysis

E-business has frequently been referred to as the "panacea" for success. Promises to deliver better services and products and to save and make money have all been the mantra of e-business. The explosion of e-business has been equated to the gold rush, where some found their riches and others left empty-handed.

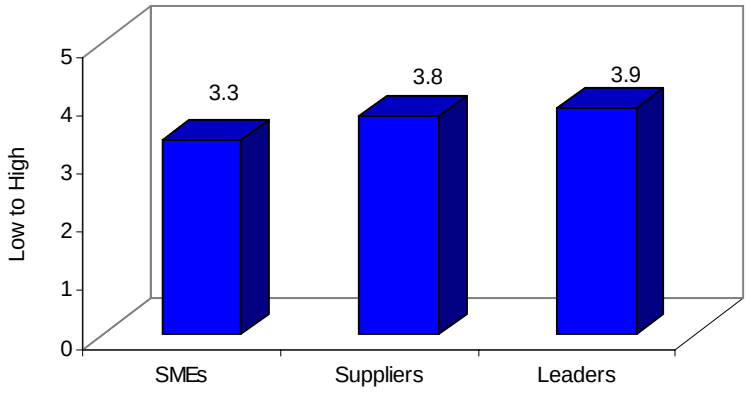
Not every individual or community starts off from the same level playing field—each has their own challenges and opportunities to address. This section explores how e-business will impact SMEs are located in remote communities, are operated by Aboriginal Peoples and persons with disabilities, or that have home-based businesses.

A. Impact on remote communities

One of the mantras of e-business is that the Internet promises to remove geographical and spatial barriers allowing for persons anywhere, anytime to access the Internet. Remote communities are expected to benefit from this new technology; however, there are still barriers due to lack of infrastructure. Comments that infrastructure is unavailable center on rural Saskatchewan.

Each of the three respondent groups was asked to assess the impact of e-business on employment of people in remote communities using a five-point scale (high—5, medium—3, low—1). Exhibit V-1 portrays the average of all the respondents in each of the three categories.

Exhibit V-1
Impact of e-business for employment in remote communities



Respondents were generally positive about the opportunities for people in remote communities as a result of e-business. The biggest challenge mentioned was the need for installing high-speed technological infrastructure in remote areas compared to urban ones. Some state that urban regions would always have an advantage because they are the first ones to have new technological infrastructure installed.

B. Impact on Aboriginal Peoples and persons with disabilities

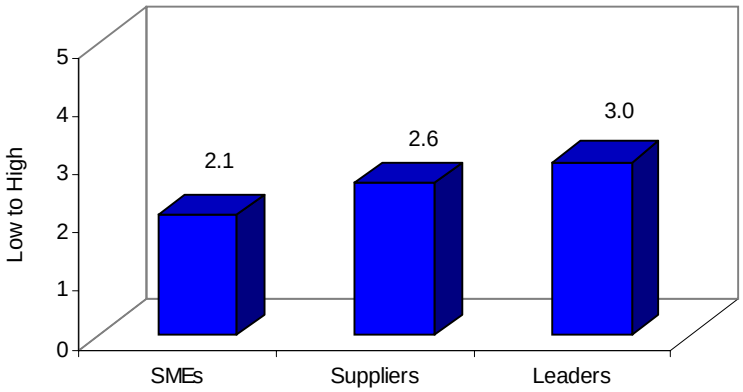
Aboriginal Peoples and persons with disabilities in the SME community share many of the same challenges of becoming Internet savvy with the general population whether living in urban, rural or remote communities. And like most others, they too have difficulty seeing the opportunities available due to "not knowing what you don't know."

Aboriginal Peoples may experience additional challenges due to differences in culture and lifestyle, and persons with disabilities may experience challenges due to mobility. The survey does not clarify whether technology will or will not impact their future work environment. While some respondents state that technology, specifically e-business, will have a positive impact, others state the impact will be no different than for those who are not disabled or are Aboriginal.

In terms of current programs within the federal government for Aboriginal Peoples, funding is available for post-secondary education for Treaty Indians from the Department of Indian and Northern Affairs and skills upgrading through Human Resources Development Canada for non-treaty Indians. There are no specific funding or assistance mechanisms for Métis Indians to upgrade the skills and education that would support a transition to an information and communication technology environment, although these individuals do have access to conventional funding and skills upgrading programs and services. Further consultation with Aboriginal Peoples is needed to assess the value of these programs as they relate to demands of the new economy. As well, any additional programs or initiatives would have to be developed with Aboriginal groups across Canada focusing on their needs and priorities.

In the survey, each of the three respondent groups were asked to assess the impact of e-business on employment of Aboriginal descent using a five-point scale (high—5, medium—3, low—1). The graph gives the average of all the respondents in each of the three categories.

Exhibit V-2
Impact of e-business for employment of Aboriginal Peoples



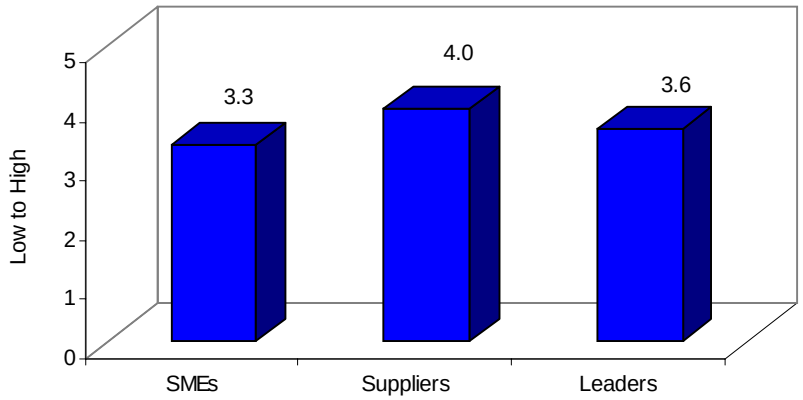
Some respondents view that Aboriginal Peoples will have a difficult time becoming involved in e-business. On the other hand, respondents note that the Internet has the potential to give them greater opportunities although specific training programs on e-business may have to be established for those in remote communities.

Given the transition to a knowledge-based workforce, people with physical disabilities that constrain their mobility and who are excluded from the traditional workforce will likely see more employment possibilities, provided they have the education and skills required for the work of the future. E-business allows people to work in front of the computer with little or no need to be mobile, thus giving persons with disabilities greater opportunity to work within their homes or elsewhere in a comfortable and accessible environment.

Access to resources and training programs that are suited to those with mobility disabilities are numerous, although fragmented. Currently, WD, through the funding and support of non-governmental organizations, offers an "Entrepreneurs with Disabilities Program" in both rural and urban areas that provides business training and development, mentoring, counselling and financial assistance through loan programs. As well, Human Resources Development Canada's (HRDC) Opportunity Fund provides funding support to help people with disabilities prepare for, obtain, and maintain employment or self-employment.

Each of the three respondent groups (SMEs, Suppliers and Leaders) was asked to assess the impact of e-business on employment of persons with disabilities using a five-point scale (high—5, medium—3, low—1). Exhibit V-3 gives the average of all the respondents in each of the three categories.

Exhibit V-3
Impact of e-business for employment of persons with disabilities

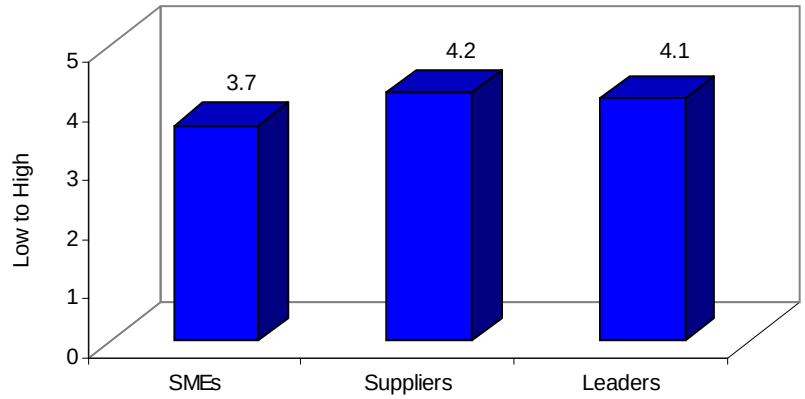


Respondents are generally positive about the employment prospects for people with disabilities because of e-business. A consistent theme was that the Internet does not discriminate against workers with disabilities the way traditional business does.

C. Impact on home-based businesses

Each of the three respondent groups (SMEs, Suppliers and Leaders) were asked to assess the impact of e-business on the employment of people who have a home-based business using a five-point scale (high—5, medium—3, low—1). The following graph portrays the average of all the respondents in each of the three categories.

Exhibit V-4
Impact of e-business for home-based business employment



Respondents are very positive about the impact that e-business may have on home-based businesses. Some state that the Internet allows home businesses to compete on a global basis with larger, more established companies. Others state that home-based businesses are becoming perceived as more and more sophisticated because of technology.

D. Further analysis—e-businesses and home-based businesses

In this section we present the findings of our independent analysis of the future of home-based business and the impact of e-business.

1. Home-based businesses are expected to grow—e-business is spurring the growth

e-business Creates Opportunities for Home-Based Ventures

A mother of four in St. Albert, Alberta decides to start her own company developing Web sites. She takes a course, and through referrals, picks up three large clients that provide her with full-time, home-based self-employment.

The number of home-based workers in Western Canada is increasing rapidly[21]. Evidence points to above average growth[22] in Western Canada over the past few years and this growth is projected to increase in the next five years. Some current statistics about home-based businesses are:

- The 1996 Statistics Canada census indicated that working at home was most popular in the West. The metropolitan areas of Vancouver and Victoria had the highest proportion of people who worked at home (8 per cent).

- A 1995 study of households in Calgary showed that 16 per cent of households had home-based businesses with an additional 11 per cent indicating they were considering starting a home-based business within the next two years. Most were service-oriented consulting businesses. This represented 50 per cent more home-based activity than the national average in 1992, with a larger portion registered, incorporated and operating full-time.

- The 1996 Census counted over one million paid employees and self-employed workers who usually worked at home.

- The number of telecommuters in Canada expanded from 600,000 in 1993 to 1 million in 1997, and is projected to grow to 1.5 million by 2001 (Ekos Consulting, 1998).

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21 This includes businesses that are home-based, as well as employees who work primarily out of their home (teleworkers/telecommuters).

22 Above average compared to the rest of Canada, and compared to the growth rates of other "sectors."

At least 25 per cent of the American workforce is projected to be telecommuters or home office workers by 2005 (full-time or near full-time workers, including the self-employed and those who work for wages and salaries operating primarily out of their homes). A Cyber Dialogue survey claims that wage and salary workers spending at least part of their workweek telecommuting from home has quadrupled since 1990 (1999 information).

In many aspects, the home-based SME sector is able to respond more quickly to the potential advantages offered by the Internet, compared to large businesses.

Indeed, the two trends—growth in home-based and e-business activities—are feeding each other. The e-business sector itself is spawning new home-based enterprises such as software developers, Web site developers, on-line consultants, and information brokers. Related, the growth in the home-based market makes it more attractive for e-business product and service suppliers. And, the availability of e-business related products and services further stimulates the growth of the home-based sector.

Key factors driving the growth of the home-based sector in Western Canada are:

- Available, accessible, affordable, and usable technology (particularly high-speed Internet, e-mail, low-cost Web services, telephone answering features, office products for the home-based business, courses and information on the use of the Web site for strategic business development, on-line electronic storage space, etc.)[23]

- Restructuring, particularly in large corporations and government—skilled professionals are particularly adept at and inclined to set up home-based businesses.

- Social factors—more individuals are opting for a lifestyle offered by home-based work (particularly in Calgary and B.C.).

- Commute times in Vancouver and Victoria—the longer it takes to get to work at a downtown location, the more advantageous the work-at-home option becomes.

- Growth of the service sector—the service sector is most suitable for home-based activity, particularly technology-related and knowledge-based sectors.

- An aging population (more likely to be self-employed and home-based).

Only recently in selected areas have businesses and employees in Western Canada had access to affordable high-speed Internet at home. The forces and sources of

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[23] *Emerging technologies for the home-based sector include project management software for distributed teams; private virtual networking, and desk-top teleconferencing.*

change are driving continuing high growth in home-based activity in Western Canada, enabled to a large degree by e-business. Particular "pockets of activity" in the home-based, e-business arena in Western Canada are identified in Calgary, Vancouver and Victoria[24].

Now, It's Easy to Be Home-Based

NEWLinc is a home-based company started by Ken Goble six years ago in Edmonton. Ken worked for AGT for 10 years, and was with a telecom equipment manufacturer for 10 more when he started his own computer networking business out of his home.

"It wasn't that long ago when you couldn't even get reasonably priced faxes for home-based businesses. Now you don't need a phone receptionist, and with telephone options you can have the same look as a corporation downtown. PCs are readily available, and e-mail gives you access to your suppliers and your customers. I can download software right from my suppliers, and I can send a proposal by e-mail to a customer. If I'm in a competitive situation, my costs are likely to be lower than a competitor that is not home-based, which gives me a price-advantage."

- Ken Goble, President, NEWLink.

2. Home-based businesses are beginning to embrace e-business—but many challenges still exist

The home-based business sector is embracing e-business opportunities at a rapid rate in Western Canada. E-business is providing significant competitive advantages:

- Affordable access to new markets.
- The "look" of a large corporation.
- Lower operating costs.
- Access to co-workers, employees, suppliers and customers through e-mail and Internet.
- Access to information and resources, anytime, anywhere.

[24] Calgary because of its proximity and connections to the U.S. high tech sector, its young and educated workforce, its "lifestyle" orientation, and its supercomputer capacity. Vancouver and Victoria because of commute times and lifestyle preferences. Other metropolitan centers, such as Edmonton, Regina and Winnipeg, are more likely to have experienced an increase in home-based self-employment (e-business related) because of public and private sector downsizing and restructuring.

According to our survey participants, the home-based SME sector is well aware of Internet technology and its capabilities, and is actively pursuing education and business-related opportunities enabled by e-business[25]. While there are many opportunities for home-based businesses to pursue an e-business direction, barriers to further development include:

- Lack of high-speed access to the Internet across the western provinces, particularly in rural areas.

Home-business—Hyper-Sensitive to Telco Service Levels

"The telcos have been slow to introduce services that will enable the home-based sector. BC Tel announced the ADSL service, and there is currently a six month waiting time to install it. I live five kilometers from the BC Tel head office, and I can't get ADSL service. These telcos are not geared up for the home-based market. The U.S. has been deregulated a lot longer, and has a better supply of wide band width as a result."

- Ken Robertson, KLR Consulting, Consultants in Teleworking, Burnaby, B.C.

- Security-related issues. This limits the usage of the Internet for transactions.

- Limited access to the Internet in households. Although it has increased dramatically, availability is still limited, particularly with the older population, who has strong purchasing power, but are less computer literate[26].

- Limited products and services provided by the western-based telephone companies. The western-based telcos have not targeted the home-based sector as aggressively as their U.S. counterparts. This limits access to service, product, quality and reduced costs from which the U.S. home-based market has benefited. The telcos in Western Canada have been challenged by the emerging e-business sector, particularly as it relates to home-based activity.

- Limited knowledge and resources for selling products on-line[27].

* * *

In the next chapter we review the perspectives of e-business suppliers on the readiness of SMEs to engage in e-business.

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[25] The offices of Women Enterprise Initiative report excellent participation in e-business related seminars; and high usage and awareness of e-mail and Web site services where it is appropriate for the particular business.

[26] Statistics Canada reported that in 1995, about 1/3 of households in Alberta and BC, and 1/4 in Saskatchewan and Manitoba have computers.

[27] An U.S. study estimates that the cost to develop e-business capability for a small business in the U.S. is approximately $10,000, then 20 per cent for annual maintenance and support. (U.S. Small Business Administration: "e-business? Small Business Ventures On-Line.", July/99)

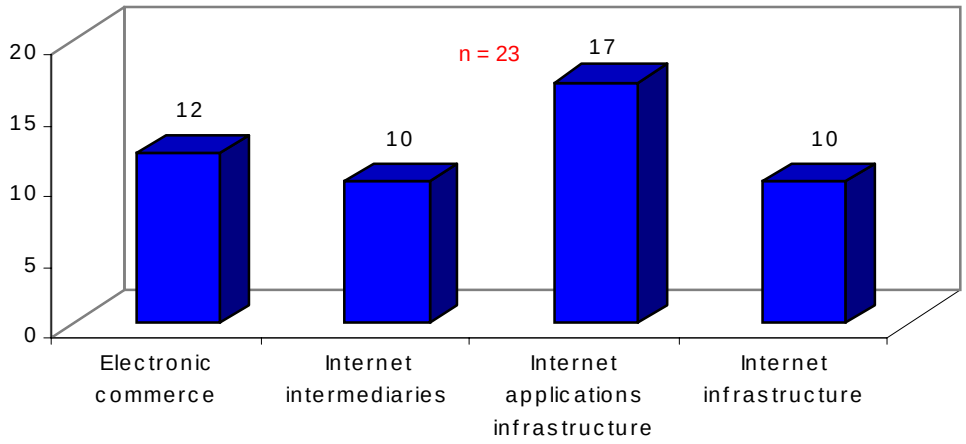
VI

E-business Suppliers in Western Canada

A. Supplier overview

Suppliers were asked what sector(s) of e-business they were involved in, using categories outlined in the "Report of the Canadian E-business Opportunities." Just over half of the Suppliers stated that they are involved in two or more of the sectors listed. Otherwise, suppliers surveyed cut across the entire e-business industry.

Exhibit VI-1
Supplier categories



Suppliers were selected that were familiar with SMEs. They ware asked to indicate the percentage of their sales from SMEs and from large businesses.

Exhibit VI-2
Per cent of e-business sales to SMEs

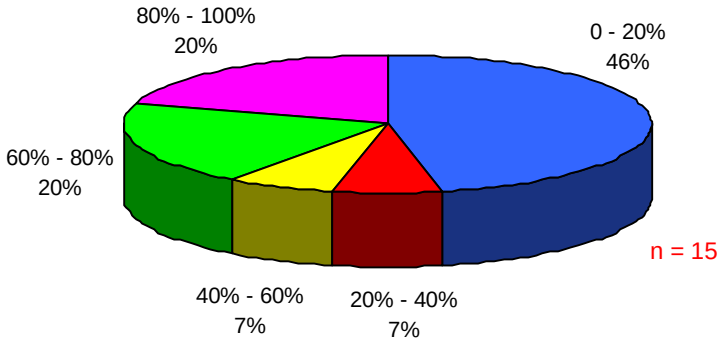
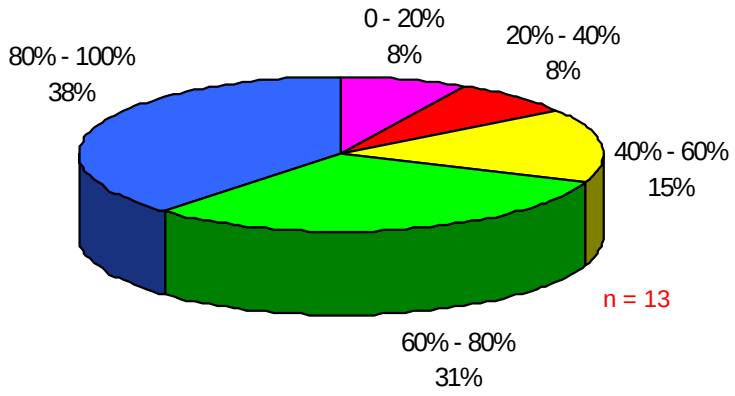


Exhibit VI-3
Per cent of e-business sales to large companies

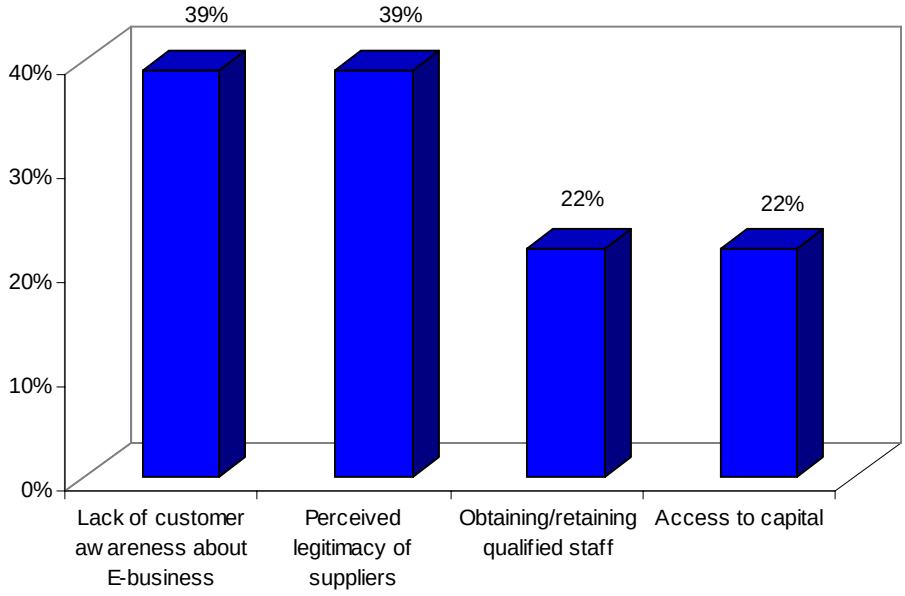


Almost half (46 per cent) of the suppliers surveyed state that sales to SMEs comprise only 0-20 per cent of their total annual sales. Nearly 70 per cent of suppliers receive between 60-100 per cent of their sales from large companies. Suppliers' participation in the survey is an indication that they are aware of SMEs and their development of e-business.

B. Impact of e-business on e-business suppliers

E-business suppliers were asked to identify the most significant barriers to their own profitability.

Exhibit VI-4
Barriers to profitability—e-business suppliers

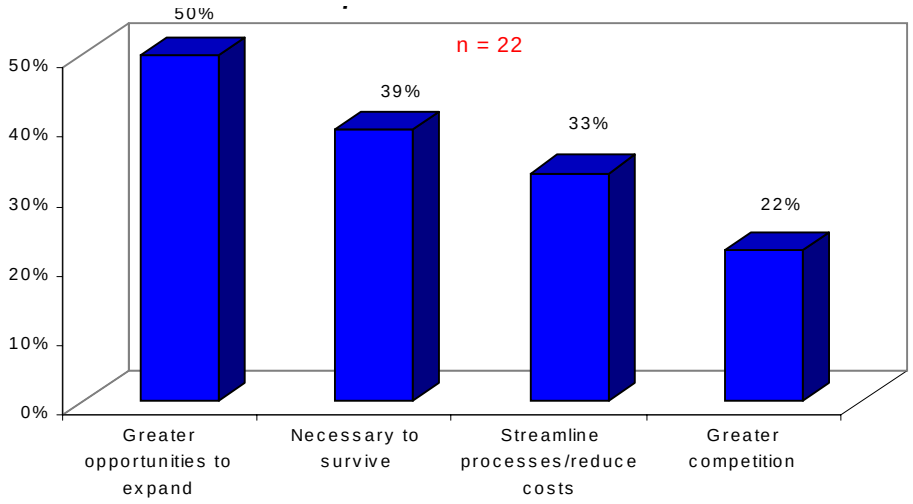


Suppliers indicate that they are surprised by the lack of knowledge most companies have about e-business. Suppliers are typically months ahead of their target customers, and many businesses are quite unaware of the advances in the electronic/Internet field. Suppliers also indicate that they have a difficult time with the perception of legitimacy, and potential customers are hesitant to entrust Suppliers to develop e-business applications. A number of respondents state this is because of the lack of standards or certification in the industry.

Suppliers also note that they find it difficult to attract and retain qualified staff because the demand for peoples with specific IT skills is much greater than the current supply. Linked to this response is the difficulty Suppliers have in accessing capital at critical growth stages. Without adequate funding, e-business Suppliers find it hard to hire enough skilled workers to expand their operations.

Suppliers were also asked what impact e-business would have on SMEs.

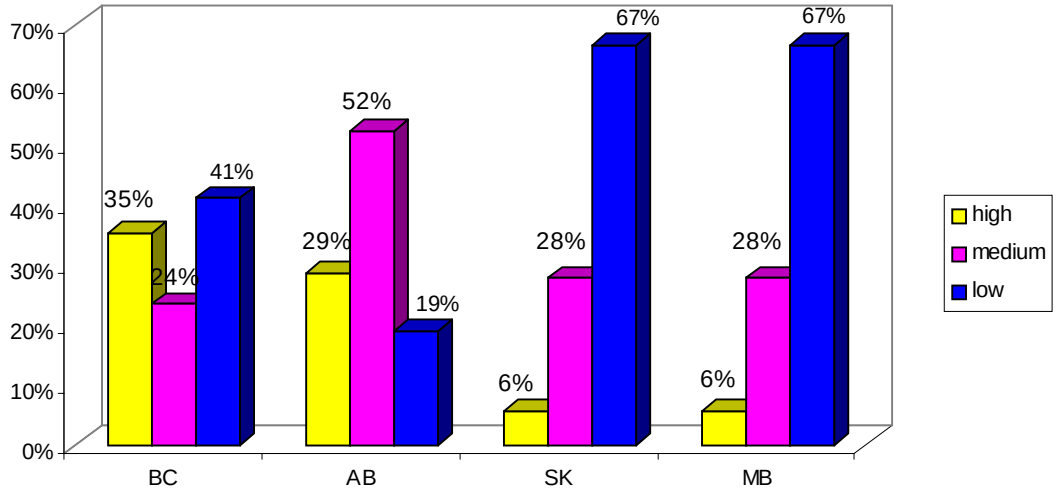
Exhibit VI-5
Impact of e-business on SMEs



While the most frequent answer (50 per cent of suppliers) was that SMEs are going to have greater opportunities because of e-business, more than one-third of respondents (39 per cent) stated that SMEs have no option but to adopt e-business in order to remain in business. The most common reason is that the Internet greatly reduces geographical barriers and therefore opens competition to wider markets.

Suppliers were also asked to give their opinions on the readiness of the four western provinces' SMEs to engage in e-business.

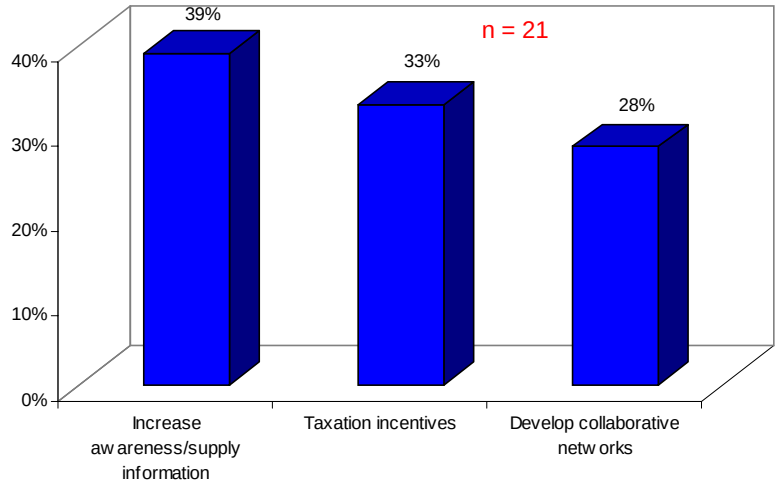
Exhibit VI-6
Suppliers' assessment—readiness of SMEs to adopt e-business by province



SMEs in Alberta and British Columbia are viewed to be in a much more favourable position to adopt e-business than those in Saskatchewan and Manitoba.

Suppliers were asked what role government should take to assist SMEs develop e-business capabilities.

Exhibit VI-7
Preferred role of government for e-business suppliers



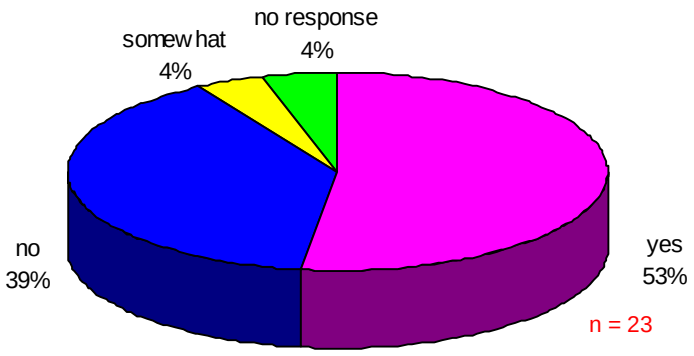
E-business suppliers view that government should increase SMEs' awareness about Internet technologies and its impact on business. Suppliers see the government as being in a good position to collect and distribute information on e-business.

One-third of respondents state that changes are required in personal and business tax rates. The majority of those who gave this response believe changes are necessary in Canada in order to remain competitive with United States and to prevent the "brain drain."

More than one-quarter of respondents (28 per cent) note that rather than initiating activities in isolation, government should work with existing organizations to enhance e-business development. One frustration frequently mentioned is the lack of coordination between the different levels of government. While many services are provided by a variety of departments, there is a general lack of knowledge and integration between them.

Suppliers of e-business technology were asked if they are familiar with WD. Fifty-three per cent (53%) of suppliers were familiar with WD—somewhat higher than the SMEs.

Exhibit VI-8
E-business suppliers are familiar with WD's services



C. Conclusions on e-business suppliers

1. SMEs will be greatly impacted by e-business—increased opportunities and stiffer competition

Suppliers do not think that the Internet revolution will pass over SMEs and affect only large companies. They believe that SMEs will be impacted by e-business whether they like it or not. In fact, several Suppliers indicate that SMEs may place their businesses in jeopardy if they do not develop and implement a strategy for buying and selling over the Internet.

2. SMEs in Western Canada are slow to adopt e-business

Even though they comprise a significant portion of business in Western Canada, SMEs are moving too slowly in adopting e-business. Senior management and owners of SMEs are not embracing available technology to enhance their company's competitiveness.

3. SME decision-makers are fairly uninformed about e-business

Suppliers are surprised at how little SMEs senior managers and owners know about the e-business industry. Because of their lack of knowledge, SME decision-makers are unaware of the opportunities and threats that the Internet holds for their business. This lack of familiarity explains why SMEs are hesitant to pursue electronic initiatives even when approached by Suppliers.

4. SME readiness for e-business differs between provinces in Western Canada

Suppliers perceive that British Columbia and Alberta SMEs are far more ready to adopt e-business than those in Saskatchewan and Manitoba. While respondents did not provide reasons for their responses, there is a clear indication about which provinces appears poised to embrace technology and which are not.

5. Governments need to better coordinate their services to SMEs

Suppliers refer to several different government organizations that provide some form of assistance to SMEs, but state that the services are too disjointed and difficult to locate. Coordinating services and information between municipal, provincial and federal governments is necessary. Furthermore, government can play a key role in increasing awareness of e-business and the Internet economy. While some private sector firms provide specific, in-depth training, programs are needed that offer broad information on how e-business is affecting the marketplace. Government is well positioned to provide this service to SMEs.

* * *

In the next chapter we present the perspectives of e-business Leaders on the readiness of SMEs in Western Canada to embrace e-business.

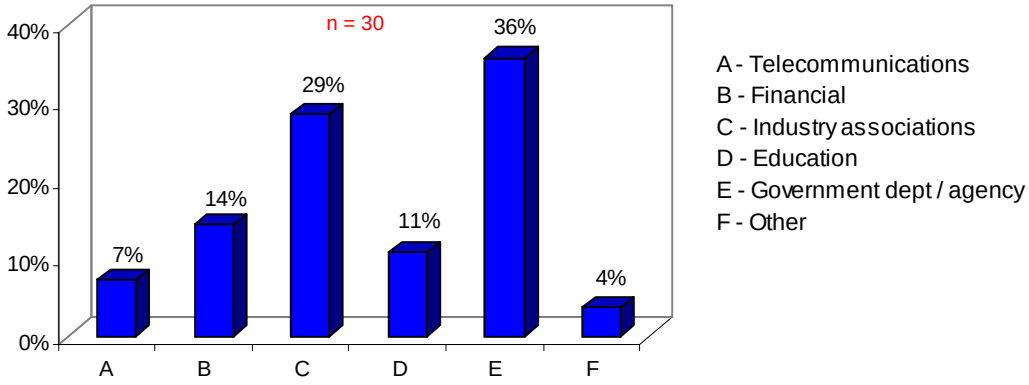
VII

Leaders' Perspectives on E-business and SMEs

A. Participants and e-business strategy for SMEs

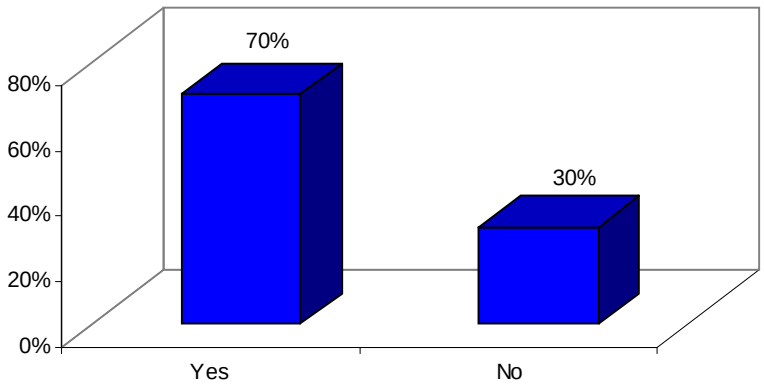
Leaders who responded to the survey work in a variety of sectors dominated by industry association (29 per cent) and government (36 per cent).

Exhibit VII-1
Respondents by sector



Leaders were asked if their organizations have a strategy for enhancing e-business for SMEs in Western Canada.

Exhibit VII-2
Leaders have a strategy for enhancing e-business for SMEs



There is a clear distinction between the responses to this question and the sector to which the leader belongs. Those who respond "YES" tend to come from public institutions, such as provincial or federal governments or educational facilities. These individuals mention specific programs or activities that their organizations developed to target SMEs—and help advance e-business.

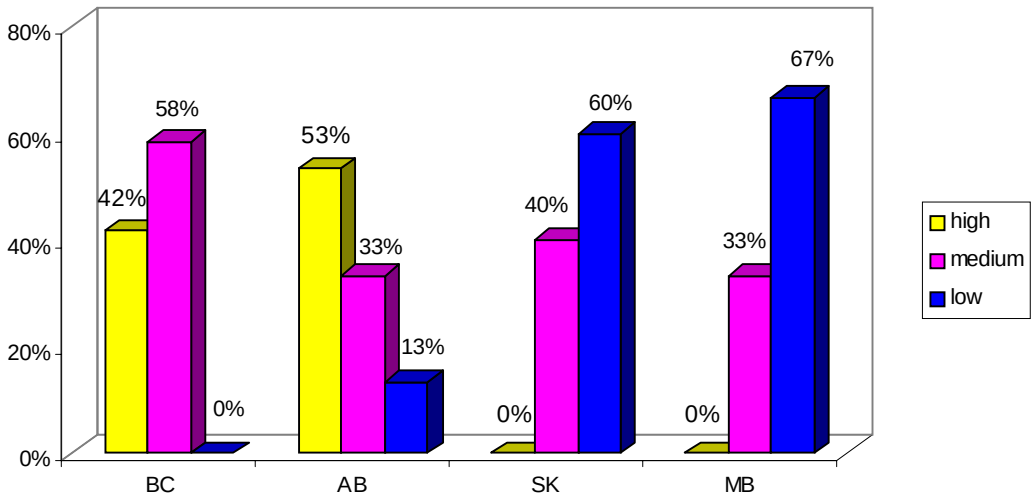
Respondents who are from industry associations generally state that they are in the process of finalizing plans to bring some type of e-business information to their members. These initiatives tend to be in support of, or in conjunction with, other organizations such as government, or indirectly as a result of providing services to their members, such as an internal Web site—whichever is the protocol.

Those who respond "NO" tend to come from private sector firms. While stating they had e-business strategies in place, they are understandably for their own use and not targeted to SMEs.

B. SMEs and e-business

When asked to rate the general readiness of SMEs to engage in e-business in each of the four western provinces, responses given by Leaders were similar to those of Suppliers.

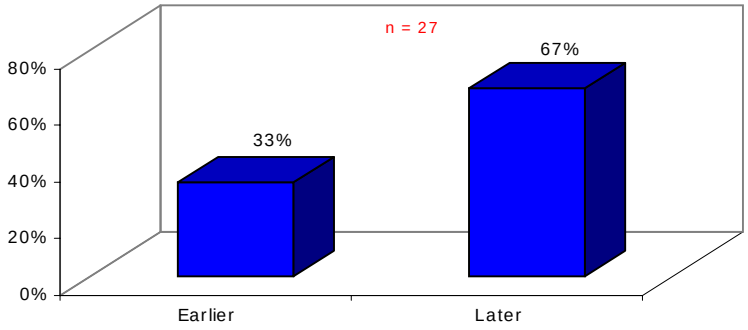
Exhibit VII-3
Readiness of SMEs by province—leaders' perspective



Similar to Suppliers, Leaders rank Saskatchewan and Manitoba SMEs as the least ready to engage in e-business when compared with Alberta and British Columbia. There are two notable differences between responses from Leaders and Suppliers. Over half (53 per cent) of Leaders rank Alberta SMEs as "High," while only 29 per cent of Suppliers give such a ranking. Furthermore, 41 per cent of Suppliers rank British Columbia SMEs as "Low," whereas none of the Leaders gave B.C. a ranking in the "Low" category.

We asked Leaders if they thought SMEs were early or late adopters of e-business compared to larger organizations.

Exhibit VII-4
SMEs earlier or later than larger organizations in e-business adoption—leaders' perspective



Some of the comments from the 67 per cent who stated SMEs were *later* at adopting e-business included:

- "SMEs lack resources (time, money, people) to pursue or develop e-business".

- "Big businesses have already been users of a form of e-business for a long time, namely EDI".

Of the 33 per cent who stated SMEs are *earlier* at adopting e-business, their comments included:

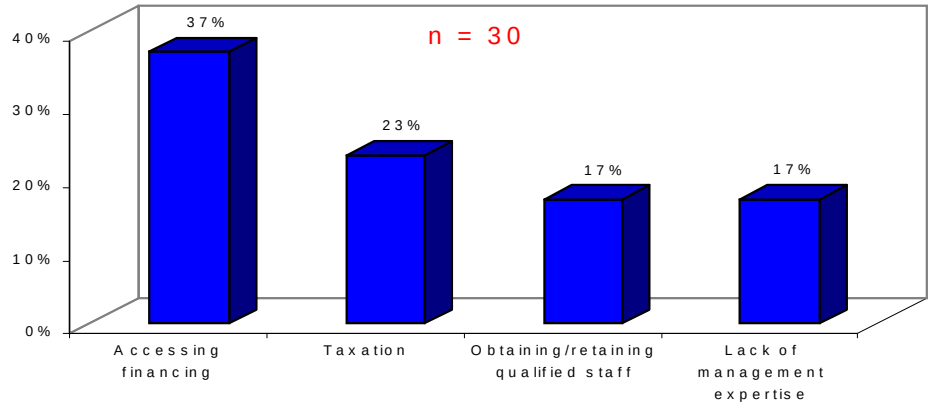
- "SMEs are able to react more quickly because change is less cumbersome."

- "SMEs are faster because they have fewer legacy systems, and also in larger organizations it is more difficult to get senior management/boards to commit to e-business."

C. Challenges, solutions and the role of government

When asked what the most significant barriers are to SME profitability in Western Canada, the leaders top four responses were:

Exhibit VII-5
Challenges facing SMEs—leaders' perspective



- The most frequent answer given (37 per cent) was accessing financing to fund the transition to e-business.

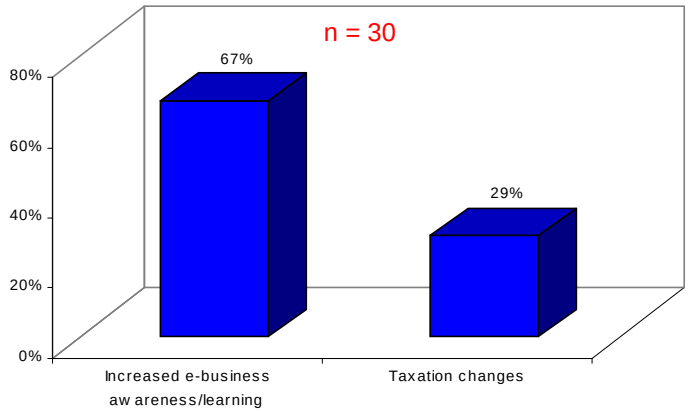
- Nearly a quarter of respondents (23 per cent) stated changes are required in Canada's taxation policy for SMEs.

- Seventeen per cent (17%) stated that the high demand for IT personnel has made it difficult for SMEs to attract and retain these skilled workers at an affordable rate.

- Seventeen per cent (17%) stated that the lack business/management expertise impedes SMEs from being more profitable.

When asked what measures they recommend for overcoming these barriers, Leaders tend to give two answers: (1) increased awareness and information and (2) change taxation policies.

Exhibit VII-6
Recommendations for addressing challenges

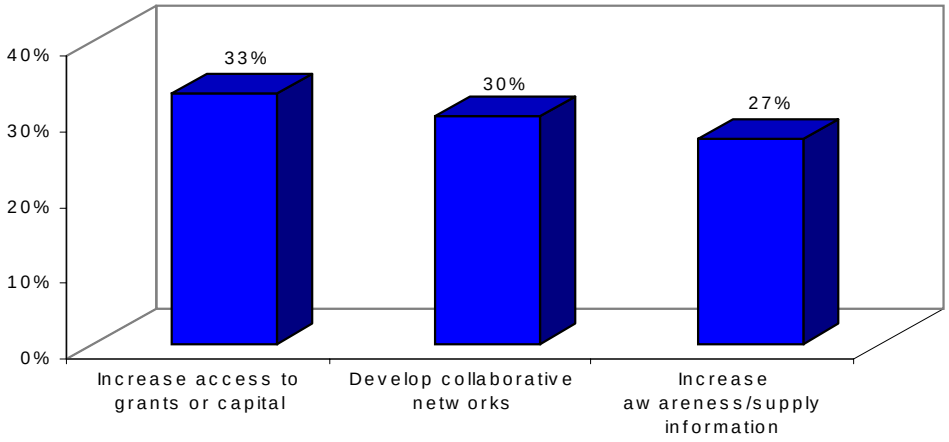


Leaders acknowledge that SMEs lack awareness and information about e-business, and that they must take steps to become better educated of the impact the Internet will have on their businesses. Two-thirds of Leaders (67 per cent) suggest that senior managers and owners should attend some type of training, seminars or courses to gain this information. Other suggestions included: reading magazine articles or accessing information from the Internet. All of the Leaders' recommendations for increasing awareness involve activities that are relatively flexible, fast and affordable.

The second most frequent recommendation is directed at the government: 29 per cent stated changes are required to taxation policies. Some Leaders state that personal and business tax rates need to be reduced in order for Canadian companies to remain competitive and to prevent skilled workers from leaving to go to the U.S. Others suggest that giving SMEs tax relief for converting to e-business is the best way for the government to help finance this transition.

Leaders were also asked what the government should do to assist SMEs develop e-business.

Exhibit VII-7
How governments should assist SMEs develop e-business—Leaders' perspective



- Thirty-three per cent (33%) of Leaders state that the government should make it easier for SMEs to access capital. Some recommend increasing the availability of funds provided by departments such as WD. Others state that organizations such as the Business Development Bank of Canada (BDC) should provide more favourable lending arrangements for SMEs looking to implement e-business applications.

- Thirty per cent (30%) of respondents state that the government could best help by coordinating the industry associations with the different levels of government. Some Leaders state that provincial and federal departments are currently providing a variety of services, but the lack of integration between them reduces their effectiveness.

- Twenty-seven per cent (27%) state that government should collect and distribute information about e-business to increase SMEs' awareness. They also suggest seminars or short training programs for SMEs to get a broad overview of the Internet and its impact on the economy.

D. Conclusions

1. Governments are helping SMEs enhance their e-business capabilities

Leaders from different levels of government acknowledge the need for helping SMEs incorporate e-business activities. Respondents from provincial governments listed some of the programs their departments have developed that are intended for SMEs. Federal departments such as Industry Canada and WD are also implementing plans for providing assistance to SMEs.

Governments already have a number of components in place to provide assistance to SMEs. However, these services need to be better aligned between public organizations and associations. A better understanding of which department is serving whom will allow government to re-position itself to fill the gaps in service, and determine who to partner with in order to effectively do this. Industry associations seem to have the best contact with SMEs, and would appear to be a good partner to target.

2. Government services lack integration and coordination

Leaders acknowledge that the various levels of government are offering a variety of services to SMEs, but that their programs are disjointed or overlapping. There is confusion about who is offering what service, and therefore it becomes confusing for SMEs to know where to look for assistance.

3. SMEs in Saskatchewan and Manitoba are at greater risk of falling behind in the Internet economy

The state of readiness by SMEs to adopt e-business is higher for those operating in B.C. and Alberta compared to those in Manitoba and Saskatchewan. This could be a result of the smaller, rural regions not having access to high-speed Internet infrastructures as larger urban areas.

4. Taxation policies need to be revised to help SMEs remain competitive

Personal and business tax rates are viewed as a barrier to success. There is a real threat that more skilled workers will leave and go to the U.S. because of more favourable personal tax rates. Business tax rates will also make it more difficult for Canadian companies to compete internationally now that the Internet is eliminating geographical barriers. Taxation policies are needed that take into account the impact that e-business is having not only in Canada, but in other countries as well.

* * *

Before presenting recommendations on how to proceed in stimulating e-business in Western Canada and the role of government—we present the results of an independent assessment of Western Canada's telecommunications infrastructure.

VIII

Profile of Telecommunication Infrastructure in Western Canada

For e-business to be entertained, an SME must have access to the Internet. In this chapter we assess the state of Western Canada's telecommunications infrastructure for supporting the Internet.

A. Issues—strengths and weaknesses

Internet access issues include: cost, remoteness, high speed versus low speed and gaps. Where does Western Canada stand with respect to these issues? The information highway is the corridor to its future, but its availability is geographically uneven. Albertans lead the way in Internet connections in Canada. Three-quarters of all global Internet traffic flows over Canadian equipment. Certain telephone companies are strong in specific areas, but no one entity covers all segments.

B. Regulation—can government keep up?

Regulatory issues prevail while the CRTC plays a relatively minor role. More precisely, the challenge is deregulation that is an opportunity to address the Internet market with minimal impediment. The market is very much a moving target characterized by fast moving and growing companies. Who builds, owns and controls the networks that ultimately drive e-business? Who is responsible for taxes and user fees? The answer to these questions rests with the technology presently in use or planned.

C. Technology—from copper to fibre optics

Copper wire technology is a legacy from use of the telephone. Dedicated wire service is available in the majority of locations in Western Canada. Unfortunately its capacity for supporting computer use including e-business is limited. The result is delays or blocked access to the exchange of information, goods and services. Solutions include enhancing services through fibre optics and wireless including satellite transmission. Combinations of these technologies will be the best approach for many different situations. Major western Canadian cities are well served by high-speed access with fibre. Smaller centers may have only lower speed access due the limitations of copper service and the cost of installing fibre optic. Remote areas are best served by a combination of wireless, copper and fibre links. Alberta virtually has 100 per cent connectivity of schools, provincial buildings and libraries and is looking to connect 95 per cent of businesses in the near

term. The objective is to enhance wellness, learning and enterprise objectives. Part of this initiative includes consideration of the "postage stamp" toll concept for achieving universal high-speed access. This would be a modern-day version of mailing a letter or renting the use of a pipeline for a shipment of products.

D. Conduits—users and capacities

The larger issue is that of “conduits” lacking Canadian content. Although the healthcare system will likely be a big user, others such as education are expected to be small players. The result will be broadband pipes or networks having large over-capacity, which is currently the case between the larger cities.

E. Market forces—information equals power

Market competition and speed of development have created a conflict. Regulation enforces order but cannot keep up with technology development and implementation. At the opposite end, market forces are driving a situation of "chaos" where initiative and entrepreneurship reign. The resulting balance will lay somewhere between the two extremes, but will still be constantly changing. This gives the customer a very important advantage however. No longer does the end user of an e-business product or service have to be directed by the supplier. Market choice reigns supreme. This also means that there is a real need for advisors and information providers. These may be third-party consultants, government or other sources as determined by the marketplace. The challenge will be for these sources to keep ahead of the demand for new information and expertise. On a program basis this would probably take the form of information sessions, followed by more detailed seminars as demand dictates. Consultants would fill the need not only in the larger centres, but also in smaller and more remote areas.

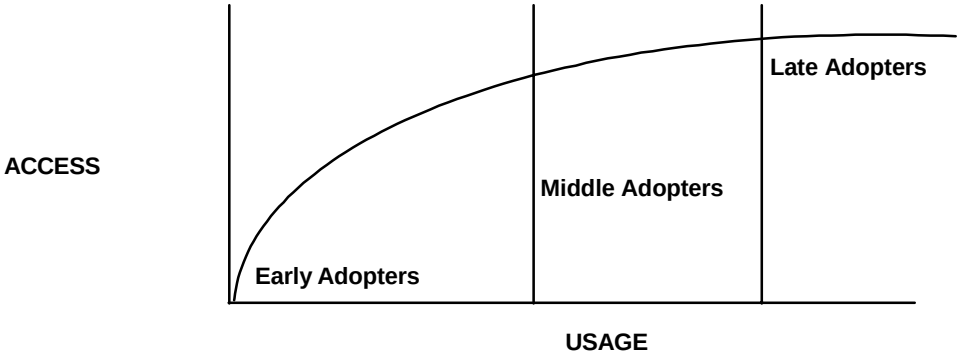
F. Other issues—cost, content and accessibility

Other major issues are impeding access to the Internet. The first of these is cost. Who pays for right of way access? Is it the land developer, local utility or municipality? Who owns/controls the corridor thereafter? Ultimately, of course, the e-business customer pays but it is not yet clear how this is best done. If the system migrates toward wireless/satellite technology the situation changes yet again.

Another issue is that of the value of network utility versus that of content. At the moment the focus is still on network issues access. This however is shifting as the market obeys supply chain management principles. The Internet and e-business in particular are unique in that they offer both "rich" information and extensive “reach.” The needs of the uninformed and disadvantaged also requires attention. *Who will teach, enable and subsidize these groups so that they do not get left behind in the Internet world? Perhaps this is another area where government has a role.* Can they respond with quick delivery or can the private sector step in on a global basis more quickly?

Exhibit VIII-1 shows the development over time of e-business based on access, usage and adoption of technology.

Exhibit VIII-1
Internet and e-business



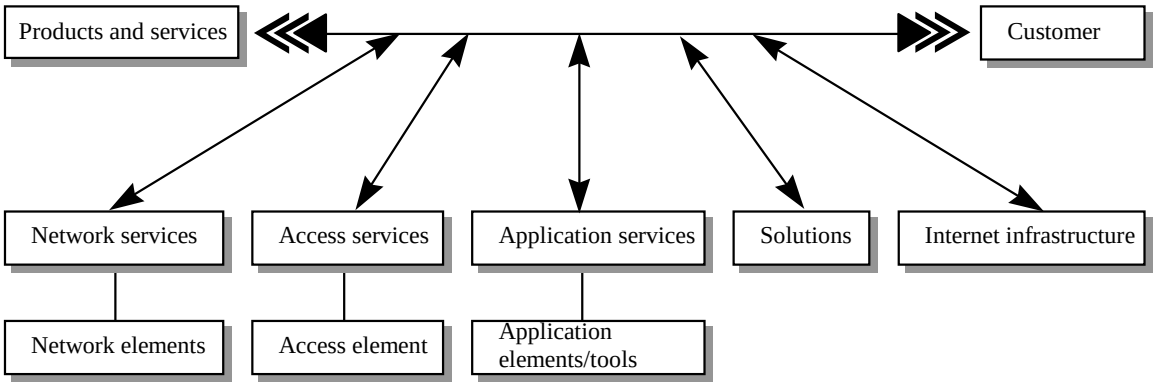
To help give perspective a brief overview of the Internet Economy and its four layers are shown in Exhibit VIII-2.

Exhibit VIII-2
Internet economy—four layers (Source: Boston Consulting Group)

Electronic Commerce	Internet Intermediaries
• Using Internet to provide products and services to clients • Using Internet to interact with suppliers and customers	• Vertical market makers • On-line travel agents • On-line brokerages • Content aggregators • Portals/content providers • Internet advertisers • Internet ad brokers • Internet educators
Internet Applications Infrastructure	**Internet Infrastructure**
• Internet consultants • Internet commerce applications developers • Multimedia companies • Web developers • Search engine software developers • On-line training companies • Web-enabled database providers • Customer relationship management applications providers	• Internet backbone providers • Internet service providers • Networking hardware and software companies • PC and server companies • PC and server manufacturers • Security vendors • Fibre optic makers • Line acceleration hardware manufacturers

Internet Intermediaries increase the efficiency of electronic markets by facilitating the meeting and interaction of buyers and sellers over the Internet. They act as catalysts in the process through which investments in the infrastructure and applications layers are transformed into business transactions. However, efficiency will come with fewer layers, not more with "middleware" disappearing. Internet Infrastructure provides companies with products and services that help create a network infrastructure, a prerequisite for electronic commerce. Internet applications are the products and services that build upon the network and make it technologically feasible to perform business activities on-line. Note that many companies participate in more that one layer at a time.

Exhibit VIII-3
E-business model



Competitive providers exist in every cell in Western Canada, but as yet no one entity seems to offer an end-to-end package solution. Therefore, creative opportunity abounds in the marketplace.

According to the Canadian Electronic Commerce Strategy, the government has placed a high priority on supporting high-speed research networks and Internet access for institutions and communities. This includes the Canadian Network for the Advancement of Research, Industry and Education (CANARIE) among others. This has resulted in vastly increased bandwidth availability across the nation using a consortium of telecommunications giants.

Perceived cost is a frequently mentioned impediment to expanding e-business. Three concerns are:

- Lack of funds for up-front implementation costs.
- Lack of monthly cash flows to maintain their sites.
- The risk that there would not be a real return on investment.

G. Final thoughts—security, personnel and service

Concerns impeding e-business also revolve around issues of security: customer fraud and the potential for hackers to gain access to vulnerable information. Other concerns are the security of Internet service providers and Web hosts, and the possibility that back-end integration into a company's existing system would make internal systems vulnerable to hackers. These are opportunities for security firms. Other concerns are the availability of resources for site maintenance. Finally, customer service is seen as a challenge since numerous small businesses rely on customer relationships and understanding customer needs intimately—having created business processes and quality control methods around personal communications.

* * *

In the next, concluding chapter we present our concluding recommendations.

IX

Moving Forward: The New Frontier

"Canada's goal should be to achieve the highest rates of Internet usage among small and medium-sized enterprises in the world. [28]"

WD is the lead federal agency responsible for economic development in Western Canada. WD recognizes the revolutionary impact of e-business and that Western firms and organizations will have to adapt to the rapidly changing and expanding e-business technologies and ways of doing business.

This final section examines the options WD might entertain to develop and implement an e-business strategy. As stated over and again, this is a period of transition for the different levels of government as they each attempt to clarify their role in the e-business environment. While many of these recommendations are directed at WD, there needs to be an on-going dialogue within and between the public and private sectors and the different levels of government to develop an integrated and coordinated e-business strategy.

A. Develop an e-business portal for Western Canada

The most popular recommendation from the SME respondents was for government to provide information. Given that the e-business world is still new and uncertain, many SMEs are seeking information about the costs to develop and maintain an e-business, how to access venture capital and what type of technology is needed to become "virtual."

The survey respondents focused on the B2C component of e-business, with little attention paid to the B2B component. This focus is to be expected in early to middle adopters when the customer-company interface is much easier to conceive. Yet to ensure that SMEs move forward, WD can also take a lead role in introducing SMEs to the B2B component of e-business—a critical initial step in any e-business strategy.

[28] "Fast Forward: Accelerating Canada's Leadership in the Internet Economy" The Boston Consulting Group, January 2000.

1. WD Internet (B2C - business-to-client)

Established in 1996, the WD Web site is to be significantly refined over the next six months, focusing on content to serve both WD's SME clients, as well as to profile and serve the research and policy functions of the organization. The site will also look at how WD presents itself and interacts with non-SME clients in the West. The overhaul is expected to make the site more accessible to clients and to reflect priorities being established to achieve a '*common look and feel'*.

While not all services available from the Department are accessible on-line, information about the services is accessible. WD's Web site currently has two interactive tools The *Interactive Business Planner (IBP)* and the *Am I an Entrepreneur?*, and soon will have The *Interactive Export Planner*, for use by clients. The *Interactive Export Planner*, an interactive product modeled on the IBP, will enable SMEs to develop their export plan(s) on-line and locate export-related resources. In the redevelopment of the WD Web site, opportunities for more interactive products should be explored, based on the needs of clients and feedback from SMEs.

SMEs in Western Canada state that they want more information on e-business. WD should look to ways to develop products and services to enhance SMEs' awareness and comfort level about the development and maintenance of an e-business model.

SMEs want more information on e-business—sound, practical, and realistic

"Provide increased information on e-business"

"Offer an e-business awareness campaign that is both practical and realistic"

"Develop and offer information on security, development of Web sites, marketing, and technology software and hardware"

2. WD Extranet (B2B - business to business)

The Extranet was set up in 1997 and provides electronic linkages to the over 90 members of the Western Canada Business Service Network (WCBSN). The members of the WCBSN include CFDCs, offices of the Women's Enterprise Initiative and Canada Business Service Centres (CBSC) in each province. Aside from chat groups, billboards and other standard features, the Extranet now allows certain clients to electronically transmit to WD quarterly updates on their performance, including loans, contacts, jobs created, etc.

3. Promote SMEs and e-business—celebrate and share success stories

Canadian companies need to showcase their successes in the e-business world. If more communication takes place between and about SMEs and e-business, the comfort zone about the new technologies will be enhanced. On the WD Web site, information about suppliers, statistics, government policy, grants, access to capital and personnel resources should be made available. These are all examples of issues of concern to SMEs.

B. Monitor the status of e-business and continuously update WD's services and clientele

Little information is available about e-business and SMEs in Canada (and other countries), partly because the Internet revolution has exploded so quickly over last the several years and is changing so rapidly. As such, there is a need for WD to continue researching e-business in order to help SMEs and to better understand the sector, as well as assess the value of policies on e-business in Western Canada.

In early 2000, the WD E-team commissioned two e-business studies to become better informed about e-business:

1. A vision of electronic business in Western Canada in 2004

The objective of the paper is to depict a desired state of e-business in Western Canada in 2004. This perspective, from the future looking backward, may stimulate and facilitate western Canadian organizations to work together to adopt e-business as a means to improve the standard of living and quality of life throughout the region. Stated differently, a vision of a desired future state will help WD and other western Canadian stakeholders to decide on how to move ahead. The paper and presentation deck will be finalized and ready for review by WD senior management by Spring 2000.

2. The state of e-business and SMEs in Western Canada

The report identifies current e-business capabilities in Western Canada, identifies gaps and barriers for businesses and other stakeholders to participate more fully in an Internet economy, and provides recommendations for WD to consider.

These two studies will provide WD with the research, analysis and recommendations needed to further develop the Department's strategy. As well, they can be used as the basis for consulting with other stakeholders.

This report will provide a sound base for WD to address resolutions for expediting e-business. Research studies will continue to be needed as will be the development of a strategic direction and performance measures, for assessing the e-business economy and the needs of SMEs on an annual or bi-annual basis.

C. Clarify WD's role vis-à-vis other levels of government and elevate e-business awareness among staff and SMEs

WD and its other public sector counterparts should agree on their respective client and service niches and the gaps to be addressed to promote e-business. WD's role should be clarified relative to the private sector and other government service providers (e.g., Canada Business Service Centres, Industry Canada).

WD's role might be modeled on the service delivery approach taken for WD's other product lines such as "Getting Ready to Export" and "Selling to Government." WD's value-added e-business services would involve Client Service Officers raising awareness

about e-business, and providing basic skills development and counseling to help improve readiness and capability of small firms in Western Canada to incorporate e-business into their businesses. The services would be **targeted** at the e-business *unaware* and e-business *interested* stage. To date, Industry Canada has generally targeted larger firms in its awareness-raising efforts.

Additional and more intensive training could be provided to WD Client Service Officers on e-business. E-business is fast changing and complex area, and it will be a significant challenge for Client Service staff to become knowledgeable and remain current about e-business.

Ensure government is knowledgeable

"Ensure that the appropriate government body has a person in the office that is very up-to-date and knowledgeable about the e-business sector so that they can make good decisions about supporting individual proposals and the industry as a whole. This would facilitate more and better funding decisions."

D. Develop an E-government presence and system—"walk the talk"

Many of the respondents stated that if government was going to develop an e-business strategy, then it was important "to walk the talk." WD, in accordance with current federal government initiatives, should evaluate its current e-governance strategies and undertake to raise the bar in the next three years. E-governance is more than developing a transaction-based system – look to the latest trends and monitor and showcase what other governments are doing in the e-business environment. Lead by example.

1. WD Intranet (B2E – business-to-employee)

The goal of the Intranet in WD is twofold: a primary on-line internal communication tool, and a repository for a variety of corporate documents and reference materials. Although it has yet to be officially launched in WD, the site already contains a fairly impressive collection of internal information contributed by various sources within WD and averages 50+ user sessions a day. Project plans are underway to formalize guidelines, partnerships and publishing capabilities. The WD Intranet will also contain links to the WCBSN, as well as other federal government sites.

2. Client Information System (CIS)

This internal client tracking system is designed to provide SME clients with "seamless service" from WD client service staff. Essentially, a client's history of contact with WD is tracked so that products and services can be better tailored to clients and so that clients receive "seamless" service from Client Service Officers. This system became operational in October 1998.

3. WD On-line

The WD Information Services Secretariat, housed in WD Saskatchewan, is currently the lead on the WD on-line initiative, and is providing support to the Deputy Minister on the TIMS process. WD could become a model user of new on-line technologies to demonstrate WD leadership in e-business. This should show the Department's commitment and contribution towards supporting the federal government's on-line agenda (e.g., increasing the range, integration, and availability of services while reducing the cost of providing services). Electronic on-demand versus in-person delivery, interacting with clients on-line regarding program applications (ITPP) and claims could be offered.

4. Canada Business Service Centres (CBSC)

The CBSCs do an excellent job at servicing small business clients, but most of the CBSC Web sites still focus on the conventional business model. Standards should be established that state the level and types of information available on the CBSC Web site—in this context, information and links should be provided on e-business.

5. Aboriginal Business Service Network

WD has committed $3 million towards the establishment of an ABSN, modeled on the CBSC. The network will provide hardware and electronic linkages among all Aboriginal business service providers in the West by 2001. WD funding will also be directed towards national coordination, and development of new products and a Web site. As well, ABSN coordinators will be staffed in each CBSC to assist in local implementation of the ABSN and to enhance Aboriginal access to products in the CBSC. On-going evaluation should take place to determine performance of the ABSN and to determine what other needs the Aboriginal community may need to become more "electronic savvy."

E. Consult and coordinate with others—elevating e-business awareness and building partnerships

Little activity has been undertaken to date by WD to consult with western Canadian e-business stakeholders and build awareness in the region regarding e-business. WD has the opportunity to exercise leadership on e-business in Western Canada because e-business is at a nascent stage in its evolution – its revolutionary impact is just beginning to be felt in the economy and society. Most importantly, no industry or government organization is today championing e-business in Western Canada.

One or more of the following initiatives under this pillar could be undertaken possibly in partnership with Industry Canada. Industry Canada has been the government leader at the national level in the distribution of technical and e-business related information and in the development of creative initiatives and programs (i.e., Smart Community initiative,

SchoolNet). Other levels of government and industry associations have expressed interest during the interview process in working with WD to develop a collaborative e-business model for Western Canada. Each of the following initiatives would give the Department visibility and raise expectations that WD has the capacity, capability and funds available to support worthwhile e-business projects and initiatives.

1. E-business conferences or roundtables—engaging the stakeholders and partners

These will have to be coordinated with the workshops being planned by Industry Canada as follow up to the Canadian E-business Opportunities Roundtable report. WD and partners, following release of this report, should hold a conference or roundtables in each western province to discuss the findings and recommendations in the two e-business studies currently underway and WD's draft e-business strategy.

Although premature to define exactly the substance of the roundtables, one could envision the Secretary of State opening the all-day events attended by each level of government (including Industry Canada), Chambers of Commerce, industry associations, SMEs, network partners, academia and other interested parties. The purpose of the roundtables would be to:

- Encourage discussion generated from the study results.
- Validate the recommendations provided as a separate document in the State of e-business study.
- Identify priorities or areas where government, and specifically WD, could add value.
- Possibly form the beginning of a virtual e-business group within the region to collaborate on future opportunities that is end-user focused.

2. Pan-Western Symposium

Once WD has developed its e-business strategy, the partners involved in implementing such a strategy could hold a pan-western workshop or symposium in September 2000. The symposium would provide WD the opportunity to lead the overall process, while breakout sessions and workshops would foster the various partnerships that would have been identified to further develop their initiatives. The symposium could close with a plenary session that provides an overview of activities that are under way, yet to be developed, and mark the beginning of a collaborative venture that will move Western Canada towards an e-business vision focused on the year 2004.

3. Smart2000 [International Conference, Calgary, October 23-26, 2000]

This is a four-day conference with three themes running throughout the four days: Smart People, Smart Places and Smart Policy. WD is confirmed to be a founding partner providing full participation in the development of the conference agenda, as well as proposing events during the conference that could further some of our own interests.

The Secretary of State is proposed to provide a keynote address at the conference where an announcement of WD's e-business strategy and the highlights from the September Pan-Western Symposium could be made. Senior government officials would participate in the policy debate agenda, along with other high-level provincial and local government officials, academics and industry leaders. WD would suggest issues/topics for these sessions drawn from the roundtables, as well as promote the study recommendations and sponsor a number of SMEs to participate in the event.

Related, with the recent announcement of Industry Canada's Smart Communities, WD may want to find ways to support each of the communities in the four provinces to assist them in showcasing their Smart vision. WD may want to work with the communities and participate in conferences, seminars or symposiums.

4. Establish virtual regional e-business groups

Depending on the results of the roundtables and the ideas generated, WD could facilitate the establishment of virtual regional e-business groups that could mirror the already established Regional Trade Networks. They could help develop further, options for an e-business strategy in each region. The groups would also link with other activities such as Government On-Line.

WD would coordinate and link, to the extent possible, activities on a pan-western basis. WD's other roles regarding these groups would be defined as part of the e-business strategy development process.

This stage would require active participation by WD senior officials who have the authority to mold WD's involvement in such a fast-paced and visible environment and the ability to seek the participation of their peers and other individuals who will have a critical role to play in this process.

F. Be an advocate for SMEs and e-business in Western Canada

A few members of WD's e-team have participated in some of the discussions of the Industry Canada led interdepartmental working group on e-business to provide a western Canadian perspective. As well, regions have established working relationships with the local Industry Canada offices regarding e-business.

WD could more actively participate in the evolving Industry Portfolio/Task Force on E-commerce strategic planning discussions in both Ottawa and the regions. Some issues that would be pursued include ensuring the Industry Portfolio/federal strategy takes into appropriate consideration western Canadian traditional industries and demographics.

As well, many communities are also in the midst of looking at the possibility of attracting a "cluster" of similar businesses—mostly geared toward attracting high-tech firms. While already engaged in certain "cluster" studies, WD can further become involved by promoting and supporting such studies and when possible, advocate the development of such clusters.

G. Be strategic—concentrate on projects that benefit SMEs

Similar to the initiative by Canada Economic Development in Quebec, WD could encourage and provide financial support for strategic SME e-business projects that have industry-wide benefits (e.g., infrastructure, institutes, labs, industry associations, consortia, etc.). There would be opportunities to partner with industry, associations, chambers of commerce, academia or informal networks of SMEs sharing common needs or concerns (e.g., export-oriented SMEs). Some potential initiatives include:

1. E-business Institute

Resources could be provided to a university in Western Canada to develop an e-business Institute that would provide an ongoing capacity to undertake research into e-business issues, maintain knowledge on fast emerging and changing trends and developments and provide a source of expertise to benefit western Canadian firms. Not only would attention be given to large businesses, but SMEs as well.

2. E-business associations

WD might consider encouraging and supporting the development of a network or associations to bring together SME firms engaged in e-business, to facilitate the exchange of information, collaboration/alliances on initiatives, sharing of best practices and to establish a voice for the sector.

3. Alliance building

There are a number of SMEs and suppliers in Western Canada that are at the leading edge of developing and marketing e-business products and services. WD could provide financial and/or other support to such firms perhaps under a new WD program, or bring them together in consortia to develop common e-business platforms, standards, etc.

H. New WD programming

WD could, with industry input and support, develop one or more funded programs, possibly based on previous or current models. The programs would be launched on a pilot basis to determine if SMEs and other clients are interested and if WD resources are required. Initial notional programming ideas include:

1. Western Internet Marketing Program

The original program supported non-profit organizations to develop a Web site with repayable contributions up to a prescribed limit. A second edition of the program could be modified: targeted at, for example, emerging or traditional non-profit industry associations offering $25,000 non-repayable, plus $25,000 repayable financing, with a flexible repayment schedule.

2. First e-business Adoption Program

A program based on former successes (e.g., ITPP/First Jobs program and the WD Quality Assurance Assistance Program) would be developed, with a modest level of support (e.g., 50 per cent of costs to a maximum of say $5,000 or $10,000). Some parameters would be to support hiring post-secondary students and/or graduates to develop and start to implement a business-to-business and/or a business-to-consumer e-business strategy, and/or to develop e-business applications.

I. Home-based businesses and SMEs—simplify and streamline

SMEs that are home-based are experiencing challenges

"Simplify regulations and rules and streamline bureaucratic processes, particularly relating to starting up a business. This includes municipal rules and regulations relating to home-based businesses."

"Make existing programs more accessible to business start-ups, particularly relating to wage subsidies for employees of start-ups."

WD should work in collaboration with other levels of government to ensure that a healthy business environment exists for SMEs who are engaged in e-business in a home-based setting.

J. The shortage of ICT skills should be addressed

Human resource shortages can be addressed by developing cross-government displacement/retraining and attraction/retention strategies. WD could offer a minimal level of training without displacing the private sector. Since careers in ICT are in the midst of being defined, ensure career counsellors are up-to-date on the latest ICT job classifications and trends in the ICT industry through bulletins and notices on the Web site. To avoid duplication, such initiatives would be in collaboration with HRDC and other levels of government currently addressing this serious gap.

K. Provide more information about venture capital to SMEs

Investor confidence must be elevated. An education campaign could be developed to educate those individuals and companies that provide loans and venture capital about the e-business industry, the different layers within the sector, the viability and the risks, and IPOs. More information should be provided about how to access money for e-business (loans from banks and credit unions, venture capitalists, etc.).

L. Develop consistent standards for e-business in the West

Western Canada is developing its infrastructure, but there are pockets of poverty. To ensure that each province has an even playing field, the different levels of government should address telecommunications/hardware issues, standards and regulations. As well, the rate of change and unregulated enterprise should be monitored to ensure community norms are respected (tax, privacy, security, etc.).

* * *

Appendix A

Participant List

A. Participants—SMEs

1 Okanagan RV Centre
2 Kits Warehouse Marketing
3 Fort Whyte Foundation
4 Naylor Publications
5 St. John's Music Ltd.
6 MacMor Industries
7 Welldone
8 P.O.S. Systems Ltd.
9 Hayhurst, Elias, Dudek, Inc.
10 Triple E
11 Parkside Ford Sales
12 Roberts, Sloane & Assoc.
13 Wellington West Capital
14 Golden West Broadcasting
15 Nicolino's
16 Nelson River Construction
17 Mondetta Clothing
18 McFaull Consulting Inc.
19 Schulte Industries Ltd.
20 Turner Transport
21 Vancouver Auto Ltd.
22 Duran Gold Corp.
23 Brown Bros. Ford
24 Qtrade Investor Inc.
25 Simba Technologies Inc.
26 Brewsters Brewing Co. & Restaurant
27 Alpine Helicopter
28 Mining & Exploration
29 McConachie Crest
30 James Western Star
31 NL Broadcasting Ltd.
32 Best Western
33 Titan Information Solutions
34 Sanders & Co. Contracting
35 D&T Developments Ltd.
36 Kipp Mallery Pharmacy Ltd.
37 K.L.P Credit Union
38 Optical
39 Peace Hills General Insurance
40 Kos Corp Industries
41 Albchem
42 Edcon
43 McCoy Bros. Inc.
44 Trucking
45 Pizza 73
46 Ormed Information Systems Ltd.
47 Swimco
48 Alberta Cattle Commission
49 Mr. Wrought Iron
50 H & H Trucking Ltd.
51 Freehold Royalty
52 Encounter Energy
53 Eagle Copters
54 Derrick Resources Inc
55 Canadian Mountain Holidays
56 Canadian Midstream Services
57 Simson-Maxwell
58 Tourism Vancouver
59 SARRC – Sask. Assoc. for Resource Recovery Corp.
60 Dawson Construction
61 Yellowhead East Business Development Corp.
62 West Yellowhead CFDC
63 Prairie Dog Productions
64 CESO Aboriginal Services

A. Participants—SMEs (continued)

65 Canadian Hereford Association

66 Calgary Opera

67 Bow Valley Management Ltd.

68 BelAir Energy Corporation

69 Stampede Messenger/Express

70 Northern Quinoa

71 Windspeaker – AMMSA – Aboriginal Multi-Media Society of Alberta

72 Schaan Healthcare

73 Wallace Construction

74 Calude Resources

Note: Several other participants chose to remain anonymous.

B. Participants—Suppliers

1 DiscoverWare
2 Telus Advanced Communications
3 Rapid Solutions Inc.
4 Terra Prime Development Corp.
5 Ebusiness Solution Provider
6 The Personalization Agency
7 Ensemble Systems Inc.
8 Strata Web Systems
9 Electrobusiness.com
10 Burntsand
11 OnX.com
12 MagTronix Systems Ltd.
13 The GridLink Corporation
14 Pangea Systems Inc.
15 Celcorp
16 IntelliSys Development Corp.
17 Chartwell Technology Inc.
18 EDS Systemhouse
19 Microsoft Canada Co.
20 TR Labs
21 Cel Corporation
22 Alberta Microelectronic Corp.
23 WNS – Web eNabled Solutions
24 Cisco Systems Canada

Note: A participant chose to remain anonymous.

C. Participants—Leaders

1	David Berkowitz	Senior Associate	Venture West
2	Sharon Christie	Business Advisor	Women Entrepreneurs of Sask. Inc.
3	John Bogucki	Manager	Royal Bank
4	Ruth Robinson	President	Canadian Consumer's Association - SK
5	Karen Weiss	Director of Information Systems	The Winnipeg Chamber of Commerce
6	John Clarkson	VP	Economic Innovation Technology Council
7	Jeff Rohne	President, MTS Advanced	MTS Advanced
8	John Meldrum	President - CEO	SMART park
9	Keith Gylander	Executive Director	ICET
10	David Liderth	Manager, Electronic/Technology Communications	TransCanada Pipeline Limited
11	Arthur Yuan	Advisor, E-Commerce	Petro-Canada - Technical Services
12	Eldon Wig	Executive Director	WestMOST Consortium
13	Roger Cole	Executive Director of Regional Services Branch (Calgary)	Alberta Economic Development
14	Mel Wong	Executive Director, Innovation & Science	Alberta Government
15	Joy Jacobs	Assistant to the Dean School of Business	NAIT School of Business
16	Michael Murphy	Senior Vice-President, Policy	Canadian Chamber of Commerce
17	Bill Parsons	Senior Vice-President	Canadian Federation of Independent Business
18	Keith Parsonage	Director General, Information & Communications Technologies	Industry Canada - Info & Communications Technologies
19	Robert Dunlop	Director General, Entrepreneurship & Small Business Office	Industry Canada - Entrepreneurship & Small Business
20	Jack Noodelman	Director of E-Commerce Project	Canada Economic Development (Quebec counterpart of WD)
21	Lucienne Godbaut	Manager of Program Affairs	ACOA
22	Carl Seibel	Fednor's Telecommunication Specialist	FedNor
23	Danielle Prpich	E-Commerce/e-business Expert	Ontario Ministry of Economic Development & Trade
24	Amolak Grewal	Senior Vice President & CIO	Alberta Treasury Branch
25	Caroline Hubberstev	Advisor for Small Business	Canadian Bankers Association
26	Gary Webster	ADM, Alberta Region	WD
27	Bob Saari	Vice-President	Alliance of Manufacturers
28	Randy Garg	EVP, Opportunity Development	Discovery Capital Corporation
29	Al Dexter	Professor	Faculty of Commerce, UBC
30	Ron Mcgregor	Sales Director, W-Canada	Intelisys Electronic Comm.

D. Home-based businesses interviewed

KLR Consulting

HomeBase Solutions

NEWLink