



Québec On Line

PROMOTING THE USE OF THE INTERNET AND THE DEVELOPMENT OF E-COMMERCE

Québec 

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*Promoting the use of the Internet and
the development of e-commerce*

FOREWORD

By the Deputy Prime Minister

and Minister of State for the Economy and Finance

A new technological revolution is under way that will very likely have as much impact as the Industrial Revolution on our lives and productivity. The result of the development of new ways of processing and transmitting information and of communicating, the current revolution affects all aspects of our daily lives, opening the door to a welter of new possibilities. At the same time, it is radically changing the ways that all sectors of economic activity operate. It has allowed gains in productivity that explain the bulk of the extraordinary economic growth we are experiencing. It is now affecting the market economy, and the spectacular increase in e-commerce is its most recent and striking example.

A modern society with an open and dynamic economy, Québec must position itself as rapidly as possible in this environment where incredible changes are occurring. The extremely swift development of advanced-knowledge sectors and the success of high-tech firms stunningly illustrate the progress achieved in recent years in this direction. Québec firms, stimulated and supported by an unwavering government policy, have recorded very encouraging results.

*We should not, however, rest on our laurels. In particular, the generalization of the Internet and the proliferation of on-line transactions in our daily lives compel us to act quickly. Buttressed by an effective support strategy, the Québec economy has resolutely begun the necessary transformation toward the new economy. It is this same winning strategy that the government is introducing in **promoting the use of the Internet and the development of e-commerce.***

The challenge facing us is three-fold. First, in all sectors of activity, firms must adapt quickly to the new ways of engaging in trade and commerce, so as to benefit from the productivity gains possible, protect their markets and penetrate new ones. All are facing this challenge, but it is particularly difficult to meet for small and medium-sized businesses (SMBs), which are not always able to mobilize sufficient resources to make the changes that are nonetheless vital to their development. Steps must be taken to facilitate the investments required and thereby accelerate the necessary adaptations.

As we face this first challenge affecting economic activity as a whole, we must also be proactive and take advantage of the new needs that the Internet has created. The development of e-commerce has brought with it or stimulated certain specific activities representing new opportunities for those who know how to anticipate needs and to prepare to satisfy them. These activities will undergo major growth over the next few years and will be a substantial source of job creation. Québec is already well positioned indeed for some of them, because of its accumulated expertise and the comparative advantages it enjoys. It must, however, act quickly if its expertise and comparative advantages are to be fully exploited.

The third challenge we face concerns the very use of the Internet by Quebecers. Quebecers connected to the Internet have myriad advantages in terms of access to information, and the Internet actually becomes an essential component of their education. At the Québec Youth Summit, a very clear consensus emerged in favour of access by the greatest possible number of households to the new information and communication technologies. A profound gulf may open between Quebecers who have access to this new technology and those who cannot benefit from it, essentially for financial reasons. Québec must take steps to prevent this exclusion of part of its population, particularly its children, and must provide the boost required for this purpose.

In another vein, a strong local market is often a prerequisite for businesses that want to make the transition to e-commerce. SMBs must be able to rely on such a market when launching their electronic activities. They can also provide the adapted content that will stimulate the connection of a maximum number of people.

*The **2000-2001 Budget Speech** gives the government an opportunity to introduce a series of initiatives to support and promote the development of e-commerce and the use of the Internet. Therefore, over the next three fiscal years, the government will directly inject \$209 million to accelerate the adaptation of SMBs to e-commerce, \$9 million to support activities related to e-commerce and \$121.5 million to connect families to the Internet.*

*These measures will make it possible to accelerate the adaptation of Québec businesses to the new commercial methods and ways of carrying out transactions involving goods and services. They will help make Québec an **on-line society**, in which everyone has equal opportunities in this regard. They vouch for the government's determination to assist and support the changes in progress, in the best interests of the whole of Québec society. And they are in keeping with the objectives expressed in **Québec focus on jobs**, the economic development strategy I made public in March 1998.*

*The current economic context is an exceptional one that offers numerous opportunities for our businesses, for the young people we are training and for Quebecers as a whole. The purpose of the **support for the use of the Internet and for the development of e-commerce** defined in the 2000-2001 Budget is to ensure that we seize these opportunities and that Québec thereby establishes in an exemplary manner its capacity to adapt to the new conditions of growth and development.*

BERNARD LANDRY

SUMMARY

E-commerce is becoming generalized, profoundly changing the ways that information is exchanged and goods and services are bought, sold and distributed, and affecting the development of most sectors of activity. At the same time, the spectacular development of the Internet has created new ways of doing things, improving our quality of life and providing a tool that is becoming an essential component of the education of people in the future.

The Québec government is aware of the magnitude of the challenges that Québec businesses, indeed Québec society as a whole, are facing. Several steps have already been taken to encourage Québec businesses, particularly small and medium-sized ones, to invest in e-commerce. These efforts must continue and be enhanced. In addition, new initiatives must be defined to ensure that the entire population is able to enjoy the benefits of the Internet and that part of it is not excluded from the developments under way.

As part of the **2000-2001 Budget Speech**, the government is announcing a number of new initiatives to **promote the use of the Internet and the development of e-commerce**.

□ *The extraordinarily rapid generalization of e-commerce*

E-commerce refers to all sorts of transactions through closed electronic networks and the Internet. In fact, the transformation in progress is an outgrowth of the extraordinarily rapid generalization of e-commerce over the Internet and the specific features that such a network lends commercial transactions, particularly the time saved and the elimination of spatial constraints.

The use of the Internet for the market economy allows the complete decompartmentalization of commercial relations throughout the world, and culminates in the internationalization of trade between all sorts of economic agents.

- This internationalization first affects **e-commerce transactions themselves**, i.e. businesses-to-business transactions, transactions between businesses and consumers, and transactions between the government and the public.

Small and medium-sized businesses (SMBs) are particularly affected by the development of these various transactions on the Internet. For small businesses, the development of commerce on the Internet provides an opportunity, often not open to them

previously, of carrying out transactions with partner businesses through electronic means. The advent and development of transactions on the Internet between businesses and consumers constitute both a growth opportunity and a greater threat.

The involvement of businesses in e-commerce is not only a development opportunity. It is often a question of survival, given the decompartmentalization of markets made possible by the arrival of consumers on an open electronic network.

In this regard, it should be pointed out that the very great majority of Québec businesses – particularly small businesses – have not yet incorporated the new ways of operating required by the development of e-commerce, although they are now making great strides in this direction.

- In addition to e-commerce per se, the development of transactions on the Internet brings with it the advent and growth of a series of **directly related activities**. Although they do not, strictly speaking, constitute e-commerce, these activities are crucial to its development. In some cases, their economic weight is actually greater than that of e-commerce. They hold great promise in terms of job creation.

These activities can be broken down under three themes, depending on whether they concern *Internet infrastructure*, *Internet applications* or *Internet extensions*. In the three cases, Québec holds undeniable assets, given the vigour of many of the sectors of activity concerned. Witness in particular the performance of Québec businesses in electronics and telecommunications equipment, the production of multimedia content and the development of sophisticated software, as well as outsourced specialized services and call centres.

□ ***Access by families to the Internet: some catching up required***

Québec lags behind in the connection of households to the Internet. Some catching up is under way, but the more disadvantaged households in particular have fallen behind, magnifying the inequalities in society, given the growing role played by the Internet in training and education.

For Quebecers, the content available on the Internet probably plays a very great role in this lag. The relatively limited information and number of web sites in French makes the Internet less attractive for French speakers than for English speakers.

The delay in the connection of Quebecers to the Internet is one of the reasons that SMBs are reluctant to embark on e-commerce. This state of affairs prevents society from deriving substantial collective benefits, stemming above all from the cost reductions that the Internet allows. From a broader standpoint, the massive connection of the population to the Internet is an education and training challenge that is almost comparable to the literacy process.

□ ***Objectives pursued by the government***

For the Québec government, the strategy to follow is, in fact, the one that allowed a successful transition to the knowledge-based economy. For e-commerce and for the connection of households to the Internet, as for the new economy, the government has adopted a resolutely determined approach, major elements of which it is rapidly implementing under the **2000-2001 Budget Speech**.

These initiatives target the following three objectives:

- First, all efforts must be directed toward stepping up the technological adaptation of businesses, particularly SMBs, to e-commerce.
- Second, specific support must be provided for activities related to e-commerce, for which Québec businesses are able to position themselves to their advantage on international markets.
- Third, household access to the Internet must be as broad as possible to ensure that a portion of the population, particularly children, unable to connect to the Internet for essentially financial reasons does not become a victim of the “digital divide”.

□ ***Initiatives announced in the Budget Speech***

The initiatives announced in the **Budget Speech** will make it possible to take immediate steps toward achieving each of the above three objectives.

- The government is announcing two fiscal initiatives and one budgetary initiative to **accelerate the adaptation of Québec’s SMBs to e-commerce** and, more broadly, to finance the development of the information highway.

A **tax credit to encourage SMBs to adapt to e-commerce** is being introduced immediately to help those businesses integrate e-commerce into their operations. A total of \$126 million is earmarked for this purpose over the next three fiscal years, and it

will be supplemented by a sum of \$1 million available to the ministère de l'Industrie et du Commerce to promote the measure with Québec's SMBs and to provide these businesses with the assistance they require to take advantage of it.

Improvement of the fiscal rules for stock option plans will give SMBs a considerable incentive that they can use, in particular, to attract and retain specialized staff that is able to ensure the growth of the business and especially that can deal with the changes required by the generalization of e-commerce.

SMBs, like all businesses and individuals, will benefit directly from the **increased funding provided for the development of the information highway**. The Secrétariat du Conseil du trésor will receive additional appropriations of \$45 million over the next three fiscal years for this purpose.

- Another fiscal initiative is being implemented to support the deployment of **activities related to e-commerce**. The government has decided to enable businesses that set up a “developed” network in the regions to benefit from an **accelerated depreciation rate of 125% on fibre-optic cable and coaxial cable**. The cost of this measure is estimated at \$9 million over the next three fiscal years.
- From a budgetary standpoint, the government will facilitate access by households to the Internet by launching a program of **support for connecting families to the Internet**. This measure, for which a budget of \$120 million is earmarked over the next three fiscal years, will enable families to obtain access to the Internet at a reduced cost, and a multimedia computer if they so wish.

This measure will come into effect on May 1, 2000. Families eligible for the program are those receiving a family allowance from the Régie des rentes du Québec. Families who wish to take advantage of the measure will have until March 31, 2001 to subscribe to one of the two packages available. The families will receive the assistance for two years after the date of connection.

Under this assistance, eligible families wishing to do so can sign with a supplier a service contract that includes Internet access and the rental of a computer that they can keep when the contract ends.

The grant will be paid to families as a monthly rebate by the suppliers against the total cost of the package, thereby enabling families to benefit immediately from the government assistance, rather than having to pay the total cost of the package and being reimbursed once a year, for example, The cost of the rebate given families will be refunded to the suppliers by the government on a monthly basis.

□ ***A determined strategy for supporting the development of e-commerce***

Very much aware of the opportunities and the challenges involved in the development of e-commerce, the government is introducing several major initiatives both to help SMBs incorporate e-commerce into their operations as soon as possible and to accelerate the public's access to the Internet, with families being specifically targeted.

Therefore, over the next three fiscal years, the government will directly inject \$209 million to accelerate the adaptation of SMBs to e-commerce, \$9 million to support activities related to e-commerce and \$121.5 million to connect families to the Internet.

These fiscal and budgetary initiatives confirm and extend the government's determined strategy to ensure that Québec makes the transition to the new economy. As a whole, the measures announced will effectively **promote the use of the Internet and the development of e-commerce** in order to get **Québec on line**.

FINANCIAL IMPACT OF FISCAL AND BUDGETARY MEASURES TO SUPPORT THE USE OF THE INTERNET AND THE DEVELOPMENT OF E-COMMERCE
(in millions of dollars)

| | 2000-2001 | 2001-2002 | 2002-2003 | Total |
|--|-------------|--------------|-------------|--------------|
| 1. ACCELERATE THE ADAPTATION OF SMBs TO E-COMMERCE | | | | |
| ▪ SMB tax credit for e-commerce | | | | |
| – Tax credit for the incorporation of e-commerce solutions | 35.0 | 63.0 | 28.0 | 126.0 |
| – Budget appropriations for promotion with, and assistance for, SMBs | 0.5 | 0.5 | — | 1.0 |
| ▪ Improvement of the tax rules for stock option plans ¹ | 2.0 | 20.0 | 15.0 | 37.0 |
| ▪ Increased funding for the development of the information highway | 15.0 | 15.0 | 15.0 | 45.0 |
| Sub-total | 52.5 | 98.5 | 58.0 | 209.0 |
| 2. SUPPORT ACTIVITIES RELATED TO E-COMMERCE: DEPLOYMENT OF FIBRE-OPTIC NETWORK IN THE REGIONS | 2.0 | 4.0 | 3.0 | 9.0 |
| 3. CONNECT FAMILIES TO THE INTERNET | | | | |
| – Financial assistance | 28.0 | 60.0 | 32.0 | 120.0 |
| – Budget appropriations for management of the program | 0.5 | 0.5 | 0.5 | 1.5 |
| Sub-total | 28.5 | 60.5 | 32.5 | 121.5 |
| Total | 83.0 | 163.0 | 93.5 | 339.5 |

1. The impact of this measure extends beyond e-commerce.

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INTRODUCTION

The development and generalization of e-commerce were anticipated and heralded several years ago in the wake of the spectacular growth of the Internet. In 1998, in *Québec's information superhighway policy*, the Québec government stressed that the expansion of e-commerce was the cornerstone of the policy directions announced by international organizations and most governments in the countries of the OECD.¹

This generalization, coupled with the expansion of the Internet, is indeed under way, and just a few figures need be cited to establish this.

- In 1996, the world e-commerce market was estimated at US\$2.7 billion. Three years later, that market was 35 times greater and totaled US\$95 billion.²
- From June 1998 to April 1999, just for North America, the number of Internet users over 16 years of age rose from 79 million to 92 million, a rate of growth of 16% in less than a year.³
- Of this total, 28 million people were said to have engaged in e-commerce, an increase of 40% in the number of people engaging in on-line commerce over the same period.⁴

E-commerce is becoming generalized, resulting in massive changes in the ways in which we exchange information, and buy, sell and distribute products and services, and involving both the elimination of certain intermediaries and the advent of heretofore unknown functions in the commercial chain. As such, this generalization constitutes a new, inescapable consideration affecting the development of most sectors of activity. Moreover, and beyond e-commerce, the expansion of the Internet is already changing the daily lives of a growing number of people. Generalized access to the network is transforming our ways of doing things, opening the door to a welter of new possibilities and placing at society's disposal an educational tool that is proving increasingly indispensable.

¹ Gouvernement du Québec. *Québec's information superhighway policy*, 1998, p. 54.

² ActivMedia Research. *Real Numbers Behind 'Net Profits 1999*, 1999.

³ Nielsen Media Research – Commerce Net. *Women Shoppers Head to the Web in Force as the Number of Internet Buyers Jumps 40% in Nine Months*, press release, June 1999.

⁴ *Ibid.*

□ **Challenges**

Given this reality, in the opinion of the Québec government, three challenges must be met immediately:

- First, Québec businesses must adapt as quickly as possible to the new conditions imposed by the development of e-commerce. Businesses must first protect their market shares from new forms of competition. Furthermore, the opportunities offered by e-commerce must be used to penetrate markets to which businesses have had little or no access until now, and more broadly, to benefit from the gains in productivity that the revolution now under way has made possible.
- Second, the development of e-commerce has resulted in new needs and has therefore caused certain activities to appear and grow. These activities are not part of e-commerce, but they are directly related to it, for example, distance service centres, call centres and any of the other functions related to Internet infrastructures or the implementation of the Internet in businesses. In a number of cases, Québec is particularly well placed to take advantage of these new business opportunities, provided it acts quickly and makes dynamic use of the new ways of exchanging information and of carrying out transactions.
- Third, in regard to the connection of individuals to the Internet, Québec has some quick catching up to do. As a community, it needs to do so in order to avoid the creation of a two-tiered society in which part of the population is excluded from the benefits of the Internet for essentially financial reasons.

It must also catch up for commercial reasons, since this will provide it with the local base that is often essential to SMBs seeking to make a successful transition to e-commerce.

□ **Action taken**

The Québec government is aware of the magnitude of the challenges facing Québec society and of its need to position itself rapidly given the new realities. Several steps constituting initial efforts to provide government support for e-commerce specifically⁵ have been taken to encourage Québec businesses to invest more massively in it.

⁵ See Appendix 1.

At the same time, all the departments and agencies of the Québec government are being used as levers in accelerating the development of e-commerce in Québec. In accordance with *Québec's information superhighway policy*, nearly \$100 million dollars has been invested each year by the government to ensure that it becomes a model user of the new information technologies. By the summer of 2001, the government will completely manage its human, material and financial resources using electronic media and in real time.

This means that in 12 months, the government's suppliers will be able to respond to invitations to bid and carry out the corresponding transactions only through an electronic medium. Hence, the government is using its purchasing power to encourage businesses to make the transition to e-commerce.

□ ***Additional initiatives extending support for the new economy***

The efforts made by Québec to rapidly integrate the new operating methods related to on-line commerce and to accelerate the connection of Quebecers to the Internet must be pursued and enhanced. As part of the **2000-2001 Budget Speech**, the government is announcing a number of new initiatives aimed at **supporting the use of the Internet and the development of e-commerce**.

These initiatives are a perfectly in keeping with the economic development strategy, *Québec focus on jobs*, which was developed precisely to build for Québec a competitive and innovative economy that would strengthen and accelerate job creation.

The initiatives introduced to develop e-commerce are supported by the budgetary and fiscal measures taken in recent years to enable Québec to make the transition to the new economy. In the **1999-2000 Budget Speech**, the government made public *An integrated fiscal strategy for the knowledge-based economy*, in which it strengthened fiscal support for research and development, improved its support for technological adaptation and broadened initiatives for businesses in the new economy. Several of these measures made it possible for businesses whose activities are directly related to on-line commerce to become established in Québec.

At the same time, the government also intervened in a number of areas of activity in order to accelerate innovation in Québec society. The strategy defined in *Accelerating research and innovation* has enabled the government to strengthen its action, particularly in the areas of university research, manpower training and techno-watch, and in support for businesses for their advanced operations.

Hence, the initiatives aimed at **supporting the use of the Internet and the development of e-commerce** supplement, extend and capitalize on the initiatives that the government has already successfully taken to ensure the transition of Québec businesses to the new economy.

1 *The revolution under way*

1. THE REVOLUTION UNDER WAY

The technological revolution now under way has materialized through both the generalization of e-commerce and the extremely rapid development of Internet use in people's lives.

- For a good understanding of the various dimensions of this technological revolution, **e-commerce** as it is developing throughout the world must be discussed, indicating exactly what the expression actually covers.
- The development of **e-commerce in Québec** raises a number of specific challenges that must be clearly identified.
- The revolution under way is also affecting **households**, whose **access to the Internet** gives them myriad benefits but at the same time opens up disturbing divides.

1.1 E-commerce

1.1.1 A definition

Many definitions have been proposed for the word e-commerce. In *Québec's information superhighway policy*, e-commerce is defined as “all transactions in which relations with the customer (exchanges of information, contracts, the selection of products or services, calls for tenders, bids and so on) are handled by electronic means, apart from, in most cases, the ‘physical delivery’ of a product or service”.⁶

According to this definition, e-commerce actually covers all economic activities that use the new information and communication technologies to support the production, distribution, marketing and provision of goods and services.

Simply put, e-commerce can be defined as a series of operations carried out electronically. This is a very broad definition that categorizes as e-commerce three types of activity, according to the nature of the electronic networks referred to.

⁶ Gouvernement du Québec. *Québec's information superhighway policy*, 1998, p. 54.

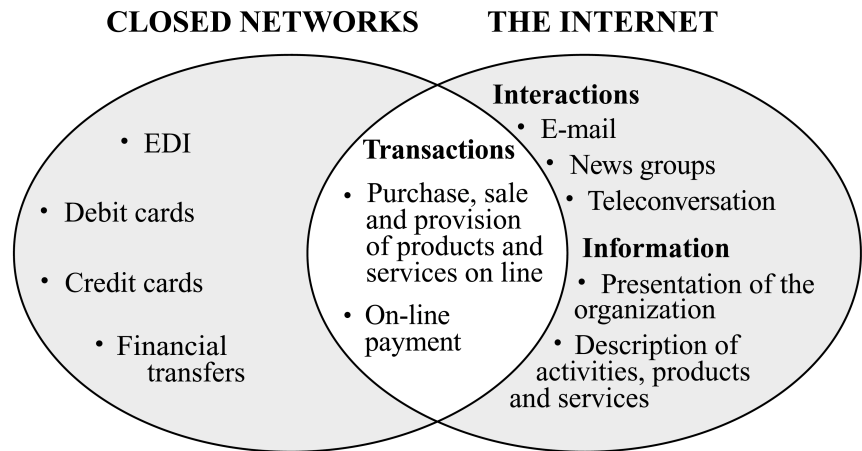
□ **Three types of activities**

As shown in Diagram 1, e-commerce in the broad sense covers:

- *commercial activities* using *closed networks*, such as financial transfers, purchases and payments through credit or debit cards, and what is called “*electronic document interchange*” (EDI);
- *commercial activities* using only an *open network*, such as the Internet. These include all the distribution of information and all the interaction that is part of the commercial process and is developing in the form of e-mail, distance conversations and, more generally, searches for information;
- *commercial activities* using both *open networks*, such as the Internet, and *closed networks*, these being interconnected. Such networks are known as *hybrid networks*, used for e-commerce, ranging from **information** and **interaction** on up to the **final transaction**.

DIAGRAM 1

NETWORKS USED FOR E-COMMERCE



Note: Adapted from the Government of Canada's diagram in *The Canadian electronic commerce strategy*, 1998.

□ **The “explosion” of e-commerce on the Internet**

On the basis of this definition, the scope of the current phenomena can be better defined.

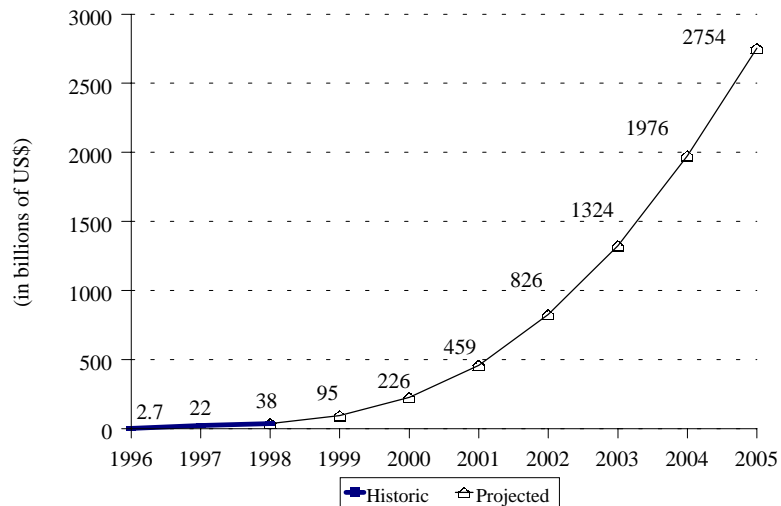
Commercial relations through electronic means and **closed networks** are not of recent date, and they already account for a considerable volume of transactions. International financial transfers carried out electronically totaled an average of US\$5 000 billion a day in 1999.⁷ Credit card purchases also accounted for very high amounts. In 1999, they probably exceeded \$100 billion for Canada as a whole.⁸

In comparison, commercial transactions using the **Internet** and closed networks still amounted to only US\$95 billion in 1999 world-wide. As Graph 1 shows, these transactions are, however, undergoing very strong growth, which means that they may multiply by 30 in the next five years.

In particular, the use of an open network to carry out commercial transactions is in itself a true revolution in the relations between various economic agents. The generalization of the Internet is profoundly changing business operations and consumer behaviour.

GRAPH 1

VOLUME OF WORLD-WIDE E-COMMERCE ON THE INTERNET — 1996 TO 2005



Source: ActivMedia Research. *Real Numbers Behind 'Net Profits 1999, 1999.*

⁷ International financial transfers made on the network of the Society for Worldwide Interbank Financial Telecommunications (SWIFT).

⁸ According to the Canadian Bankers' Association, transactions in 1999 by means of Visa and MasterCard credit cards totaled \$94.3 billion.

1.1.2 Specific features of e-commerce

The revolutionary nature of the transformations under way is the result of the specific features of e-commerce as it has developed on the Internet. There are essentially three features related to the nature of an open network.

- First, the use of the Internet for commercial transactions can actually involve *practically all the operations* in a commercial transaction.

It is possible on the Internet not only to collect and exchange information, but also to negotiate the transaction itself – possibly with a connection to a closed network – and after-sales service. Only delivery is not possible in some cases through this network integration process.

E-commerce on the Internet is now used, for the most part, to collect and exchange information (the “information” and “interaction” phases), but the commercial process tends to be carried out more and more completely. This first feature is, of course, completely new compared with more traditional e-commerce methods, such as credit cards, in which only one step in the transaction is carried out on the network.

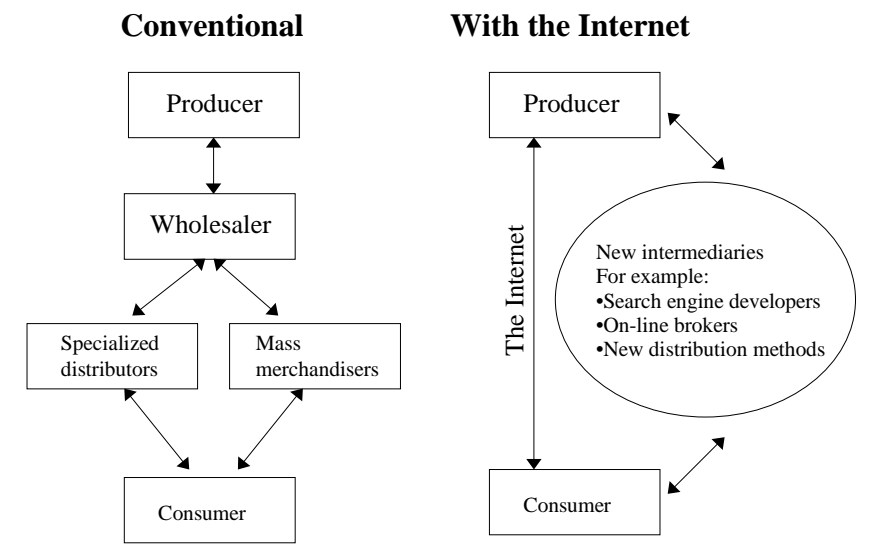
- Second, the use of this open network allows an extraordinary *reduction in the time* required until now to carry out all the operations involved in a commercial transaction, apart from, here again, in certain cases, the final phase, i.e. delivery. All the preceding stages can be decided upon by economic agents in a very reduced period of time because of the rapidity of electronic communications.
- Third and last, e-commerce using the Internet *eliminates spatial constraints* by allowing virtually instantaneous relations between the various agents, regardless of their locations, provided they are connected to the open network. This third feature is probably the most revolutionary of all, since it means the complete decompartmentalization of commercial relations world-wide and the actual internationalization of commercial relations between all kinds of economic agents.

It is easier to understand, on the basis of this brief summary, the extent to which the development of e-commerce brings with it changes and innovations, even though in relative terms, the transactions involved are still more or less limited.

One can readily imagine the implications of the revolution under way, compared with the traditional exchange and marketing methods. E-commerce using an open network challenges the traditional commercial chain, as illustrated in Diagram 2.

DIAGRAM 2

THE COMMERCIAL PROCESS



In the system as we know it, a whole series of intermediaries – wholesalers, specialized distributors or mass merchandisers and stores of all kinds – come between the producer and the consumer to allow the development of commercial transactions.

These intermediaries, which are essential to the current commercial system, are not truly necessary in many cases when producers and consumers are connected to an open network. Direct, instantaneous communications can be established between them, resulting in a reduction in the costs of the transaction and a substantial increase in the efficiency and productivity of the marketing and distribution process.

But this does not mean that all intermediaries disappear. Other services are likely to become necessary or will expand – for example, to ensure the rapid delivery of the products purchased, or to facilitate browsing by consumers on the open network. The

profound changes under way are therefore considerable and they affect the very structure of commerce, as it has been traditionally engaged in.

1.1.3 E-commerce transactions

It is important to understand that the world of e-commerce encompasses operations that differ in nature because of the economic agents involved. The differences between these operations must be explained if the resulting challenges are to be clearly understood.

The operations are usually placed in three categories according to the agents involved.

□ ***Business-to-business transactions, a possibility more readily accessible to SMBs***

— First, e-commerce refers to *business-to-business transactions*. Historically, it was this type of operation that began to develop on closed networks, such as electronic document interchange (EDI) networks. For reasons of cost and facility of access, these business-to-business transactions are currently being gradually transferred by the businesses involved to the Internet. However, these businesses retain their closed networks and set up hybrid systems using both the Internet and EDI-type closed networks.

Business-to-business operations are developing very quickly on the Internet, and this development explains the bulk of the rapid growth in e-commerce on open networks. It is estimated that business-to-business operations now account for about 80% of e-commerce on the Internet,⁹ and this percentage should not change dramatically in the coming years.

It should be pointed out that the development of this type of transaction concerns particularly SMBs. Until now, they were generally unable to invest in establishing a closed network that would enable them to carry out business-to-business transactions. The high cost of establishing networks for the exchange of computerized data made this prohibitive for small businesses. Thanks to the Internet, SMBs can now have access to similar service at incomparably lower costs.

⁹ Government of Canada, *The Canadian Electronic Commerce Strategy*, 1998.

For Québec's SMBs, which make up a sizable proportion of the economic and industrial fabric of Québec, the development of e-commerce on the Internet offers an opportunity, often not open to them until now, to establish transactions with partner businesses by electronic means.

□ ***E-commerce with the general public: an opportunity and a threat***

- Second, e-commerce encompasses *operations between consumers and businesses*, thereby involving the general public. Growth in this type of transaction is probably slated to soar. The different projections available indicate a spectacular increase in commercial transactions between consumers and businesses in the short and medium terms.

However, at the present time, electronic transactions between consumers and businesses account for only a relatively small share of e-commerce as a whole – less than 20%, given the share of business-to-business transactions.

For SMBs, the advent and development of electronic transactions between consumers and businesses on the Internet represents both a growth opportunity and the threat of greater competition. Through the Internet and the features outlined above, commercial transactions with individuals can develop by eliminating the time and space constraints that restricted the growth of activities until now. SMBs can benefit from this considerable advantage through relatively small investments, and thereby position themselves on markets that were virtually inaccessible to them before.

However, the time and space constraints that the Internet can eliminate often protect a business's basic market. For all businesses, the surge in e-commerce with the general public on the Internet calls the terms of competition into question. On their own markets, businesses must prepare to face competitors that have become easily accessible to their own clientele. The involvement of both large and small businesses in e-commerce is therefore not only a development opportunity. In many cases, it becomes a question of survival, given the decompartmentalization of markets made possible by the arrival of consumers on an open electronic network.

□ ***Relations between government and the public***

- Third and last, e-commerce encompasses the series of transactions carried out and services provided between *government administrations and the public or businesses*. These transactions account for only a relatively small proportion of total e-commerce, but their development plays a strategic role in the growth of on-line commerce. By taking the initiative of systematically using electronic means for its services and its relations with the public, the government is able to stimulate the use of these new transaction methods. This is, in fact, the strategy adopted by the Québec government as part of *Québec's information superhighway policy*.

1.1.4 Activities related to e-commerce

As has just been explained, e-commerce covers a wide array of operations and transactions involving individuals, businesses and government administrations, and using open, closed or hybrid networks. In fact, by its very nature, e-commerce affects the entire market economy, and its development poses a challenge to all economic sectors.

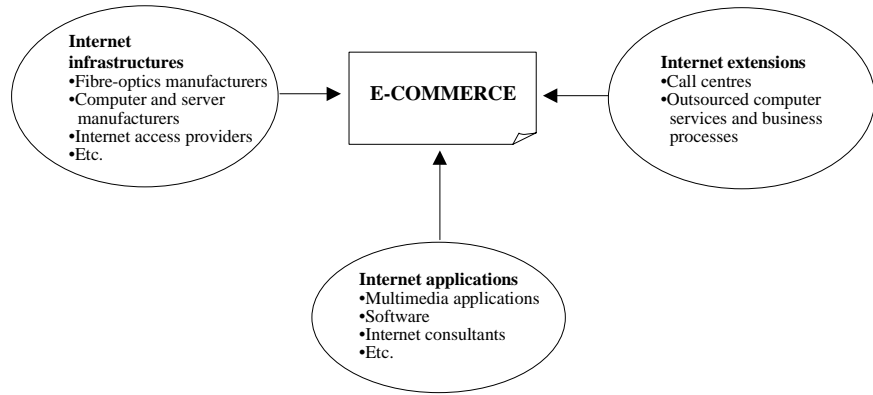
To that reality is added another one: the development of e-commerce specifically results in the appearance and growth of a series of activities that do not constitute e-commerce as such but that are directly related to it. These activities are vital to the growth of e-commerce. They also create many jobs. In some cases, their current economic weight is greater than that of e-commerce itself. In addition, in regard to a number of them, Québec is very well positioned and they represent promising development opportunities for Québec businesses.

□ **Three types of activities**

As shown in the following diagram, these activities may be grouped under three themes, according to their relation with e-commerce.

DIAGRAM 3

ACTIVITIES RELATED TO E-COMMERCE



- A first series of activities corresponds to what may be termed *Internet infrastructure*. In order to develop, e-commerce requires the implementation and installation of facilities of all kinds, the adaptation of networks and the physical construction of the essential hardware. To meet this need, substantial investments are being made by telecommunications firms, the producers of adapted equipment and the suppliers of the new technologies used.
- *Internet applications* constitute a second series of activities, in this case related to the use by businesses of the infrastructures that have been set up. Software is developed to facilitate the creation of web sites or to propose solutions adapted to businesses seeking to develop their transactions on the network.

More generally, analysis, consultation and evaluation services are offered to economic agents that want to incorporate the rules of e-commerce into their operations in an optimal manner. Also in the category of *Internet applications* are efforts to respond to security needs, which certainly constitute one of the conditions for the burgeoning development of on-line commerce.

- The third and last series of activities come under the category of *Internet extensions*, which refers to services likely to take on a new dimension because of the development of on-line transactions. These include call centres, distance service centres, and outsourced computer services and business processes, which are most often related only indirectly to e-commerce, but the demand for which may change radically because of the growth in on-line transactions.

□ ***Activities undergoing growth***

These various activities, which are not, strictly speaking, part of e-commerce, are growing. According to a 1999 estimate, activities related to Internet infrastructures and applications accounted in the United States for a sales figure of approximately US\$60 billion,¹⁰ and had increased by 50% compared with the previous year. Another survey also concerning the United States estimated the American market for outsourced computer services in 1999 to have been about US\$50 billion, and anticipated annual growth of 22% from now until 2003.¹¹

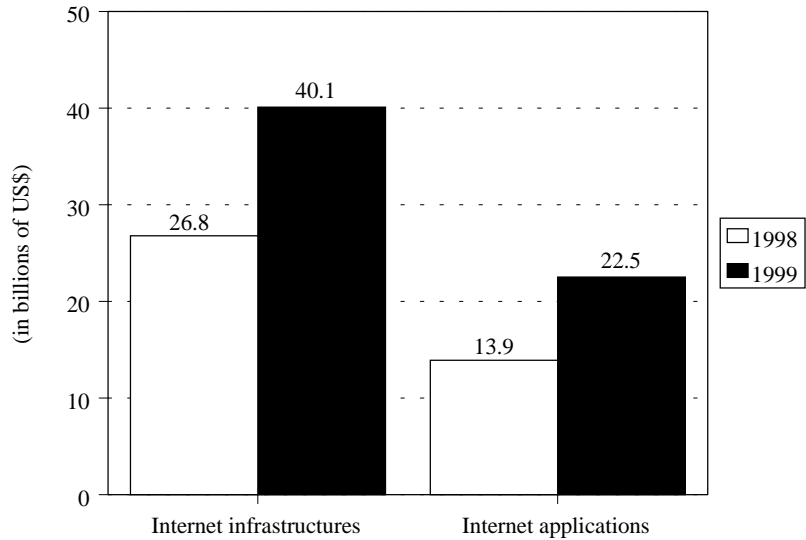
As it develops, e-commerce brings with it a series of large-scale activities in regard to which Québec is already able to position itself advantageously. These activities are of particular interest as, generally speaking, they create many jobs. However, growth opportunities can also turn into risks for Québec businesses to the extent that the services created to meet the needs of e-commerce are often international in scope. The development of Internet-related activities goes hand in hand with delocalization, making it important that every effort be made to ensure that these activities are to the advantage of the Québec economy.

¹⁰ University of Texas at Austin. *Measuring the Internet Economy*, Center for Research in Electronic Commerce, 1999.

¹¹ Input. *Internet-related Spending to Propel the U.S. Outsourcing Market to \$110 billion by 2003*. Press release, 1999.

GRAPH 2

REVENUE OF INTERNET INFRASTRUCTURES AND APPLICATIONS SECTORS IN THE UNITED STATES — 1998 AND 1999



Source: University of Texas at Austin. *Measuring the Internet Economy*, Center for Research in Electronic Commerce, 1999.

1.2 E-commerce in Québec

1.2.1 The Québec economy's transition to e-commerce

In a setting of extremely rapid change, a number of surveys have measured the Québec economy's shift to e-commerce. The spread of new forms of transaction may be gauged in two ways. Several direct assessments of the number of on-line transactions in Québec have been made. Data on user connection to the Internet and its development are invaluable indicators of the shift that the Québec community is undergoing.

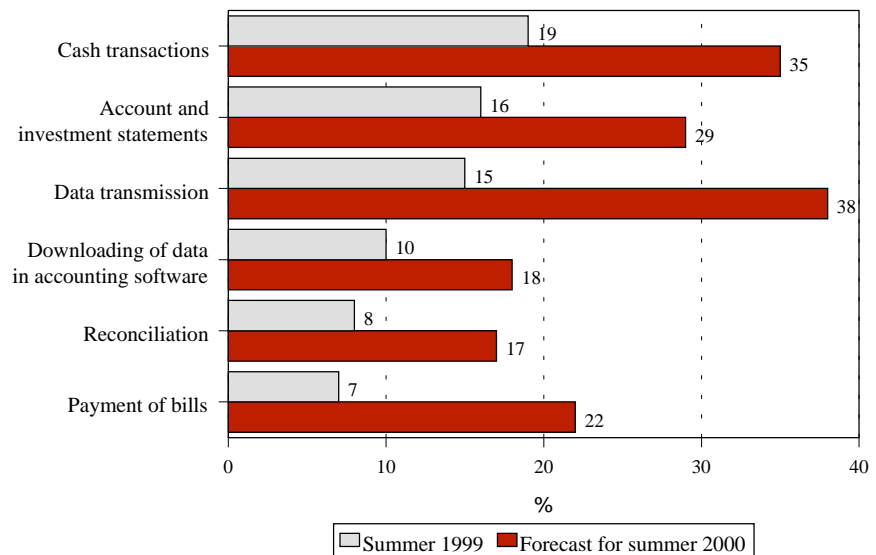
□ *Growth in operations*

Québec does not yet have comprehensive data on the growth of e-commerce operations. However, some "probing" has been done that sheds light on the magnitude of e-commerce operations involving businesses, the general public and the government.

- In regard to **business-to-business transactions**, the Centre francophone d'informatisation des organisations (CEFRIO) has just conducted a survey of the financial transactions carried out on the Internet by establishments with 10 employees or more.¹² The findings show that a quarter of these businesses engage in EDI. About a fifth already carry out their cash transactions on the network, and 15% transmit or receive account statements, investment statements and various other data by this means. According to the survey, the proportion of establishments carrying out this type of on-line transaction should double by the summer of 2000.

GRAPH 3

PROPORTION OF ESTABLISHMENTS WITH 10 EMPLOYEES OR MORE, CONNECTED TO THE INTERNET AND CARRYING OUT FINANCIAL TRANSACTIONS ON THE NETWORK — 1999-2000



Source: CEFRIO and Institut de la statistique du Québec. *Enquête sur l'appropriation des technologies de l'information et de la communication par les entreprises du Québec*, to be published.

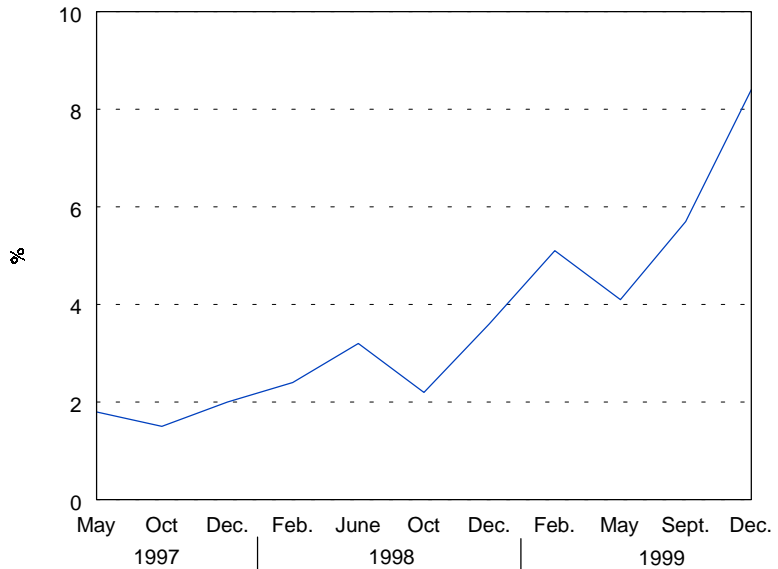
¹² CEFRIO and Institut de la statistique du Québec. *Enquête sur l'appropriation des technologies de l'information par les entreprises du Québec*, to be published.

— Regarding the **general public’s engaging in e-commerce**, various studies or surveys confirm that individuals in Québec are starting to carry out on-line transactions. According to one study, the findings of which are illustrated in Graph 4, the proportion of Quebecers who have made a purchase on the Internet rose from 2% to 8% between May 1997 and December 1999.

Another study, conducted in January 1999 showed that, among Quebecers who used the Internet in the previous six months, 10% had carried out financial transactions on the network and 20% had made a purchasing decision after consulting the Internet.¹³ Lastly, according to a survey conducted in July 1999, 15% of Québec’s Internet users had purchased a product on line.¹⁴

GRAPH 4

PROPORTION OF QUEBECERS WHO HAVE MADE A PURCHASE ON THE INTERNET — MAY 1997 TO DECEMBER 1999
(percent)



Source: Ad hoc research, *Journal Les Affaires*, March 4, 2000.

¹³ Institut de la statistique du Québec. *Enquête sur les transactions et l’identification dans un contexte d’inforoute*, January 1999.

¹⁴ Angus Reid. *55% of Canadians Already Connected to Internet*, press release, July 5, 1999.

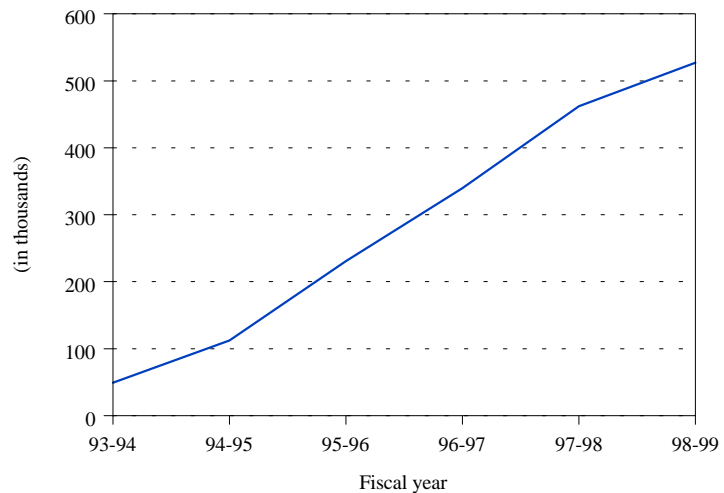
- **Electronic transactions with the government** also appear to be developing rapidly, in keeping with the strategy adopted in *Québec's information superhighway policy*. The above-mentioned survey conducted by the Institut de la statistique du Québec in January 1999 showed that 15% of Quebecers who had used the Internet in the previous six months had carried out non-financial transactions on it with the government.

In regard to EDI, which is developing on closed networks, there has been steady growth in the number of transactions between businesses and the government over the past five years. As Graph 5 shows, the number of EDI transmissions rose from under 50 000 to just over 525 000, between 1993-1994 and 1998-1999.

For the last fiscal year, the volume of EDI transactions totaled \$5.1 billion. The transactions involved, for the most part, deductions at source that accounted for over 20% of all such deductions by the ministère du Revenu. In the area of personal income taxes, nearly 600 000 income tax returns were filed electronically in 1999, or about 12% of all personal income tax returns filed with the ministère du Revenu.

GRAPH 5

NUMBER OF TRANSACTIONS BY ELECTRONIC PAYMENT BETWEEN BUSINESSES AND THE QUÉBEC GOVERNMENT — 1993-1994 TO 1998 -1999



Source: Gouvernement du Québec, ministère du Revenu, 2000.

The above data are, of course, highly fragmentary. But they do show that the phenomenon observed in all industrialized countries are occurring in Québec: the development of the Internet is very quickly accompanied by the appearance of new forms of e-commerce made possible by the network. In Québec's case, the phenomenon has not yet achieved the scope observed in the United States, but the trend is in the same direction.

□ *User connection*

A prerequisite for the development of e-commerce is, of course, the connection to the Internet of the various economic agents involved – individuals and businesses. There are quite specific data on the development of the network in Québec. Such data on businesses, particularly SMBs, are crucial, as they make it possible to determine the degree to which Québec businesses have adapted to the new transaction methods, so that these businesses can retain their markets and penetrate new ones.

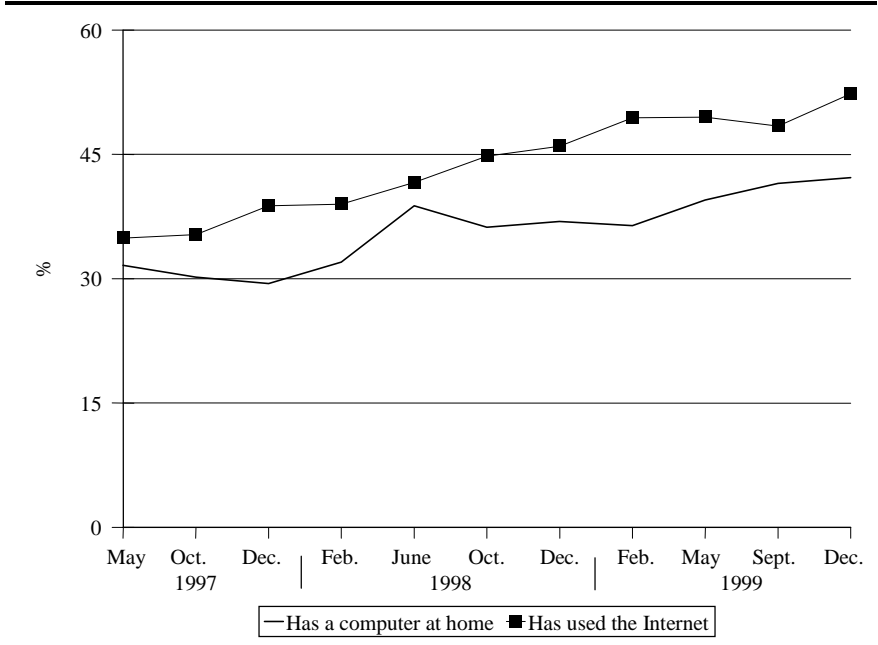
- In regard to **individuals**, Graph 6 illustrates the computerization of Quebecers 18 years of age or over and their growing use of the Internet, from May 1997 to December 1999. The survey conducted from November 1999 to January 2000 for CEFRIO¹⁵ estimated that, by that date, a third of Québec adults – nearly two million people – had been using the Internet on a weekly basis.

¹⁵ CEFRIO - Léger & Léger. *Omnibus CEFRIO – Léger & Léger*, February 2000.

GRAPH 6

**COMPUTERIZATION OF QUEBECERS AND THEIR INTERNET USE
— MAY 1997 TO DECEMBER 1999**

(percent)

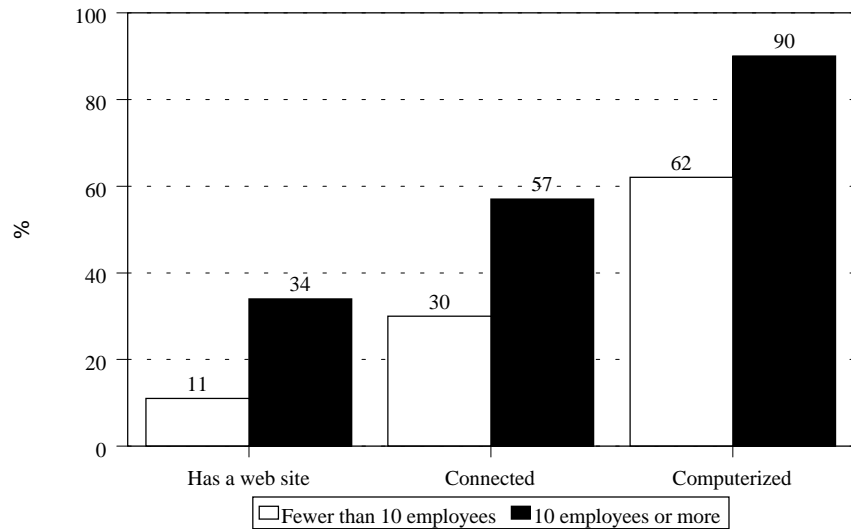


Source: Ad hoc research, *Journal Les Affaires*, March 4, 2000.

— With regard to **businesses**, several kinds of data are now available, in the wake of the survey conducted by CEFRIO in the summer of 1999. As illustrated in Graph 7, the survey estimated, according to the size of the business, the proportion of establishments that were simply computerized, the proportion connected to the Internet and the proportion with a web site on the Internet.

GRAPH 7

COMPUTERIZATION, INTERNET CONNECTION AND WEB SITES OF QUÉBEC ESTABLISHMENTS — 1999



Source: CEFRIO and Institut de la statistique du Québec. *Enquête sur l'appropriation des technologies de l'information et de la communication par les entreprises du Québec*, to be published.

At the time of the survey, in the summer of 1999, 90% of establishments with 10 employees or more and just shy of two thirds of establishments with fewer than 10 employees were computerized. However, only a third of establishments with 120 employees or more and a tenth of establishments with fewer than 10 employees had a web site.¹⁶

¹⁶ CEFRIO. *Enquête sur l'appropriation des technologies de l'information et de la communication par les entreprises du Québec*, to be published.

Having a web site does not mean that the establishment is able to carry out all the transactions involved in the full implementation of e-commerce. The same CEFRIO study found that, in the summer of 1999, only 16% of establishments with 10 employees or more and a web site offered their customers the possibility of ordering their products and services on line. This proportion should rise to just over 33% by the summer of 2000. Only 9% of establishments with a web site used a complete transactional server for credit card payments on line.

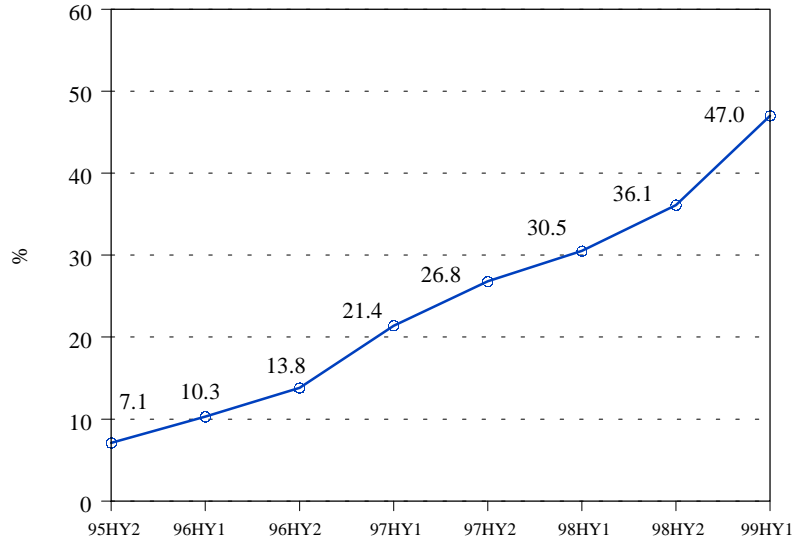
□ ***A situation that poses a risk***

Hence, most Québec businesses, particularly small ones, have not yet incorporated the new ways of doing things thrust upon them by the development of e-commerce. This situation poses a risk: businesses that do not offer their customers – other businesses or individuals – the transaction facilities made possible by the development of the Internet could lose a portion of their customers to competitors that are on the Internet. These same businesses also deprive themselves of the opportunities offered by the Internet in prospecting and new market penetration that were unavailable to them previously.

It is therefore urgent that the greatest possible number of Québec businesses fully incorporate the new rules imposed by the development of e-commerce. From this standpoint, it should be pointed out that Québec has already made great strides in catching up to the rest of North America. As illustrated in Graph 8, Internet use by Québec's SMBs has multiplied by more than six in less than four years. Graph 9 more specifically shows the catching up under way. The gap between Canada and Québec in Internet use by SMBs has been reduced by half over the same period.

GRAPH 8

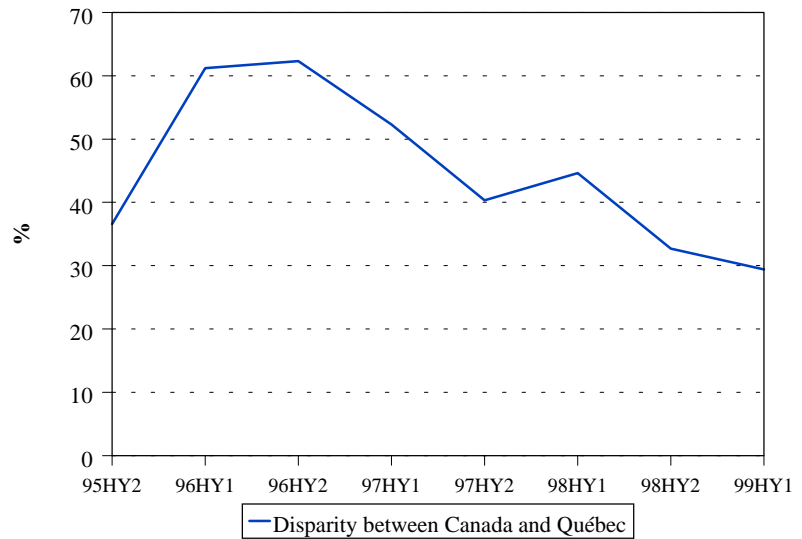
**INTERNET USE BY QUÉBEC'S SMBs
1995 TO 1999 (by half-year)**



Source: Canadian Federation of Independent Business, 1999.

GRAPH 9

**CATCHING-UP ACHIEVED BY QUÉBEC'S SMBs IN INTERNET USE
1995 TO 1999 (by half-year)**

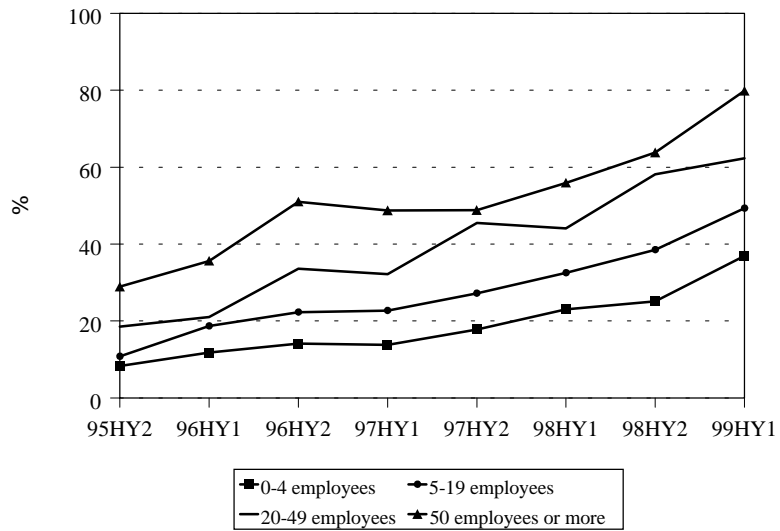


Source: Canadian Federation of Independent Business, 1999.

However, this effort must be stepped up even more, and is especially a requirement for SMBs. There is an obvious correlation between business size and Internet use: in 1999, 80% of businesses with 50 employees or more used the Internet, compared with less than 40% of establishments with fewer than four employees. Even though the situation is improving for all categories of businesses, initiatives must be taken to eliminate these distortions as quickly as possible.

GRAPH 10

**INTERNET USE IN SMBs ACCORDING TO BUSINESS SIZE
1995 TO 1999 (by half-year)**



Source: Canadian Federation of Independent Business, 1999.

It should also be pointed out that, in e-commerce, Québec is in some cases at the forefront of change, even compared with the United States. In the spring of 1999, all Desjardins caisses populaires and bank networks were already offering their clients the possibility of carrying out financial transactions on line, whereas only 6% of banks in the US offered such services.¹⁷

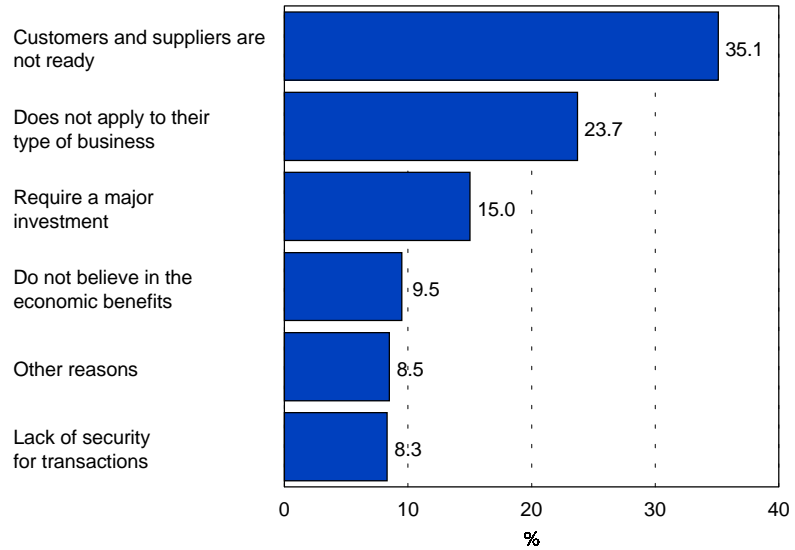
¹⁷ CEFRIO. *L'appropriation des technologies de l'information et de la communication par les très petites entreprises du Québec*, September 1999. Data for the US banks are from a study conducted by the American Bankers Association (ABA).

□ **Reasons given by SMBs**

Graph 11, below, which gives the findings of a survey published in January 2000, sheds some light on the reasons most of Québec’s SMBs give for not investing in e-commerce. According to the survey, the main reason given is that customers and suppliers are themselves not ready to carry out electronic transactions. Two other main reasons are given: e-commerce does not apply to the business and the investment required to incorporate e-commerce into operations is too great.

GRAPH 11

MAIN REASONS GIVEN BY QUÉBEC’S SMBs FOR NOT ENGAGING IN E-COMMERCE
(percent)



Source: Groupe Everest. *L'Internet dans les PME québécoises*, January 2000.

The results of this survey are very interesting: they indicate that the development of e-commerce in SMBs depends primarily on the needs of the business’s natural clientele. Hence, one of the most effective ways to prompt SMBs to invest in e-commerce is probably to accelerate the connection of the clientele of these businesses, whether they are other businesses or individuals, while bolstering the financing of the investment required.

□ ***An important variable: the remuneration of strategic employees***

Concerning this last point, it should be pointed out that the investments that businesses must make to adapt to e-commerce are not limited to the purchase of hardware. The introduction of e-commerce requires the transformation of ways of doing things, the definition of new marketing approaches and, in practice, a profound questioning of the organization of the business.

To effect this adaptation, the business must rely on strategic employees, whom it often does not have the means to remunerate sufficiently. Given this, a number of studies have underscored the strategic nature of stock options, which enable businesses to improve the remuneration they offer without jeopardizing their financial situation.¹⁸

□ ***A solution: stock options***

A stock option is a right given to an employee to acquire in the future shares in the capital stock of a business at a price set in advance.

Stock options were first used to enable the heads of companies to benefit from the results of their management as they impact on the public value of the company. Stock options are now in much wider use. They are used to ensure the loyalty of employees who are considered strategic, by tying their remuneration to the results of their research or initiatives. Stock options constitute an additional tool that businesses can use to attract and retain the employees who are most important to their development.

In the new economy – which encompasses the development of e-commerce – stock options are particularly useful since the public value of small businesses is often out of all proportion to their actual financial results. The public value is, in fact, the value perceived by the stock market of the business's development potential, a potential that is often most dependent on the expertise of the employees that the business has managed to hire.

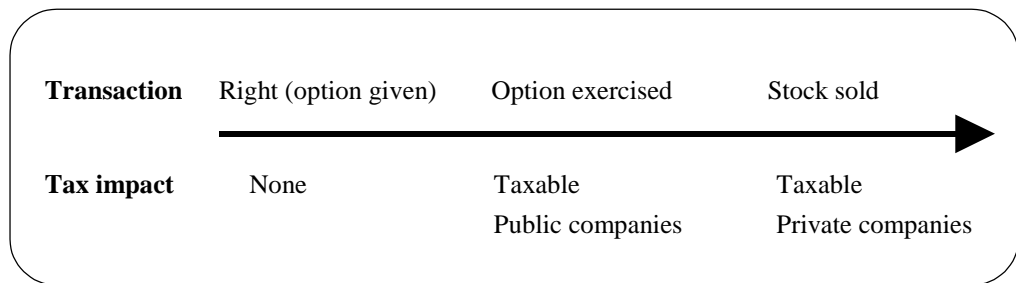
¹⁸ YOLIN, J.-M *et al.* *Internet et Entreprise : mirage ou opportunité ? Pour un plan d'action*, ministère de l'Économie, des Finances et de l'Industrie, Secrétariat d'État à l'Industrie, France, November 1999.

The advantage of stock options as a method of remuneration could be partially reduced by the taxation system applicable before the 2000-2001 Budget Speech. As the following diagram shows, the employee of a public company was taxed on the benefit received as soon as he exercised his stock option, whereas, in the case of an employee of a private company, taxation was postponed until the stock was sold.

Bear in mind that this taxation system could change business decisions. In certain circumstances, its modalities could prompt the heads of private companies not to seek the required capital from the stock market because of the resulting penalties for employees who must exercise stock options after the company went public.

DIAGRAM 4

**SYSTEM BEFORE THE 2000-2001 BUDGET
TIME OF TAXATION AND TAX IMPACT FOR THE EMPLOYEE**



The stock option question does not specifically concern e-commerce. However, it seems clear that, for SMBs, this form of remuneration constitutes a strategic tool that enables them to attract the experts they need to adapt to on-line commerce, by offering them attractive remuneration.

1.2.2 Québec and activities related to e-commerce

As we have seen, activities related to e-commerce have an economic importance that is, in some cases, comparable to that of e-commerce itself, and they have undergone an often spectacular rate of growth. Québec has undeniable assets in terms of a number of these activities.

□ ***High-performance sectors***

- In regard to **Internet infrastructures**, the sectors involved – essentially telecommunications equipment and electronics – are very well represented in Québec. In fact, a major portion of the new economy, the growth of which is radically changing Québec’s development characteristics, is based precisely on these two sectors of activity.

Electronics and telecommunications equipment are currently equal in importance. Together, they encompass 130 firms, employ nearly 20 000 people and have sales of \$7.5 billion.¹⁹ In these two sectors are firms that supply Internet infrastructures, i.e. manufacturers of fibre optics and of computer network components, and producers of computers, electronic components and servers.

- In the category of **Internet applications** are found all the activities aimed at providing “electronic merchants” with the software needed to build web sites, the multimedia applications essential to the management of these web sites and, more broadly, all the services that businesses need when they begin to carry out transactions on line.

In this sector as well, Québec has dynamic businesses, whose performance is now judged from an international perspective. The sectors of multimedia content production and of state-of-the-art software together encompass 2 000 businesses and over 10 000 employees,²⁰ and have already garnered fame through several spectacular successes, some of which are directly related to e-commerce: the Québec businesses in the Cité du multimédia, in Montréal, already specialize in designing software for the building of web sites.

- In the area of **Internet extensions**, many activities are involved, and Québec is remarkably well positioned in a number of them. Call centres, which have undergone very rapid growth, have a total of 35 000 employees and sales of \$1.2 billion.²¹ These are increasingly sophisticated service

¹⁹ Gouvernement du Québec. *Le Québec : un environnement économique concurrentiel*, Québec, February 2000.

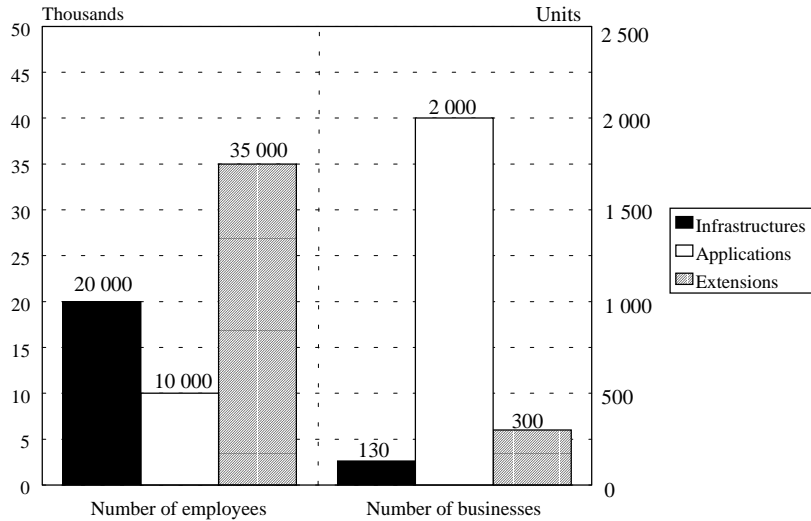
²⁰ *Ibid.*

²¹ *Ibid.*

firms that use technologies incorporating the Internet. Also in regard to Internet extensions, Québec has some very large firms that provide outsourced computer services, particularly electronic business solutions.

GRAPH 12

SECTORS OF ACTIVITY RELATED TO E-COMMERCE



Note: The data for Internet extensions are only for call centres.
 Sources: Vision Québec.
 Gouvernement du Québec. *Le Québec : un environnement économique concurrentiel*, Québec, February 2000.

□ Initiatives required

All things considered, e-commerce is rapidly becoming a part of the Québec economy. However, only a minority of businesses have incorporated the new ways of doing things into their business operations. It is small and medium-sized businesses, the foundation of Québec’s industrial fabric, that particularly lag behind. At the same time, substantial markets are developing on the fringes of e-commerce in sectors of activity in which Québec businesses are often very well positioned.

Initiatives must therefore be taken, both to better equip businesses to cope with the new competitive conditions and to tap new markets as soon as possible. This is the goal of the initiatives announced by the government in the **2000-20001 Budget Speech** in order to **support the development of e-commerce**.

1.3 Household access to the Internet

1.3.1 The advent of the information society

As we have seen, the revolution brought about by e-commerce is the result of the specific features of an open network like the Internet. This network has other distinctive traits from the standpoint of its use, which explain the speed with which individuals throughout the world decide to connect to it. The Internet is a network accessible to all, an infrastructure available at low cost and a technology that is extremely user-friendly.

□ *A world of possibilities for those who are connected*

We are witnessing throughout the planet the advent of an information society, the door to which opens onto a world of new possibilities. The generalization of the Internet makes it possible to forge multiple, direct links world-wide among the connected population, and creates new ways of doing things and new ways of life. Quality of life improves significantly and opportunities for communication and education increase substantially, provided, of course, that one is, in fact, connected to the network.

A real gap is opening between those who are connected and those who are not. This phenomenon was forcefully underscored by President Clinton in his State of the Union Address²² in which he sounded an alarm: the President of the United States pointed out that a “digital divide” was appearing that would create a two-tiered society made up of the “info-rich”, i.e. those who use the new communication tools such as the Internet, and the “info-poor”, who have no access to such tools.

□ *Exclusion of a part of society*

The development of the Internet has been accompanied by the exclusion of a portion of the population that is deprived of the new information and communication technologies, mainly for financial reasons.

In the United States, many studies have been conducted to shed light on this exclusion as the Internet develops.

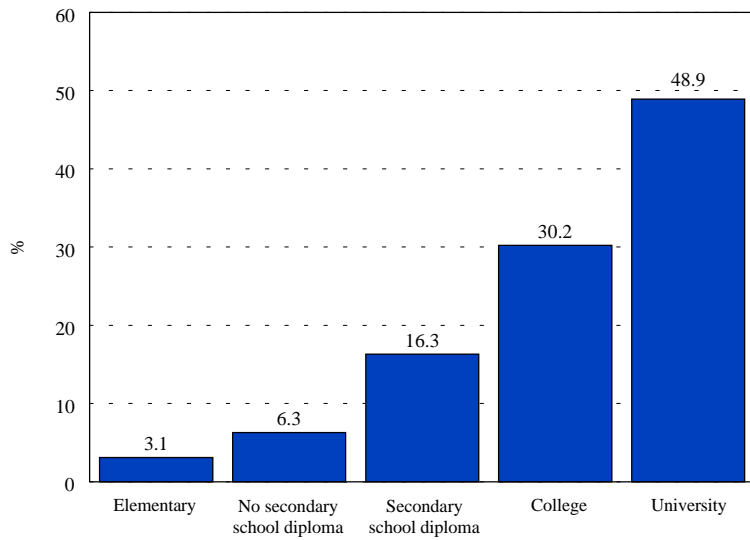
²² United States Government. *State of the Union Address – Community – Opportunity – Responsibility*. President William J. Clinton, January 27, 2000.

□ ***The Internet, schooling and income***

Graphs 13 and 14 below show the close correlation between Internet access, level of schooling and income. In 1998, nearly half of Americans with a university education were connected to the Internet, compared with only 3% of Americans with an elementary school education.

GRAPH 13

INTERNET ACCESS, ACCORDING TO LEVEL OF SCHOOLING, UNITED STATES — 1998
(percent)

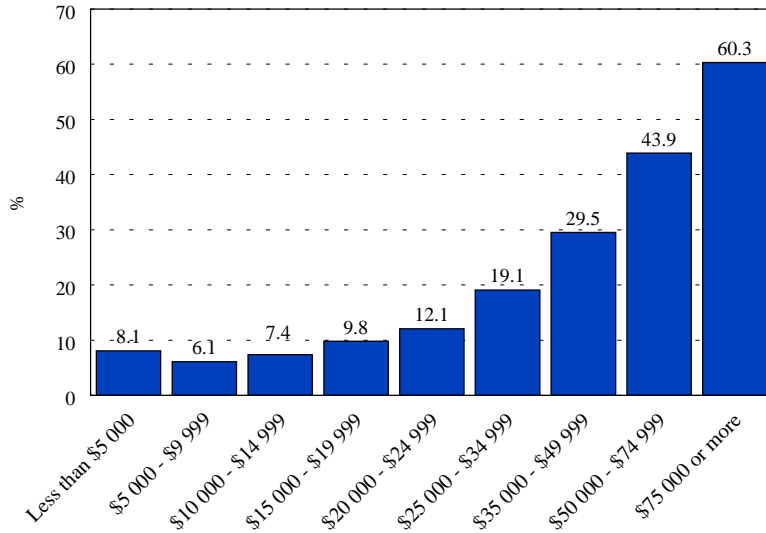


Source: United States Government. *Falling Through the Net: Defining the Digital Divide*, National Telecommunication and Information Administration – US Department of Commerce, July 1999.

Also in 1998, 60% of Americans earning US\$75 000 or more were connected to the Internet, compared with 20% of those with income between US\$25 000 and US\$35 000, and only 8% of those earning less than US\$5 000.

GRAPH 14

**INTERNET ACCESS, ACCORDING TO FAMILY INCOME (US\$),
UNITED STATES — 1998**
(percent)



Source: United States Government. *Falling Through the Net: Defining the Digital Divide*, National Telecommunication and Information Administration – US Department of Commerce, July 1999.

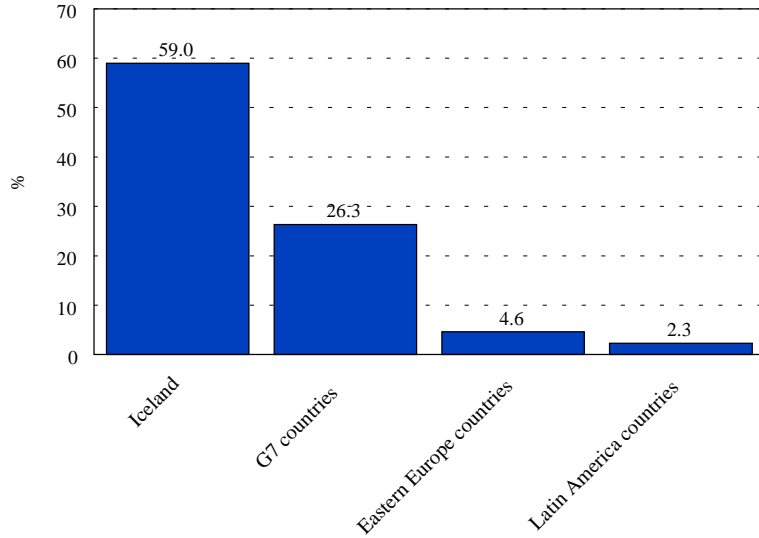
□ ***The appearance of a “digital divide” throughout the world***

A “digital divide” does not exist only within a given society, such as the United States. It is a world-wide phenomenon, in which appear two classes of countries characterized by the general or marginal use of the Internet.

Graph 15 below illustrates this new disparity, which essentially reflects the differences in levels of development. In 1999, in all G-7 countries, a quarter of the population was connected to the Internet. This proportion was less than 5% in the countries of Eastern Europe, and barely exceeded 2% in the countries of Latin America. At the other end of the spectrum, a country like Iceland holds the world record for Internet access with 59% of the population connected to the network.

GRAPH 15

INTERNET USE ACCORDING TO TERRITORY — 1999



Sources: Computer Industry Almanac. *Internet Industry Almanac*, November 1999.
 Jupiter Communications. *Internet Use in Latin America*, November 1999.
 Andersen Consulting. *Reconnecting Europe*, November 1999.
 Business 2.0. *New Power Centers*, January 2000.

Notes: The Eastern European countries included in this table are Estonia, Latvia, Poland, Romania and Slovenia.
 The Latin American countries included in this table are Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela.

1.3.2 Québec has some catching up to do

This very disturbing phenomenon is also found in Québec. As indicated previously, we are witnessing rapid growth in Internet use by the Québec population: between May 1997 and December 1999, the proportion of Quebecers who used the Internet rose from 34.9% to 52.3%, and the number who have a computer at home increased from 31.6% to 42.2% (see Graph 6).

Although the transition to the Internet seems to be well under way, Quebecers and Québec businesses lag quite a way behind the rest of North America from the standpoints of computerization, Internet use and e-commerce. For example, in 1998, Internet use by households in British Columbia and Alberta was more than twice that in Québec.²³ As Graph 16 shows, the gap between

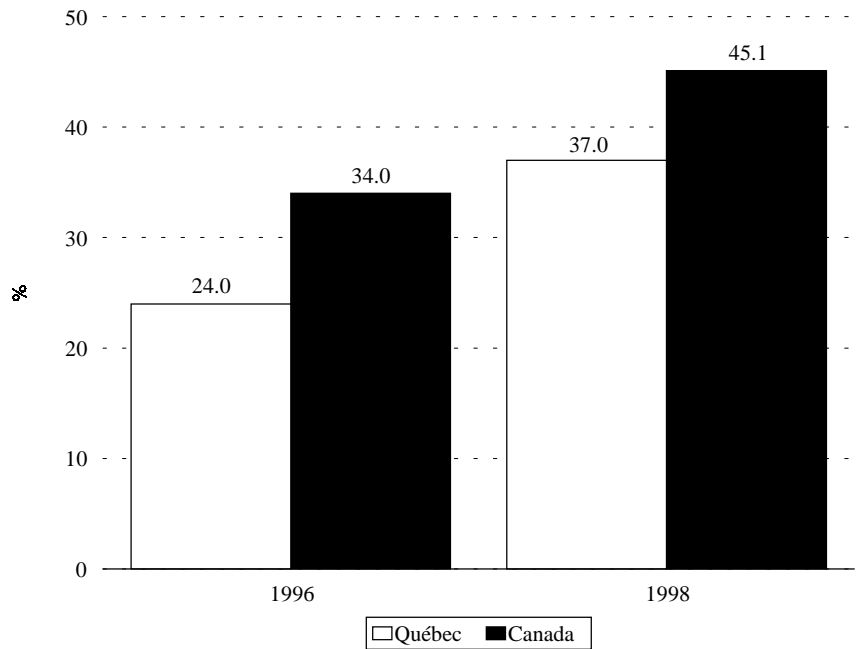
²³ Statistics Canada. *Internet Use by Households 1998*. Special study, Services Indicators – 1st quarter 1999.

Québec and Canada in terms of people who had a computer declined between 1996 and 1998, but it is still wide.

There is also a gap between those who have a micro-computer at home, as well as a modem installed on it. Québec is catching up, but it is estimated that the disparity between Québec and the three Canadian provinces with the most Internet access is equal to a period of one to two years of network growth, which is far from negligible in an area in which changes are occurring so rapidly.

GRAPH 16

PROPORTION OF HOUSEHOLDS THAT HAVE A COMPUTER, QUÉBEC AND CANADA, 1996-1998



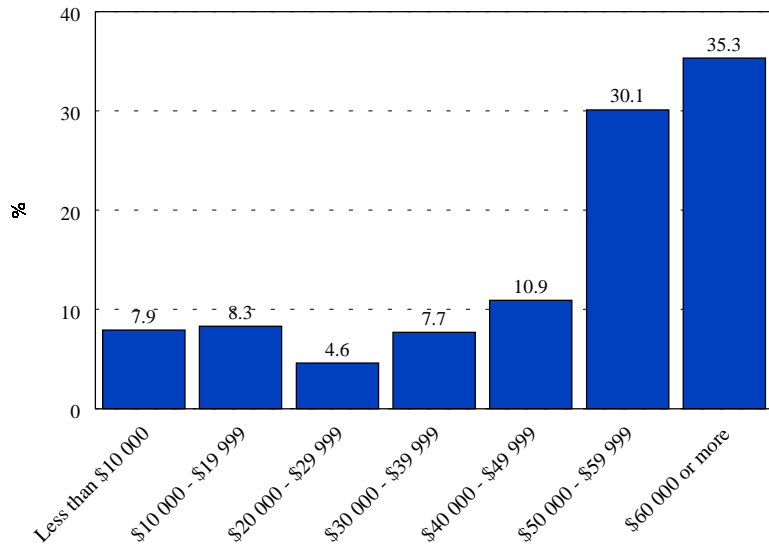
Sources: CEFRIO. *Internet : Accès et utilisation au Québec*, November 1999.
 Statistics Canada. *Survey of Household Spending and Household Facilities and Equipment Survey*, December 1999.

□ **Connection and income level**

As in the United States, surveys have been conducted on the correlation between the rate of Québec household connection and level of income. Graph 17 shows that the findings are similar.

GRAPH 17

**INTERNET ACCESS, AT HOME OR AT WORK,
ACCORDING TO FAMILY INCOME, QUÉBEC — 1998**
(percent)



Source: ScienceTech. *Les Québécois face aux inforoutes*, June 1999.

In 1998, a much larger share of Quebecers with family incomes above \$50 000 used the Internet than the rest of the population. More specifically, the rate of Internet use was:

- 35% for households with incomes above \$60 000;
- 30% for households earning between \$50 000 and \$60 000;
- less than 10% for households with incomes below \$50 000.

Income appears to constitute a major barrier to Internet use. According to 1997 taxation statistics, nearly 70% of Québec households had incomes under \$50 000. This means that most of the population is in an income bracket where the rate of connection to the Internet is lowest, prohibiting, at least in the short term, a sufficient critical mass of users from being constituted that would permit the transition of the whole of society to the new forms of information flow.

□ ***A divide that impacts on children***

This gap in Internet use impacts on the children of the families concerned. In Québec families that are not connected to the Internet, the children do not have the same advantages as the children in families with Internet access.

It is clear in this regard that the availability of the Internet in the education system cannot fill the gap. According to a survey conducted in January 2000 for CEFRIO, 75% of children whose parents have a family income above \$60 000 use the Internet for educational purposes, while 56% of those whose parents have a family income below \$20 000 use the Internet for these purposes.²⁴ We know that the time during which children use the Internet in school is relatively restricted, and cannot be compared to the time spent at home browsing the network or making use of the possibilities of a micro-computer.

□ ***Internet access: mother tongue and French-language content***

The “digital divide” in Québec, as elsewhere in the world, is explained for the most part by differences in household income. Graph 18 illustrates another cause of this “divide”, when the correlation between Internet access and mother tongue is considered.

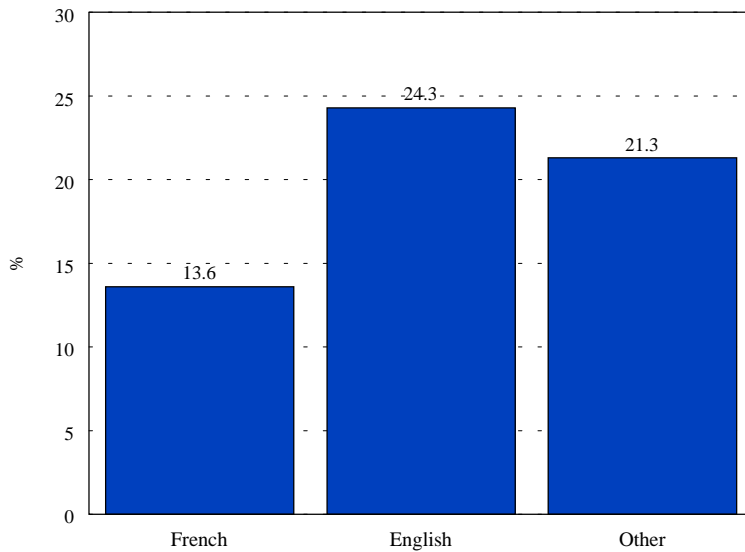
According to a survey conducted in 1998, proportionately more Quebecers whose mother tongue was English had Internet access than Quebecers whose mother tongue was French. According to the survey, nearly a quarter of adults whose mother tongue was English used the Internet, compared with less than 15% of households whose mother tongue was French.

²⁴ CEFRIO – Léger & Léger. *Omnibus CEFRIO – Léger & Léger*, February 2000.

For Quebecers, this phenomenon is probably explained by the nature of the content on the network. It is certain that the relatively limited quantity of web sites or of information in French makes the Internet less attractive to a French speaker than to an English speaker.

GRAPH 18

PROFILE OF INTERNET USERS, ACCORDING TO MOTHER TONGUE, QUÉBEC — 1998
(percent)



Source: ScienceTech. *Les Québécois face aux inforoutes*, June 1999.

As was stated, Québec households lag behind in connection to the Internet. Generally speaking, the gap is being reduced, but particularly affects the most disadvantaged, thereby magnifying the inequalities in society because of the growing role played by the Internet in training and education.

□ **Multiple challenges**

The lag in Quebecers’ Internet access raises multiple challenges.

- First, and this is in line with the problems raised previously in regard to e-commerce, the low rate of connection of customers is said to be one of the reasons that SMBs are reluctant to prepare to use e-commerce. It was stressed above that, according to a survey published last January, more than one third of SMBs in Québec do not engage in e-commerce because, they say, their customers and suppliers are not ready for it.

A strong local market is often a prerequisite for businesses that want to develop, and this principle applies to the transition to e-commerce. The proximity and interaction between a business and its customers encourage it to improve the quality of its products and services and subsequently give it a comparative advantage on the new markets it penetrates.

Therefore, the connection of Québec households can probably be considered a condition for the development of e-commerce in Québec businesses, particularly in SMBs. Households that are part of the local clientele of a business are one of the business's targets. Hence, the fact that most customers cannot communicate electronically since they do not have a micro-computer or Internet access inevitably impedes the development of e-commerce.

□ ***Major collective advantages***

- Second, the connection of most of the population to the Internet has major collective advantages, owing, above all, to the reduction in costs that network use makes possible. This is particularly evident in the case of government services. According to a recent study published in the United States,²⁵ it is estimated that when a government service goes on line, it can reduce its cost by up to 70%.

One of the objectives of *Québec's information superhighway policy*, indicated at the beginning of this publication, consists precisely in increasing the use of electronic media for exchanges between the government, individuals and businesses. As has been pointed out, it is now possible for Quebecers to send their income tax return electronically to the ministère du Revenu. Moreover, people can use the Internet to apply to the Direction de l'état civil for a birth, marriage or death certificate.

Marked gains can be achieved for both the government administration and the clientele through the use of the Internet for the provision of services. The gains will be significant only if a sufficient proportion of the population is actually connected to the network. If not, both the government administration and the population will be denied the full benefit of the productivity gains that can now be derived.

²⁵ CALDOW, Janet. *The Quest for Electronic Government: A Defining Vision*, Institute for Electronic Government, IBM Corporation, July 1999.

It should be added that the collective advantages of the generalization of the Internet could take on a new dimension with the impact of network use on telecommunication costs. It is now technically possible to make telephone calls free of charge anywhere in the world, using the Internet. The development of the Internet and its use could thus make substantial savings possible for households with Internet access. Some businesses are, in fact, preparing to offer telephone service on the Internet.

□ *The new literacy*

- Third, and more generally, the massive connection of the population to the Internet constitutes an educational and training challenge that, to all intents and purposes, can be compared to the literacy process. In the technological revolution under way, the use of a micro-computer and of the Internet becomes the key to the skills that a modern person must have.

In a person's professional life, such skills are gradually becoming prerequisites for many jobs. It is therefore easy to see why some businesses have already implemented specific programs to enable their employees to improve their new technology skills and thereby increase their productivity. Large corporations such as Ford and Delta Airlines now offer their employees packages for the leasing of a personal computer at a reduced price and for unlimited Internet access at home.

***An intervention strategy:
Ford and Delta Airlines***

- To increase the productivity of their workers and to help them adapt more easily to technological change, the American companies Ford and Delta Airlines offered all their employees, in February 2000, a package that would give them a personal computer and unlimited Internet access at home at a reduced price.
- The package at **Ford** is offered at a monthly cost of the equivalent of CAN\$7.50 to employees residing in the United States.
- Ford estimates that it will spend some \$300 for each of its 350 000 employees who take advantage of the offer. This means an investment of some \$90 million over a period of three years.
- In the case of **Delta Airlines**, the maximum cost of the package is CAN\$18 a month, but it will be lower in countries where Internet access is less expensive, particularly in the United States.
- According to Ford and Delta Airlines, these programs will, in particular, give them an edge over their competitors:²⁶
 - Employees will be able to develop their technological skills, which will increase their overall productivity.
 - The technological skills acquired will have an impact on the employees' creativity in their jobs, which should help them adapt more rapidly to technological change.

²⁶ According to the American firm ZDNet, which specializes in an international e-commerce techno-watch.

□ ***Another asset for the development of a knowledge-based economy***

A population that has massively acquired skills in the new forms of communication is of great interest to high technology firms. For example, in the new information and communication technologies, businesses often chose to locate their operations in regions where the population is trained in these technologies and where Internet access is generalized.

Among such a skilled population, businesses can test their products in a technologically advanced environment, representing the reality of the future. The U.S. research company Pulver has set up an international research centre in Iceland, where the people, as was pointed out earlier, have one of the highest rates of Internet access in the world.

In Québec's case, a majority of the population with Internet access and therefore skilled in the new communication technologies would inevitably strengthen the comparative advantages on which the economy can already rely, and accelerate the transition now under way to the knowledge-based economy.

SUMMARY OF OBSERVATIONS

E-commerce

- E-commerce on the Internet is exploding, profoundly transforming commercial relations owing particularly to the time saved and the spatial constraints eliminated.
- The involvement of businesses, particularly SMBs, in e-commerce is both a development opportunity and a question of survival, given the decompartmentalization of markets.
- The development of transactions on the Internet also results in the appearance and growth of a set of directly related activities. These activities are very promising in terms of job creation, and major delocalization phenomena are the challenge they pose.

Internet use by families

- Becoming skilled in using the Internet and a micro-computer has major economic and social benefits.
- Fewer Québec households have Internet access and a computer, mainly at home.
- Families with modest incomes are particularly affected by the “digital divide”. This situation is especially disturbing for children with less access than children in other families to information technology who will be at a disadvantage during their studies and when they look for a job in the new economy.

2 *Objectives*

2. OBJECTIVES

The various data available on the development of e-commerce and on the connection of individuals to the Internet all confirm the rapid changes under way, the revolutionary nature of the changes seen and the scope of the challenges they pose. Internet use and its deployment for commercial purposes pose a challenge for societies around the world, and Québec is no exception. The different economic agents must adapt as soon as possible to the new rules of the game, and incorporate e-commerce into their operations. Generally, the greatest possible number of people must have access as soon as possible to the Internet, in order to fully benefit from the advantages of an **on-line society**.

Québec is in the process of successfully making its transition to the new economy. The very rapid growth of advanced knowledge businesses in Québec and their growing role in all activity in Montréal, Québec City and the regions, are dazzling proof of this. The development of e-commerce is, as it were, a natural extension and a logical sequel of this change. The new ways of doing things and the technological innovations have now reached the market economy. They are changing the relations between businesses, the general public and government administrations.

□ *The government's strategy*

For the Québec government, the strategy to follow is the very one that has made possible a successful transition to the knowledge-based economy. In e-commerce and in the connection of households to the Internet, as in the new economy, the government has adopted a resolutely determined approach, that rapidly implements a number of major elements with the **2000-2001 Budget Speech**.

The first Budget of the new century provides an opportunity to take a number of major initiatives, aimed at achieving the **three objectives** that the government considers priorities:

- **First, every effort must be made to accelerate the technological adaptation of businesses, particularly SMBs, to e-commerce.**

This adaptation represents an extraordinary opportunity to make commercial operations more productive, a chance for businesses to enter new markets and the necessity for these businesses to deal with additional competition. Businesses must position themselves rapidly if they are to take full advantage of the opportunities

created by the new business context, and even to take the lead in this regard.

- **Second, specific support must be provided for activities related to e-commerce, in which Québec businesses can position themselves to their advantage on international markets.**

E-commerce creates, in its wake, new growth and development niches. The Québec government clearly intends to ensure that these opportunities are fully exploited in the best interests of the Québec economy as a whole.

- **Third, steps must be taken to ensure that household access to the Internet is as broad as possible, so as to prevent a portion of the population, particularly children, that is unable to connect to the network for essentially financial reasons from becoming the victims of the “digital divide”.**

At the Québec Youth Summit, held in Québec City from February 22 to 24, a very clear consensus emerged in favour of greater access by households to the new information and communication technologies. More specifically, in a joint statement issued at the end of the Summit, the participants agreed:

“to develop a Québec culture of use of new information and communication technologies, particularly through access by the greatest possible number of households to these technologies”.

The third objective formulated here is directly in keeping with this consensus.

The initiatives announced by the Québec government in the **2000-2001 Budget Speech** make it possible to immediately begin to achieve these three objectives.

3 *Initiatives announced in the Budget Speech*

3. INITIATIVES ANNOUNCED IN THE BUDGET SPEECH

A detailed explanation of the conditions of application of these initiatives is provided in *Additional Information on the Budgetary Measures*.²⁷

3.1 Accelerate the adaptation of SMBs to e-commerce

The Québec government announced two tax measures and one budgetary measure to speed up the adaptation of SMBs to e-commerce:

- First, an **SMB e-commerce tax credit** has been created to help small and medium-sized businesses incorporate e-commerce into their operations. An amount of \$126 million is earmarked for this purpose over the next three fiscal years.
- Second, under the **improvement of the tax rules applicable to stock option plans**, also announced in the **2000-2001 Budget Speech**, SMBs will have the means to attract and retain the loyalty of specialized employees capable of ensuring the growth of the business and mastering the changes imposed by the widespread use of e-commerce.
- Third, SMBs will benefit directly, as will all businesses and individuals, from **increased funding for the development of the information highway**. To this end, the Secrétariat du Conseil du trésor will receive additional appropriations of \$45 million over the next three fiscal years.

3.1.1 An SMB tax credit for e-commerce

Objectives

In order to promote the incorporation of e-commerce into SMBs, the government has created a tax credit designed to encourage Québec SMBs to adopt the technological tools required to enable their customers and suppliers to do business with them more efficiently.

²⁷ Gouvernement du Québec. *Additional Information on the Budgetary Measures*, 2000-2001 Budget, ministère des Finances, March 14, 2000.

The tax credit is seen as a **catch-up measure**. The tax credit is therefore a temporary one, lasting two years, intended to encourage the businesses concerned to invest rapidly in the incorporation of e-commerce solutions into their business. These investments will open doors to the international market for them.

□ *A refundable tax credit of up to \$40 000*

The SMB e-commerce tax credit is a **refundable tax credit of 40% on eligible expenses**. Maximum assistance is set at **\$40 000 per corporation**.

Eligible expenses are expenses incurred by businesses to invest in e-commerce solutions, that is, in the **development of a transactional web site or a business-to-business transactions system as part of a closed network** enabling the firm to do business on line with other firms, the general public and government.

More specifically, expenses eligible for the tax credit are expenses related to the incorporation of an e-commerce solution into business operations. Eligible expenses include salaries and the cost of acquiring application software for inclusion in the eligible e-commerce solution, for stages relating to:

- an e-commerce solution implementation assessment;
- the setting up of a marketing plan for a web site;
- the development of a transactional web site or a business-to-business transactions system as part of a closed network;
- e-commerce solution maintenance for a three-month period;
- employee training for a three-month period.

The SMB can incur eligible expenses itself or through a service contract. The contract must be performed in Québec in order to stimulate this sector of activity.

□ *A catch-up measure that will benefit 10 000 SMBs*

Eligible businesses are SMBs with assets of less than \$12 million or a sales figure of less than \$25 million. In addition, the payroll of these businesses must be paid out mainly in Québec. These criteria are easy to satisfy and should apply to close to 98% of all businesses with at least one employee and one establishment in Québec. An estimated 10 000 SMBs is expected to take advantage of this tax credit.

□ ***Tax assistance of \$126 million to encourage businesses to invest rapidly***

No prior certificate of eligibility will be required to obtain the SMB e-commerce tax credit. The ministère de l'Industrie et du Commerce (MIC) will be responsible for promoting the measure and assisting businesses in their efforts to introduce e-commerce solutions. To this end, the MIC will receive appropriations of \$500 000 in each of the next two fiscal years.

In all, the government is thus setting up a \$127-million program in order to step up the conversion to e-commerce among SMBs. This program is intended to provide **significant short-term support** to encourage small and medium-sized businesses to incorporate e-commerce into their operations without delay.

TABLE 1

**SMB TAX CREDIT FOR E-COMMERCE
FINANCIAL IMPACT**
(in millions of dollars)

| | 2000-2001 | 2001-2002 | 2002-2003 | Total |
|--|-------------|-------------|-------------|--------------|
| ACCELERATE ADAPTATION OF SMBs TO E-COMMERCE | | | | |
| ▪ SMB tax credit for e-commerce | | | | |
| – Tax credit to incorporate e-commerce solutions | 35.0 | 63.0 | 28.0 | 126.0 |
| – Appropriations for promoting and assisting SMBs | 0.5 | 0.5 | — | 1.0 |
| Total | 35.5 | 63.5 | 28.0 | 127.0 |

3.1.2 Improvement in tax rules for stock option plans

A stock option is a right given an employee who can then acquire shares in the capital stock of the firm for which he works, at a price set in advance. The stock option is used by certain businesses as an additional incentive over and above the employee's salary. As a result, the employee can become a shareholder in the company for which he works while participating in its operations. This can be an extremely interesting plan in the hi-tech sector, where the public value of small businesses corresponds to the value the stock market attributes to their development potential.

In the **2000-2001 Budget Speech**, the Québec government announced an improvement in existing tax rules. Previously, an employee of a public company who exercised his stock option had to include the tax benefit derived from the option in his employment income for the year in which the option was exercised, whether the share was sold or not. Henceforth, tax liability will be deferred to the time when the shares are sold, up to an amount of \$100 000 a year. Tax treatment will thereby be uniform.

□ ***Numerous advantages***

The measure introduced by the Québec government has many advantages:

- the improvement in the stock option plan will make this type of remuneration more attractive;
- it will help companies, particularly small businesses in the knowledge-based economy, recruit and keep key employees;
- it will also bring the Québec tax system closer to the system in effect in the United States in this respect.

□ ***A means for small public companies to attract top-notch employees***

This general measure will have a direct effect on small public companies carrying on business in leading sectors. In these businesses, stock option plans play a major role in enhancing employee remuneration. Henceforth, these businesses will have an additional incentive to offer top-notch employees to whom they are unable to give sufficiently attractive salaries.

One of the challenges faced by SMBs in the area of e-commerce is precisely the need to obtain the cooperation of key employees while offering them salaries in line with the company's financial position. The improvement in the stock option plan will enable them to attract the specialists they need, since they will be able to give them a share in the company's success without jeopardize the financial health of the company by paying salaries they cannot afford.

The improvement in these rules will cost a total of \$37 million over the next three fiscal years, i.e. 2000-2001, 2001-2002 and 2002-2003.

3.1.3 Increased funding for the development of the information highway

In the framework of *Québec's information superhighway policy*, an effort to modernize the provision of government services was made by all departments and agencies. The **2000-2001 Budget Speech** is an opportunity for the government to allocate additional funds to support this vast effort. The funds will particularly be used to implement the security infrastructures required by the use of the new information technologies, in order to guarantee the public and businesses that they will have all the security and confidentiality required in carrying out transactions with the government.

Furthermore, the government will increase its contribution to the development of part of Québec's technological infrastructure and to the growth of content that reflects the culture and values of Québec society. Additional resources will be earmarked for three main development focuses:

- acceleration of the deployment of initiatives with a substantial multiplier effect in various economic sectors;
- encouragement of the realization of information highway projects in education, culture and language that cannot meet the criteria of solely economic profitability;
- investment in projects related to information and communication technologies , through new networking initiatives in particular.

To support all of these new initiatives, additional appropriations of \$15 million a year will be earmarked for the Secrétariat du Conseil du trésor for the fiscal years 2000-2001, 2001-2002 and 2002-2003.

3.2 Support activities related to e-commerce: deployment of the fibre-optic network in the regions

The development of e-commerce implies that the infrastructures required for the transmission of data be available everywhere. Québec currently has an extremely sophisticated telecommunications network, but certain “developed” components of the network that are essential to e-commerce are not sufficiently deployed in a number of regions.

□ ***An accelerated depreciation rate of 125%***

The government has therefore decided to allow businesses that set up a “developed” network in the regions to benefit from an accelerated depreciation rate of 125%.

- Eligible investments are those made in fibre-optic and coaxial cable networks, as well as in opto-electronic equipment and the related electric equipment.
- The regions concerned are all the Québec regions with the exception of the administrative regions of Montréal and Laval and the Communauté urbaine de Québec.
- This measure will be temporary, in order to accelerate the deployment of the fibre-optic network in the regions. It will be in force for a period of five years.

□ ***A developmental fiscal measure***

The granting of an accelerated depreciation rate of 125% for investments in the fibre-optic network in the regions is a developmental fiscal measure, designed to ensure the development of e-commerce activities in all Québec regions. Its cost is estimated at \$15 million, \$9 million of which in the next three fiscal years.

TABLE 2

**ACCELERATED DEPRECIATION FOR THE DEPLOYMENT OF THE FIBRE-OPTIC NETWORK IN THE REGIONS
FINANCIAL IMPACT**
(in millions of dollars)

| | 2000-2001 | 2001-2002 | 2002-2003 | Total |
|--|-----------|-----------|-----------|-------|
| Accelerated depreciation of the fibre-optic network in the regions | 2.0 | 4.0 | 3.0 | 9.0 |

□ ***Objectives***

Through this fiscal measure, the Québec government is ensuring that the developed services of the information highway will be available in all Québec’s regions. As such, this initiative is a direct application of *Québec’s information superhighway policy*. It also represents a major regional development measure, as it should enable the most remote regions to have access to the services of the information highway at affordable and equitable rates.

The granting of an accelerated depreciation rate for the deployment of the fibre-optic network in the regions is a major element in the strategy defined by the government to **support the development of e-commerce**.

- This measure will be of direct benefit to businesses and individuals in the regions, as they will have access to improved services that are compatible with e-commerce needs.
- At the same time, and this is a very important point in the government's strategy, the implementation of this tax incentive will provide direct support for activities related to **Internet infrastructures**.

The importance of activities related to the Internet and their development potential for a number of sectors of activity in which Québec is already well positioned has been pointed out. This is true of Internet infrastructures: the granting of accelerated depreciation for the deployment of "developed" networks in the regions will directly stimulate the demand for fibre-optics, the suppliers of which are located upstream from the industry. Hence, this measure should have a direct, and particularly interesting, impact on Québec businesses in this sector of activity.

3.3 Connect families to the Internet

The government is launching a **program to connect families to the Internet**. This measure, for which a budget of \$120 million is planned over the next three fiscal years, will enable families receiving a family allowance from the Régie des rentes du Québec to obtain Internet access at a reduced price and to have a multimedia computer, if they want one.

This measure will make it possible to:

- reduce the gap separating Québec from its North American partners in terms of Internet access;
- reduce the divide in Québec society between people who have Internet access and those who do not yet have it;
- develop the skills of young people in regard to the new information and communication technologies;
- remove the financial barrier preventing the families contemplated from using the new information and communication technologies.

3.3.1 The assistance measure

At the present time, a number of suppliers offer different Internet access packages. The cost of these packages varies, particularly according to the number hours of Internet use.

The government assistance will cover two types of packages:

- Internet access.
- Connection to the Internet and a multimedia computer.

This measure will come into effect on May 1, 2000. Families that are not yet connected and wish to be will have until March 31, 2001 to subscribe to one of these packages through an accredited supplier. The assistance will be paid for two years beginning on the connection date.

Eligible families will be entitled to assistance equal to 75% of the cost of one of the packages.

□ *An Internet access package*

With this package, families that already have a computer but are not yet connected to the Internet and those that use a decoder box will be able to obtain financial assistance that will cover part of the cost of access obtained from a supplier.

The assistance granted can cover the equipment supplied by the Internet service provided. For this package, the grant paid may not exceed \$200 a year.

For example, in the case of an Internet access package costing \$22 a month, families eligible for the program will receive a grant of \$16.50 a month, and must pay \$5.50 a month, including taxes.

TABLE 3

EXAMPLE OF THE MONTHLY COST OF THE PACKAGE
— INTERNET ACCESS
 (in dollars)

| Total cost of the package | Government grant | Cost of the package for the family |
|---------------------------|------------------|------------------------------------|
| 22.00 | 16.50 | 5.50 |

□ ***A service contract combining a multimedia computer and Internet access***

The assistance granted will enable families wishing to sign a service contract with a supplier that will include Internet access and the leasing of a computer to do so. For this package, the grant paid will not exceed \$450 a year.

For example, in the case of a package combining a multimedia computer and Internet access, costing \$50 a month, the families eligible for the program will receive a grant of \$37.50 a month and will have to pay \$12.50 a month.

At the end of the service contract, the families may keep their computer free of charge.

TABLE 4

**EXAMPLE OF THE MONTHLY COST OF THE PACKAGE —
CONNECTION AND COMPUTER**
(in dollars)

| Total cost of the package | Government grant | Cost of the package for the family |
|----------------------------------|-------------------------|---|
| 50.00 | 37.50 | 12.50 |

3.3.2 Administrative conditions

The families eligible for the program are those that receive a family allowance from the Régie des rentes du Québec.

The grant will be paid to the families in the form of a rebate granted by the suppliers on the total cost of the package. These terms will enable the families to benefit immediately from the government assistance, rather than having to pay the total cost of the package and be reimbursed once a year, for example.

The cost of the rebate granted the families will be refunded to the suppliers by the government on a monthly basis.

The Internet providers that want to participate in the program must be accredited. To obtain their accreditation, they must meet certain criteria, particularly in regard to price, quality of service, computer capacity memory, speed and so on) and the number of hours of access to the Internet.

The ministère de l'Industrie et du Commerce will be responsible for managing the program. It will be given additional appropriations of \$1.5 million over three years for this purpose.

3.3.3 Cost of the program

The program is estimated to cost \$121.5 million over three years.

TABLE 5

PROGRAM TO CONNECT FAMILIES TO THE INTERNET — IMPACT ON GOVERNMENT EXPENDITURES
(in millions of dollars)

| | 2000-2001 | 2001-2002 | 2002-2003 | Total |
|--|-------------|-------------|-------------|--------------|
| CONNECT FAMILIES TO THE INTERNET | | | | |
| ▪ Financial assistance | 28.0 | 60.0 | 32.0 | 120.0 |
| ▪ Budgetary appropriations for management of the program | 0.5 | 0.5 | 0.5 | 1.5 |
| Total | 28.5 | 60.5 | 32.5 | 121.5 |

CONCLUSION

The development of e-commerce is radically changing the nature and conditions of commercial exchanges around the world. An ever-growing number of businesses and individuals are using the Internet to exchange information and carry out transactions on a world-wide scale, thereby actually globalizing business.

At the same time, the development of the Internet has created new ways of doing things and significantly improved the quality of life of households, and has even become an essential element in education.

This veritable transformation, which all societies are undergoing, provides Québec businesses with new opportunities. It also poses a major challenge to the entire community, which must meet it rapidly.

The Québec government is very aware of these opportunities and challenges. The **2000-2001 Budget Speech** is an opportunity to take several major initiatives, particularly to help small and medium-sized businesses to incorporate e-commerce as soon as possible into their operations and to make the Internet accessible to the most people possible. Therefore, over the next three fiscal years, the government will directly inject \$209 million to accelerate the adaptation of SMBs to e-commerce, \$9 million to support activities related to e-commerce and \$121.5 million to connect families to the Internet.

These fiscal and budgetary initiatives confirm and extend the determined strategy of the government to ensure that Québec makes the transition to the new economy. A number of the measures to stimulate the growth of advanced-knowledge businesses already have an impact on activities related to e-commerce, particularly Internet applications designed by businesses in the Cité du multimédia, and the budgetary assistance provided under the FAIRE program that call centres and transaction centres have received.

This action is being resolutely pursued. Major fiscal initiatives are being implemented for SMBs. Additional financing is being provided for the development of the information highway. Major support is being provided for the deployment of infrastructures in the regions. At the same time, the government is embarking upon an ambitious program to connect families to the Internet. As a whole, the measures announced will effectively **support the use of the Internet and the development of e-commerce**, in order to make Québec an **on-line society**.

TABLE 6

FINANCIAL IMPACT OF FISCAL AND BUDGETARY MEASURES TO SUPPORT THE USE OF THE INTERNET AND THE DEVELOPMENT OF E-COMMERCE
(in millions of dollars)

| | 2000-2001 | 2001-2002 | 2002-2003 | Total |
|--|-------------|--------------|-------------|--------------|
| 1. ACCELERATE THE ADAPTATION OF SMBs TO E-COMMERCE | | | | |
| ▪ SMB tax credit for e-commerce | | | | |
| – Tax credit for the incorporation of e-commerce solutions | 35.0 | 63.0 | 28.0 | 126.0 |
| – Budget appropriations for promotion with, and assistance for, SMBs | 0.5 | 0.5 | — | 1.0 |
| ▪ Improvement of the tax rules for stock option plans ¹ | 2.0 | 20.0 | 15.0 | 37.0 |
| ▪ Increased funding for the development of the information highway | 15.0 | 15.0 | 15.0 | 45.0 |
| Sub-total | 52.5 | 98.5 | 58.0 | 209.0 |
| 2. SUPPORT ACTIVITIES RELATED TO E-COMMERCE: DEPLOYMENT OF FIBRE-OPTIC NETWORK IN THE REGIONS | 2.0 | 4.0 | 3.0 | 9.0 |
| 3. CONNECT FAMILIES TO THE INTERNET | | | | |
| – Financial assistance | 28.0 | 60.0 | 32.0 | 120.0 |
| – Budget appropriations for management of the program | 0.5 | 0.5 | 0.5 | 1.5 |
| Sub-total | 28.5 | 60.5 | 32.5 | 121.5 |
| Total | 83.0 | 163.0 | 93.5 | 339.5 |

1. The impact of this measure extends beyond e-commerce.

Appendices

APPENDICES

Appendix 1 – E-commerce: the first steps in government support

The government announced in December 1999 and January 2000 its financial participation, through the **Information Highway Fund**, managed by the **Secrétariat à l'autoroute de l'information**, in four projects to facilitate the use of e-commerce by SMBs in certain targeted sectors. Firms in the metal products sector, small and medium-sized accounting firms, farming operations and outfitters in Québec will have appropriate tools to incorporate into their operations the new possibilities provided by on-line commerce. The Fund itself, through its mission, constitutes a major tool for the promotion of e-commerce with Québec's various economic agents.

| <i>The Information Highway Fund</i> |
|--|
| <ul style="list-style-type: none">▪ The Information Highway Fund was created by the Québec government on June 1, 1994. Its object is to bring about the creation of content and services in French on the information highway, so as to enable the Québec population to work, be entertained and educated, use everyday services and access cultural products from a Québec source.▪ In Phase I of activities, covering the period from 1994 to 1996, the Information Highway Fund received a budget of \$50 million, which it used to finance 51 major projects.▪ From 1996 to 1999, in Phase II, the Fund received new appropriations totaling \$30 million, which enabled it to support cultural, educational and health projects, in particular.▪ The Information Highway Fund is financing nearly a hundred projects that are now under way. |

The **ministère de l'Industrie et du Commerce** (MIC) also furnishes direct support to businesses investing in the new marketing, distribution and sales technologies. The *Impact PME* program has an EDI and e-commerce component aimed particularly at supporting projects whose objective is to reduce the delays in relations between business partners and thereby strengthen customer-supplier linkages. The MIC also administers a specific program, *Chantier inforoute-jeunesse*, whose purpose is to promote the hiring, by SMBs, of students responsible for implementing e-commerce-related technologies, with emphasis being placed on security matters in particular.

Such organizations as the **Centre francophone d'informatisation des organisations** (CEFRIO), the **Centre ePoly**, which is associated with the École Polytechnique de Montréal, and the **Institut du commerce électronique** play an essential role in raising awareness about the challenges of e-commerce in businesses, particularly small and medium-sized firms. These three organizations are directly supported and assisted by the Québec government in their research, techno-watch, promotion and information distribution activities. CEFRIO is responsible for three of the four projects mentioned above that concern the SMBs in certain targeted sectors, and collaborates with the MIC in an e-commerce incentive and information campaign for small and medium-sized firms.

Appendix 2 – Examples of household connection strategies in other countries

A number of governments have already decided to provide investments to ensure that a greater number of their people have access to information technology.

Among them, the United States and the United Kingdom decided to invest to combat the risks of the “digital divide”.

The Scandinavian countries, including Iceland and Sweden, have also invested large amounts to improve access to the new information and communication technologies in their countries. In addition to pursuing social objectives, these investments have been made with a view to economic benefits.

United States

- In his State of the Union Address on January 27, the President of the United States announced that his government intended to inject nearly \$4 billion over the next five years to eliminate the “digital divide”.
- The investments will be distributed over seven different programs, including a pilot project to increase Internet access among low-income households by creating partnerships with telecommunications and computer businesses.

Source: United States Government. *State of the Union Address – Community – Opportunity – Responsibility*. President William J. Clinton, January 27, 2000.

United Kingdom

- The British e-commerce strategy encompasses three measures whose specific objective is to reduce the “digital divide”:
 - coordination and development of initiatives to improve Internet access;
 - identification of the principal social groups affected by the “digital divide” and the elaboration of measures to develop their skills in the new information and communication technologies;
 - creation of the Regional Initiatives Development Fund to encourage Internet access and training in the new information and communication technologies.
- Furthermore, the British government will invest the equivalent of more than \$100 million in the next few months to provide over 100 000 low-income families with a computer.

Source: Government of the United Kingdom. [e-commerce@its best](#), Performance and Innovation Unit, September 1999.

Iceland

- The Iceland government made Internet access one of the most important priorities in its Strategy for the Information Society. Today, 82% of Iceland's population has access to the Internet and nearly 60% of households are connected.
- In addition to the benefits generally associated with such a situation, Iceland has managed to attract new investments.
- Among them, the American company Pulver developed an international research centre in Iceland that offers all American businesses an opportunity to test their new products.

Source: Business 2.0, *New Power Centers*, January 2000.

Sweden

- In 1998, the Swedish government launched a program to promote the computerization of households. To this end, it granted a tax deduction to all firms wishing to provide their employees with a computer. The same year, personal computer sales increased by 60%. In one year, 1.5 million computers were sold, in a country with a population of fewer than nine million people. Today, the proportion of households that have a computer approaches 60%, one of the highest rates in the world.
- Achievement of this objective has had a major impact on the skills of the Swedish workforce in the new information and communication technologies. According to the car manufacturer Volvo, this national program enabled it to increase the firm's productivity.

Source: Microsoft, *e government news*, May 1999.

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www.business2.com

Canadian Bankers' Association

www.cba.ca

Canadian Federation of Independent Business

www.cfib.ca

Centre francophone d'informatisation des organisations

www.cefrio.qc.ca

ePoly – École Polytechnique

www.epoly.polymtl.ca

Institut du e-commerce

www.institut.qc.ca

Microsoft

www.microsoft.com

Ministère de l'Industrie et du Commerce

www.mic.gouv.qc.ca

Ministère des Finances

www.finances.gouv.qc.ca

Ministère du Revenu

www.revenu.gouv.qc.ca

Secrétariat de l'autoroute de l'information

www.autoroute.gouv.qc.ca

Society for Worldwide Interbank Financial Telecommunications
(SWIFT)

www.swift.com