



tracking the dual digital divide



EXOS

tracking the dual digital divide



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executive summary

Purpose of this Study:

This study provides:

- » Tracking updates on general access levels and sub-groups that are least likely to be connected to the Internet.
- » An overview of changes in access and digital divide levels over the past three years.
- » A discussion of emerging social policy and governance issues relating to the Internet and the digital divide.

Overall Access:

There has been marginal growth in Internet access for all groups, but the digital divide has not narrowed.

- » Internet usage from some location had reached 59 per cent by the fall of 1999.
- » Usage remained flat until the spring of 2001, when the overall level of usage increased to 69 per cent. Internet usage has remained about the same through 2001.

The Digital Divide Persists.

- » While home access has increased across all groups, growth rates in home access were more significant in upper income households.
- » A majority of upper income households (81% of households with \$80-99K and 83% with \$100k and over) and upper middle households income (60% of households with \$40-59k and 72% with \$60-79K) have home access.
- » Less than half (46%) of lower middle income households (\$20-39k), and a little over one in three (35%) of lower income households (<\$20k) had access from home.
- » In spite of some growth, the division of home access based on income has continued to widen between upper and lower income households from a 39 point gap in 1997 to a 48 point gap in 2001.

- » There continues to be usage differences based on gender, with females lagging usage by males.
- » Usage by seniors has increased a small amount, from 21% in 2000 to 28% in 2001.

The intensity of usage once online has increased.

- » While Internet usage has slowed, those online are using it almost ten per cent more on a daily or near daily basis than the previous year.
- » Experience online is a more important predictor of intensity of usage than demographics.

Non-users And Access Barriers:

While cost continues to be the main barrier for lower income households, overall lack of interest has gained in importance as a reason for not being online.

- » Cost as a main barrier is linked to income, and those households earning less than \$20k per year identify cost as the main barrier to home access.
- » Lack of perceived need and lack of perceived interest are the main reasons given by upper income households for not having home access, with lack of need being cited by the highest income households.
- » Overall, lack of interest remained about the same (30%) from 1997 until 2000, but increased to 40 per cent in 2001.
- » Of all respondents, lack of interest is the main barrier for Internet non-users, while cost is the main reason why Internet users do not have access from home.
- » Cost as the most important barrier has increased for youth.
- » While cost is a concern for seniors, the main barriers to access remain technical literacy and lack of interest.
- » Cost continues to be the somewhat more important barrier to access for women, but with men lack of interest has replaced lack of need as the main obstacle.
- » For educational levels, after a shift towards cost as the main barrier in 2000, in 2001 lack of perceived need was identified as a slightly more important reason for not having home access.

Detailed Sub-Group Analysis:

Employment status is not a good predictor of Internet access.

- » Employment groups with the highest levels of access are students, term or casual employed, full-time employed, self employed, and part-time employed.
- » Students and full-time workers are the most likely Internet users.
- » Unemployed Canadians have average access levels, with about two in three reporting recent Internet access.
- » Home makers and retired Canadians have significantly lower levels of access.
- » Cost is the main barrier for students, seasonal workers and the unemployed.

For overall Internet access, there continues to be a deep divide based on type of job. Type of job is a predictor of access.

- » More than two thirds of professional, managerial and administrative workers have access from home and have used the Internet in the past three months.
- » Labourers (43%), Semi-skilled (50%) and Trades persons (50%) are considerably less likely to have home access, and are only somewhat more likely to have used the Internet in some other location.
- » Sales, service and clerical workers are close to the mean on the level of overall home access (60%).

“Have” and “have not” provinces continue to reflect differences in levels of access to the Internet.

- » Home access continues to remain highest in Ontario, Alberta and British Columbia, and significantly lower in Quebec, New Brunswick and Newfoundland.
- » Lack of interest or need are the main reasons for not having home access, with the cost effect being strongest in Alberta.

Policy, Governance & Community

With the persistence of the digital divide, there is a need to rethink the roles for information technology and other resources for individual and community economic and social development.

Many of the challenges and issues involving the Internet relate to social policy issues and objectives. There are roles for several federal government departments in addressing these issues. In particular, these are relevant to Human Resources Development Canada (HRDC), Heritage and Industry.

- » There is a tension emerging between the capabilities of increasing the 'personalization' of information on the Internet and, the development of, and access to, 'collective' or generalized information resources.
- » Issues involving the roles of, and support for, general interest public intermediaries need to be explored. General interest intermediaries offer opportunities to pursue human and social capital related policy objectives, and social and economic development (HRDC, Heritage, Treasury Board – Government Online).
- » As the Internet matures, there is an increasing demand for highly valued social or public information and resources as a complement to the growth of personalized consumer products and services (HRDC, Heritage).
- » Information is a primary factor integrating people into society. Diverse public and private information creates a shared culture, is important for social organization and participation by individuals at all levels (HRDC, Heritage, Treasury Board – Government Online).
- » The role of government funded public access sites has changed over the past few years. In addition to addressing a continuing need for access and basic technical training, these sites are increasingly being used as supportive resources for individual and community development activities. The role of the federal government in funding some of these in the future needs to be addressed (Industry, Treasury Board).
- » Many non-users or near users respond positively to going online when they believe that this will meet specific basic needs, including education/training, employment prospects and access to public information and services, etc (HRDC).

The Internet is only one of several important channels for access.

- » People require a diversity of the means of access (Internet, in-person, telephone, etc.).
- » Choices of different means of access to information and services are influenced by the specific needs and circumstances of each individual.

The role of general interest intermediaries is becoming an important issue.

- » Public intermediaries fulfill important roles, including: public access; development of reliable and useful information resources; and contributing to community social and economic development initiatives.
- » Community organizations and social infrastructure play important roles in individual and, community economic and social development.
- » Individuals rely on social institutions (intermediaries) to develop their skills and capacities, and to participate in society.
- » Digital divide inequalities also exist at the community level with community groups, local business and municipal government.
- » Intermediaries require sufficient funding and levels of expertise to successfully undertake their role in facilitating the development of social cohesion, human capital and, community-based social and economic infrastructure (HRDC, Industry, Heritage, Treasury Board).
- » There are opportunities for the federal government to pursue objectives of national identity and cohesion by extending initiatives involving traditional media and institutions to national and community public intermediaries using the Internet (HRDC, Heritage).

The Internet is still in a development phase. This offers opportunities for government to pursue innovative means to meet economic, social and cultural policy objectives.

- » The dynamic changes of the Internet will require a continual rethinking of government's role.
- » Priorities for government will likely include:
 - Social and cultural content development (HRDC, Heritage);
 - Economic policy initiatives (Industry);
 - Support for public information intermediaries (HRDC, Heritage, Industry, Treasury Board);
 - Support for institutions involved in human and social capital development, as well as social and economic infrastructure development (HRDC, Industry).

introduction

The following report provides an update of key Internet usage and access indicators, with a specific focus on examining those sub-groups that are the least likely to be connected to the Internet. From EKOS' substantial tracking data in this area, the report provides a multi-year perspective, reviewing changes in Internet access levels and the digital divide over time, identifying emerging social policy and governance issues from these larger trends.

The first section of the report provides tracking information that updates overall access levels and, non-user access barriers. Building on the findings of the earlier study's, the *Dual Digital Divide* (2000) and *Rethinking the Dual Digital Divide* (2001), a summary analysis is provided on overall access trends and, the changes and trends the three main non-user segments identified in the *Dual Digital Divide*.

The next section provides detailed sub-group analysis. Following the analysis of the *Rethinking the Dual Digital Divide* (2001) study, tracking analysis is provided on unconnected Canadians in the categories of: low income; unemployed; seniors; gender; type of job; education; and region. As demonstrated in previous research, these sub-groups are either faced with particular challenges for connectivity, or are over-represented in the unconnected population.

Section Three, Rethinking Social Policy, Governance and Community with the Digital Divide, reviews the current state of the digital divide and some of the important ways that the public is using and deriving value from the Internet. Analysis also explores the mutuality of online content and how content can meet a duality of needs for the public. Analysis on community organizations as intermediaries demonstrates the potential of the Internet as a resource for addressing digital divide issues, as well as for integrating social relationships and facilitating the development of social infrastructure, social capital and social cohesion. Emphasizing the need to focus on social relations, instead of technology, discussion involves the potential and limitations for using the Internet as a resource in social and economic development.

Appendix A contains the detailed results and tables from the regression analysis used for this study.

This report builds on earlier research on the digital divide.¹ This research analyzed Internet access, content practices and needs of Canadians, with particular emphasis on those not connected to the Internet. Two main non-user groups were identified. “Near-users” desired access but faced affordability and literacy barriers. “Far-users”, a second group consisted of those individuals express little interest in connectivity over the immediate term. The factors identified as most important in affecting access were cost/affordability, literacy, and lack of need. At the same time, research also revealed that other variables affected the complexity of the access issue, such as value of content, employment status/type, age, and gender. The study found preliminary signs that access was leveling off for upper middle and upper income households, but that some growth, albeit slow, continued with the lower income households. Beyond technological literacy², analysis discussed the importance of social information and the diversity of information, and the ability (social literacy) for people to access and use this information in their lives as important factors for access.

Subsequent research on Internet access through to 1999-2000 showed that while there had been growth in home access for all socio-economic groups, a digital divide still persisted and levels of access had indeed plateaued. However, there were indications of moderate growth in access for upper and middle-income groups, with less likelihood of significant change for lower income households. Multivariate analysis demonstrated that type of job, gender, geographical region, income, literacy, and lack of perceived need or interest in access were the main obstacles to access. Analysis also demonstrated how there are many other factors in addition to technology that are important to understanding access and the value or importance of the Internet. These other factors include: social literacy and capacity, the role of community organizations in access and training (community divides), and diversity of information.

¹ *The Dual Digital Divide* (2000); *Rethinking the Dual Digital Divide* (2001).

² By technological literacy, we refer to the level of knowledge and comfort using technology including computers.

methodology

This study was based on surveys, books, articles, documents and reports from government, industry, academia and other sources. Statistical research for this study was derived from EKOS Research Associates Inc. ongoing *Rethinking the Information Highway* series, and the earlier *Information Highway and Canadian Communication Household* studies.

The EKOS 2001 study, *Rethinking the Information Highway* consisted of a telephone poll (5263 respondents) and a follow-up mail-out survey to a panel of 2214 respondents drawn from the previous sample to facilitate tracking and analysis, results from EKOS previous *Information Highway* studies were included in analysis.

tracking the dual digital divide



Understanding the larger context of how the information highway, and more specifically the Internet, continues to evolve within Canadian society begins with an understanding of some of the most basic Internet usage related indicators — who is online, who is not and what are the key differences between these groups. It is crucial to have a clear understanding of these trends before venturing into more specific details of how Canadians use the Internet.

The first (2000) and second iterations (2001) of the dual digital divide found that “off-line” Canadians (non-users) were segmented in two main types: near and far users. Near users showed interest in online service, but they faced obstacles and barriers such as cost and technological literacy. Far users faced cost and technological literacy obstacles as well, but other important factors were also in play. Additional factors included the lack of relevant content and the perceived lack of personal benefit and social value of Internet service.

This chapter will provide an update of this segmentation and will focus on key barriers to Internet access. Before looking at how the near and far users evolved over the last few years, we will look at the recent growth of Internet access and at its underlying demographic patterns. We will shed light on the historical gap in Internet access that separates youth and seniors, low-income and high-income citizens, as well as women and men.

Overall Access

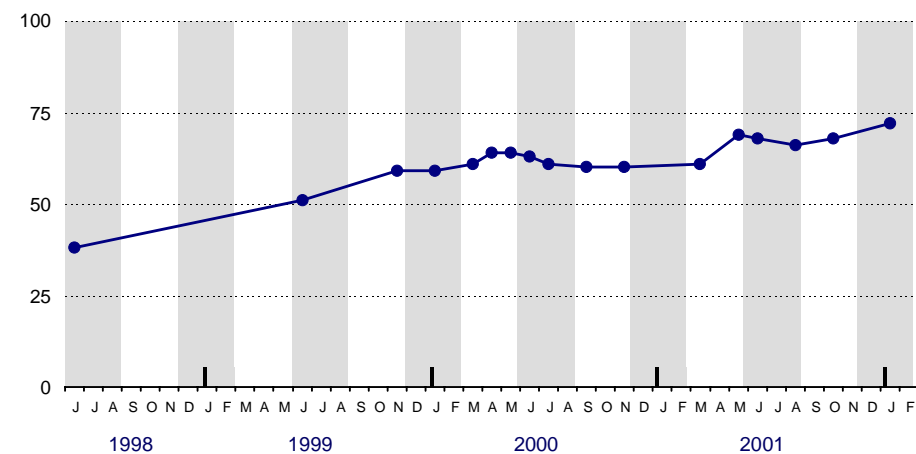
It is now a truism to say that the market penetration rate of the Internet was phenomenal since its emergence in the early 1990's. At the beginning of the past decade, our research shows that only a slim minority of Canadians knew what Internet meant. Twelve years later, almost all Canadians are familiar with the term and more than 60 per cent are considered on-line users (39 per cent in 1998 and 51 per cent in 1999) according to our definition.

An Internet user is defined as someone who has had access to the Internet in the past three months. The points of access recognize a number of locations and modes including, but not limited to, in the home, at work, at school, and at a public access point.

While Internet usage was characterized by phenomenal growth throughout the 1990s, there are signs that the growth in overall Internet usage has been relatively flat in the past two years. Between the summer of 1998 and the fall of 1999, the proportion of Canadians who reported recent Internet usage increased from 38 per cent to 59 per cent. Over the next 18 months, usage remained virtually flat, until it rose sharply to 69 per cent in the spring of 2001. Since then, the Internet usage has remained just under 70 per cent, 68 per cent in October/November 2001. Most recently, Internet usage reached 72 per cent in January 2002 [Figure 1].

Figure 1 - Recent Internet Usage

Q: In the past 3 months, have you **used the Internet**, either at home or elsewhere?



(Base: All Canadians)

Even as an increasing number Canadians across all demographic groups make the move online, the digital divide remains real. Large differences in usage patterns persist across, age, education and income segments, with little reduction in gaps between groups (even though all have seen growth). There also continue to be differences along gender lines, although not quite as pronounced [Table 1].

- » While more than two thirds (65 per cent) of women have used the Internet recently, up from 57 per cent a year ago, they are still significantly less likely to have used the Internet than their male counterparts.
- » Likewise, while 28 per cent of seniors have used the Internet in the past three months, up from one in five (21 per cent) a year ago, they remain much less likely to have used the Internet than younger Canadians.
- » More revealing is the strong home access division that is growing according to household income. Table 1 shows that in 1997, a 39-point gap separated respondents low and high income households, compared to 49 in 2000 and 48 in 2002.

Table 1: Home access and income

HOME ACCESS	Overall	<\$20K	\$20-\$39K	\$40-\$59K	\$60-\$79K	\$80-\$99K	\$100K+
1997	28%	16%	20%	27%	40%	49%	55%
1999	44%	23%	30%	46%	57%	65%	76%
2000	51%	31%	39%	54%	64%	68%	80%
2001	59%	35%	46%	60%	72%	81%	83%

Percentages may not equal 100 per cent due to rounding

Although characteristics such as gender and age provide reliable direction into whether a person has used the Internet recently, once online, demographics are a much less useful indicator of online behaviour and attitudes. For example, the gender or age of an Internet user does not provide a great amount of insight into whether they have been online for a matter of months or for more than half a decade [Table 2].

Table 2: Internet usage and length of time online

INTERNET USAGE	Canada	Male	Fem.	<25	25-44	45-64	65+
Recent Internet usage	68%	73%	65%	90%	81%	61%	28%
Previous Internet usage	8%	8%	9%	8%	9%	11%	5%
No previous Internet usage	23%	20%	26%	3%	11%	28%	67%

LENGTH OF TIME ONLINE (USERS ONLY)

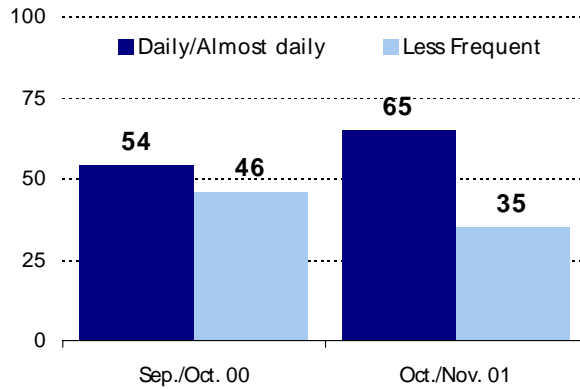
	Canada	Male	Fem.	<25	25-44	45-64	65+
Less than one year	12%	10%	14%	9%	11%	15%	12%
One to two years	13%	11%	15%	9%	14%	13%	11%
Two to four years	31%	30%	32%	35%	30%	28%	38%
Four to six years	24%	24%	24%	26%	25%	23%	17%
Six years or more	19%	24%	15%	21%	19%	19%	18%

Percentages may not equal 100 per cent due to rounding

Despite clear signs that growth in Internet usage has slowed; there has been a sizeable increase in the intensity of usage among those already online. Users who report that they go online daily or almost daily increased sharply to 65 per cent, up from 54 per cent the previous year [Figure 2].

Figure 2 – Frequency of Usage

Q: How often do you use the Internet either at home or elsewhere for personal and work related activities in a typical month?



{Base: Internet users; Oct./Nov. 01, n=3620}

Again, it is experience online which provides more guidance into the intensity of usage and not demographics [Table 3].

- » About two in three users under the age of 65 are online on a daily or almost daily basis, dropping only slightly to 57 per cent among seniors.
- » By contrast, 86 per cent of the most experienced users use the Internet daily or almost daily, compared to only 38 per cent of those who have been online for less than a year.

Table 3: Frequency of usage

DEMOGRAPHICS	Males	Females	<25	25-44	45-64	65+
Daily/Almost daily	68%	61%	64%	66%	64%	57%
Less frequent	32%	39%	36%	34%	36%	43%

LENGTH OF TIME ONLINE	<1 yr.	1 to 2yrs.	2 to 4yrs.	4 to 6yrs.	6 yrs.+
Daily/Almost daily	38%	48%	62%	75%	86%
Less frequent	62%	52%	38%	14%	14%

Percentages may not equal 100 per cent due to rounding

Non-Users & Access Barriers

Table 4 tracks the main barriers to Internet access from home identified in the 1997, 1999, 2000 and 2002 *Rethinking the Information Highway* telephone survey. This question was addressed to respondents who did not have access to the Internet from home. A majority of these respondents were also defined as non-users, since they had not had access to the Internet in the last three months, either at work, at school or from a public access point.³

The proportion of respondents who identify a lack of interest as the main reason why they do not have access from home has remained steady from 1997 to 2000 (approximately 30 per cent) but increased by 10 percentage points in the last soundings. The significant shift from 1997 to 1999 in the proportions who identify cost vs. need as the main barrier (wide swing towards cost in 1999) retreated somewhat in 2000. In 2001, the most important barrier to home access is interest, as indicated by a plurality (40 per cent) of respondents.

It is interesting to look at the differences based on Internet users and non-users. Overall, interest remains the most significant barrier for non-users, while cost is the overwhelmingly the key reason why Internet users do not have home access.

³ Methodological note: the survey item "What is the main reason why you do not have access to the Internet from home?" is an open-ended question. In other words, respondents were not asked to select which answer is closest to their opinion or most accurately reflects their situation. Open-ended questions are coded post-facto, where the answers provided by respondents are classified into broader (inclusive) categories. When we say that the respondent identified "cost" as the main barrier, the response may have included answers such as "too expensive" or "cannot afford it". The three main barriers, cost, need, and interest, capture *most* of the answer categories offered by respondents to this survey item. The percentages represent the frequency of responses among these three barriers, and not the overall (gross) frequency of responses. The same methodology was applied to the 1997, 1999, 2000 and 2001 survey data.

Table 4:
Barriers to access and Internet usage⁴

OVERALL	Cost	Interest	Need
1997	27%	30%	43%
1999	42%	33%	25%
2000	38%	30%	32%
2001	28%	40%	31%

INTERNET USERS			
1997	50%	20%	30%
1999	60%	12%	28%
2000	60%	11%	29%
2001	59%	14%	27%

NON-USERS			
1997	23%	32%	45%
1999	37%	38%	25%
2000	32%	36%	33%
2001	20%	48%	33%

Percentages may not equal 100 per cent due to rounding

Table 5 shows that cost remains the most important barrier to access for youth, increasing from 51 per cent in 1997 to 56 per cent in 1999, rising further to 59 per cent in 2000 and to 60 per cent in 2001. It is worthwhile mentioning that cost concerns decreases substantially with age. Among the pre-retirement and the retired cohorts, significantly fewer identify cost as a barrier to access (approximately one in four). This trend has been stable over the last four years.

While cost is less of a concern among older Canadians, technological literacy and perceived need remain strong barriers to Internet access, virtually unchanged since 1997. Overall, the survey results indicate that seniors are more likely to identify "interest" rather than "need" as a barrier to access. These most recent results show a remarkable shift since 1997, when "need" outnumbered "interest" by a margin of 16 percentage points for seniors.

⁴ The results of this table includes only the respondents who indicated cost, lack of interest or lack of need to the open-ended question: "what is the main reason why you do not have access to the Internet from home?" These three categories have been identified as the most important barriers to home Internet access.

Table 5: Barriers to access and age

AGE	Cost	Interest	Need
1997			
<25	51%	24%	26%
25-34	40%	23%	37%
35-44	38%	24%	38%
45-54	28%	33%	39%
55-64	32%	32%	49%
65+	8%	38%	54%
Total	28%	30%	43%
1999			
<25	56%	21%	23%
25-34	42%	31%	27%
35-44	50%	29%	22%
45-54	43%	32%	25%
55-64	32%	39%	30%
65+	19%	53%	28%
Total	42%	33%	25%
2000			
<25	59%	15%	26%
25-34	58%	19%	23%
35-44	50%	22%	28%
45-54	41%	27%	32%
55-64	26%	39%	36%
65+	19%	42%	39%
Total	38%	30%	32%
2001			
<25	60%	19%	21%
25-34	69%	17%	13%
35-44	32%	43%	25%
45-54	26%	29%	35%
55-64	22%	51%	27%
65+	9%	50%	41%
Total	28%	40%	31%

Percentages may not equal 100 per cent due to rounding

Table 6 shows that cost is systematically a more salient barrier for women than men. This minor yet significant gap persists from earlier soundings in 1997, 1999, 2000 and 2001. Conversely, a larger proportion of men than women identify lack of need as the main barrier to accessing the Internet in the 1997, 1999 and 2000 surveys and lack of need in the last iteration.

Table 6: Barriers to access and gender

SEX	Cost	Interest	Need
1997			
Men	27%	29%	45%
Women	28%	31%	42%
Total	27%	30%	43%
1999			
Men	39%	32%	29%
Women	45%	33%	22%
Total	42%	33%	25%
2000			
Men	36%	31%	33%
Women	39%	29%	31%
Total	38%	30%	32%
2001			
Men	27%	42%	31%
Women	29%	39%	32%
Total	28%	40%	31%

Percentages may not equal 100 per cent due to rounding

Table 7 looks at the main barriers to Internet access at home by education levels. Overall, the order and magnitude of importance of these three main barriers has changed since 1997.

Table 7: Barriers to access and education

EDUCATION	Cost	Interest	Need
1997			
LSHS	27%	30%	43%
COLL	29%	30%	41%
UNI	28%	28%	44%
Total	27%	30%	43%
1999			
LSHS	41%	37%	22%
COLL	46%	33%	21%
UNI	41%	25%	34%
Total	42%	33%	25%
2000			
LSHS	35%	35%	30%
COLL	43%	25%	32%
UNI	43%	20%	37%
Total	38%	30%	32%
2001			
LSHS	25%	44%	31%
COLL	34%	29%	37%
UNI	35%	38%	27%
Total	28%	40%	31%

Percentages may not equal 100 per cent due to rounding

In 1997, a plurality of respondents, regardless of education level, indicated that the absence of a strong need was the main reason for not having Internet access from home. By 1999, the shift towards cost as the main barrier resonated among respondents from all educational levels. In 2001, lack of interest ranks as first reason for not having home access to the Internet among most education levels.

It is interesting to mention that lack of need is decreasing in importance as a main barrier for university educated respondents over the past four years, declining from 44% in 1997 to 27% in 2001.

Table 8 displays the main barriers to home Internet access by income categories, tracking results from 1997, 1999, 2000 and 2001. It comes as no surprise that cost as a main barrier is linked to income, especially among respondents with household incomes under \$20,000 per year. This is most noteworthy in 1997 and 1999, when the overall shift towards cost was uncovered among the population as a whole. By 2000, the more extreme differences and polarization by income levels seem to have attenuated to a great extent. While cost is still the most important factor among respondents with low household incomes, lack of interest dominates in upper income categories in the 2001 survey of Canadians.

Another interesting result to note is the large proportion of respondents in higher income categories (\$80,000 to \$99,000 and >\$100,000) who cite “lack of need” as the main reason they do not have Internet access from home in 1999 and, to a more important degree, in 2001. These responses may be capturing a segment of the population that has access to the Internet elsewhere (likely in the workplace) and therefore do not think they need Internet access from home.

Table 8: Barriers to access and income

INCOME	Cost	Interest	Need
1997			
<\$20K	35%	20%	46%
\$20-39K	28%	32%	39%
\$40-59K	28%	25%	47%
\$60-79K	23%	36%	41%
\$80-99K	32%	30%	38%
\$100K+	18%	35%	47%
Total	27%	30%	43%
1999			
<\$20K	56%	27%	17%
\$20-39K	41%	33%	26%
\$40-59K	49%	30%	21%
\$60-79K	39%	37%	25%
\$80-99K	17%	29%	53%
\$100K+	14%	47%	39%
Total	42%	33%	25%
2000			
<\$20K	45%	28%	26%
\$20-39K	38%	33%	29%
\$40-59K	39%	26%	34%
\$60-79K	41%	34%	26%
\$80-99K	30%	31%	39%
\$100K+	22%	27%	51%
Total	38%	30%	32%
2001			
<\$20K	40%	34%	26%
\$20-39K	31%	39%	30%
\$40-59K	28%	35%	38%
\$60-79K	37%	51%	11%
\$80-99K	14%	18%	69%
\$100K+	23%	23%	54%
Total	28%	40%	31%

Percentages may not equal 100 per cent due to rounding

detailed sub-group analysis



The previous chapter concentrated on the principal reasons why Canadians did not have access to the Internet at home. In this section, we use key demographic characteristics of Internet users and non-users to highlight where the differences and similarities between each group lie.

Level of access & employment status

In 2001, the employment groups with the highest levels of access to the Internet are 1) students, 2) term or casual employed, 3) full-time employed, 4) self-employed and 5) part-time employed. Respondents who are unemployed have average access levels, with approximately two in three indicating recent Internet access. The level of overall Internet access declines significantly among respondents who describe their current employment status as homemakers, retired or other (includes among others maternity and disability leave).

The wide divergence in the overall level of Internet access by employment status reflects the generational effect outlined in previous sections. With almost all students indicating they have had recent access to the Internet, this represents a 66-point gap with retirees.

Access to the Internet from home does not present divergences between employment types quite to the same extent. The levels of home access range from eight in ten (80 per cent) among students to a low of 32 per cent among retirees. Compared to other employment groups, the self-employed and full-time employed have slightly higher levels of home access to the Internet, with part-time and term employees closer to the average. Respondents who are seasonal employed and homemakers have significantly lower levels of home access.

Table 9: Employment status and level of access

EMPLOYMENT STATUS	Used the Internet		Main reasons why no Internet access from home		
	In past 3 months	At home	Cost	Interest	Need
1999					
Self-employed	58%	52%	40%	34%	26%
Full-time	61%	45%	38%	34%	28%
Part-time	54%	41%	48%	24%	28%
Seasonal	55%	41%	68%	18%	14%
Term/casual	61%	43%	67%	17%	17%
Unemployed	48%	32%	72%	18%	11%
Student	76%	55%	64%	15%	21%
Retired	20%	20%	22%	50%	28%
Homemaker	33%	30%	48%	30%	23%
Other	34%	29%	56%	38%	6%
Total	51%	40%	42%	33%	25%
2000					
Self-employed	65%	64%	32%	33%	35%
Full-time	73%	58%	45%	24%	31%
Part-time	69%	58%	53%	21%	25%
Seasonal	44%	42%	59%	16%	25%
Term/casual	67%	64%	80%	20%	0%
Unemployed	52%	43%	47%	22%	31%
Student	89%	71%	75%	10%	15%
Retired	25%	26%	19%	41%	39%
Homemaker	35%	34%	40%	34%	26%
Other	44%	37%	54%	29%	18%
Total	60%	51%	36%	27%	36%
2001					
Self-employed	76%	70%	13%	57%	30%
Full-time	80%	65%	41%	35%	24%
Part-time	74%	62%	48%	28%	24%
Seasonal	64%	49%	50%	29%	21%
Term/casual	85%	64%	-	100%	-
Unemployed	67%	55%	47%	39%	13%
Student	97%	80%	92%	-	8%
Retired	31%	32%	10%	50%	40%
Homemaker	51%	49%	43%	20%	37%
Other	54%	52%	30%	27%	43%
Total	68%	59%	28%	40%	31%

Percentages may not equal 100 per cent due to rounding

Respondents who do not have access to the Internet at home were asked to identify the main reason why they do not have home access. The results show a reasonable split between three main reasons: a plurality indicate a lack of interest (40 per cent), followed by one in three who say they have no need for Internet access at home (31 per cent) and cost (28 per cent).

However, these results are far from equivalent along demographic lines (as outlined in Chapter Three on the types of non-users). The major contributing factors for not having access to the Internet at home also vary widely depending on employment status.

Nearly unanimously, students cite cost as the main barrier to home Internet access (92 per cent) as do a plurality of those that could be described as more precariously employed (about one in two among seasonal, part-time and unemployed). Homemakers also name cost as a barrier to home Internet access (43 per cent).

All term/casual workers name lack of interest as the reason they do not have Internet access at home as do a majority of self-employed individuals and retirees. For both, the balance is more inclined to say that they are not interested in having Internet access from home.

Full-time employed who do not have home Internet access are split on all three main reasons. A plurality cite cost as the major barrier, with a further one in three who say that they have no interest. The balance, slightly less than one in four, says they do not need Internet access at home.

The results from the 2001 survey show very similar patterns emerging. Although the levels of access have increased, both overall (68 per cent) and from home (59 per cent), the rate at which they increased is very similar from one employment group to the next. Students and full-time workers are still among the most likely Internet users, with the lowest levels of access found among retirees and homemakers. The 2001 data on access from home reveal similar findings to 2000.

The sizeable (19-point) increase from 1999 to 2001 in the proportion of respondents who indicate they currently have Internet access from home has had a noticeable effect on the main reasons for no home access. That is, those who do not have home access are much less likely to cite cost as the main barrier in 2001 compared to 1999.

Although expressed at a different level, there is a similar pattern in the overall responses in 1999, 2000 and 2001. Cost is still the main barrier among respondents who are seasonal or students. The most striking difference is the reduction in the number of respondents who are unemployed who say cost is the main barrier. While still a plurality at 47 per cent in 2001, it is nowhere near the 72 per cent who indicated cost in the 1999 survey.

Level of Access & Employment Type

We asked Canadians who are currently or were recently employed to identify which job category best describes their most current or recent employment. The results were tabulated along six major job types: labourer; semi-skilled; skilled trades person; sales, service, and clerical; professional; and management and administrative. For 1999, 2000 and 2001, we looked at the level of access to the Internet, access to the Internet from home and the main barriers to home access among the six distinct employment types (Table 10).

The level of overall Internet access by employment types reveals a deep divide between profession, managerial and administrative on one side (“white collar” workers), and labourers and trade people on the other (“blue collar” workers). Respondents who work in sales, services or clerical types of employment figure close to the mean on the level of overall access to the Internet. Home access, on the other hand, is more highly concentrated among the previously identified white collar workers, with all other employment types falling well below the home access rates among professional, management and administrative workers.

Table 10 : Employment type and level of access

EMPLOYMENT TYPE	Used the Internet		Main reasons why no Internet access from home		
	In past 3 months	At home	Cost	Interest	Need
1999					
Labourer	40%	32%	53%	25%	22%
Semi-skilled	42%	31%	47%	33%	21%
Skilled trades person	41%	33%	37%	40%	23%
Sales, service, clerical	45%	34%	47%	31%	21%
Professional	64%	50%	39%	31%	31%
Management or administrative	60%	48%	32%	34%	34%
Total	51%	40%	42%	33%	25%
2000					
Labourer	48%	40%	42%	31%	27%
Semi-skilled	50%	40%	38%	33%	29%
Skilled trades person	53%	49%	36%	33%	32%
Sales, service, clerical	58%	48%	40%	32%	28%
Professional	70%	60%	37%	22%	40%
Management or administrative	71%	59%	36%	27%	36%
Total	60%	51%	38%	30%	32%
2001					
Labourer	53%	43%	38%	41%	21%
Semi-skilled	58%	50%	20%	50%	30%
Skilled trades person	61%	50%	34%	45%	21%
Sales, service, clerical	69%	60%	31%	36%	33%
Professional	80%	69%	29%	46%	25%
Management or administrative	79%	68%	15%	39%	46%
Total	68%	59%	28%	40%	31%

Percentages may not equal 100 per cent due to rounding

Level of access & regional differences

While the most striking difference in the level of access to the Internet has been expressed in terms of generational gaps, the extent to which Canadians have access to the Internet, either at home or elsewhere, also reflects a number of economic conditions, including income and employment status. These divergences can also be expressed in geographic terms, noting that have and have-not provinces present evidence of different levels of access to the Internet.

The results from the 1999 and 2000 surveys are presented in Table 11. In 2000, the highest levels of access are recorded in British Columbia, Ontario and Alberta where about two in three had recent access. In Newfoundland and in Quebec, the rate of access is significantly lower at 48 and 51 per cent respectively. A bare majority report recent access in Manitoba and New Brunswick (53 per cent). All other regions hover near the average rate (60 per cent).

Access from home in 2000, at 51 per cent overall, is significantly higher among respondents from Ontario (59 per cent) and British Columbia (57 per cent). Internet access from home falls to 44 per cent in Manitoba, 43 per cent in New Brunswick, 42 per cent in Quebec and 41 per cent in Newfoundland. However, many in these provinces with lower home access can be called near-users. In Saskatchewan, Quebec and New Brunswick a plurality of non-users cite cost as the main reason why they do not have Internet access at home, indicating that they may see and interest and a need for it and could thus become users in the near future.

In 2001, the results present very similar findings. British Columbia, Alberta, Ontario, and to a lesser extent, Manitoba, remain above the national average (68 per cent) in terms of overall Internet access. Although there has also been a distinct increase in the proportion of respondents from Quebec that says they have used the Internet in the past three months, they still lag nine points behind the overall average (59 per cent, up from 53 per cent in 1999). The 2001 rate of Internet access in Newfoundland is similar to the 2000 findings, which ranks it far below the national access levels for 2001. Due to the small sample size from Newfoundland, however, it would be prudent not to analyse and comment further on these results.

The 2001 survey results indicate that home access is once again highest in Ontario, Alberta and British Columbia and significantly lower in Quebec, New Brunswick and in Newfoundland. As for the different types of non-users, the cost-effect is strongest in Alberta (mentioned by 45 per cent, compared to 28 per cent overall) and lowest in Ontario (21 per cent).

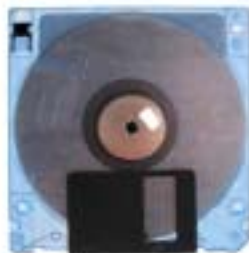
Table 11 : Region and level of access

REGION	Internet		Main reasons why no Internet access from home		
	In past 3 months	At home	Cost	Interest	Need
1999					
BC	56%	44%	32%	51%	17%
AB	56%	42%	39%	29%	32%
SK	47%	30%	52%	24%	24%
MB	52%	38%	41%	35%	24%
ON	56%	46%	44%	28%	28%
QC	40%	29%	42%	36%	22%
NB	40%	35%	43%	30%	26%
NS/PEI	49%	33%	46%	27%	27%
NF	51%	40%	50%	42%	8%
Total	51%	40%	42%	33%	25%
2000					
BC	66%	57%	43%	21%	36%
AB	62%	49%	38%	26%	37%
SK	57%	48%	40%	27%	33%
MB	53%	44%	38%	25%	37%
ON	65%	59%	34%	30%	36%
QC	51%	42%	40%	36%	24%
NB	53%	43%	40%	27%	33%
NS/PEI	58%	46%	35%	32%	33%
NF	48%	41%	24%	36%	39%
Total	60%	51%	38%	30%	32%
2001					
BC	75%	63%	31%	34%	35%
AB	73%	63%	45%	32%	22%
SK	66%	54%	22%	40%	32%
MB	69%	52%	43%	30%	27%
ON	73%	64%	21%	35%	44%
QC	59%	50%	28%	50%	22%
NB	62%	49%	20%	20%	60%
NS/PEI	66%	54%	31%	46%	23%
NF	52%	45%	28%	51%	21%
Total	68%	59%	28%	40%	31%

Percentages may not equal 100 per cent due to rounding

In Quebec, where the level of home access is among the lowest in the country, there is very little divergence from the overall mean in the main reasons why respondents do not have Internet access from home. Compared to other Canadians, they are more likely to indicate that a lack of interest is the main reason why they do not have Internet access from home (50 per cent, compared to 40 per cent overall). Respondents from Quebec are among the least likely to say that the reason they do not have Internet access from home is because they do not need it (only 22 per cent of non-users, compared to 31 per cent nationally).

rethinking social policy, governance & community with the digital divide



Over the past five years, the Internet has joined the basket of core communication services necessary for full participation in society. For the majority in the upper socio-economic (SES) classes, the Internet has been integrated as a resource in every day social relationships and activities. At the same time, a persistent divide exists for lower SES groups, and a significant minority in other groups.

In an overview of trends and changes with the Internet since 1998, three in particular have emerged which invite a rethinking of governance and social objectives in relation to the next phase of Internet development and maturity.

The persistence of a digital divide continues to raise important policy questions about full and equitable participation in economic, social and civic relations. In the face of the divide, questions about the appropriate role of information technology and, alternative and traditional resources become important for addressing issues relating to individual and community economic and social development.

Secondly, the proliferation and sophistication of commodity and entertainment services has created a wealth of choices for Canadians. The technical capabilities of the Internet permit a personalization and customization of content that provides unique opportunities of choice for users.

Third, at the same time, the Internet also can be used to develop, and provide access to, a diverse range of general, public information content and resources that are beneficial for a range of collective and individual social benefits. These 'collective' and 'individualization' properties are coming more into a tension as the Internet matures. This has implications for issues relating to content development, the role of intermediaries (community, commercial, government), and the broader policy objectives relating to the Internet involving human and social capital, social and economic development.

This section of the report analyzes the diffusion and emerging uses of the Internet from these perspectives. The first section assesses the current state of the digital divide and discusses some social policy issues involving public access initiatives. The next section explores the mutuality of online content and how content can meet a duality of needs for the public, embodying commercial and public goods needs. This analysis also links these trends to the historical and policy context of the development of modern communications in Canada. Analysis on community organizations as intermediaries demonstrates the potential of the Internet as a resource for addressing digital divide issues and, for integrating social relationships and facilitating the development of social infrastructure, social capital and social cohesion. In this broader view of focusing on social relations, instead of technology, analysis demonstrates the potential and limitations for using the Internet as a resource in social and economic development.

The general approach taken to date by researchers and policy makers to the diffusion of the Internet and related new technology, has largely occurred at a level of analysis of individual access to the technologies, utilizing individual socio-economic variables to explain differences in access and consumption patterns. In this, individuals are defined as part of social sub-groups and class. This has been useful in telling us stories about trends of a new technology, innovative applications and benefits, systemic inequalities, and in providing some social and economic indicators about the diffusion of a technology.

The ways the Internet is being made available, how people do or do not use it, the perceived benefits and drawbacks of use, and how these have changed over the early evolution and maturity of the Internet, become entry points to a broader understanding of the Internet. This understanding is enriched by building on the technological perspective of much of the research to date that has been concerned with diffusion, and assessing the Internet's impact on social activities. This is necessary because the design, use and value of any technology is not neutral, but is informed by decision making by companies, government, organizations – people, interacting in social relationships. The social context of how the Internet has been introduced and received by the public helps us understand the digital divide at the level of analysis of technology, as well as individual's and social group's expectations, attitudes and patterns of use, or desired use. This analysis points to the importance of a broader social story about obstacles, problems and opportunities involving the technology and its integration and use in society.

Inasmuch as there is a strong economic push, specifically that of consumerism, about the Internet as it matures, both in terms of access and content, there is also a growing maturity of social demand, and potential for social development opportunities, with information-based resources to meet existing individual and collective public service and information needs. There are also other emerging and contingent opportunities for the integration of the Internet, content and services into many existing social and economic activities, institutions and social networks that could benefit individual and community social and economic development and cohesion. In turn, if successfully planned and developed, the strategic use of these technologies could help address structural inequities based on social class, and at the same time provide new opportunities for governments to foster regional and national unity, cohesion and development.

These outcomes are contingent for several reasons. To achieve these goals depends on an inclusive, participatory approach to decision making involving all affected interests about how the Internet and content need to be better integrated into social institutions and social relationships. As a complementary as opposed to a displacing resource, the Internet can offer many opportunities and benefits. It is also contingent because the Internet will not always live up to the many promises made about it. It may actually aggravate existing inequalities and disparities for individuals and communities, or if the customized, personal consumption model extends into these types of social relationships, it may actually foster greater individualism and become disruptive of social cohesion and undermine social and human capital. These issues will need to be addressed collaboratively by different levels of

government and other stakeholders as the Internet enters the next stage of its development.

Access and Social Policy

The rigidity and persistence of a digital divide raises an important social policy issue for government. There is also an important economic policy dimension about the Internet in terms of individual access. In this, as a means to go online, purchase content or services, the Internet has obvious benefits and a role as part of our overall national economic development. At the same time, commodity purchases using the Internet is an optional, as opposed to essential, service for Canadians.

In terms of social policy, in many respects the Internet is nearing importance as an essential service. The Internet is bound up with other related information and communication technologies and content that have wide ranging relevance to a number of needs. Among others, these needs include: the necessary skills to participate in economic and social activities in society; gaining more timely access to, and benefiting from, a diverse array of public and private content resources; the improved delivery of public information and services from public organizations who provide important social infrastructure in our communities.

At the same time, there is also a tension in the development and use of the Internet by the public. While the use of the Internet offers a wide range of opportunities and benefits to users, it is also showing signs of moving from 'novelty' status, to that of the common place or 'banal' with other technologies in the household.⁵ This means that while useful, the Internet is increasingly being seen by part of the public as less remarkable as an innovation, and more a standard, optional form of communication sitting in a room or on a shelf with other technologies, such as television. This, in part, accounts for why a majority of those without home access (64 per cent) have no plans for getting this in the near future.⁶

While a majority of Canadians had Internet access from home in 2001, as discussed earlier, this is still very much based on class, particularly income, in addition to a lack of perceived interest or need. These findings illustrate the tension between those who still wish to learn about new technologies, go online and benefit from this, and those who either have no interest or perceive the 'banal' and will likely be late adopters, or never go online.

⁵ Mosco, V., (2002) "The Party's Over: Social Policy for Citizenship in an Information Society", unpublished.

⁶ EKOS Research Associates Inc., (2001) Rethinking the Information Highway.

Table 12: Access From Home

INCOME	HOME ACCESS
Less than \$20k	35%
\$20-\$39K	46%
\$40-\$59k	60%
\$60-\$79k	72%
\$80-99K	81
\$100k+	83%

As discussed earlier in this and last year's report (Rethinking the Dual Digital Divide, EKOS, 2001), after exposure and experience online people tend to attach more value to the Internet, and identify many ways that Internet use can meet a diverse set of needs. In fact, a majority of Canadians (both users and non-users) perceive moderate (50 per cent) or high importance (38 per cent) about the Internet.⁷

Differential levels of access to the Internet based on class continue to mirror that of other products and services in society. These patterns have not changed significantly over the past three years. Common barriers to many services for the public include class (bringing in income and affordability), literacy, location, education and skills, gender and age. These inequalities are not anomalous, but reflect the long standing inequality of access to many products and services, as well as social and civic participation, in our society.⁸ In a comparison to other products and services, for example, while the number or magnitude may vary somewhat for each social segment, a similar general pattern of differential levels of access and participation was found and continues to that which has developed for the Internet.⁹

⁷ EKOS Research Associates Inc., 2001, Rethinking the Information Highway.

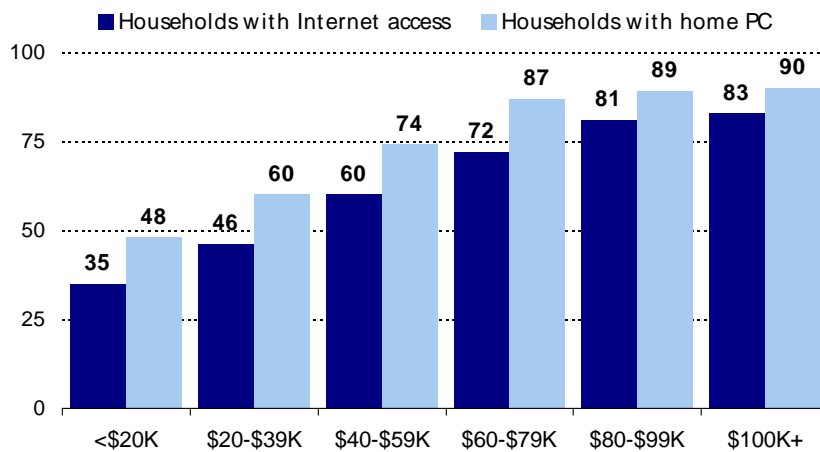
⁸ PIAC, *The Dual Digital Divide*, 2000, pp. 15-17.

⁹ PIAC, *The Dual Digital Divide*, 2000.

Figure 3 – Home PC and Internet Penetration

Q1: How many personal computers are there in your household?

Q2: Do you currently have **access to the Internet** from home?



(Base: All Canadians; Oct./Nov. 01)

Is also apparent from the level of penetration of home computers that Internet home access will shortly reach a ceiling, unless either all households currently without computers and Internet accounts are provided with these, or unless commercial Internet providers, e.g., telco's, cableco's, etc., provide basic Internet service through a home device or software as part of basic television, cable service, or telecommunications service.

Even though the digital divide has widened between sub-groups, the continued growth in the use of the Internet and access from home, albeit minor and slower growth for lower income households, indicates that there is a recognition of the usefulness and value attached to learning about, and using, online technologies. Over the past four years there has been a consistent level of use of public access sites by Canadians to either learn about the Internet, or as a primary means of access. Overall, lower income Canadians (8 per cent) tend to use these sites more than other sub-groups (6 per cent). Interestingly, research this past year found that the availability of a public access site was important for Canadians even after they had home access. More than two thirds (68 per cent) indicated that someone in their household had used a public site after getting home access. The reasons for this could be many, including: convenience when away from home; a need for training; the use of other services at the site (e.g., software, photocopying, printing, etc.); the need to use broadband.

The availability of broadband access through a public site as a complement to home access may become an important public service in the near future. Home Internet users are finding it difficult to do some things at home due to slow connectivity (12% always, 51% some of the time). This raises questions as to what degree 'broadband' may become an issue for access and service delivery beyond the current debate involving rural and remote areas. Currently, slightly more than half of those with home access (56 per cent) use a regular telephone line, while the remainder (46 per cent) use some form of broadband.¹⁰

The role for government funded access sites has changed since these sites were introduced starting about five years ago. Then few Canadians knew about the Internet and fewer still were online. Since then more than half of Canadian households have access from home. There is also a broad-based awareness of the Internet. Pursuing these objectives is now less important for government. However, a number of other developments suggest that a changed role based on social policy has emerged.

There is a continuing demand and need for public access sites for access and training in both rural and urban locations in Canada for those who do not have, or cannot afford, home access. Moreover, how the sites have been incorporated into community relations and used by different groups has also evolved the role and importance of public access support. As noted in previous research (*Rethinking the Dual Digital Divide*, 2001), social organizations who operate access sites, and community institutions that provide a range of economic and social development services have come to use and rely on publicly funded access sites and local networks as core, supporting resources for these activities. As well, the policy's of the federal and provincial governments to put more content and services online, presumes and relies upon, the existence of public access sites and networked community organizations. In light of the trends discussed above, the sophistication and increasing technical complexity of the broad range of government public services will require a rethinking of the role of public access sites and the support for community-based organizations that operate these, as well as other networked community information and development resources.

Many of the original Information Highway programs aimed at encouraging and facilitating awareness and use of the Internet were designed as short term pilot projects (e.g., Community Access Program, Community Learning Networks Initiative). The Community Learning Network initiative has supported the development of community networks across Canada, with dozens already funded and many more waiting in the wings. The Community Access Program (CAP) has also been successful in meeting its objectives. By 2001, 8,800 sites were in operation. The level of usage of the sites has remained steady of the past four years. The CAP sites continue to meet a wide range of needs for the public including: technical training;

¹⁰ EKOS Research Associates Inc., 2001, *Rethinking the Information Highway*.

Internet and email access; word processing; literacy training; and online courses, among others. The federal government has remained committed to CAP by providing two new years of funding to extend the program. However, the ongoing demand, and need for, these sites by the public, will require the government to further assess its role and level of support for sustainability. Many of the sites will not likely continue operations without some form of federal assistance.

From a social policy perspective, the changes in the scope and complexity of services which are expected to be delivered online, and the reliance (both immediately and perhaps increasingly in the near future) by the many individuals and community organizations on state-of-the-art infrastructure to provide access and services raises questions about what the new roles and responsibilities should be for the federal and provincial governments, and community organizations.

With communications being a federal mandate, there will need to be some federal role. Existing policy frameworks, such as the New Economy, Information Highway and Connecting Canadians, Innovation and, Learning and Skills Agenda, may provide opportunities to rethink support for public access, as well as for online content and services.

While the Internet and how it is being used has matured and become more sophisticated over the past few years, there has been a lag in revisiting the concordance of social policy with this.¹¹ The digital divide will not be a quick fix! As with other sectors in society (e.g., education, health), social policy towards the Internet will need to be continually revised to address changing conditions in the market place, communities and the socio-economic circumstances of individuals.

¹¹ Social policy is defined here as including social, cultural and citizenship interests and activities.

Mutuality of Content

During the development of the Internet, there was considerable debate by different interests about the degree to which the Internet should be a public resource or a marketplace. However, the polarity of the views of the proponents of the different sides of this debate has not been borne out as indicated by the communication practices of individuals and communities using the Internet. Instead, these information practices reflect a much greater complexity, best described as a duality and interdependency between private and public activities, and commercial and public content. These activities and interests, or processes, are often mutually linked, mutually influencing and mutually dependent. In conducting their daily life activities people do not exclusively shift from clearly separate public and private spheres. Instead, while there are instances when these may be separate spherical activities, they are also mixed and overlap. The reasons, or need, for conducting various activities are linked to immediate or long term objectives. For example, an education activity, ostensibly a public sphere activity, can also be a prerequisite for participation in economic activities, or to maintain an economic role, such as keeping a job.

There continues to be considerable discourse about the potential social and economic importance, use and benefits of the Internet. While these possibilities exist, as the Internet matures, it is beginning to show signs that in some respects it is not remarkably different from the potential possibilities described of earlier communication technologies. A brief reflection on the policy's towards, and social valuation of, these other technologies, suggests lessons for policy and research approaches to the Internet as it matures. While there are functional differences between the Internet and other mainstream communication technologies (e.g., radio, television), at a broader conceptual level and in terms of real social relationships and activities, development and social cohesion, there are many parallels.

Such historical parallels suggest that more analysis and consideration will be required about how the Internet should be used for certain activities. In some instances, we may need to temper out expectations about outcomes, particularly as the digital divide continues to be pervasive and rigid.

With the Internet there are several popular themes that convey its potential and importance in society. These themes generally include: entertainment; citizen participation; universal and affordable access; lifelong learning and skills development; increased competitiveness and economic growth; the development of a diversity of Canadian cultural content; new forms of commerce; and access to government and other public services and information, among others.¹² These

¹² Canada, *Preparing Canada for a Digital World*, IHAC Final Report, 1997:46-51.

themes are not unique to the Internet, however. Very similar themes and expectations were expressed at the time of the development of radio and television in Canada. Champions of these technologies at the time advocated the need for a balance between private and public institutions and initiatives for communications development and emphasized the roles for both public and private intermediaries to achieve a diversity of information to meet the diverse needs of the public. The attributes and potential benefits of these earlier technologies were remarkably similar to that of the Internet, as expressed by Graham Spry: "the cultivation of public opinion, of education, and entertainment, and make the home not merely a billboard, but a theatre, a concert hall, a club, a public meeting, a school, a university".¹³ A core theme underlining our historical policy approaches to communications was the importance of diverse public and private information resources because of information's importance as the prime integrating factor of people in society; it creates a shared culture, is central to social organization and participation at all levels. The important historical lesson in this for the Internet is how information intermediaries are organized, and who operates them, are key considerations because this affects the potential to realize economic and social objectives.¹⁴ Where access has been the focus of the past several years, and will continue to be with respect to the digital divide, content and information diversity are the critical issues for the next stage of Internet development.

With an awareness of historical context, social relations involving the Internet are, in some ways, a continuation of those involving other media and of federal policy involving communication, social and economic development and participation. From the outset of its development in the early part of past century, modern communications has been seen as essential for the achievement of such objectives as national unity, social development and cultural expression. Since the 1960's, national and economic development and cultural development and expression have formed the general federal communication policy framework. Canada has been very successful over the past two decades in creating a world leading industry through industrial development programs and initiatives. As we move forward with the Internet, and consider the present high demand for social, cultural and civic information, a policy question arises about whether, in addition to significant economic development of the Internet, sufficient ground work has been undertaken to realize the full potential for local, regional and individual content needs and forms of expression, social development and citizen participation. Still in an early state of development, the Internet offers many policy opportunities to adopt innovative policy, regulatory and program approaches to this end. This could include initiatives that combine the social, economic and cultural objectives of different mandates and legislation across government to the development and availability of relevant content

¹³ Spry in Babe, R., *Communication and the Transformation of Economics*, 1995: 213.

¹⁴ Babe, R., *Communication and the Transformation of Economics*, 1995: 213, 215.

and services, and to facilitate the strategic integration of online technology into social organizations and relationships in ways that support broad-based social and economic development.¹⁵

From its inception to early maturity in 2001, a major attraction of the Internet has been public content and services, for common use and benefit. By and large, this is the 'sticky stuff' that attracts people to the Internet and keeps them there. At the same time, commercial content and services are also valued and consumed by the public but are more specific in nature.

Table 13:
Types of products and services purchased on the Internet by Canadians in the last year

	OVERALL	<\$20k	20-39	40-59	60-79	80-99	100k+
Books/mags	42	36	27	40	43	54	41
Software	23	14	22	23	20	30	28
CD's	20	37	16	22	16	22	18
Travel	11	7	10	12	9	10	17
Clothing	14	12	13	12	15	12	18
Concert tickets	8	2	10	7	12	10	10

Percentages may not equal 100 per cent due to rounding

In addition to the type of content, the diversity of means of access will continue to be an important issue for those on both sides of the digital divide. The question of whether the technology is owned or managed privately or publicly is less of an issue for users than whether it serves as a means for people to access required information or services, though this 'ownership' issue matters with issues such as diversity of content. For example, research on which different types of communication approaches or technologies people used to access different types of information or services demonstrated that choices were very much based on specific needs and circumstances of the individual, the type of information sought and the type of organization they were contacting. Both Internet users and non-users required a range of choices for means of access depending on their needs and capacities. This needs-driven diversity of access has been reflected in different federal government information policies involving the Internet and other means of access. For example, the Connecting Canadians agenda, the Government On-Line initiative and Human Resources Development Canada all have as a core policy objective the provision and

¹⁵ Raboy, M., "Cultural Sovereignty, Public Participation and Democratization of the Public Sphere: The Canadian Debate on the New Information Infrastructure", 1996, pp. 1,5,6,9,15.

access of information and services using a variety of means, including online, telephone, in-person and mail.¹⁶

Much of what influences people's choices and activities online are driven by how relevant the content or services are to meet their daily needs. The most popular activities cut across what is considered 'public' and 'commercial content'. The capability for the personalization or customizing of consumption and the commensurate need to design technical protocols to facilitate this has implications for the other opportunity of providing generalized, collectively valued information and services on the Internet. This raises questions about whether as the Internet matures there will be a propensity for the expansion or narrowing of options and choices of what content will be developed, how online communication services will be used, who should provide the general interest intermediary role to ensure that different needs (economic, social) will be met.

If we flip the analytical perspective around and, instead of starting with technology, consider how technology serves as a resource in a broader social context, used to meet a wide range of socio-economic needs and activities, then a fuller understanding is possible. This understanding permits analysis of how new technology may be used as a resource to meet existing and changing needs in a real life social context.

Many of the more recent new users of the Internet have gone online not because just because of a greater awareness from public discourse, though this may have piqued their initial interest, but because they see a potential for the technology to meet some existing need of themselves or someone in their family. As opposed to the upper income households who have largely gone online to meet some general need such as education, entertainment or work/business activity, many in the lower socio-economic groups respond positively to going online if they perceive that the technology meets some very basic needs, what we can call their CHEEF needs.¹⁷ These individuals must make tough choices about what they spend their disposable income on, an amount that is much less than upper SES households. CHEEF needs, which form the building blocks for other activities in life, are : **C**lothing, **H**ousing, **E**ducation, **E**mployment, **F**ood. The key question for many is how will online service help improve their potential for meeting their needs in these and related areas?

¹⁶ Vision for HRDC, 1998, *Practical Vision and Action Plan*, Working Draft, HRDC, June 22, 1998; *Government On-Line and Canadians*, Canada, January, 2002, p.2

¹⁷ PIAC, *The Dual Digital Divide*, 2000, p. 19.

Table 14 :
Use of the Internet for searching for information on the
following activity in the past 12 months.

	OVERALL
Local Work or Career Opportunities	64%
Work or Career Opportunities in Another City	76%
Training/ Education	76%
Store or Company in Yellow Pages	32%
Government Services/ Program	61%
Trip or Vacation	73%
Product Price Comparison	60%
Cultural Events	61%
General Information on Canada	75%

This mix of needs, and the role of public as well as commercial intermediaries in meeting these, is very evident in the online activities of Canadians. For example, when we consider the use of the Internet for a range of different activities, social and cultural activities are the most popular, some general market activities are also popular, and some activities that have a non-commercial and commercial overlap (training/education, job seeking) are also important. This trend is not unique to the use of the Internet in Canada, but is also evident other countries.¹⁸

The importance of public intermediaries to fulfill economic and social development needs is even more pronounced for those Canadians who are least likely to be connected to the Internet and have traditionally been on the socio-economic margins of society (low income, low literacy, lower levels of education, recent immigrants, etc.). Previous research on new computer and Internet users demonstrated that interest in the technologies was primarily driven by a desire to improve their personal social and economic opportunities. At initial technical exposure, gaining technological literacy and improving computer/Internet skills were major concerns. However, after a period of familiarity users attached greater importance to seeking general information resources that was of some personal social or economic benefit.¹⁹

¹⁸ "Study: Internet is Valued as an Information Source Rather than for Commerce", Tuesday, July 10, 2001, Digitaldivide.org listserve.

¹⁹ *Report on Local Residents and the Internet*, PIAC, 2000, p.45.

Broader Digital Divide

Access to the Internet from home is the ideal, but public access sites will continue to be needed from some years to come. Those who have the lowest incomes, low levels of skills and training, and low literacy are least likely to have affordable access from home, and will continue to rely on and benefit from community access sites. Beyond affordable access and specific benefits for individuals, there is also a broader social policy issue that will need to be revisited now that the Internet has undergone several years of development. We need to ask, the integration of computer and Internet technologies into communities and organizations to what ends or objectives? Do we need to modify and update the objectives established several years ago given the significant changes and potential opportunities that have arisen with the maturation of the Internet over the past few years? Do we have the economic and social information resources and supporting institutions in place to achieve a broad set of modified or new objectives? Who should bear what responsibility of setting new development goals and roles to achieve these? Addressing these social policy questions will require a broad comprehensive analysis informed by what people are already doing both in real life and online. Where in these relations do we find obstacles and opportunities, successes and failures, and what role has information technology played in these outcomes?

In a broader social context, enough practice exists now to better assess content value and relevance, and how online communication augments other services, or operates as a complementary channel to other means of access and information exchange, and how online communication meets needs or offers opportunities in innovative ways. At the same time, analysis must be concerned with the issue that the introduction and integration of information technologies does not recreate existing inequalities, or create new ones, and does not downgrade other important skills and activities of people and their relationships. Adopting a considered approach in the introduction and integration of information technologies increases the likelihood for the progressive development of human capital, social capital, and social infrastructure, all of which are underpins of social and economic development. This also means that some balance will also likely be required between online and other means of communication and information exchange.

To achieve strong human capital in society, individuals need to be literate on several levels, including numeracy, prose, interpersonal communications, and have different levels of technical proficiency in order to function in society and the workplace and have the flexibility to continually adapt to changes in work and society. Successful development and participation also rely on a host of other factors, such as health, education, etc., and access to, and the support of, formal and informal civic

and other organizations and institutions at the community and other levels.²⁰ The Internet and computers have joined a diverse basket of supportive resources that can be used to facilitate these developments (including ongoing learning), and help maintain participation.

In this broader view, the digital divide encompasses the ability of individuals, social organizations, businesses and communities to effectively respond to changes in an 'information society' and participate successfully in economic and social relations. This also means that the required information resources must be available and accessible. Digital divides, involving individuals as well as organizations, necessarily raise the question of inequalities relating to income, skills, education in the broadest sense, geography and region, information and communication technologies, and content resources. Digital divide inequalities also concern the capacity of community groups and organizations, businesses, and local government to implement activities for individuals and community-wide social and economic development.

Individuals rely on social institutions and social infrastructure to acquire the necessary skills and develop their capacities to be able to effectively participate in society and realize their potential capabilities. Social infrastructure includes the diverse and broad array of institutions and services that provide for the commonly held and specific individual needs. Individuals rely on a number of community-based, regional and national organizations for this development, both formal institutions (e.g., schools) and informal (e.g., community service organizations). This social infrastructure needs to be well funded to meet a diversity of information and service needs to help individuals and communities overcome some of the economic and social divides. The intermediary role performed by these organizations will only be effective if it properly provides both offline and online service, and of comparable quality.

At a conceptual level, beyond the levels of individual and community economic and social development, these relations also centrally contribute to social cohesion. The scope of these resources and relationships range from the local, through the regional, to the national. This has implications for both local intermediaries involved in these processes, and for governments. In a normative view, social cohesion largely involves relationships, particularly at the community level, that underpin or are constituent of all of our social and economic activities. However, bringing in more of a sociological as opposed to economic perspective on cohesion, a tight relationship exists between social cohesion, human capital and, social and economic infrastructure. In particular, economic development relies on these others being well developed, progressive and sustainable over the long term.

²⁰ Schuller, T., "The Complementary Roles of Human and Social Capital", *Isuma*, Vol. 2, No. 1, Spring, 2001, pp. 18-24.

The processes of development and cohesion very much involve the activities of intermediaries (social and economic organizations) at the local, as well as the regional and national levels. Different levels of government play important roles in supporting these activities. Social cohesion involves ideas of a sense of belonging, participation, identity and connectedness to others, one's community, one's country. With the potential for the increased, and innovative, use of the Internet in many of these development activities, there are also opportunities for government to pursue innovative Internet-based approaches for cohesion around national identity, national development and national social and cultural integration and harmony. Such a collaborative federal – community approach in forming an updated social policy for the integration of Internet-based resources would create the potential to create cooperation and support for concrete community and market development and participation, and would also offer opportunities for pursuing national consensus, understanding and objectives.²¹ The role of intermediaries is critical in these processes. The incorporation of online technologies into the activities of these organizations at the local level creates opportunities to greatly enhance existing development. A new layer of intermediary could be created or the roles of existing organizations extended. Federal institutions using the Internet could complement their efforts using traditional intermediaries, many of which are, or are associated with, national programs and institutions. These have relied on other means of communication to pursue objectives of participation, development and social cohesion. Examples of these would include: the CBC, the National Film Board, national museums, the Canadian Heritage Information Network, among others. Federal and provincial governments have made a number of investments in these types of activities. A good example of some positive steps in this direction in the pursuit of the traditional objectives but focusing on Internet-based initiatives, are the recent federal department of Heritage programs, the Canadian Culture Online Program and the Canadian Arts and Heritage Sustainability Program, which are targeted to both the national and local levels.²²

The extensive and growing body of research on skills, the digital divide and the Internet has consistently demonstrated the important social dimension of the Internet in realizing development goals and participation. The activities of many community-based organizations, such as community centers, literacy groups, not-for-profit community networks, and many of the community service organizations who have been grant recipients of the Community Learning Network (HRDC) and Community Access (Industry Canada) programs in Canada, illustrate the important role of social

²¹ J. Dayton-Johnson, *Social Cohesion and Economic Prosperity*, Lorimer: Toronto, 2001: 3, 8, 65, 92.

²² "\$63 million arts and heritage funding program begins", *Canadian Communication Reports*, January 31, 2001, p. 5; "Canadian Heritage unveils near-finalized new media initiatives to Toronto audience", *Canadian New Media*, February 7, 2002, p. 4.

infrastructure and community groups (intermediaries) as part of individual and community economic and social development.²³

At the same time, careful thought will need to be devoted on a continuing basis to an inherent tension with the Internet and the issue of diversity of information. The technical design of the Internet facilitates personalized, customized consumption that provides extensive choice and benefits for individuals. However, this trend also creates a negative potential for increased individualization, fragmentation and homogeneity. On the other hand, the distributed and open nature of the Internet offer opportunities for collective development and access to a diversity of general information resources that support democracy, shared experiences, learning and understanding, and social cohesion. While the former is conducive to the development of the consumer market, the latter provides collective benefits. To achieve social policy objectives pertaining to the development of human and social capital, social infrastructure and social cohesion, a rethinking of the roles of the federal government, community organizations and the use of online and other resources is required. To accomplish these developmental ends in the past, individuals and organizations had to have available specific and general interest intermediaries that ably and competently fulfilled needs and demands. Key questions are how should online technology be most appropriately integrated into these organizations, and what resources will be required, and from who, to do this successfully? General interest intermediaries expose people to a range of ideas, experiences, resources that complement cohesion and development (e.g., government, community networks, libraries). Specific intermediaries fulfill more specialize roles for individual social and economic activities (e.g., literacy centre, Media Awareness Network).

Many communities across Canada share similar obstacles and opportunities, but the capacity for individuals and communities to respond to these varies greatly depending on their socio-economic contexts. While communities and community organizations have a good idea of their needs, and have social relationships in place, for many a need exists for outside resources (funding, expertise, information, etc.) to help facilitate progressive change at the levels of the individual and community.

²³ EKOS, *Rethinking the Digital Divide*, 2001, p. 48; *Community Networking and Access Initiatives in Canada*, PIAC, 1998; *Report on Local Residents and the Internet*, PIAC, 2000. Rideout, V. (2002, forthcoming) "Canadians Connected and Unplugged: Public Access to the Internet and the Digital Divide", in *Public Broadcasting and the Public Interest*; Dryburgh, H. (2001) *Changing our ways: Why and how Canadians use the Internet*, Statistics Canada, Cat. No. 56F0006X1E; Dickenson, P. and Ellison, J. *Plugging In: The Increase of Household Internet Use Continues into 1999*. Statistics Canada, Cat. No. 56F0004M1E; UK Online 2000 Annual Report, www.e-envoy.gov.uk/2000/programs/anrep/default.htm; Gurstein, M., (2001) *Community Learning, Community Economic Development and the New Economy*, HRDC; Goldsmith, P. (2001) "POVNET: An online commons for anti-poverty activists", in *e-commerce vs. e-commons*, CCPA.

We are still very much in the development phase of the Internet. The need for legitimation of the use of the Internet to meet social, cultural and economic objectives means that our social contract will require an ongoing government role working with other social organizations and institutions. The federal role will require a constant rethinking of policy and regulatory initiatives in response to the dynamic changes in the market and communities. Key priorities in this role will include social and cultural content development; economic policy initiatives (including market stabilization, protecting the property rights of the market); support for public information intermediaries; support for institutions and organizations involved in human, social capital and, social and economic infrastructure development.

