

## Article

# Online activities of Canadian boomers and seniors



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- . not available for any reference period
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- E use with caution
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# Online activities of Canadian boomers and seniors

by Ben Veenhof and Peter Timusk

## Introduction

Canadians' use of the Internet has changed the way they work, shop, gather information, communicate with friends and family, and manage their time. And yet, for all of the Internet's pervasiveness, studies of the digital divide remind us that there remain significant differences in access to and use of the Internet along socio-economic and demographic lines, with age in particular identified as an important factor.<sup>1</sup>

Understanding Internet use from an age-cohort perspective may provide additional insights into differences in Internet use.<sup>2</sup> Indeed, it is likely that people who currently use the Internet will continue to do so, and that differences in utilization rates by age should continue to decline. This narrowing divide can be attributed to both the movement of existing users through age cohorts, as well as new use among today's seniors.<sup>3</sup>

This article examines how seniors of today aged 65 and over use the Internet, compared with baby boomers aged 45 to 64, who are the seniors of tomorrow. It describes differences in the types of online activities, as well as in the intensity of Internet use (see "What you should know about this study" for concepts, definitions and details).

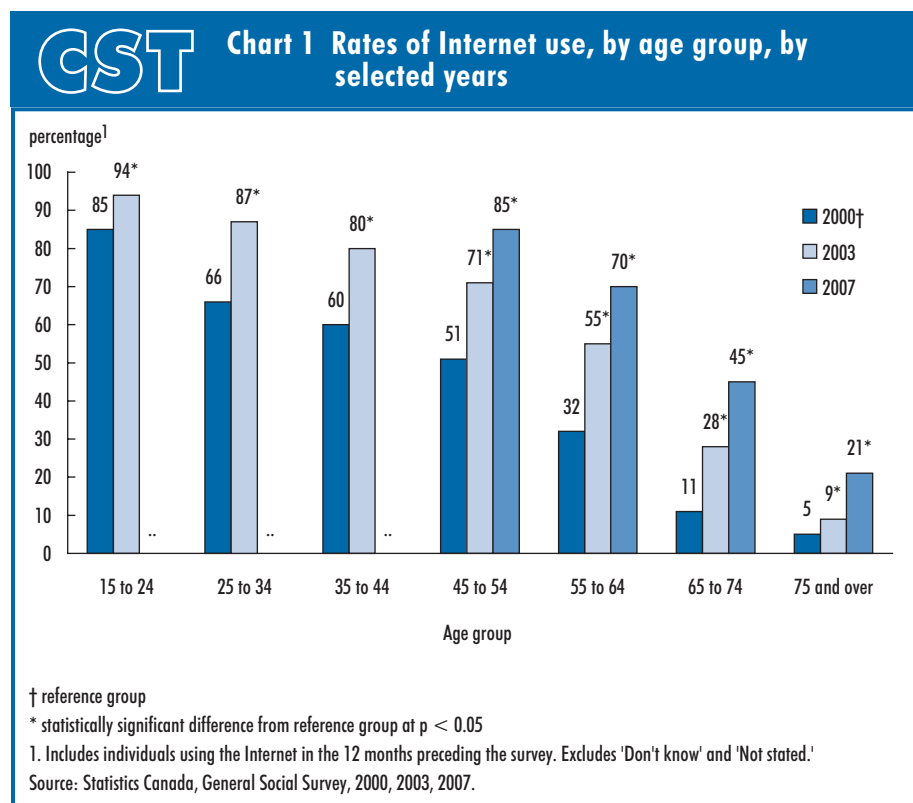
## Seniors use the Internet the least, but are the fastest growing group of users

In 2007, the vast majority of boomers used the Internet, but significantly fewer seniors went online (Chart 1).

Since 2000, however, growth rates of Internet use have been highest among seniors, as they recorded use rates in 2007 that were nearly four times higher than in 2000.<sup>4</sup> Conversely, rates for people aged 15 to 24 had already reached a point of near-saturation by 2003 (94%) and consequently left little room for high sustained growth rates.<sup>5</sup>

Although each age group experienced significant growth in Internet use rates, in 2007 the gaps in use rates remained significant.<sup>6</sup>

Since individual characteristics such as labour force status and education may explain part of the observed differences in Internet use rates by age group,<sup>7</sup> a logistic regression model (results not shown) was used to identify the relationships between Internet use and several socio-demographic factors. Results of the analysis show that age remains a significant and substantive predictor of Internet use, even after controlling for factors such as educational attainment and household income.<sup>8</sup>



This study draws from two main sources, the 2007 Canadian Internet Use Survey (CIUS), and the 2007 General Social Survey (GSS), to compare the Internet use of baby boomers aged 45 to 64 in 2007 with seniors aged 65 and older.

The 2007 CIUS sample consists of over 26,000 Canadians 16 years of age or older. The sample size for individuals aged 45 to 64 was about 9,700, and over 5,500 for individuals 65 years and older. The 2007 GSS sampled more than 23,000 individuals, including about 15,000 individuals aged 45 to 64, and 8,300 individuals 65 years and older. Both surveys included residents of the 10 provinces, excluding those residing in institutions at the time.

This study uses the CIUS to analyze the online activities of Canadian Internet users, including the use of the Internet for health information, government information, and electronic commerce, as well as time spent online. The CIUS covers use of the Internet for personal, non-business reasons from any location. Some questions, such as certain online activities, were only asked of persons who used the Internet from home (see definition of "home Internet user" below).

While Internet use was not the primary focus of the 2007 GSS, it includes several aspects of the Internet use of Canadians 45 years and older that are not covered by the 2007 CIUS. The GSS asked individuals whether they had used the Internet in the last month and in the last 12 months, but did not distinguish personal use from business use. GSS data on "use of the Internet in the last 12 months" were analyzed to find trends in Internet use comparing data from previous GSS cycles. These included GSS Cycle 14 (2000), and GSS Cycle 17 (2003) (see Chart 1). Elsewhere in this study, rates of Internet use come from the CIUS. Information from these two sources are not directly comparable, but are used to complement each other.

Both surveys employ a complex sample design, and bootstrap weights were used to produce estimates and conduct statistical tests using SAS Bootvar software.

## Definitions

**Baby boomers, boomers, middle-aged, and seniors of tomorrow:** refers to people who were aged 45 to 64 in 2007.

**Seniors:** refers to those who were aged 65 and over in 2007.

**Home Internet user:** in the 2007 CIUS, refers to a person who used the Internet from home in the 12 months preceding the survey.

**Instant messaging (IM)** is a common form of computer-mediated communication where two or more persons exchange text to simulate a conversation. Examples of instant messaging software include Windows Live Messenger and ICQ.

**Contributing content online:** The 2007 CIUS also asked users whether they had contributed content or participated in discussion groups online. Examples of such activities include blogging (contributing to a web log or online journal), using Internet message boards or posting photos.

## Measuring the intensity of Internet use

Intensity of Internet use can be defined in many ways. For the purposes of this article, an intensive user is a person who meets at least one of two criteria: a user that exceeds the average number of online activities ("breadth of use") or is online for five hours or more from home per week. This definition was selected since some users may only perform a few activities (for example, email or instant messaging), but may do so intensively, spending hours at a time on these activities. On the other hand, a user may be online for less than five hours per week but still conduct an above-average number of activities (12 or more); considered as intensive use for the purposes of this study.

The 2007 CIUS collected information on 26 online activities.<sup>1</sup> The questions for 24 activities were only asked of those who used the Internet from home, while two e-commerce related activities were asked of those who used the Internet from any location. For this analysis, only home Internet users were included.

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## Note

1. The following are 26 Internet activities for which the 2007 CIUS collected information: email; instant messaging; searching for government information; communicating with government; searching for medical or health information; education, training or school work; travel information or making travel arrangements; searching for employment; electronic banking; researching investments; playing games; obtaining or saving music; obtaining or saving software; viewing news or sports; obtaining weather reports or road conditions; listening to Internet radio; downloading or watching television programs; downloading or watching movies; researching community events; researching other specific matters; general browsing for fun or leisure (surfing); contributing content or participating in discussion groups (blogging, message boards, posting images); making online telephone calls; selling goods or services (through auction sites); ordering goods or services; window shopping for goods or services.

## Online activities reveal different role of the Internet in seniors' lives

The gap between boomers and seniors is not just in Internet use rates. Seniors also performed a smaller variety of online activities than boomers. Choices of activities reveal different preferences, as well as the different functional role the Internet plays in their personal lives.

Email was the most common use of the Internet by seniors, with 9 in 10 Internet users taking advantage of it. Similar proportions of boomers also used email (Table 1).

For Canadian seniors with large and dispersed extended families, email may represent an efficient means of keeping in touch. Previous research has found that email users aged 65 and older were more likely to use email to communicate with relatives than all other users.<sup>9</sup> Many seniors feel that it has improved their family connections, and they communicate more frequently with relatives when email is available.<sup>10</sup>

Other forms of personal online communication were less popular among seniors. While 32% of boomers with Internet at home participated in instant messaging in 2007, this activity was less popular among seniors, at 26%.

Many Internet users also contributed content online by blogging, participating in discussion forums and uploading photos online. These activities were significantly less common among both boomer and senior users, who had participation rates below 10%.

### Seniors more likely than boomers to play games

The Internet is a particularly popular source of leisure for online seniors and even more so for boomers. Over one-half of seniors who were home Internet users said they did general Internet browsing for fun or leisure in 2007, compared to more than two-thirds of boomers who used the Internet from home.



**Table 1 Internet activities performed at home in the last 12 months by Internet users, by age group, 2007**

Activity	Age group	
	45 to 64†	65 and older
	<b>Home Internet users<sup>1</sup> percentage</b>	
<b>Communication</b>		
Email	88	90
Using an instant messenger	32	26*
Communicating with all levels of government	28	20*
Contributing content (blogging, discussion groups, photos)	9	4 <sup>E*</sup>
Making telephone calls over the Internet	7	5 <sup>E*</sup>
<b>Leisure</b>		
General browsing for fun or leisure (surfing)	68	54*
Obtaining or saving music	23	15*
Playing games	27	36*
Listening to the radio over the Internet	22	13*
Downloading or watching television or movies	10	6*
<b>News and events</b>		
Obtaining weather reports or road conditions	67	56*
Viewing the news or sports	58	52*
Researching community events	42	27*
<b>Educational use</b>		
Education, training or school work	36	15*
<b>Financial information</b>		
Electronic banking (including bill payment)	58	40*
Researching investments	29	22*
<b>Other information</b>		
Travel information or making travel arrangements	68	59*
Searching for medical or health-related information	60	52*
Searching for government information	53	35*

† reference group

\* statistically significant difference from reference group at  $p < 0.05$

1. Includes individuals who used the Internet from home for personal use in the 12 months preceding the survey.

Source: Statistics Canada, Canadian Internet Use Survey, 2007.

Playing games on the Internet was the second-most popular leisure activity among seniors who used the Internet from home in 2007. In fact, seniors were more likely than boomers to do so (36% versus 27%), most likely because they have more leisure time;<sup>11</sup> the gap in participation rates was smaller when comparing only boomers and seniors who were in the labour force. Downloading music was the third most common online leisure activity mentioned by both age groups, but was significantly less popular among seniors (15%) than among boomers (23%).

### Seniors stay connected to news and events...

Although the 2007 data show that online seniors were less likely than boomers to use the Internet as a research tool in general, more than one-half of seniors used the Internet to find information on travel, health, news and sports, or the weather and driving conditions. The biggest difference was in researching community events online, which attracted only 27% of senior home users but 42% of boomers.

### ...but are less involved in community groups online

In 2007, almost half of seniors (48%) belonged to a community group, organization, network or association in their community in the 12 months prior to the survey. This was the case for fewer baby boomers (40%) (data not shown).

Community engagement is considered an important aspect of healthy aging<sup>12</sup> and the Internet represents one avenue for accessing content and services that may enhance users' social participation.<sup>13</sup> While seniors were more likely to be involved in these groups, fewer did so using the Internet. Among group members, a smaller proportion of seniors (10%) were involved in their group through the Internet than were boomers (22%) (data not shown).<sup>14</sup>

### Seniors use government online information differently from other users

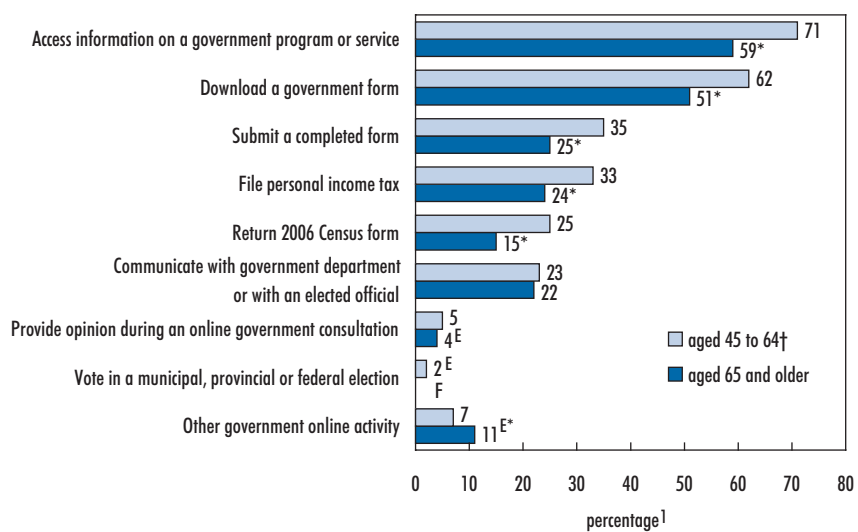
Seniors were less likely than other online Canadians to use the Internet from home to search for government information and to communicate with governments in 2007.<sup>15</sup> Boomers and seniors accessing government information on the Internet also had different preferences for the types of information and services they used (Chart 2). While the proportion of these users who communicated with government departments or officials online was no different by age group, a significantly higher proportion of boomers accessed information on specific programs or services, and downloaded and submitted forms online. Boomers were also more likely to file census forms and tax returns online than seniors.

### The Internet is a common source of retirement planning information for boomers

As individuals move closer to their retirement years, they may become increasingly interested in information on government retirement programs such as the Canada and Quebec Pension Plans (CPP/QPP), and Old Age Security (OAS).<sup>16</sup>



Chart 2 Activities of government online users, by age group, 2007



† reference group

\* statistically significant difference from reference group at  $p < 0.05$

1. Includes individuals who used the Internet from home in the 12 months preceding the survey and who said they used the Internet to search for government information and/or communicate with governments.

Source: Statistics Canada, Canadian Internet Use Survey, 2007.

While governments move to providing more information online, there are a myriad of communications methods available that the government can use to disseminate information. Amongst the possible ways are: traditional mail, Internet, newspapers, radio, television, government service centres or telephone.

When asked about how they would want to receive government retirement information, more than 7 in 10 boomers and seniors who had not yet retired stated, they would like to get information by regular mail (Chart 3).

For the Internet, there was a significant difference between the two groups: 6 in 10 non-retired boomers stated they would like retirement information via the Internet compared to few non-retired seniors (57% versus 15%).

This difference suggests that the use of the Internet as an information source for government retirement programs may increase in the future as boomers enter their senior years.

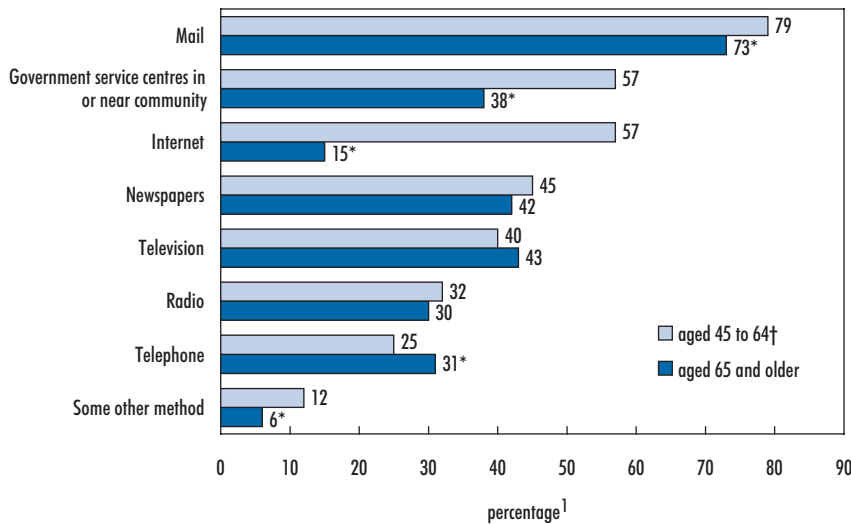
However, while the Internet has grown in popularity as a service delivery channel, evidence suggests that it complements, rather than replaces, traditional channels of citizen communication with government.<sup>17</sup>

### Seniors active health information users, but look for different types of information

More than half of seniors who use the Internet searched for health information online, though proportionally fewer than baby boomers (52% versus 60%) (Table 1). An earlier study found that health information users tended to possess more online experience than Internet users who did not search for health information.<sup>18</sup> Since seniors generally have less online experience than boomers,<sup>19</sup> this may partly explain the gap in use rates.

For both boomers and seniors who searched for health information online – information on specific diseases was the most common type of information sought (Chart 4).

**Chart 3 Methods for obtaining government information on retirement programs by never-retired persons, by age group, 2007**



† reference group

\* statistically significant difference from reference group at  $p < 0.05$

1. Individuals who have never retired from a job or business. Excludes 'Don't know' and 'Not stated'.

Source: Statistics Canada, General Social Survey, 2007.

Additionally, similar proportions of seniors and boomers who accessed health information online searched for information on drugs and medications, alternative therapy, the health care system and delivery, and information on surgeries. Boomers were more likely than seniors however to access health information related to lifestyle such as diet, nutrition, exercise and health promotion (49% vs. 36%), or to find information on the analysis of specific symptoms (47% vs. 38%).

Of those who searched for health information online and visited or communicated with a health care professional in 2007, 29% of seniors and 40% of boomers discussed the information they obtained online with their practitioner (data not shown).

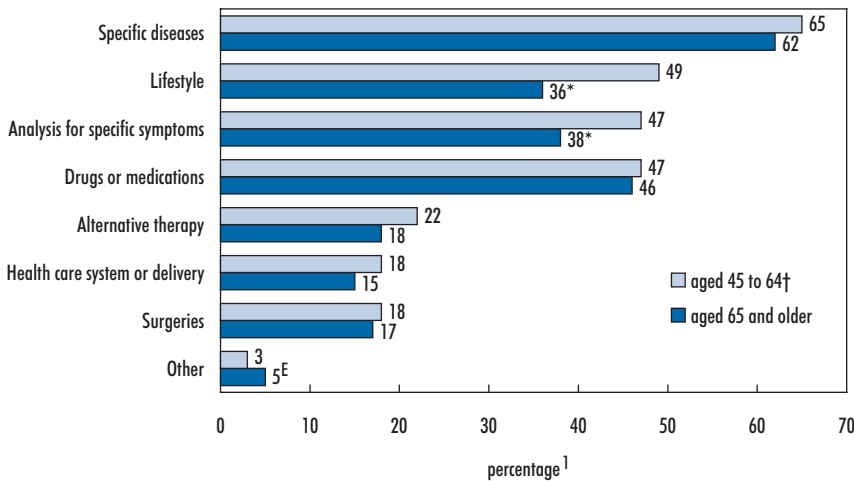
**Seniors not yet buying into e-commerce**

Electronic commerce (e-commerce) continues to grow in Canada, although much of the value of online orders is concentrated among a relatively small group of users.<sup>20</sup> Internet shopping includes not only purchasing online, but also browsing products and services online to gather information ("window-shopping") for making future purchasing decisions, which may result in either an online or in-store purchase. About four in ten (41%) boomer Internet users placed orders online in 2007, and 56% said they window-shopped online for goods and services. These activities were much less common among seniors (Table 2).

The most popular online purchases were travel arrangements and reading materials such as books, magazines and online newspapers. Similar proportions of seniors and boomers purchased reading materials (almost 40%); however seniors were significantly less likely to make travel arrangements online (38% versus 53% of boomers) (data not shown).

Boomers who placed orders online averaged about 8 orders during the year, significantly more than seniors. Among those who window-shopped

**Chart 4 Types of information searched by health information Internet users, by age group, 2007**



† reference group

\* statistically significant difference from reference group at  $p < 0.05$

1. Includes individuals who used the Internet from home in the 12 months preceding the survey and who said they used the Internet to search for medical or health-related information.

Source: Statistics Canada, Canadian Internet Use Survey, 2007.

Table 2 Electronic commerce, by age group, 2007

Activity	Age group	
	45 to 64†	65 and older
	percentage	
<b>Among Internet users from any location<sup>1</sup></b>		
Electronic window shopping <sup>2</sup>	56	33*
Electronic orders <sup>3</sup>	41	26*
<b>Among individuals who window shopped online</b>		
Electronic window shopping, resulting in an in-store purchase	60	43*
	number	
<b>Among individuals who placed orders online</b>		
Average number of orders placed online	7.9	4.6*

† reference group

\* statistically significant difference from reference group at  $p < 0.05$

1. Includes individuals who used the Internet from any location (home, work, school, library or other locations) for personal use in the 12 months preceding the survey.

2. Window shopping includes browsing for goods or services online, without necessarily ordering items online.

3. Includes orders for goods or services online, whether or not payment was made online.

Note: Electronic commerce includes goods or services for personal or household consumption (non-business), ordered from any location (home, work, school, library, or other locations) in the past 12 months.

Source: Statistics Canada, Canadian Internet Use Survey, 2007.

on the Internet, more boomers (60%) than seniors (43%) said that their online window shopping later resulted in an in-store purchase from a retailer.

E-commerce may be related to levels of Internet experience as well as security concerns. The most active online consumers are less likely to report high levels of concern about online credit card use.<sup>21</sup> Seniors tend to have less online experience than users under 65, and seniors and boomers alike also tend to express high levels of concern over Internet security. For example, similar proportions of boomers and seniors who owned credit cards (approximately 60%) said they would be very concerned about using their credit card online in 2007, significantly more than credit card owners aged 16 to 44 (46%) (data not shown).

In addition to the factors already mentioned, lower levels of e-commerce among seniors may also reflect wider consumption patterns. Since seniors typically purchase less than

boomers in general,<sup>22</sup> the finding that seniors also spend less online is not unexpected. As an example, in 2007 senior households reported average total expenditures of \$42,000, or about half the total spending by boomer households.<sup>23</sup>

### Which seniors are the most Internet-savvy?

Similar proportions of senior and boomer home Internet users went online for personal use for five hours or more in a typical week (approximately 40%). However, more boomers are employed and may have less discretionary time than seniors. When comparing only those online boomers and seniors who are in the labour force, similar proportions of each spent five hours or more online per week (38%). When considering those out of the labour force, the results for boomers and seniors were not significantly different (data not shown).

Yet although seniors and boomers did not differ in terms of the time devoted to Internet use from

home, the range of online activities undertaken by each group differed. Of a possible total of 26 online activities, seniors averaged 7.6 activities while boomers averaged 10.1 activities.

Nevertheless, approximately one-half of online senior and boomer home users qualified as "intensive users," at 47% and 53% respectively (see "What you should know about this study"). Similar proportions of boomers who were in the labour force and out of the labour force were intensive users (just over half). As well, among seniors, almost half of those in and half of those out of the labour force were intensive users.

The only significant difference found was between those not in the labour force. Indeed, 52% of boomers not in the labour force were intensive Internet users compared to 46% of non-working seniors (data not shown). While those not working may have more time to use the Internet for personal use, the intensity of use may be related to their previous workplace Internet experience.<sup>24</sup>

Senior intensive users came from households with similar median income levels and had similar levels of educational attainment to other online seniors (nearly 30% in each group had a university degree). There were, however, gender differences between intensive and non-intensive senior Internet users. Just over one-half of senior men who used the Internet from home were intensive users, compared with fewer senior women online (53% versus 39%). Among boomers who used the Internet from home, the gender gap was smaller, at 57% of men compared with 49% of women (data not shown).

### Summary

In 2007, seniors were significantly less likely to be online than boomers, but the relative gap in Internet use rates between these groups has been closing from 2000 to 2007.

The increase in Internet use rates among older Canadians will likely persist as today's seniors continue to

Fewer seniors use the Internet than boomers. Of those seniors who were offline in 2007, less than 5% said that they planned to start using the Internet in the next year. This is in contrast to the 11% of offline boomers who plan to go online.

The main reasons expressed for not using the Internet among both seniors and boomers were: a lack of interest (approximately 1 in 3 offline seniors and boomers); and a lack of need (1 in 5 in each group). These proportions may suggest that most non-users are satisfied with their existing outlets for information, entertainment and communication.

Seniors were more likely to mention their age as a reason for not planning to take up the Internet (31% versus 5% of boomers).

Some seniors and boomers relate their skills and inexperience with the Internet or computers as reasons for not going online. Among non-users, fewer seniors than boomers mentioned that a lack of skills or training was one

reason they did not go online (16% versus 20%). As well, some offline seniors and boomers said that they found the Internet or computers too difficult to use (7% versus 10%).

One issue that could not be studied from available data sources relates to awareness and familiarity with the Internet and its associated technologies and applications. As with many technologies, individuals' plans to start using the Internet may be influenced not only by their existing skills, but also by their past experience, perceived skills and comfort with technology. Most seniors are out of the workforce, and some do not have as large a social network as younger Canadians, where they might have the opportunity to explore or discuss different uses of the Internet with colleagues or friends.<sup>1</sup>

### Note

1. Salkowitz, R. (2008). *Generation Blend: Managing Across the Technology Age Gap*. Hoboken, N.J.: John Wiley & Sons.

adopt the Internet as an information tool. Additionally, because almost 80% of the baby boom generation are current Internet users, as these individuals age their continued use of the Internet is likely. These shifts, coupled with evidence that few online individuals later decide to cease using it, suggest increasing rates of Internet use among Canadian seniors.

While Internet use rates among Canadian seniors are likely to continue to increase, less is known about how specific patterns of online behaviour will change as boomers age. In every generation, the needs and preferences of individuals are likely to change as they age.<sup>25</sup> This study did not examine changes in online behaviour over time, but did find that online baby boomers and seniors differed significantly in the types of activities they perform online.

Whether seniors of tomorrow will spend more time online—on average—than do today's seniors, is not immediately clear. Overall, the fact that today's baby boomers

generally engage in more online activities suggests that as the age cohorts move through time, Canadian seniors will have higher levels of Internet experience and increasingly diverse usage patterns. However, the extent to which these changes occur will vary with users' changing needs.



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1. Silver, C. (2001a). Internet use among older Canadians. *Connectedness Series*, 4. Statistics Canada Catalogue no. 56F0004MIE.  
Silver, C. (2001b). Older surfers. *Canadian Social Trends*, 63. Statistics Canada Catalogue no. 11-008-XIE.  
Sciadas, G. (2002). Unveiling the digital divide. *Connectedness Series*, 7. Statistics Canada Catalogue no. 56F0004MIE.
2. Gilleard, C., and Higgs, P. (2008). Internet use and the digital divide in the English longitudinal study of ageing. *European Journal of Ageing*, 5(3), 233-239.

Noce, A. A., and McKeown, L. (2008). A new benchmark for Internet use: A logistic modeling of factors influencing Internet use in Canada, 2005. *Government Information Quarterly*, 25, 462-476.

3. Several observations provide supporting evidence for the cohort effect. Up until now, relatively few people who start using the Internet stop using it. See: McKeown, L., and Underhill, C. (2007). Dropping the Internet: Who and why? *Innovation Analysis Bulletin*, 9(2). Statistics Canada Catalogue no. 88-003-XWE; and, Crompton, S., Ellison, J., and Stevenson, K. (2002). Better things to do or dealt out of the game? Internet dropouts and infrequent users. *Canadian Social Trends*, 65. Statistics Canada Catalogue no. 11-008. For example, 2007 Canadian Internet Use Survey (CIUS) data show that among Canadians 16 years and older, only 3% had used the Internet in the past but did not use it in the 12 months preceding the survey. At the same time, very few non-users expressed an interest in starting to use the Internet: only 11% of boomer non-users indicated that they planned to start using the Internet in the next year and 4% of seniors who were not yet online stated likewise. While non-users' plans to start using the Internet provide some indication of how use rates might change over time, panel data would be required in order to differentiate between

- age and cohort effects (Peacock and Künemund, 2007).
- Peacock, S. E., and Künemund, H. (2007). Senior citizens and Internet technology: Reasons and correlates of access versus non-access in a European comparative perspective. *European Journal of Ageing*, 4, 191-200.
4. This analysis considers relative growth rates. While the relative growth is highest among seniors, absolute differences in use rates persist and in some cases have widened. For example, there was a 46 percentage point difference in use rates between persons aged 45 to 54 and those 75 and older in 2000 (a 51% use rate minus a 5% use rate). By 2007, the difference had increased to 64 percentage points (an 85% use rate minus a 21% rate). However, in relative terms, the use rate among persons 45 to 54 was about 10 times that of persons 75 and older in 2000, but in 2007 was only about 4 times that of persons 75 and older. In other words, for some age groups the absolute difference in use rates increased over the time period, while the relative difference decreased.
  5. Statistics Canada, General Social Survey, 2003.
  6. In addition to the General Social Survey (GSS), data on individual Internet use rates by age group are also available from another source—the 2005 and 2007 Canadian Internet Use Survey (CIUS). The Internet use questions on the CIUS differ from the General Social Survey (GSS) in that they cover only personal, non-business use of the Internet, whereas the GSS data refer to Internet use in general. For this reason, the CIUS and GSS data are not directly comparable. However, the 2005-2007 CIUS data on personal Internet use reveal similar patterns: by 2007, the gap in use rates by age groups remained significant; and while the oldest age groups had the lowest use rates, they experienced the highest relative growth in use rates over the two-year period 2005 to 2007.
  7. Peacock and Künemund. (2007). Dobransky, K., and E. Hargittai. (2006). The disability divide in Internet access and use. *Information, Communication and Society*, 9(3), 313-334.  
  
Korupp, S. E., Künemund, H., and Schupp, J. (2006). Digitale Spaltung in Deutschland: Geringere Bildung-seltener am PC. *DIW Wochenbericht*, 19(6), 289-294.
  8. The logistic regression model was run using the 2007 CIUS target population of individuals aged 16 and older. The full list of independent variables used in the model includes the following: age, educational attainment, household income quintile, labour force status (in or out of the labour force), urban-rural location, and sex.
  9. Veenhof, B., Wellman, B., Quell, C., and Hogan, B. (2008). How Canadians' use of the Internet affects social life and civic participation. *Connectedness Series*, 16. Statistics Canada Catalogue no. 56F0004MIE.
  10. Howard, P., Rainie, L., and Jones, S. (2001). Days and nights on the Internet: The impact of diffusing technology. *American Behavioral Scientist*, 45, 450-472.  
  
Thayer, S., and Ray, S. (2006). Online communication preferences across age, gender, and duration of Internet use. *Cyberpsychology and Behavior*, 9(4), 432-440.
  11. Hurst, M. (2009). Who participates in active leisure? *Canadian Social Trends*, 87. Statistics Canada Catalogue no. 11-008-XIE.
  12. Kahn, R., and Rowe, J. (1998). *Successful Aging*. New York: Pantheon Books.
  13. Peacock and Künemund. (2007). Czaja, S. J., and Lee, C. C. (2007). The potential influence of the Internet on the transition to older adulthood. In H.-W. Wahl, C. Tesch-Römer, and A. Hoff (Eds.), *New dynamics in Old Age: Individual, Environmental, and Societal Perspectives* (pp. 239-251). Amityville, NY: Baywood Publishing.
  14. Differences in this paragraph are statistically significant at  $p < 0.01$ .
  15. A previous study using 2005 CIUS data found that less than one-half of online seniors used government online information, and more than one-half of users in other age groups did so. See: Underhill, C., and Ladds, C. (2007). Connecting with Canadians: Assessing the use of Government On-Line. *Connectedness Series*, 15. Statistics Canada Catalogue no. 56F0004MIE. A similar pattern was also observed with the 2007 GSS data (not shown), which confirmed that online seniors were less likely than middle-aged adults to have used the Internet to access information on government programs and services, and also did so with less frequency.
  16. For a study examining retirement planning by individuals using GSS 2007 data, see: Schellenberg, G., and Ostrovsky, Y. (2008). 2007 General Social Survey report: The retirement puzzle: Sorting the pieces. *Canadian Social Trends*, 86. Statistics Canada Catalogue no. 11-008-XIE.
  17. Spears, G., Seydegart, K., Schmidt, F., and Zulinov, P. (2008). *Citizens First 5*. ERIN Research. Toronto: Institute for Citizen-Centred Service. Retrieved February 11, 2009 from <http://www.iccs-isac.org/en/cf/index.htm>
  18. Underhill, C., and McKeown, L. (2008). Getting a second opinion: Health information and the Internet. *Health Reports*, 19(1). Statistics Canada Catalogue no. 82-003-XWE.
  19. Fewer seniors who use the Internet from home have been online for five years or longer compared with boomers (60% versus 69%).
  20. McKeown, L., and Underhill, C. (2007). Canada's top online spenders: Who are they and what are they buying? *Innovation Analysis Bulletin*, 9(1). Statistics Canada Catalogue no. 88-003-XWE.  
  
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