

Technology adoption, use, and affordability in Canada:

**Analysis of data from recent
Statistics Canada surveys**

Table of contents

Executive summary	iv
Introduction	1
Canadians + Internet + smartphones = the “new normal”	1
Key issues to be examined	2
Connected Canada	3
The important link between smartphones and the Internet	4
Measures of affordability	7
Three available measures	7
Household spending as a function of income	7
Household spending as a function of household expenditure	7
Comparisons by income groups	10
Adjusting for currency differences	10
Price Indexes	11
Other data from the 2021 Survey of Household Spending	14
Substitution effects	14
The increase in the number of mobile phones per household	15
Landline and cell phone trends	17
The 2022 Canadian Internet Use Survey	21
Main statistical source	20
Home Internet access: Adoption, and reasons for non-adoption	21
Internet use in the three months prior to the survey	24
Lessons from the data: Policy implications	25
Appendix A	26
Background Note: Low-income quintiles	26
Appendix B	27
Internet use in the three months prior to the CIUS	27

List of figures

1. Percentage of households with cell phones, Canada and provinces, 2021	3
2. Percentage of Canadians 15+ with access to the Internet at home, Canada and provinces, 2022	4
3. Top five devices used to access the Internet in the prior three months, Canada, 2022	5
4. Percentage of Canadians 15+ who used a smartphone to access the Internet at home (in the previous three months), Canada and provinces, 2022	5
5. Expenditures on cellular phone service, as a percentage of <u>average household income</u> , Canada and U.S.A., 2013 to 2021	8
6. Expenditures on cellular phone service, as a percentage of <u>total household expenditure (excluding income taxes)</u> , Canada and U.S.A., 2013 to 2021	9
7. Statistics Canada's "cellular service index", 2017-2023	12
8. Statistics Canada's "Internet access service index", 2017-2023	13
9. Percentage of individuals 15+, reporting reading news online, or reading a print copy of a newspaper, daily or at least once a week, Canada 2016, <u>by smartphone ownership</u>	15
10. Number of households reporting cell phones, and number of cell phones in those households, Canada 2010-2021	16
11. Percentage of households with landlines and percentage of households with cell phones, Canada 2014-2021	18
12. Percentage of households with both landline and cell phone, landline only, cell phone only, and no telephone, Canada, 2014 and 2021	18
13. Percentage of households with landline and cell phone, landline only, and cell phone only, Canada and provinces, 2021	19
14. Percentage of Canadians with access to the Internet at home, and selected reasons for not having home Internet access, Canada, 2022	21

List of tables

1. Top five devices used to access the Internet in the prior three months, by selected geographic and demographic characteristics, Canada, 2022	6
2. Spending on cell phone service as a percentage of household income, by income groups, Canada, 2021	8
3. Spending on cell phone service as a percentage of income, by income groups, United States, 2021	8
4. Spending on cell phone service as a percentage of <u>total household expenditure (excluding income taxes)</u> , by income groups, Canada, 2021	9
5. Spending on cell phone service as a percentage of <u>total household expenditure (excluding income taxes)</u> , by income groups, United States, 2021	9
6. Spending on cell phone service, Canada and U.S.A., 2021, with U.S. data converted to Canadian dollars	10
7. Percentage of Canadians 15+ with access to the Internet at home, and selected reasons given for not having home Internet access, by age groups, Canada, 2022	22
8. Percentage of Canadians 15+ with access to the Internet at home, and selected reasons given for not having Internet access, by age groups, Canada, 2020	23
9. Percentage of Canadians 15+ with smartphones for personal use, and selected reasons given for not having a smartphone, by age groups, Canada, 2020	23
B-1. Percentage of Canadians 15+ using the Internet in the last three months (for personal use, from any location), and selected reasons given for not doing so, by geography and age groups, Canada, 2022	28
B-2A. Selected Internet activities in the last three months, by geography and age groups, Canada, 2022	29
B-2B. Selected Internet activities in the last three months, by geography and age groups, Canada, 2022	30

The Internet and smartphones play important roles in Canadians' lives. This report documents key indicators for how Canadians relate to those technologies.

A. UBIQUITY

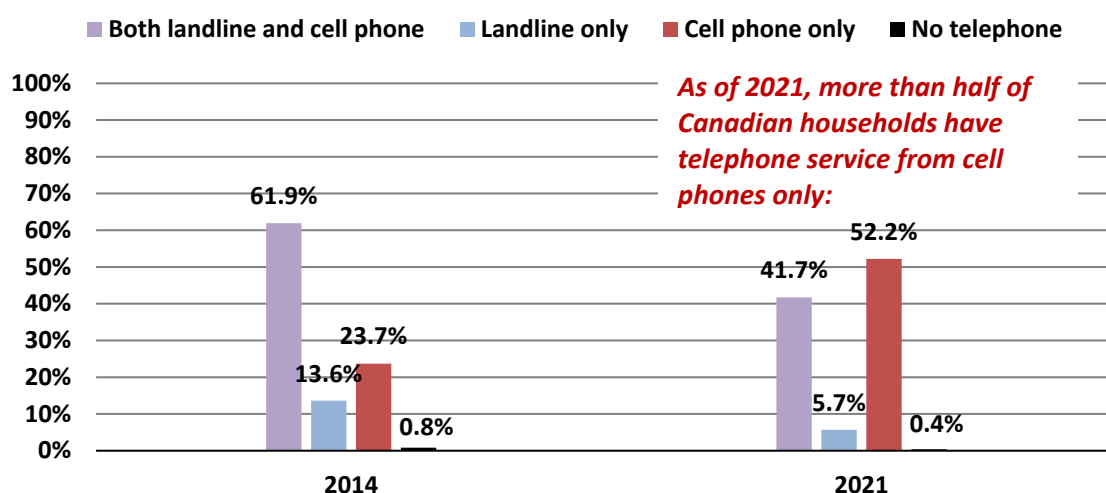
We estimate that:

- **In 2023, 95 per cent of Canadian households had home Internet connections.**
- **In 2023, 90 per cent of Canadian households had smartphones¹ (which were also the device most used by Canadians to connect to the Internet).**

The report also documents an important benchmark in the evolution of telephone service in Canadian households:

- **In 2021, for the first time, Statistics Canada found that more than half the households in Canada relied only on cell phones (which were mainly smartphones) for their telephone service.**

Figure ES-1. Percentage of households with both landline and cell phone, landline only, cell phone only, and no telephone, Canada, 2014 and 2021:



SOURCE: See Figure 12 in text.

¹ An additional 5 per cent of households had cell phones that were not smartphones, for a total mobile phone percentage of 95 per cent.

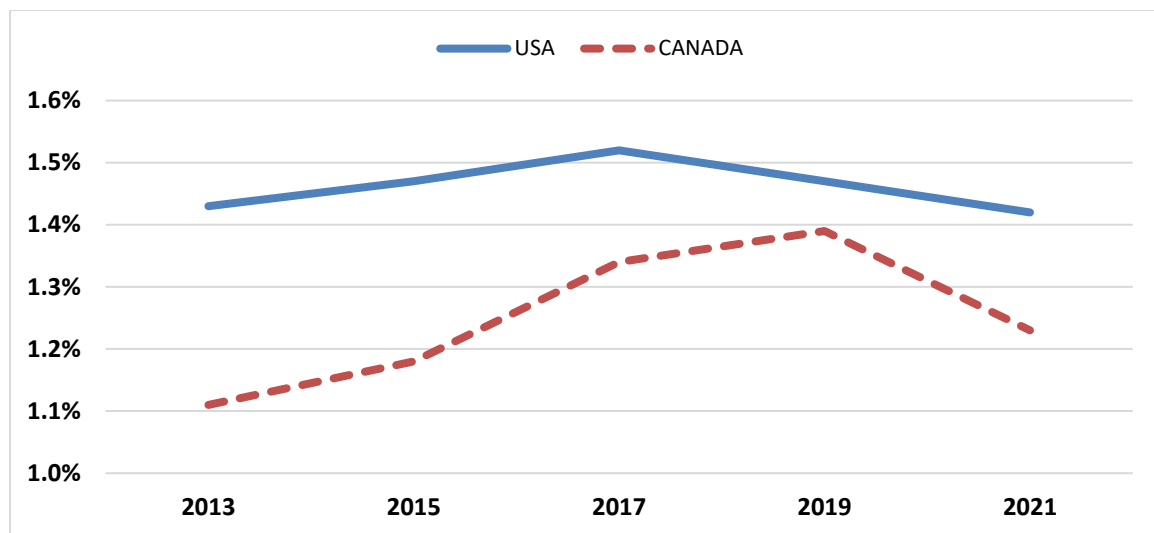
In addition to the basic statistics, and the important benchmark that was reached in 2021, additional data from Statistics Canada’s Canadian Internet Use Survey indicate that Canadians use those connections for many applications, from audio to video to interacting with information from a wide number of public and private sources.

B. AFFORDABILITY

The data from Statistics Canada also tell us that Internet connections and smartphones in Canada meet the test of affordability:

- **The latest data from Statistics Canada indicate declines in prices for Internet access and cellular service, with the “cellular service index” declining more than 50 per cent from 2017 to 2023.**
- **Across most income groups, Canadian households spend less on cellular service than do Americans.**

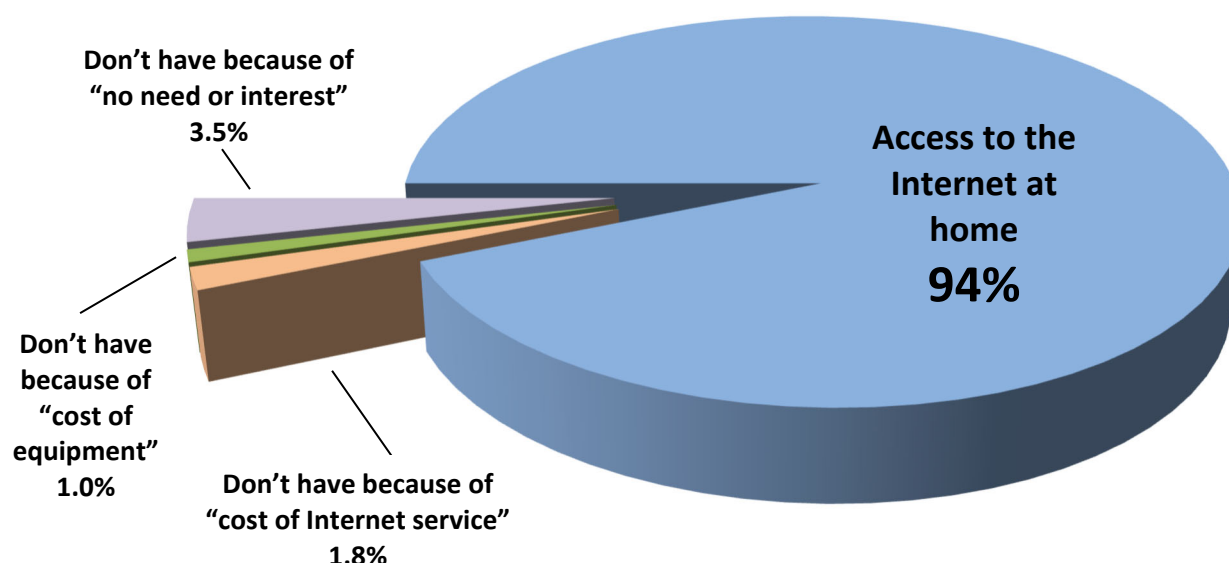
Figure ES-2. Expenditures on cellular phone service, as a percentage of average household income, Canada and U.S.A., 2013 to 2021:



SOURCE: See Figure 5, and Tables 2 and 3, in text.

- **Less than three per cent of total respondents consider the cost of those services to be an issue (see Figure ES-3).**
- **To the extent that survey respondents provide a reason for non-adoption, it is more likely to be “lack of interest” by persons 65+, rather than a specific “affordability” issue (see Figure ES-3).**

Figure ES-3. Percentage of Canadians 15+ with access to the Internet at home, and selected reasons given for not having home Internet access, Canada, 2022:



Note: Respondents could list more than one reason for not having the Internet at home. The most stated response was “no need or interest”. The percentages of total respondents shown here are for the totals giving the reasons indicated, whether alone or in combination with other reasons.

SOURCE: See Figure 14 in text.

C. SUBSTITUTION EFFECTS

One of the main “substitution effects” is noted above – the fact that, since 2021, the majority of Canadian households now have telephone service from cell phones only.

But a review of the data indicates that the substitution process has been ongoing for some time, as the Internet and smartphones are adopted by consumers as substitutes for many services, including landline services, photography, and media.

D. IMPLICATIONS FOR PUBLIC POLICY

The data indicate that the adoption of Internet and smartphone technology in Canada is nearly ubiquitous, with age and attitudes a much greater factor than affordability when influencing non-adoption. To the extent it is a goal of public policy to maximize adoption – and use – of these technologies, targeted solutions would appear to be more logical and efficient than broader, more disruptive, industry structural changes.

Canadians + Internet + smartphones = the “new normal”

A generation ago, the idea that the Internet and smartphones would connect almost all Canadians was, in many cases, highly speculative. According to Statistics Canada, 25 years ago, in 1999, 33.4 per cent per cent of Canadian households reported having Internet use from home, and 32.5 per cent of households reported having a cellular telephone.² (The iPhone was not introduced until 2007.)

Yet, by 2023³:

- 95 per cent of Canadian households had home Internet connections;
- 90 per cent of Canadian households had smartphones⁴ (which were also the device most used by Canadians to connect to the Internet).

When considered together, three recent reports from Statistics Canada provide an important overview of the degree to which Canadians have overwhelmingly adopted these new technologies:

1. The Survey of Household Spending (SHS) – covering 2021, released in 2023;⁵
2. The Canadian Internet Use Survey (CIUS) – covering 2022, released in 2023;⁶ and
3. A special Statistics Canada release of “Telecommunications Statistics”⁷ (available in June 2024 and later modified on August 1, 2024), using a number of sources, which allows us to compare affordability measures based on both household spending patterns and Price Indexes.⁸

² Statistics Canada, Survey of Household Spending, historical data for 1999.

³ The estimates for 2023 are based on data from the CRTC, Statistics Canada, and other industry sources.

⁴ An additional 5 per cent of households had cell phones that were not smartphones, for a total mobile phone percentage of 95 per cent.

⁵ The target population for the SHS is the population of Canada's 10 provinces, as well as the territorial capitals of Whitehorse, Yellowknife and Iqaluit, excluding residents of institutions, members of the Canadian Forces living in military camps and people living on Indian reserves. In all, these exclusions account for about 2% of the population.

⁶ The target population for the CIUS is all persons 15 years of age and older living in the ten provinces of Canada. It excludes full-time (residing for more than six months) residents of institutions. The CIUS makes efforts to identify and exclude units on reserves based on their associated geographies on the building-unit-based frame.

⁷ Available at: https://www.statcan.gc.ca/en/subjects-start/digital_economy_and_society/telecommunications.

⁸ The two key sections are “Spending and prices for cellular services” and “Spending and prices for Internet access services”.

Data from each of those sources are summarized in this report.

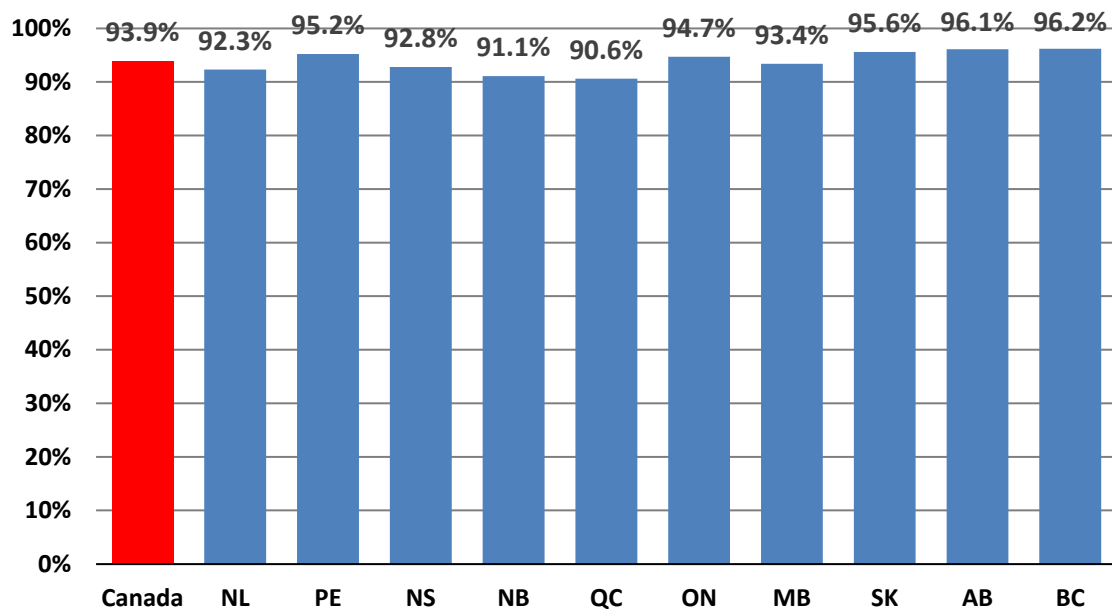
Key issues to be examined

- 1.** Measures of ubiquity for smartphones and Internet access, including data for Canada and provinces.
- 2.** Measures of affordability for smartphones and Internet access, including:
 - a. Household spending on cellular services as a function of income, by household income quintiles, with comparisons to spending in the U.S.
 - b. Household spending on cellular services as a function of household expenditures, by household income quintiles, with comparisons to spending in the U.S.
 - c. Price Indexes for cellular services and Internet access in Canada.
- 3.** Analysis of non-adopters, and the important influence of demographics.
- 4.** “Substitution effects”, as spending on smartphones and Internet access simultaneously reduced spending on other services and equipment, including traditional telephone landlines, cameras/photography, and other information sources.
- 5.** The increase in the number of households with mobile phones, and the increase in the number of mobile phones per household, which impacts the expenditure statistics.
- 6.** A comparison of the percentages of households with landlines and with cell phones, by province.
- 7.** Trends and patterns in Canadians’ use of the new technologies.

As indicated above, we estimate that, as of 2023, the percentage of Canadian households with smartphones and home Internet connections is 90 per cent or higher.

In that context, it is also interesting to use the data from the Survey of Household Spending and the Canadian Internet Use Survey to get a sense of how the adoption rates for cellular service and home Internet connections compare across Canada.

Figure 1. Percentage of households with cell phones, Canada and provinces, 2021:

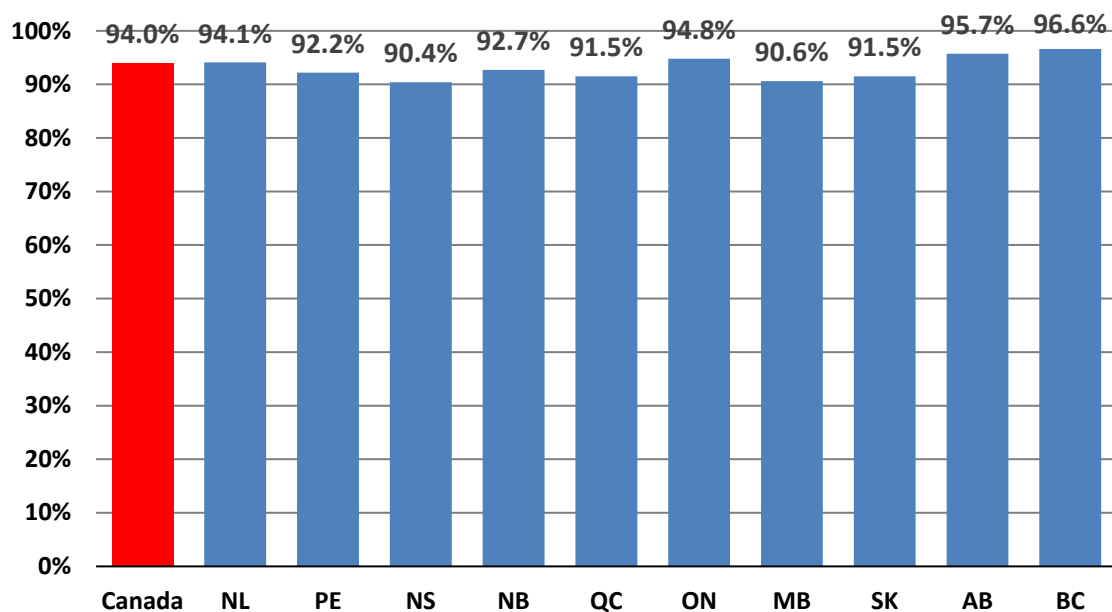


NOTE: As outlined in this report, cell phones in Canada now are overwhelmingly smartphones.

SOURCE: Statistics Canada, Survey of Household Spending, 2021;
Communications Management Inc.

The degree to which smartphones and home Internet access have become ubiquitous in Canada is illustrated in Figures 1 to 4. We can see very high percentages of technology adoption, and, although there are variations among the provinces, the percentages are generally high across the country.

Figure 2. Percentage of Canadians 15+ with access to the Internet at home, Canada and provinces, 2022:

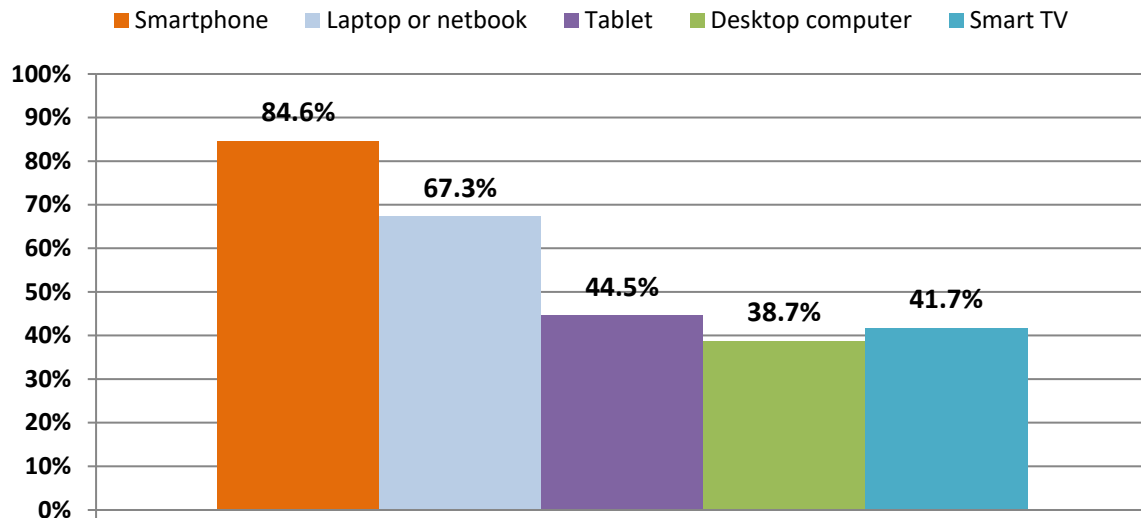


SOURCE: Statistics Canada, Canadian Internet Use Survey 2022;
Communications Management Inc.

The important link between smartphones and the Internet

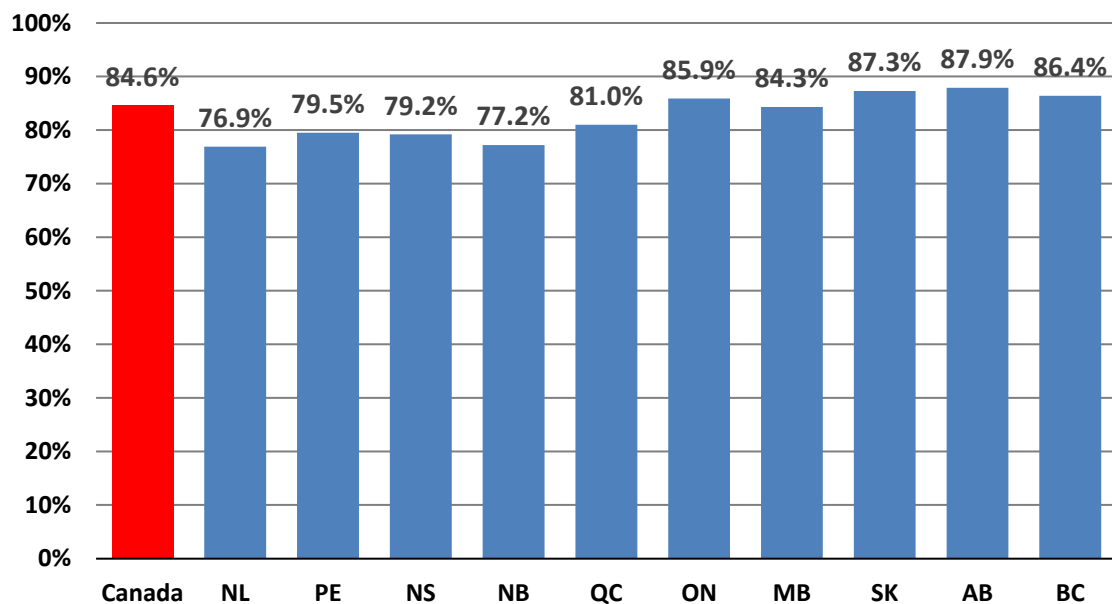
As noted in Figure 3, the 2022 CIUS confirmed that the smartphone is the most-used device in Canada for accessing the Internet. In Table 1, additional data are provided on the use of the top five devices.

Figure 3. Top five devices used to access the Internet in the prior three months, Canada, 2022: *(Respondents could indicate more than one device)*



SOURCE: Statistics Canada, Canadian Internet Use Survey 2022 [custom tabulation]; Communications Management Inc.

Figure 4. Percentage of Canadians 15+ who used a smartphone to access the Internet at home (in the previous three months), Canada and provinces, 2022:



SOURCE: Statistics Canada, Canadian Internet Use Survey 2022 [custom tabulation]; Communications Management Inc.

Table 1. Top five devices used to access the Internet in the prior three months, by selected geographic and demographic characteristics, Canada, 2022:

(% of total respondents)	Top five devices used:*				
	Smart-phone	Laptop or netbook	Tablet	Desktop computer	Smart TV
Canada	84.6	67.3	44.5	38.7	41.7
<i>By province:</i>					
Newfoundland	76.9	59.0	44.2	31.6	40.0
Prince Edward Island	79.5	67.0	37.0	32.1	41.4
Nova Scotia	79.2	61.1	40.8	32.6	36.0
New Brunswick	77.2	59.2	41.3	33.6	38.7
Quebec	81.0	62.1	45.6	37.5	34.6
Ontario	85.9	71.1	44.8	37.7	45.8
Manitoba	84.3	63.6	37.8	38.9	42.6
Saskatchewan	87.3	62.5	39.2	37.8	43.5
Alberta	87.9	60.0	45.4	41.1	44.3
British Columbia	86.4	68.9	45.4	44.4	40.4
<i>By age group:</i>					
15-24	97.1	84.3	39.5	40.5	45.9
25-34	97.8	81.2	43.5	43.6	53.3
35-44	96.7	77.6	49.5	40.6	54.4
45-54	93.7	72.7	48.8	40.9	46.1
55-64	82.8	59.5	44.4	37.8	37.2
65+	54.8	42.2	42.1	32.1	22.1

* Respondents could indicate more than one device.

SOURCE: Statistics Canada, Canadian Internet Use Survey 2022 [custom tabulation];
Communications Management Inc.

Three available measures

In the CRTC's *Communications Monitoring Report* for 2017, the Commission included data for “communications expenditures as a percentage of annual income”, and also provided breakdowns by household income quintile.

Those data were based on the available results from Statistics Canada's Survey of Household Spending (SHS). The Commission subsequently updated the numbers as new data became available, and, of course, similar data can be generated from the most recent SHS.

In Statistics Canada's recently-released “Telecommunications Statistics” (noted above), two additional measures of affordability were highlighted. In the case of the most recent SHS data, the percentage spent on cellular service was calculated as a function of household expenditures instead of household income. In addition, Price Indexes were provided for both cellular service and for Internet access.

Thus, the most recent release of data now allows us to use three different measures to assess the affordability of mobile telephony (and Internet access) in Canada:

1. Household spending as a function of income;
2. Household spending as a function of household expenditures; and
3. Price Indexes.

We will deal with each of those in turn.

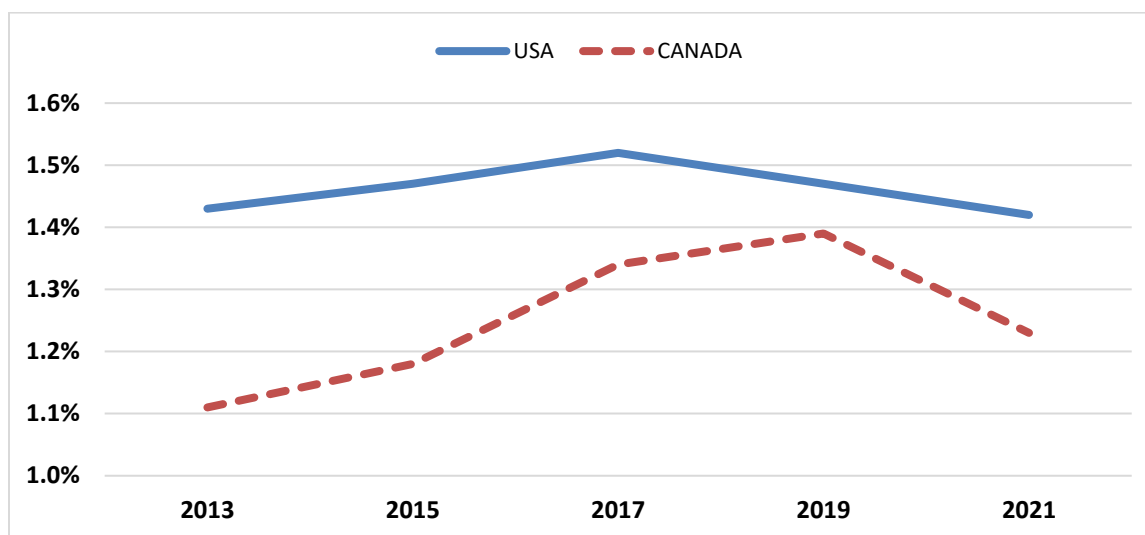
Household spending as a function of income

Figure 5 and Tables 2 and 3 compare Canadian and U.S. data for spending on cell phones (which include smartphones), as a function of income. As indicated in Figure 5, Canadians spend a lower percentage of their income on this service than do Americans.

Household spending as a function of household expenditure

Figure 6 and Tables 4 and 5 compare Canadian and U.S. data for spending on cell phones (which include smartphones), as a function of total household expenditure. As indicated in Figure 6, Canadians spend a lower percentage of their total household expenditure (excluding income taxes) on this service than do Americans.

Figure 5. Expenditures on cellular phone service, as a percentage of average household income, Canada and U.S.A., 2013 to 2021:



SOURCE: Statistics Canada; U.S. Bureau of Labor Statistics; Communications Management Inc.

Table 2. Spending on cell phone service as a percentage of household income, by income groups, Canada, 2021:

(In C\$, except for %)	All quintiles	Lowest quintile	Second quintile	Third quintile	Fourth quintile	Highest quintile
Average income before taxes	106,366	25,610	52,532	83,765	125,232	244,556
Spending on cell phone and pager services	1,308	663	945	1,333	1,600	1,998
As % of income	1.2%	2.6%	1.8%	1.6%	1.3%	0.8%

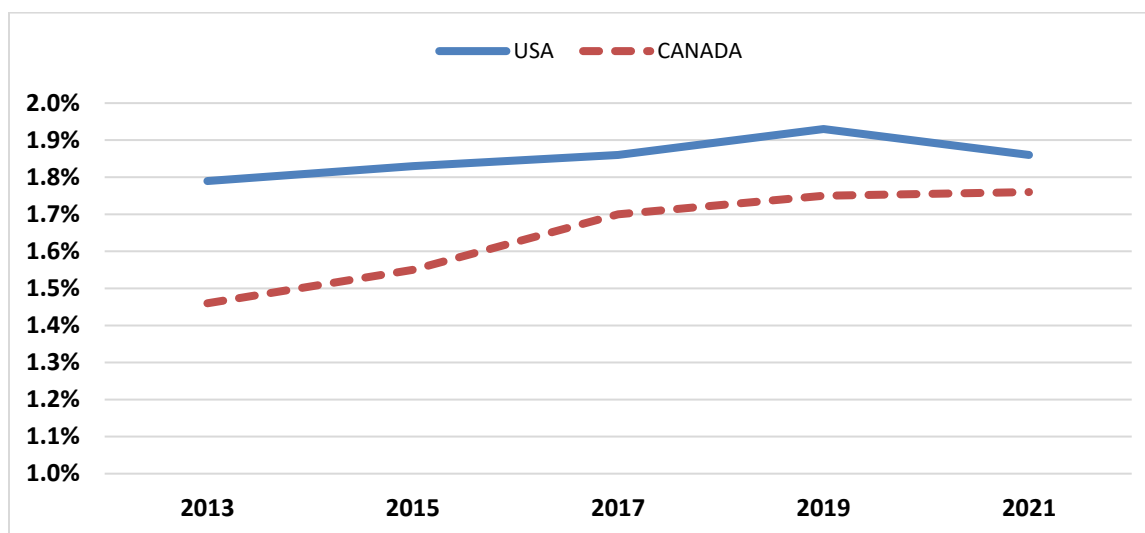
SOURCE: Statistics Canada, Survey of Household Spending, 2021.

Table 3. Spending on cell phone service as a percentage of income, by income groups, United States, 2021:

(In US\$, except for %)	All consumer units	Lowest 20 percent	Second 20 percent	Third 20 percent	Fourth 20 percent	Highest 20 percent
Average income before taxes	87,432	13,165	34,767	61,214	100,527	226,386
Spending on cellular phone service	1,244	646	957	1,262	1,534	1,814
As % of income	1.4%	4.9%	2.8%	2.1%	1.5%	0.8%

SOURCE: U.S. Bureau of Labor Statistics, Consumer Expenditure Survey, 2021.

Figure 6. Expenditures on cellular phone service, as a percentage of total household expenditure (excluding income taxes), Canada and U.S.A., 2013 to 2021:



SOURCE: Statistics Canada; U.S. Bureau of Labor Statistics;
Communications Management Inc.

Table 4. Spending on cell phone service as a percentage of total household expenditure (excluding income taxes), by income groups, Canada, 2021:

(In C\$, except for %)	All quintiles	Lowest quintile	Second quintile	Third quintile	Fourth quintile	Highest quintile
Total household expenditure	74,319	37,575	50,159	67,535	89,874	126,131
Spending on cell phone and pager services	1,308	663	945	1,333	1,600	1,998
% of total hhld. expenditure	1.8%	1.8%	1.9%	2.0%	1.8%	1.6%

SOURCE: Statistics Canada, Survey of Household Spending, 2021.

Table 5. Spending on cell phone service as a percentage of total household expenditure (excluding income taxes), by income groups, United States, 2021:

(In US\$, except for %)	All consumer units	Lowest 20 percent	Second 20 percent	Third 20 percent	Fourth 20 percent	Highest 20 percent
Total household expenditure	66,928	30,869	43,918	55,914	75,284	128,213
Spending on cellular phone service	1,244	646	957	1,262	1,534	1,814
% of total hhld. expenditure	1.9%	2.1%	2.2%	2.3%	2.0%	1.4%

SOURCE: U.S. Bureau of Labor Statistics, Consumer Expenditure Survey, 2021.

Comparisons by income groups

Comparisons can also be done by income groups, and that has been done in Tables 2 and 4 (based on Statistics Canada's 2021 Survey of Household Spending) and Tables 3 and 5 (based on the 2021 Consumer Expenditure Survey from the U.S. Bureau of Labor Statistics).

When Tables 2 and 3 are compared, in 2021, spending on cell phone service as a percentage of income was lower in Canada than it was in the United States. That was true overall, and in the four lowest income quintiles.⁹

When Tables 4 and 5 are compared, a similar pattern emerges – in 2021, spending on cell phone service as a percentage of total household expenditure (excluding income taxes) was lower in Canada than it was in the United States, and that was true overall, and in the four lowest income quintiles.

Adjusting for currency differences

One can also compare Canada and the U.S. by adjusting for currency differences, which has been done in Table 6.

As indicated in Table 6, when adjusted for currency differences, in 2021, U.S. households paid more for cell phone service than did Canadian households, overall, and in every income quintile.

Table 6. Spending on cell phone service, Canada and U.S.A., 2021, with U.S. data converted to Canadian dollars:

CANADA: (In Canadian dollars)	All quintiles	Lowest quintile	Second quintile	Third quintile	Fourth quintile	Highest quintile
Spending on cell phone and pager services	1,308	663	945	1,333	1,600	1,998

UNITED STATES: (In Canadian dollars)	All consumer units	Lowest 20 percent	Second 20 percent	Third 20 percent	Fourth 20 percent	Highest 20 percent
Spending on cellular phone service	1,559	810	1,200	1,582	1,923	2,274

SOURCE: Data from Tables 2 and 3; currency exchange rate from the Bank of Canada.

⁹ See Appendix A for additional background information from Statistics Canada and the U.S. Bureau of Labor Statistics on factors that might affect data for low-income quintiles

Thus, when we compare a broad number of indicators for spending on cellular service, we find that across almost all of those indicators, Canadians pay less for cellular service than do Americans.

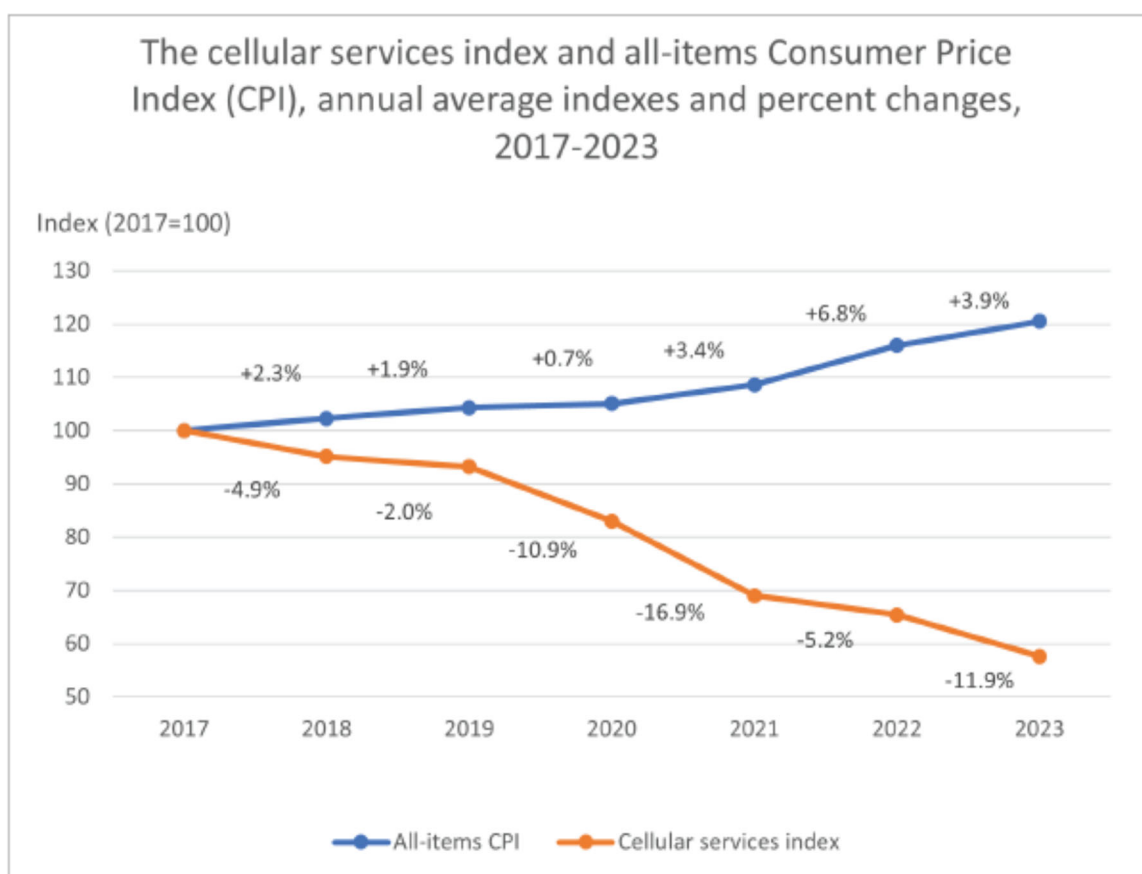
Price Indexes

As noted above, Statistics Canada's recently-released "Telecommunications Statistics" also included Price Indexes for both cellular service and Internet access.

The results for those two Price Indexes are summarized in Figures 7 and 8.

As indicated in Figures 7 and 8, the Price Indexes for both cellular service and Internet access have declined in recent years, both in absolute terms, and in relation to the overall Consumer Price Index.

Figure 7. Statistics Canada’s “cellular service index”, 2017-2023:



What is it?

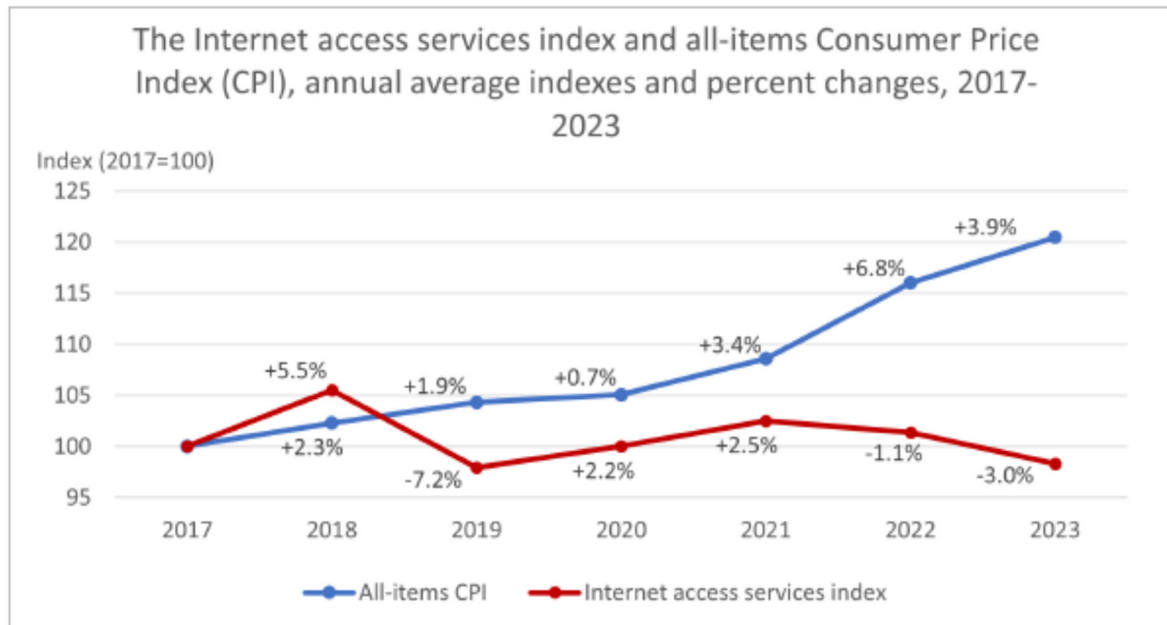
The **cellular services index** measures the change in prices experienced by consumers for cellular services. These services include local and long distance voice calls, text messaging and internet access on a cellular device. The index is part of the telephone services sub-group of the Consumer Price Index (CPI).

To display both indexes with the same reference period in the chart, the all-items CPI line uses a reference period of 2017=100, which differs from other publications.

Due to rounding, the values in the chart may not match the values in other publications.

SOURCE: Statistics Canada [updated June 2024].

Figure 8. Statistics Canada’s “Internet access services index”, 2017-2023:



What is it?

The **Internet access services index** measures, through time, the cost of a constant level of Internet access purchased by consumers. The current consumer profiles used to track prices reflect the most popular types of high-speed services. The index is part of the communications sub-group of the Consumer Price Index (CPI).

To display both indexes with the same reference period in the chart, both indexes use a reference period of 2017=100, which differs from other publications.

Due to rounding, the values in the chart may not match the values in other publications.

SOURCE: Statistics Canada [updated June 2024].

Other data from the 2021 Survey of Household Spending

As noted above, key data from Statistics Canada's 2021 Survey of Household Spending now also appear in the newly-issued "Telecommunications Statistics".

However, additional useful data from the 2021 SHS can add to our understanding of three other relevant issues:

1. Substitution effects – the fact that spending on mobile phones might yield savings in spending on other items for which the mobile phone becomes, in whole or in part, a substitute.
2. The increase in the number of households with mobile phones, and the increase in the number of mobile phones per household, which impacts the expenditure statistics.
3. A comparison of the percentages of households with landlines and with cell phones, by province.

Substitution effects

We have already noted that the smartphone has multiple uses, and it is not unreasonable to state that the smartphone has substitution effects for landlines, photographic services, newspapers, and magazines and periodicals.

According to data from the 2021 Survey of Household Spending, the changes in average household spending on each of those items from 2010 to 2021 were¹⁰:

• Landline telephone services	-56.4%
• Photographic services	-42.8%
• Newspapers	-27.3%
• Magazines and periodicals	-50.0%

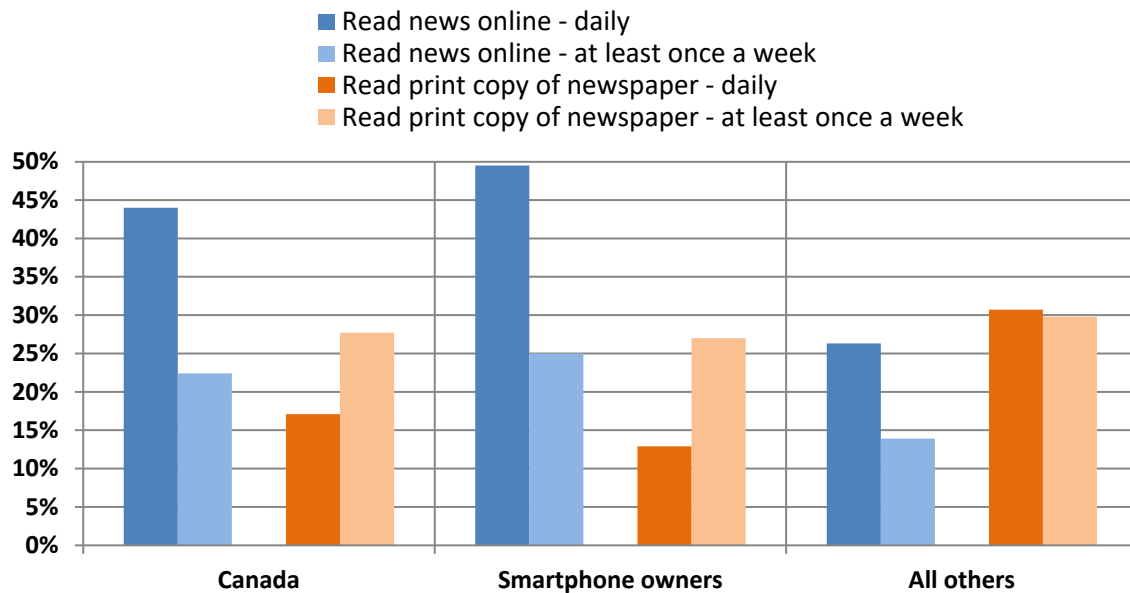
One of the reasons for that "substitution effect" is that the number and percentage of households with cell phones was increasing – from 78.1 per cent of households in 2010 to 93.9 per cent in 2021. (And, within those totals, an increasing number were smartphones.)

While the quantitative economic comparisons are the main focus of this report, we would be remiss if we did not note that the "substitution effect" also has other

¹⁰ Statistics Canada, Survey of Household Spending, 2021, Table 11-10-0222-01.

impacts. For example, Figure 9 uses data from Statistics Canada’s 2016 General Social Survey to show how the smartphone affected the reading of newspapers.

Figure 9. Percentages of individuals 15+, reporting reading news online, or reading a print copy of a newspaper, daily or at least once a week, Canada, 2016, by smartphone ownership:



SOURCE: Statistics Canada, 2016 General Social Survey [custom tabulation].

Figure 9 indicates how the smartphone can change news consumption:

- Smartphone owners were almost twice as likely to read news online daily, compared to those that do not own smartphones; and
- Smartphone owners were less than half as likely to read a print copy of a newspaper daily, compared to those that do not own smartphones.

This is but one of many examples of how the smartphone has effects far beyond what might have been called “telephony” in the past.

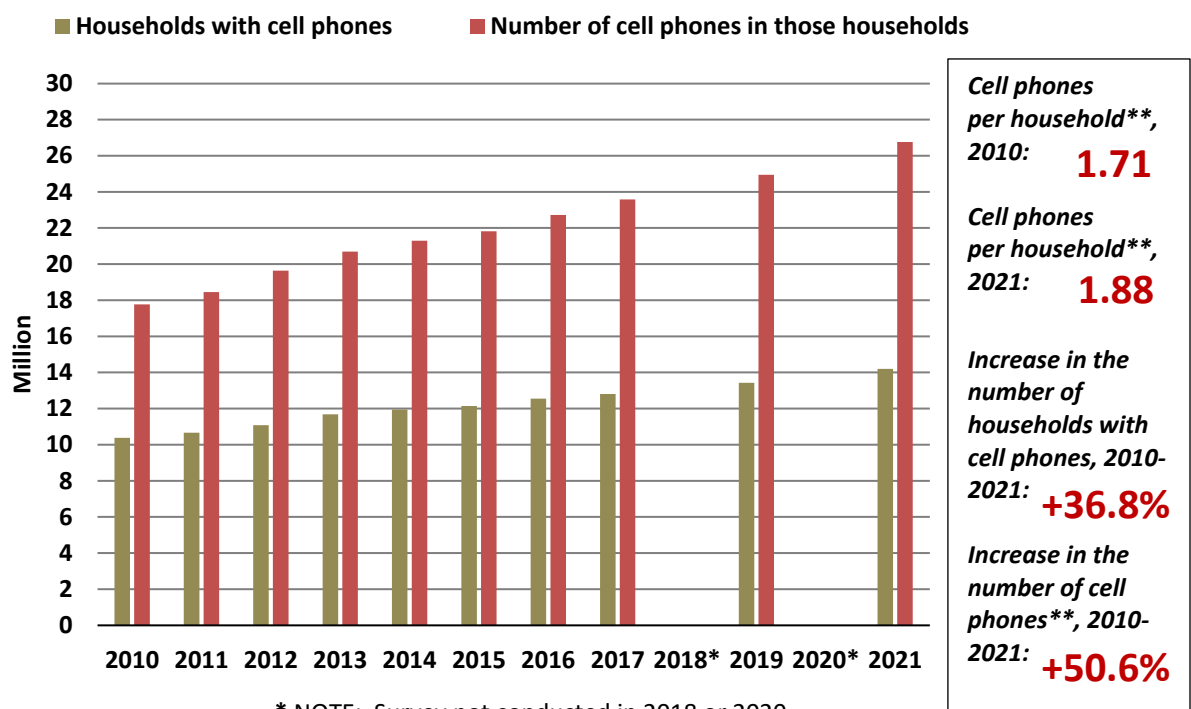
The increase in the number of mobile phones per household

In Figure 7, above, using data from Statistics Canada’s “Telecommunications Statistics”, we saw that the Price Index for cellular service had decreased from 2017 to 2023. As noted above, in the SHS, when average spending per household is shown for an item, that average is based on all households – i.e., those that have the item and those that do not have the item. Thus, over time, the average spending on an item might go up, not necessarily because the cost of that item went up, but

merely because more households are reporting spending on that item, or are buying more of the same item. In this case, one might theorize that the decline in price stimulated more consumption.

Thus, the increase in the number of mobile phones per household should also be quantified. The SHS gathers data on whether households with cell phones have one, two, or three or more of the devices. We can use those data to estimate the total number of mobile phones in Canadian households.¹¹ The results are summarized in Figure 10.

Figure 10. Number of households reporting cell phones, and number of cell phones in those households, Canada, 2010-2021:



SOURCE: Statistics Canada, 2021 Survey of Household Spending.

¹¹ To estimate the total number of cell phones, we have multiplied the number of households with two cell phones by two, and the number of households with three or more cell phones by three, and then added that to the number of households with one cell phone. Since we do not know the actual average number of cell phones in households with three or more, this produces a conservative estimate; the actual totals would likely be higher.

As indicated in Figure 10:

- In 2010, the SHS estimated that Canada had 13,297,000 households, of which 10,378,000 households had at least 17,772,000 cell phones.
- In 2021, the SHS estimated that Canada had 15,123,000 households, of which 14,197,000 households had at least 26,759,000 cell phones.

In other words, from 2010 to 2021, the number of total households went up 13.7 per cent; the number of households with cell phones went up 36.8 per cent; and the number of cell phones in those households went up 50.6 per cent.

Landline and cell phone trends

While the evolution of the cell phone into the smartphone, and its growth to ubiquity in Canadian households, have occupied public attention and public policy over the last decade, it is also interesting to track cell phone trends against the main item it is replacing – the landline.

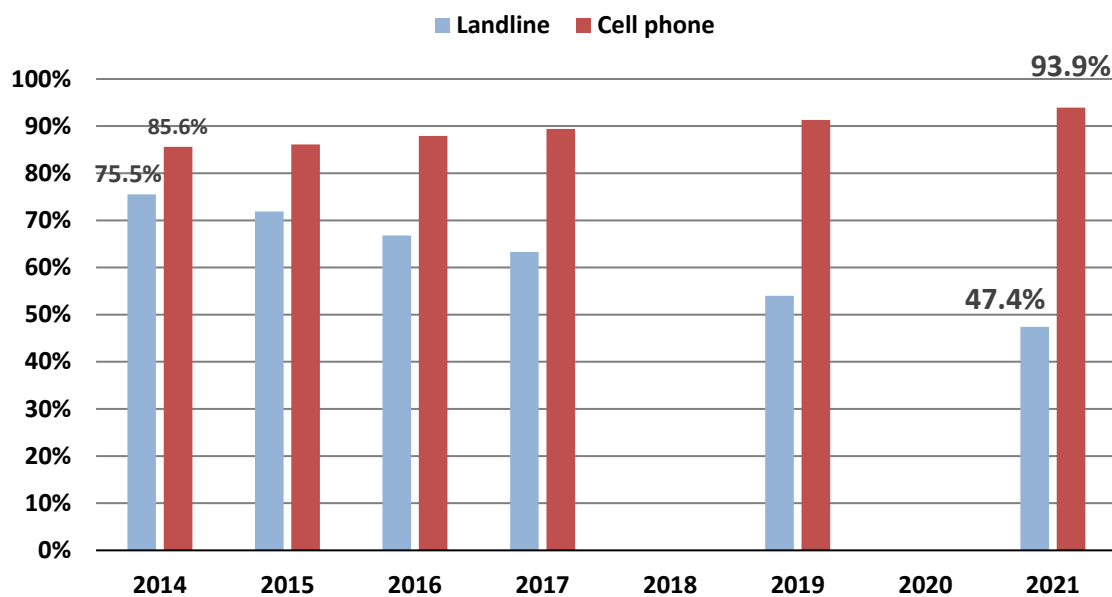
In Figures 11 and 12, we have summarized data from the 2021 SHS to describe two important trends in the relationship between landlines and smartphones:

- The change in the percentages of households with landlines and cell phones from 2014 to 2021 (Figure 11); and
- A comparison of data for 2014 and 2021 that indicates the percentages of Canadian households with both landlines and cell phones, and the percentages with only one or the other (Figure 12).

As indicated in Figure 12, by 2021, over half of Canadian households only had a cell phone, just under six per cent only had a landline, and about 42 per cent had both.

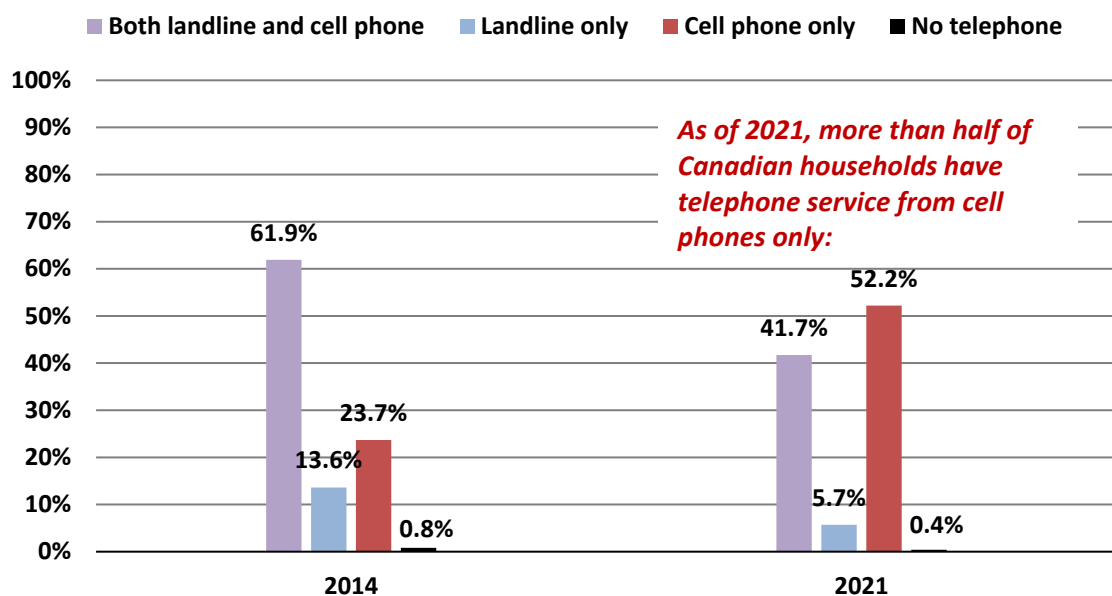
Figure 13 provides comparable data for each province, for 2021.

Figure 11. Percentage of households with landlines and percentage of households with cell phones, Canada, 2014-2021:*



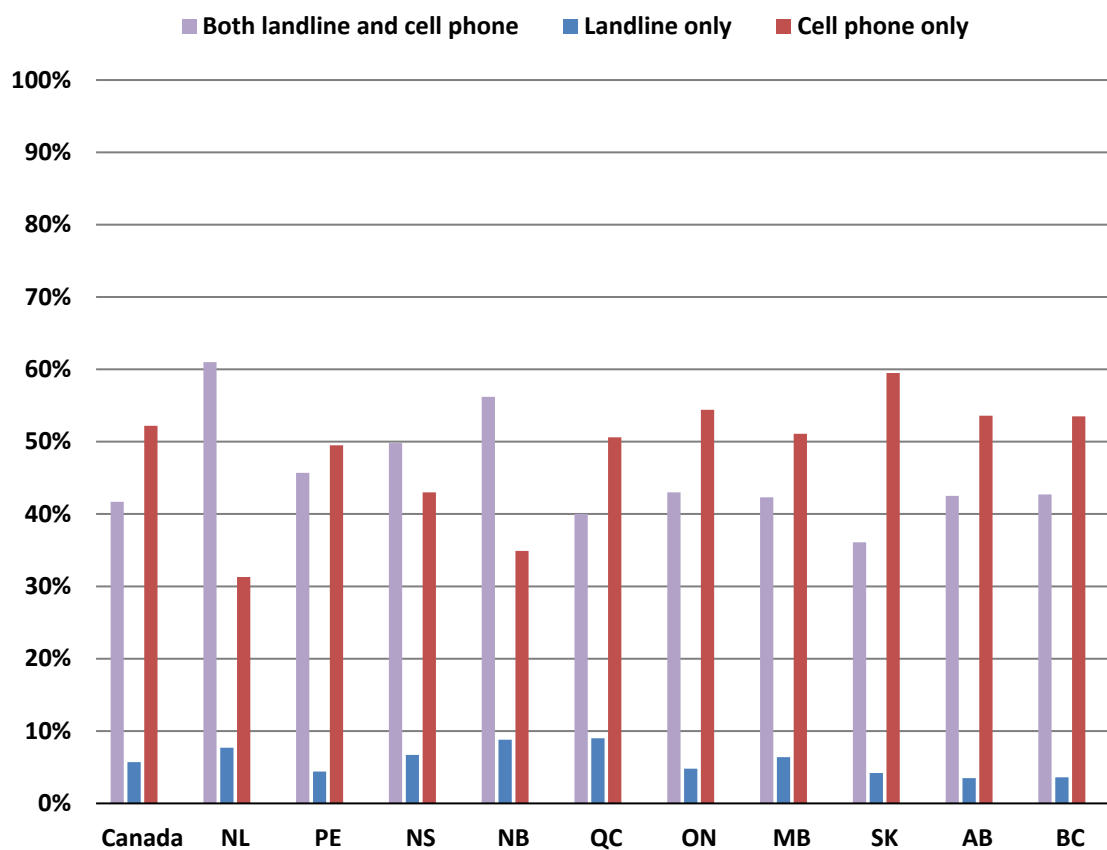
* NOTE: Survey not conducted in 2018 or 2020.

Figure 12. Percentage of households with both landline and cell phone, landline only, cell phone only, and no telephone, Canada, 2014 and 2021:



SOURCE FOR FIGURES 11 AND 12: Statistics Canada, Survey of Household Spending, 2021; Communications Management Inc.

Figure 13. Percentage of households with both landline and cell phone, landline only, and cell phone only, Canada and provinces, 2021:



SOURCE: Statistics Canada, Survey of Household Spending, 2021;
Communications Management Inc.

Every two years, Statistics Canada conducts its Canadian Internet Use Survey (CIUS), to help provide a profile of how many Canadians have Internet access, and how they use that access.¹² The most recent CIUS was conducted for 2022, with the results released in 2023.

The key areas to be reviewed are:

- How many Canadians have home Internet access;
- The role of affordability and other reasons in affecting technology adoption;
- How many Canadians used the Internet in the three months prior to the survey;
- What applications Canadians access through the Internet;
- What devices Canadians use to connect to the Internet.

Main statistical source

This section is based primarily on Statistics Canada's 2022 CIUS, which was conducted from December 2022 to April 2023, and covered persons 15+ in the 10 provinces. The survey had a large sample, which yields the ability to refine the data by a number of important variables.

For purpose of comparison, we have also included some data from the 2020 CIUS.

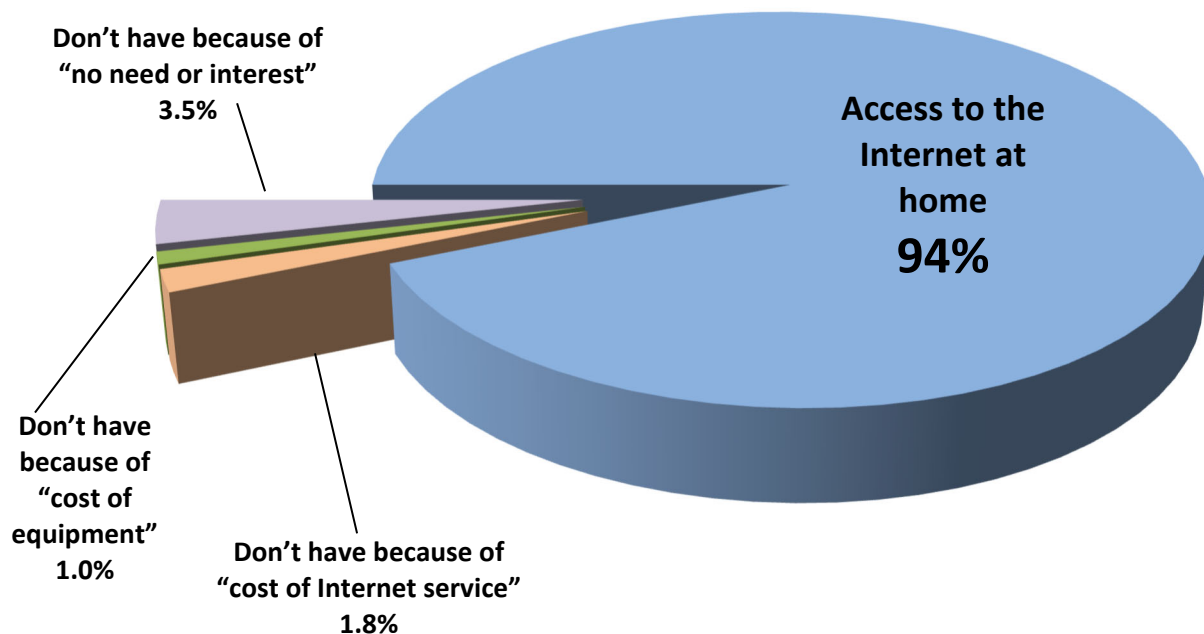
¹² The main focus is on personal use of the Internet, excluding business and school-related use.

Home Internet access: Adoption, and reasons for non-adoption

According to the data from Statistics Canada's 2022 CIUS, 94 per cent of Canadians 15+ had home Internet access in 2022.

Figure 14 summarizes the key data on adoption and non-adoption of the Internet at home. As indicated in Figure 14, home Internet is nearly ubiquitous for Canadians, and "no need or interest" is the most important reason for non-adoption.

Figure 14. Percentage of Canadians 15+ with access to the Internet at home, and selected reasons given for not having home Internet access, Canada, 2022:



Note: Respondents could list more than one reason for not having the Internet at home. The most stated response was "no need or interest". The percentages of total respondents shown here are for the totals giving the reasons indicated, whether alone or in combination with other reasons.

SOURCE: Statistics Canada, Canadian Internet Use Survey 2022 [custom tabulation]; Communications Management Inc.

Additional breakdowns of data on adoption and non-adoption of home Internet in 2022 are found in Table 7.

Table 7. Percentage of Canadians 15+ with access to the Internet at home, and selected reasons given for not having home Internet access, by age groups, Canada, **2022**:

(% of total respondents)	% with home Internet	Reasons given for non-adoption:*		
		Cost of service	Cost of equipment	No need or no interest
Canada	94.0	1.8	1.0	3.5
<i>By age group:</i>				
15-24	99.3	**	**	**
25-34	98.8	0.4	**	0.4
35-44	98.0	0.9	0.3	0.5
45-54	96.7	1.4	0.7	1.3
55-64	93.1	2.7	1.4	2.9
65+	83.7	4.0	2.6	11.6

* Respondents could provide more than one reason.

** Data withheld because of small number of responses.

SOURCE: Statistics Canada, Canadian Internet Use Survey 2022 [custom tabulation]; Communications Management Inc.

In the 2022 CIUS, Statistics Canada asked Internet non-adopters for their reasons for not adopting, and those data are summarized above. In the 2020 CIUS, two questions were asked about reasons for non-adoption – one for Internet access, and one for smartphone ownership (given the already-noted link between smartphones and the Internet).

The data from 2020 are summarized in Tables 8 and 9.

If we compare the data from 2020 and 2022 (Tables 7, 8 and 9), two clear conclusions emerge:

1. Across all respondents, the percentage of Canadians indicating that cost was a reason for non-adoption of either Internet or smartphones is very small.
2. A much clearer link to non-adoption can be found in the percentages of those 65+ who indicated “no need or no interest”.

In other words, there is much more likely a demographic link based on age than an affordability link based on income.

Table 8. Percentage of Canadians 15+ with access to the Internet at home, and selected reasons given for not having home Internet access, by age groups, Canada, **2020**:

(% of total respondents)	% with home Internet	Reasons given for non-adoption:*		
		Cost of service	Cost of equipment	No need or no interest
Canada	94.2	1.5	0.8	3.7
<i>By age group:</i>				
15-24	98.9	**	**	**
25-34	98.5	**	**	**
35-44	98.4	0.3	**	0.5
45-54	96.9	1.3	0.6	1.4
55-64	94.4	1.6	0.8	3.0
65+	82.5	4.1	2.1	12.8

* Respondents could provide more than one reason.

** Data withheld because of small number of responses.

SOURCE: Statistics Canada, Canadian Internet Use Survey 2020 [custom tabulation]; Communications Management Inc.

Table 9. Percentage of Canadians 15+ with smartphones for personal use, and selected reasons given for not having a smartphone, by age groups, Canada, **2020**:

(% of total respondents)	% with Smartphone	Reasons for non-adoption:*	
		Cost of the service or device**	No need or no interest
Canada	84.4	2.5	5.3
<i>By age group:</i>			
15-24	96.3	***	***
25-34	97.1	***	***
35-44	96.0	0.9	1.2
45-54	91.3	2.5	2.7
55-64	82.5	3.3	6.3
65+	54.1	5.9	16.0

* Respondents could provide more than one reason.

** For smartphones, cost of service and cost of device were combined into one question.

*** Data withheld because of small number of responses.

SOURCE: Statistics Canada, Canadian Internet Use Survey 2020 [custom tabulation]; Communications Management Inc.

Internet use in the three months prior to the survey

In Appendix B, we have summarized some additional data from the latest Canadian Internet Use Survey (for personal use, from any location) in the three months prior to the survey.

The uses indicated in Appendix B are just some of the many applications for which Canadians use the Internet. Together, they would appear to indicate the high percentages of Canadian Internet connections that have the capacity – in terms of download speeds and technical quality – to receive those applications.

Lessons from the data: Policy implications

As noted above, technology adoption by Canadians is at high levels – based on the most recent CIUS data, we can see that about 95 per cent have home Internet access, and about 90 per cent have smartphones.

It is also interesting to note that among the reasons given for not adopting Internet or smartphone technology, the data indicate that affordability was only an issue for about 2.8 per cent of respondents.

The numbers that stand out as the greatest explainer of non-adoption are not cost- or price-related, but are, in fact, the attitude toward technology by persons over 65. For that group, some version of “no need” or “no interest” was stated by 11.6 per cent (in 2022) in relation to home Internet access, and by 16.0 per cent (in 2020) in relation to having a smartphone.

A similar pattern can be found if we relate different Internet uses to age groups, with persons 65+ having a greater difference between use rates and general Internet adoption.

Thus, one might say that the adoption of Internet and smartphone technology in Canada is nearly ubiquitous, with age and attitudes a much greater factor than affordability when influencing non-adoption.

To the extent it is a goal of public policy to maximize adoption – and use – of these technologies, targeted solutions, including measures to improve digital literacy and skills, especially among older adults, would appear to be more logical and efficient than broader, more disruptive, industry structural changes.

Background Note: Low-income quintiles

When data from Statistics Canada's Survey of Household Spending are compared with data from the U.S. Bureau of Labor Statistics' Consumer Expenditure Survey, we can observe an interesting phenomenon – in both the Canadian and the U.S. surveys, the data indicate that, in the two lowest income groups, average total expenditures are higher than average income.

According to the U.S. Bureau of Labor Statistics:

Data users may notice that average annual expenditures presented in the income tables sometimes exceed income before taxes for the lower income groups. Consumer units whose members experience a spell of unemployment may draw on their savings to maintain their expenditures. Self-employed consumers may experience business losses that result in low or even negative incomes, but are able to maintain their expenditures by borrowing or relying on savings. Students may get by on loans while they are in school, and retirees may rely on drawing down savings and investments.¹³

In discussion with Statistics Canada, two additional possible explanations were offered:

1. Households may receive inter-household transfers, borrow funds, or deplete assets or savings in order to spend. These resources may not be captured in income.
2. Income comes from the year prior to the survey year, so the reference periods do not align exactly between income and spending.

¹³ U.S. Bureau of Labor Statistics, FAQ 40, available at: <https://www.bls.gov/cex/csxfags.htm>.

Internet use in the three months prior to the CIUS

Table B-1 summarizes the data for Canadians who used the Internet (for personal use, from any location) in the three months prior to the survey. As indicated in Table B-1, one of the most significant findings is the high percentage of persons 65+ who indicated “no need, no interest, or no time”.

Tables B-2A and B-2B present data for selected Internet uses in the prior three months:

- Sent and received email
- Accessed the news
- Instant messaging
- Online banking
- Government online services
- Listened to music
- Research information about goods or services
- Social networking applications
- Researched information on health
- Watched video streaming services (excluding live television)
- Made online voice or video calls
- Listened to podcasts

These are just some of the many applications for which Canadians use the Internet. Together, they would appear to indicate the high percentages of Canadian Internet connections that have the capacity – in terms of download speeds and technical quality – to receive those applications.

Table B-1. Percentage of Canadians 15+ using the Internet in the last three months (for personal use, from any location), and selected reasons given for not doing so, by geography and age groups, Canada, 2022:

(% of total respondents)	Used Internet in last three months	Reasons given for not using:*	
		Cost of the service or equipment	No need, no interest, or no time
Canada	94.5	0.9	4.0
<i>By Province:</i>			
Newfoundland	91.7	**	6.7
Prince Edward Island	92.5	**	5.9
Nova Scotia	91.8	**	6.6
New Brunswick	90.8	1.1	6.2
Quebec	92.1	1.6	5.8
Ontario	95.5	0.7	3.3
Manitoba	92.6	1.2	5.4
Saskatchewan	93.7	1.2	5.4
Alberta	95.2	0.7	3.1
British Columbia	96.9	0.5	2.1
<i>By age group:</i>			
15-24	99.2	**	**
25-34	99.4	**	**
35-44	99.0	**	0.6
45-54	98.3	**	1.2
55-64	94.6	1.2	3.4
65+	82.5	2.5	13.3

* Respondents could provide more than one reason; in this set of questions, cost of service and cost of equipment were combined into one question.

** Data withheld because of small number of responses.

SOURCE: Statistics Canada, Canadian Internet Use Survey 2022 [custom tabulation]; Communications Management Inc.

Table B-2A. Selected Internet activities in the last three months, by geography and age groups, Canada, 2022:

(% of total respondents)	Selected Internet activities:*					
	Email	Accessed the news	Instant messaging	Online banking	Government online services	Listened to music
Canada	89.6	76.9	78.0	77.6	76.3	76.1
<i>By Province:</i>						
Newfoundland	85.0	71.0	72.9	74.1	74.6	72.8
Prince Edward Island	86.1	74.3	73.3	72.6	70.4	74.5
Nova Scotia	85.4	71.7	74.3	76.1	71.1	74.9
New Brunswick	83.5	62.9	73.9	72.7	71.8	72.7
Quebec	86.7	75.6	77.0	77.0	73.7	72.7
Ontario	90.8	79.2	78.5	77.2	77.1	77.2
Manitoba	86.8	72.5	76.7	76.2	71.9	76.1
Saskatchewan	88.9	70.4	75.8	77.6	71.5	75.9
Alberta	91.7	74.8	80.3	80.3	78.2	77.2
British Columbia	92.1	80.2	78.8	79.4	80.6	78.5
<i>By age group:</i>						
15-24	93.3	75.9	92.1	73.5	71.8	95.5
25-34	96.1	84.1	92.8	89.7	91.3	95.6
35-44	96.3	86.7	89.5	88.6	89.0	90.7
45-54	95.7	85.5	84.3	86.3	83.4	83.2
55-64	89.0	75.1	72.7	77.9	76.0	66.0
65+	74.7	61.2	50.9	58.0	55.4	42.7

* Respondents could indicate multiple Internet activities.

SOURCE: Statistics Canada, Canadian Internet Use Survey 2022 [custom tabulation];
Communications Management Inc.

Table B-2B. Selected Internet activities in the last three months, by geography and age groups, Canada, 2022:

(% of total respondents)	Selected Internet activities:*					
	Research about goods or services	Social network websites or apps	Research info on health	Watched video streaming services	Online voice or video calls	Listened to podcasts
Canada	76.3	73.7	69.3	75.2	64.7	38.9
<i>By Province:</i>						
Newfoundland	64.9	71.7	63.5	70.9	58.8	31.2
Prince Edward Island	69.7	72.6	61.1	75.8	53.6	35.2
Nova Scotia	68.5	71.8	67.5	72.9	56.2	36.4
New Brunswick	68.5	70.6	65.7	71.1	55.8	29.2
Quebec	71.7	73.6	64.0	67.8	64.9	30.3
Ontario	77.8	74.1	71.3	77.8	65.6	42.4
Manitoba	76.5	72.9	65.7	75.5	62.1	38.4
Saskatchewan	71.9	73.5	66.4	75.4	59.8	37.9
Alberta	79.8	74.7	70.1	78.6	65.1	40.6
British Columbia	81.1	73.5	74.9	77.9	66.9	44.3
<i>By age group:</i>						
15-24	79.9	90.5	67.9	90.1	81.8	50.8
25-34	87.2	92.1	79.6	92.7	83.2	61.0
35-44	86.1	87.2	77.1	88.9	76.9	51.9
45-54	83.0	79.7	74.9	82.6	68.4	37.7
55-64	73.8	65.5	66.9	68.3	54.3	27.5
65+	56.9	43.5	55.5	44.5	37.8	15.3

* Respondents could indicate multiple Internet activities.

SOURCE: Statistics Canada, Canadian Internet Use Survey 2022 [custom tabulation];
Communications Management Inc.