

What's the Right Number?

A consumer-friendly telecommunications marketplace



JUNE 2021



Consumers' Association of Canada
Association des consommateurs du Canada
Manitoba

Contents

Executive Summary	6
Project Design.....	10
Background.....	10
About this report	11
Advisory Committee	13
Purpose and Participation	13
Thanks	13
Review of Literature	14
Introduction and Methodology	14
Findings	14
High concentration and low competition lead to high prices, low affordability and barriers to access.....	14
Barriers to Entry for Prospective Service Providers.....	15
Possible Solutions to high concentration and low competition.....	15
Key Informant Interviews	17
Policy Community Perspectives	17
Methodology of Questions	17
Participant Selection	18
Approach to Data Analysis	18
Results.....	19
Conclusions and Recommendations.....	20
The Need to Reverse Declining Competition in the Canadian Telecom Marketplace.....	20
The Importance of Increasing Access to Telecommunications Services.....	21
Recommendations on How to Foster Competition & Increase Access	21
Review of Legislation and Policy	23

Introduction and Methodology	23
Findings: Canada (federal).....	23
Legislation.....	23
Regulatory Authorities	24
Areas of Regulation	25
Findings: Canadian provinces	26
International Legislation and Policy Review	28
Findings: United States	28
Legislation and Regulatory Bodies.....	28
Areas of Regulation	29
Findings: United Kingdom	30
Areas of Regulation	31
Findings: Australia	32
Legislation and Regulatory Bodies.....	32
Areas of Regulation	33
Findings: Japan	34
Legislation and Regulatory Bodies.....	34
Areas of Regulation	34
Survey	36
Method.....	36
Demographics.....	36
Results.....	38
Key Findings	38
Looking at the Details.....	39
Pricing Study.....	45
Purpose of study	45
Structure of study	46

Defining Service markets.....	47
Provincial market profiles	49
Observations regarding provincial markets for demand/supply:	49
Mobile market observations--highlights.....	50
Mobile Market recommendations.....	56
Home internet market observations—highlights.....	59
Home internet recommendations	61
Focus Groups	63
Requirements for participants.....	63
Discussion.....	73
Price and Accessibility	73
Quality and Availability of Information	73
Pre-paid Users Receive Lower Value.....	74
Unequal Access to Wireless Internet	74
Remedies and Solutions	74
Conclusions and Recommendations.....	76
Appendices.....	81

Acknowledgements

"The Consumers' Association Canada (Manitoba) has received funding from Innovation, Science and Economic Development Canada's Contributions Program for Non-profit Consumer and Voluntary Organizations. The views expressed in this report are not necessarily those of Innovation, Science and Economic Development Canada or of the Government of Canada."

CAC Manitoba would like to thank everyone who contributed to this project, including our research team for their endless creativity and patience, and all the contractors and consultants who worked on the project. Many thanks to our dedicated Advisory Committee for sharing time, experience, and expertise, and our methodology reviewer for thoughtful advice and guidance. We would like to thank our key interviewees for their candor and integrity. Most importantly, we want to thank all the survey and focus group participants across Canada. Without your input, advice, ideas, and shared experiences, this project would be diminished. Thank you.

Executive Summary

The Manitoba branch of the Consumers' Association of Canada (CAC Manitoba) has a history of evidence-based advocacy on behalf of Manitobans regarding access and affordability of telecommunication services. A necessity for full participation in society, the organization felt that access to reliable telecommunication services should be universal in Canada. Yet the organization was heard from underrepresented groups of consumers struggling to pay bills, to access services to assist certain groups of consumers, or to find reliable services in their geographic area. It became concerned to learn of research suggesting that the number of Canadians per capita using telecommunications services was lower than that in other OECD countries, and that Canada's prices were higher than other comparable jurisdictions. The loss of MTS, a fourth major telecommunications provider in the province, only seemed to exacerbate these concerns. The organization developed a strong belief that the issues of affordability and access to reliable services, could only be addressed by looking at the "big picture", nation-wide, and globally.

What's the Right Number? is a two-year project that sprang from this idea of conducting nation-wide research to evaluate the nature of Canada's telecommunications marketplace with respect to consumers, and from a consumer perspective. The research included a literature review, nation-wide online survey, key informant interviews, a monthly pricing study, a review of regional, federal, and international legislative frameworks, and focus groups with consumers in six regions of Canada. The project asked questions regarding the benefits and challenges to robust competition in Canada and other jurisdictions, as well as possible lessons that could be learned from other jurisdictions, and from various regions in Canada.

Based on research results, CAC Manitoba proposed several recommendations, including expanded Universal Service Objectives (USO) to mandate some remedies for consumers, and consideration of Open Access regulations that would enable new entrants into the marketplace, and support the existence of Mobile Virtual Network Operators (MVNO), both of which evidence indicates could support more robust competition. In addition, evidence from both within and outside of Canada indicated

that government investment of public funds in network infrastructure may support improved reliability of northern, rural, and remote network access.

Access to telecommunication services is a basic need for consumers in our society. The Covid-19 pandemic has highlighted the need for this level of communication, as Canadians began to not only work and play on the Internet, but conduct our personal affairs, access essential services, and visit with our loved ones. It brought to life the stark and unacceptable reality that not every Canadian was able to participate, that some Canadians were further isolated during this already difficult period of our history. And that for those consumers who could participate, there were issues and concerns that needed to be addressed to enhance their full participation. On this backdrop, CAC Manitoba offers its recommendations.

Introduction

Consumers in Canada are paying more, and, as the data demonstrate, are using their services less than their peers in other countries as a result. Put simply, too many people are unable to reap the benefits of mobile service due to the high price.¹

Ben Klass, CRTC hearing February 24th, 2020.

Canada ranks consistently amongst the bottom of peer countries, in terms of adoption of mobile broadband. As of June 2018, the most recent data available, we sat at 30th of 37 OECD countries in terms of smartphone penetration. Statistics Canada data showed that on a more fine-grain level, low-income households are drastically less likely to have mobile service than their higher-earning counterparts.²

Ben Klass, CRTC hearing February 24th, 2020.

Telecommunications access is considered by many to be a necessity for full participation in society. In 2016, the United Nations declared access to the Internet to be a human right, necessary to facilitate the right to communication (United Nations General Assembly, 2018)³

Despite this, there are rural, remote, and northern communities in Canada contending with poor or limited Internet access, outmoded technologies, and limited or unreliable wireless access. The cost of telecommunications products is high in Canada, when compared to other OECD countries, and the number of users per capita is low. That becomes an even more stark figure when looking at low-income households specifically. The Covid-19 pandemic has shone a bright light on this disparity as in-person options have dwindled and at times have been non-existent. Consumers in Canada have found themselves shopping (in some cases, even for food), obtaining

¹ Klass, B, CRTC Wireless Proceeding, transcript February 24th, 2020. Line 6844. <https://crtc.gc.ca/eng/transcripts/2020/tt0224.htm>

² Klass, B, CRTC Wireless Proceeding, transcript February 24th, 2020. Line 6839.

³ United Nations General Assembly, Human Rights Council. Thirty-eighth session, July 4, 2018. <https://documents-dds-ny.un.org/doc/UNDOC/LTD/G18/203/73/PDF/G1820373.pdf?OpenElement>

health care services, seeking employment, visiting with relatives and friends, and seeking entertainment, all on the Internet.

In 2020, the Competition Bureau of Canada, in its presentation to the CRTC on Mobile Wireless Services, referred to the Canadian wireless market as being “highly concentrated in the hands of three players who enjoy high levels of profitability compared to both their international and domestic peers.”⁴ The Bureau went on to say, in the same presentation, that where there is a fourth player in the market, such as Sasktel in Saskatchewan, Videotron in Quebec, or Freedom Mobile in Ontario, prices may be 35 to 40% lower.

This is not a new idea. For some time, there has been international speculation about the right or optimum number of telecommunications players necessary to encourage a healthy, competitive market environment. It was this speculation and debate, coupled with consistently high prices and lack of options faced by Canadian consumers for an essential service, that led CAC Manitoba to pursue this research.

⁴ Competition Bureau of Canada, CRTC Mobile Wireless Proceeding <https://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/04505.html>

Project Design

Background

In 2018, CAC Manitoba began to search for the resources necessary to conduct research, from a consumer perspective, into the state of competition in Canada's telecommunications market. How exactly was the situation evolving with recent changes in regional markets? What were the barriers and challenges to improved or enhanced competition, and were they changing? What role did the legislative framework play in enabling or disabling competition and innovation, and how was that changing in this current environment? How could these difficulties be overcome? Where were the missed opportunities in Canada? What were the lessons to be learned from other jurisdictions outside of Canada?

In the spring of 2019, the organization was awarded funding to conduct this research by the Office of Consumer Affairs, through its Contributions Program.

The project was designed to span roughly 23 months, beginning in May of 2019. It included a number of research tools:

- An Advisory Committee including a variety of marketplace perspectives, to assist in guiding the research and ensure CAC Manitoba is looking at the big picture
- A review of relevant literature and research
- An analysis of the relevant regulatory and legislative framework, including federal, provincial (in five provinces – Saskatchewan, Manitoba, Ontario, Quebec, and Nova Scotia), and selected international regulation.
- A monthly pricing study conducted in Saskatchewan, Manitoba, Ontario, Quebec, and Nova Scotia. These regions were chosen because of changes or conditions in their particular telecom market.

- Key informant interviews with interviewees from a variety of perspectives, including regulatory authorities, policy community advocates and organizations representing underrepresented consumers, industry, and subject matter experts.
- An online survey of 1,000 Canadians, to be conducted by a professional research firm, and to include hard to reach groups such as northern, remote, and Indigenous participants
- Focus groups in the five target regions, and one in a sixth region where health regulations allowed in-person participation, to enable CAC Manitoba to hear the voice of those consumers who are not “connected”, and do not have telephone or Internet access.

The workplan was designed so that the results of each aspect of the research fed into the next, or was in tandem with other ongoing aspects. For example, the literature and legislative review provided the context for the Canada-wide survey and the key informant interviews. Also, the legislative review worked in tandem with the pricing study to give us background on the five target regions. The results of all those research tools combined to determine the direction of the focus group discussions in various regions.

The advent of Covid 19 in early 2020 made the planned engagement opportunities (workshops, focus group) more cumbersome and difficult to realize, but creativity and perseverance prevailed, and each phase of the research was completed. Also, CAC Manitoba managed to hear from consumers without access to telephone or Internet in the focus group sessions, which provided added insight into the connectivity issues facing some Canadians.

About this report

Some of the research tools were contracted, by CAC Manitoba, to academics, external researchers, and consultants working in related or complimentary fields. The following sections of this document will review each individual aspect of the research. In some cases, the contractor report is included in the main body of this document. In some

cases, excerpts or summaries of the contractor reports are included in the main body, and in those cases the full report is appended.

The final sections will be devoted to a discussion of overall project results, leading to CAC Manitoba's recommendations.

Advisory Committee

Purpose and Participation

One of the first activities conducted as part of this project was the bringing together of an Advisory Committee. This group was intended to be diverse, and included representation from industry, academia, community, and Indigenous organizations. Its purpose was to help keep the research on track...to ensure that the research remained centred and surrounded by the entire spectrum of perspectives on this issue, not just a few facets.

Participants were promised anonymity so that they could advise CAC Manitoba freely, without concern for repercussions. The Committee met in person three times over the two-year project period, and offered insight and feedback numerous times by e-mail during that time period. Consultant Wendy Nur became the liaison between the Advisory Committee and CAC Manitoba.

Thanks

The Committee offered feedback on everything from what voices should be on the Committee, to what research methods should be explored, to issues CAC Manitoba had failed to address, and right down to how research results led to recommendations.

CAC Manitoba would like to thank its Advisory Committee members for sharing their time, experience, expertise, and unflinching honesty to encourage and guide our work.

Review of Literature

Introduction and Methodology

This section is a summary of the *Review of Literature*, conducted by Chimwemwe Undi. By: Chris Klassen, Attorney, Public Interest Law Centre

The Public Interest Law Centre (PILC) was retained to conduct a review of Canadian and International literature, including peer-reviewed academic sources and gray literature, addressing competition in telecommunications markets and the question of whether there exists a “right” number of competitors in an appropriately competitive market.

Consistent with the requirements of the approved project description, this literature review was conducted based on key search terms identified in collaboration with CAC Manitoba. Sources were accessed primarily by online journal databases, WestlawNext legal resource database, and Google Scholar.

A review of identified relevant literature revealed the following themes.

Findings

High concentration and low competition lead to high prices, low affordability and barriers to access

The Canadian telecommunications market has been found highly concentrated by multiple analysts relying on multiple metrics when assessed both across the country and in individual provinces (Winseck, 2019). Prices for telecommunications services in Canada have been identified as correlated to levels of competition that high levels of concentration and low levels of competition have direct impacts on consumers' experiences and barriers to access in the telecommunications market (Competition Bureau, 2019).

The literature identifies the presence of high concentration and low competition in the Canadian telecommunications market as at least partly attributable to high vertical and diagonal integration, meaning that there are multiple instances of common ownership

across different phases of the supply chain both in telecommunications and other media sectors (Winseck, 2019).

Findings of high concentration and low competition are supported by research suggesting that prices for telecommunications services in Canada are higher than in comparable international markets (Klass and Winseck, 2019). Further supporting the relationship between prices and competition are studies confirming that the lowest mobile wireless prices in Canada could be found in urban centres in which a strong regional service provider was competing against the large, incumbent national service providers (Wall, 2018).

The literature identifies high prices as a barrier to access, which is reflected in low rates of adoption and penetration of telecommunications services (Wall, 2018; Klass and Winseck, 2019). For low-income Canadians who do not use the internet, cost is identified as the dominant reason (Rajabuin, Ellis, Middleton, 2016).

Barriers to Entry for Prospective Service Providers

Compounding findings of low competition is a body of literature identifying significant barriers to entry for prospective new telecommunications service providers. The literature identifies challenges faced by new entrants in obtaining access to wireless spectrum licenses and the significant capital required for the development of telecommunications infrastructure as preventing increases to the number of service providers operating and meaningfully impacting levels of competition in regions across Canada (Competition Bureau, 2017; Klass and Winseck, 2019).

Possible Solutions to high concentration and low competition

The literature identifies a range of possible solutions to the problem of high concentration and low competition in the Canadian telecommunications marketplace.

Multiple sources have identified open access regulations, which allow new entrants to access dominant carriers' wireless network infrastructure and offer services to compete in the market, as having potential to promote competition in telecommunications markets (Benkler, 2010; Bouckaert, van Dijk and Verboven, 2010). Canada has implemented limited open access regimes, but at the time of the literature

review the CRTC was considering mandating wholesale wireless network access for Mobile Virtual Network Operators (CRTC, 2019).

Other sources identify investment in wireless network infrastructure as a possible solution to high concentration and low competition (Nardotto, Valletti and Frank Verboven, 2015). Investment of public funds in particular is broadly identified as having meaningfully contributed to remedying market failures comparable to those persisting in Canada (Government of Australia, 2010; Government of the United Kingdom, 2020; Arai, Naganuma and Satake, 2012).

Finally, universal service obligations, which are regulatory interventions requiring service providers to provide all users with a minimum standard of service at a set rate, are found to be prevalent in comparable telecommunications markets worldwide (Tomioka, 2020; Government of the United Kingdom, 2018). Universal service obligations have been recommended for the Canadian telecommunications market the Broadcasting and Telecommunications Legislative Review Panel.

The literature acknowledges the importance of these or other solutions in overcoming barriers to access and entry in the Canadian telecommunications market for due to the importance of telecommunications services and the disproportionate impact of these barriers on marginalized Canadians. The literature confirms that access to high-quality, safe and secure networks is increasingly necessary to meaningfully participate in social and economic life in Canada, and that low-income and marginalized people face disproportionate barriers to this access (Canada, Broadcasting and Telecommunications Legislative Review Panel, 2020).

The full *Review of Literature* can be found in Appendix A.

Key Informant Interviews

This report includes excerpts from the full *Key Informant Interview Report*, written by Wendy Nur, Consultant.

Policy Community Perspectives

The key interviews were conducted with individuals representing a variety of perspectives with regard to the telecommunications industry in Canada. We contacted:

- Representatives of policy communities/advocacy and interest groups (seniors, low-income consumers, those living with disabilities, newcomers, and Indigenous consumers)
- Representatives of regulatory authorities
- Subject matter experts (academics, representatives of business and industry organizations, from a consumer perspective)

Methodology of Questions

The methodological approach informing the design of the key interviews piece was to look at the themes/questions which arose from the initial pieces of research—mainly the literature review and the review of the legislative framework. The interview questions were designed with these themes in mind. Some of the key questions were:

- *How would you describe your connection to the telecommunications industry in Canada?*
- *What is your role within the industry?*
- *How would you rate the level of competition amongst telecommunications companies in your province or territory?*
- *How competitive would you say the telecommunications market is in your province or territory compared to the rest of Canada?*
- *How competitive would you say the Canadian telecommunications marketplace is compared to other countries?*
- *What indicators do you believe would signal improved or healthy competition in Canada?*

- *Are there currently any barriers to healthy competition in Canada's telecom marketplace?*
- *What could be done to mitigate/remove these barriers?*

Participant Selection

Potential interviewees were identified by members of the research team and approached regarding potential interviews. Efforts were made to contact individuals across Canada, and interviews were offered in either French or English- dependent upon interviewee choice.

Interview Design

The interviews were approximately one hour in length. Interviewees were guaranteed both anonymity and confidentiality with regard both their participation and their comments, and were provided written copies of the interview questions in advance. Due to the constrictions incurred by the pandemic, all interviews were conducted virtually (by telephone, via Zoom, or via Microsoft Teams). Informed and ongoing consent was obtained verbally and practiced for each interview and recordings were made (with consent) for later reference.

Various aspects of the research methodology and the tools for the key interviews were shared with the advisory panel for review and feedback. Members of the advisory panel provided valuable guidance to the research team, and their input helped to shape the research process.

Approach to Data Analysis

The interviewees' perspectives represented a diversity of roles/experiences within the telecommunications industry in Canada. Because interviewees represented such a wide range of perspectives, an intuitive approach was applied to the qualitative data analysis, consisting of noting major themes which emerged in the interview data. This approach was endorsed by members of the advisory panel.

The following section of this report will begin by recognizing those perspectives and sharing some of the qualitative responses to a few selected questions. This will be

followed by a brief exploration of common themes and conclude with recommendations arising from interview responses.

Results

In speaking with interviewees, there were a few salient themes or topics which emerged. Not all interviewees shared the same perspectives on these topics, but as they tended to thread their way through our conversations, they seemed to be very present in the minds of those with whom we spoke. The first was the importance of wholesale access in fostering competition in the telecommunication marketplace. A second was the role that the regulatory context played in both setting the tone for the telecommunications marketplace and facilitating (or not) competition in the form of wholesale access, and the various ways that interviewees felt that regulatory changes might potentially impact competition in this area (either positively or negatively). A third touched on consumer information and education, and the role this might play in fostering competition. Interviewees also shared examples of telecommunications companies that were based on alternative economic models or which were using innovative approaches in bridging gaps in the telecommunications marketplace.

- More providers would improve competition

- *For me, a competitive market is much more differentiated. There's a much broader suite of offerings from different players. What we have now is quite a few players that have different offering, but they all look the same...so you can choose orange in their logo or one that has red or yellow or blue, but that's essentially the only choice you have.*

Interviewee

- Wholesale access would facilitate new entrants to the marketplace

- *I think, again, it's going to start with the smaller players coming into the market. And if there was something set forward by the CRTC to allow smaller players to purchase existing allocation of whether it be spectrum or existing power space or whatever at standardized rates from any of the ILECs in the provinces, then I think that would open some sort of a framework that you would see a lot of these smaller players coming in, and it would create competition. It may not drive down some of the prices of the big players right away, but it would create competition for sure*

Interviewee

- *In Canada it has allowed for some competition in our fixed-line internet markets, however there are many limitations on the operators who are trying to get better access and to get access to higher speed and to fiber and so on...as a strategy to increase competition. It has not been effective, given the roadblocks.*

Interviewee

- Access to Spectrum is Critical
- Regulatory Solutions are Vital: Reform Is Key
 - *We have to point to policy and strong, consistent, firm policy decision and regulatory implementation needs to be added there. Because without a commitment from policy makers as ISED and within cabinet and a regulator being willing to carry these things out, we won't get very far.*

Interviewee

- Innovative Approaches Hold Potential
 - *I'm much more familiar with the initiatives in the US. There are many, many instances of municipalities, of utilities, of communities coming together and building networks. Sometimes in conjunction with local providers, sometimes really more driven by the community itself.*

Interviewee

Conclusions and Recommendations

The Need to Reverse Declining Competition in the Canadian Telecom Marketplace

Most key interviewees felt that competition in the Canadian telecommunications marketplace was either poor or in need of improvement. They identified an increase in the number of telecom providers, a greater variety of offerings, lower prices and greater access, along with clear directives from government and a more consistent regulatory environment as indicators of healthy competition. Most, however, were of the opinion that competition in Canada's telecommunications marketplace was in decline, or at best drifting only marginally upwards in terms of competition.

Interviewees expressed concerns about high prices, very similar (and limited) options offered by mostly incumbent providers or their flanker brands, policy and regulatory confusion, and a pattern of mergers and/or new entrants facing difficulty entering into

or succeeding in the telecommunications marketplace. Solutions offered were clearer government policies on the future direction of the telecommunication industry, government subsidies for the building of telecommunications infrastructure, regulatory address regarding wholesale access for new wireline and wireless competitors, and the use of regulatory levers to guide the provider-consumer relationship.

The Importance of Increasing Access to Telecommunications Services

Interviewees stressed the importance of access to telecommunications services for every Canadian. They also noted that many were not able to access telecommunications services- Canadians living in rural/remote regions and those in First Nations communities, seniors, those living with disabilities and those living in poverty. Interviewees saw telecommunications services as basic a utility as sewer, water, and hydro, particularly in the context of the current pandemic, and that government and regulatory policies should reflect this view. As one interviewee aptly stated,

We need to think about communications as being fundamental to what it means to be human and not in industrial and technological terms...at bottom, what we're talking about are the means of expressing ourselves, organizing ourselves, and participating in all aspects of economic and social life- and that's what's on the line here.

Recommendations on How to Foster Competition & Increase Access

This report concludes with recommendations which arose from the interviews:

1. Open the market to new entrants via regulatory reforms.
2. The government should mandate the CRTC to mitigate the costs of accessing existing infrastructure/spectrum for new entrants.
3. Mandating MVNO's would improve competition.

4. Implement an MVNO program, something similar to CLEC's who are allowed to buy services from the carriers, rebrand them as their own, and sell them. Has helped in the internet and phone sectors, and could also work in the cellular marketplace.
5. Open the market to completely new providers that have local, clear business cases and that were really focused on supporting specific communities...it could have high impact for particular communities".
6. Break up spectrum into smaller pieces for smaller providers. *I think t the government really could step in---for a smaller provider in a rural MB town, they could go and take care of that with a few towers, but they don't have spectrum.*
7. Leverage the regulatory options that would provide the most short-term gain, such as policy on transparent critical information summaries so customers can more easily compare to see if they are getting a deal.
8. Implement a regulatory policy which would require providers of both mobile and fixed services to tell customers what the best offering is for the package they are currently using, whether they could get a better deal.
9. Better, more flexible payment options. This would include clearer, all-in pricing (all taxes and charges) with an option to amortize unclear costs, such as set-up fees, over the span of the contract.
10. Educate Consumers on to how to navigate billing information and product offerings so they are able to make optimal consumer decisions.

The complete *Key Informant Interview Report* is available in Appendix B .

Review of Legislation and Policy

Introduction and Methodology

This report summarizes reviews conducted by Chimwemwe Undi for PILC.

By: Chris Klassen, PILC

CAC Manitoba retained the Public Interest Law Centre to conduct a review and analysis of telecommunications legislation, regulations and policies in Canada both federally and in select provinces and in select international jurisdictions. The research team canvassed government websites, legislation and legal databases, institutional publications and academic and gray literature to prepare the reports attached to this Report at Appendices C and D.

Together with the research team, CAC Manitoba identified Saskatchewan, Manitoba, Ontario, Quebec, and Nova Scotia as jurisdictions within Canada to study in addition to federal materials. Internationally, the research reviewed the telecommunications legislative, regulatory and policy frameworks in the United States, the United Kingdom, Australia and Japan.

Findings: Canada (federal)

Legislation

By virtue of Canada's constitution granting the federal government authority over "telegraphs" connecting provinces or operating between provinces, the telecommunications industry and telecommunications service providers fall within the jurisdiction of the federal government. Canadian courts have interpreted the term "telegraphs" as evolving to embrace telephones, television and radio signals and broadcasting and internet traffic and services, which led to the confirmation of the federal government's responsibility in this area.

The government of Canada has enacted multiple closely related pieces of legislation which comprise Canada's telecommunications regulatory framework. Three of these

statutes have prominent roles in this framework, and the *Telecommunications Act*, SC 1993 c 38 is the principal statute concerning telecommunications in Canada.

The *Telecommunications Act* affirms that “telecommunications perform an essential role in the maintenance of Canada’s identity and sovereignty” and sets out objectives to guide the development and implementation of Canada’s telecommunications policy.

The *Radiocommunication Act*, RSC 1985 c R-2 governs the management of wireless spectrum and transmission facilities and grants a federal Minister the authority to issue spectrum licenses for the use of specific wireless frequencies in defined regions. In carrying out their responsibilities under this *Act*, the federal Minister may consider the policy objectives identified in the *Telecommunications Act*.

The *Broadcasting Act*, SC 1991 c 11 governs the transmission of programs for public audiences and is intended to ensure that broadcast content contributes to the “maintenance and enhancement of national identity and cultural sovereignty.”

Regulatory Authorities

The federal Department of Industry, known as Innovation, Science and Economic Development Canada and its Minister administer these *Acts*, but regulation of the telecommunications industry is primarily undertaken by an independent administrative agency called the Canadian Radio-television and Telecommunications Commission (CRTC).

The CRTC is a quasi-judicial body authorized to, among other things, impose conditions on services provided by telecommunications service providers and, where appropriate, to regulate the prices charged for wholesale and retail telecommunications services. The CRTC is guided by the telecommunications policy objectives set out in the *Telecommunications Act*, and its CRTC’s mandate requires it to forebear from regulating markets in which there is sufficient competition to protect consumers.

Another important participant in Canada’s telecommunications regulatory framework is the Commission for Complaints for Telecom-television Services (CCTS). The CCTS is an independent body with a mandate to support consumers and resolve consumers’

complaints regarding retail telecommunications and television services. Service providers are required to be members of the CCTS, which is authorized to require the provider, when complaints are not resolved by agreement, to apologize, change its behaviour and/or compensate the customer.

The CCTS administers four codes of conduct which service providers are required to adopt: the Wireless Code, the Deposit and Disconnection Code, the Television Service Provider Code and the Internet Code.

Areas of Regulation

Regulation of the Canadian telecommunications industry is primarily imposed through activities in five distinct categories:

- Universal Service Obligations,
- Government investment in infrastructure development,
- Regulation of anti-competitive conduct,
- Open Access Regulations, and
- Consumer protection and dispute resolution.

The CRTC established a Universal Service Obligation in 2016, asserting that Canadians in urban, rural and remote settings should all have access to minimum standards of service quality in voice and broadband internet on both fixed and mobile wireless networks, which it defined as “basic telecommunications services”. The CRTC identified timelines for the achievement of this goal and created a number of pools of funding to which service providers of a certain scale contribute to fund this growth. The federal government also contributed funds in its 2019 budget to the achievement of connectivity goals.

Concerning investment in infrastructure, Canada’s Connectivity Strategy is the federal government’s policy document guiding progress toward affordable high-speed internet for all Canadians. This strategy involves federal government investment and identifies through various funding programs and identifies possible other regulatory strategies, such as open access regulations, as under consideration in furthering connectivity objectives.

Anti-competitive conduct in the telecommunications industry is the subject of overlapping jurisdiction between the CRTC and the federal Competition Bureau acting under authority granted by the *Competition Act*, RSC 1985 c 93. In markets where competition is deemed insufficient, these two bodies have the authority to oversee mergers and marketing practices to ensure adequate protection for consumers. The CRTC also oversees conflicts between service providers relating to access and interconnection between one another's networks, and the Competition Bureau also has a mandate to ensure that retail prices are not fixed or manipulated.

The CRTC also regulates wholesale telecommunications services, one element of which includes the use of open access regulations to promote facilities-based competition. Open access regulations require owners of network infrastructure to make elements of its facilities that are deemed essential available to resale-based competitors. These requirements are typically imposed for a set period of time followed by a review.

Finally, the CRTC is also engaged in various forms of consumer protection, many of which are conducted collaboratively with the CCTS. Together, these organizations impose and enforce codes of conduct on telecommunications service providers to ensure that consumers are protected. The CCTS' mandate to support consumers in dispute and complaint resolution with service providers is an important element of this shared responsibility.

Findings: Canadian provinces

While regulation of the telecommunications industry is within the jurisdiction of the federal government, some provincial statutes, regulations and policies are also relevant to competition and consumers' experiences in the telecommunications market.

This review canvassed Manitoba, Saskatchewan, Ontario, Quebec and Nova Scotia. Multiple jurisdictions have experience with government-owned telephone and telecommunications service providers. Saskatchewan's SaskTel is the most prominent among these, being the dominant provider of telecommunications services in Saskatchewan.

Manitoba's Manitoba Telecom Services Inc. was a Crown Corporation which was privatized in 1996 and purchased in 2017 by BCE Inc, eventually becoming Bell MTS, a subsidiary of BCE.

TBayTel is a regional telecommunications service provider owned by the City of Thunder Bay, Ontario, which provides telecommunications services to parts of northern Ontario. The literature reviewed for this project identifies each of these regional service providers as having made meaningful contributions to the levels of competition, and as a result, prices for telecommunications services.

A common theme among the provinces canvassed was the consistent priority placed on investment in wireless network infrastructure. In Saskatchewan's case, this takes place primarily through SaskTel, the annual reports of which detail progress toward increased connectivity achieved through its Access Network Demand program. The government of Manitoba has also invested in the development of wireless network infrastructure through another Crown Corporation, Manitoba Hydro. Manitoba has invited private sector partners to invest in bringing broadband access to rural and remote Northern communities partly relying on Manitoba Hydro's extensive fibre-optic cable networks which connect its multiple hydro-electric generating stations.

A Crown Corporation in Nova Scotia called Develop Nova Scotia has as part of its mandate the expansion of telecommunications infrastructure throughout the province. Nova Scotia announced funding in 2020 for initiatives which were to achieve reliable high-speed connectivity for 86% of residents. Nova Scotia has identified a goal of connectivity for 95% of residents.

The government of Ontario also funds a suite of programs intended complement federal, municipal and private investment to improve and expand broadband and cellular network infrastructure across the province and particularly in underserved areas. The province of Quebec facilitates partnerships through a series of programs similar to Ontario's, intended to improve and promote province-wide connectivity.

Also, almost all of the provinces canvassed have also implemented some form of consumer protection legislation with implications for customers of telecommunications service providers.

Manitoba's explicitly requires specific terms in contracts for mobile wireless services to be clearly and prominently set out at the beginning of the document. Quebec's comparable legislation applies more broadly to contracts for subscription-based services, imposing terms such as prohibitions on automatic renewals and limitations on contract cancellation fees for the protection of consumers. Saskatchewan's consumer protection legislation may apply to but does not specifically contemplate telecommunications services, customers or contracts.

Ontario and Nova Scotia both previously had wireless-specific consumer protection legislation and regulations which have been repealed. In both cases, these provinces cited the introduction of the federal Wireless Code as the reason that its legislation was repealed.

International Legislation and Policy Review

Findings: United States

Legislation and Regulatory Bodies

The regulation of communications in the United States dates back to the 1934 *Communications Act* which established the Federal Communications Commission (FCC) and divided oversight of telecommunications between it and state regulators. Subsequently, the *Telecommunications Act of 1996* was issued in response to the significant technological developments in telecommunications since the issuance of the 1934 *Act*, aiming to increase competition in the telecommunications market to ensure nationwide affordable access to telecommunications services. Though not the only relevant statutes, these, which have been amended over time, form the central framework for the regulation of telecommunication in the United States.

As created by the *Communications Act*, the FCC is the federal regulator of the telecommunications industry, possessing jurisdiction over interstate and international

wire and radio communications, radio spectrum, and communications “common carriers”, subjecting them to regulatory oversight and requiring them to provide services at just, reasonable and non-discriminatory rates.

The FCC is mandated to implement U.S. telecommunications policy objectives, calls for the provision of adequate communications services at reasonable rates to all people across the country without discrimination.

Though not strictly a regulator, the National Telecommunications and Information Administration (NTIA) is an agency of the federal Department of Commerce and serves as the principal adviser to the President of the United States on telecommunications policy. The NTIA also manages the federal government’s use of spectrum in national defense, law enforcement, transportation, resource management and emergency circumstances.

Areas of Regulation

Consistent with the Canadian jurisdictions surveyed, the United States regulates the telecommunications industry through Universal Services Obligations, addressing anti-competitive conduct, imposing open access regulations, promoting infrastructure development and protecting consumers.

The United States first codified a commitment to universal service in 1996, calling for the provision of quality services at reasonable and affordable rates, access to advanced services in all regions, reasonably comparable access and pricing for low-income consumers and those in rural, insular or high-cost, mandated and funded mechanisms to achieve universal service and connectivity for schools, health care providers and libraries”.

The United States’ universal service obligation also requires interstate service providers to contribute to the Universal Service Fund, which subsidizes the extension of services to underserved areas.

Anti-competitive conduct in the telecommunications market is overseen by the federal Department of Justice and the FCC, both of which have oversight responsibilities

concerning commercial acquisitions and mergers. The Department of Justice reviews proposed transactions pursuant to a statutory scheme which prohibits transactions which risk substantially lessening competition. The FCC monitors and reports annually on changes to competition in the telecommunications market.

Concerning open access regulations, the United States' statutory framework imposes a general duty on telecommunications carriers to interconnect, either directly or indirectly, with the other carriers' networks. Carriers are prohibited from imposing discriminatory rates, terms or conditions on these services, which must include number portability, dialing parity, and appropriate access to poles and other infrastructure at reasonable rates. Carriers must also provide select unbundled services to other carriers, the contents of which is determined discretionarily by the FCC. It should be noted also that the open access regime is subject to change following a call for comments on proposed changes issued by the FCC in January of 2020.

The United States government has also invested in telecommunications infrastructure through various funding programs primarily intended to promote improvements in rural services. The United States has also directed resources in support of the development of a strategy for the implementation and rollout of 5G technology including the development of network infrastructure.

Regarding consumer protection in the telecommunications market, the United States government has implemented legislation restricting telemarketing and imposing a National Do-Not-Call registry. Telecommunications carriers are also subject to requirements protecting information related to consumers' usage information, and also to requirements related to transparency in billing practices.

Findings: United Kingdom

Legislation and Regulatory Bodies

The regulation of the telecommunications market in the United Kingdom is authorized by the 2003 *Communications Act*, which granted the Office of Communications ("Ofcom") regulatory authority over both telecommunications and broadcasting. This statute is complemented by the *Wireless Telegraphy Act* of 2006, which included in

Ofcom's mandate the management of wireless spectrum. Ofcom was created and is mandated by a series of complementary statutes.

Ofcom's principal responsibilities are to promote consumers' interests concerning communications services, and where appropriate to do so by promoting competition. In carrying out its functions, Ofcom is required to secure: (a) the optimal use of the radio spectrum; (b) the availability throughout the United Kingdom of a wide range of electronic communications services; (c) the availability in the UK of a wide range of TV and radio services, comprising high quality services of broad appeal; (d) the maintenance of a sufficient plurality of providers of different television and radio services; (e) the application, in television and radio services, of standards that provide adequate protection to members of the public from any offensive and harmful material; and (f) the application, in television and radio services, of standards that safeguard people from being unfairly treated and from unwarranted infringements of privacy.

Areas of Regulation

Like other jurisdictions, the United Kingdom uses multiple tools to ensure that the telecommunications market effectively meets consumers' needs.

The United Kingdom's universal service obligation is imposed pursuant to a statute which creates a legal right for eligible consumers and businesses to request a broadband connection meeting a minimum standard if there is not one available so long as it can be accomplished under a maximum cost threshold.

Ofcom also engages in investigation of commercial conduct and agreements in telecommunications and broadcasting to support the upholding of the United Kingdom's competition laws. A single dominant provider, BT Group, which was formerly the state-owned British Telcom, contributes to persistent market concentration in the United Kingdom, which emphasizes the importance of Ofcom's role concerning anti-competitive behaviour.

Though not explicitly mandated as in other jurisdictions, the United Kingdom's open access regulations do require providers to negotiate network interconnection

agreements with other service providers upon request. Complementary requirements imposing technical standards and specifications make interconnection possible when agreements can be reached.

Through Ofcom, the regulation of the telecommunications market also promotes consumer protection. Ofcom has constituted a Consumer Panel, which contributes to the regulator's understanding of consumers' needs and interests. Ofcom also fields and responds to consumers' complaints and disputes regarding telecommunications services. Through different service streams, Ofcom resolves disputes between service providers and both private consumers and small business customers. Service providers are mandated to participate in these Ofcom-facilitated processes.

Findings: Australia

Legislation and Regulatory Bodies

Australia's federal parliament regulates the telecommunications industry through the 1997 *Telecommunications Act*, which provides a regulatory framework intended to promote the long-term interests of consumers, the availability and affordability of services, and the efficiency and international competitiveness of Australia's telecommunications industry.

The *Radiocommunication Act* provides for the management of radio spectrum. The regulation of both the telecommunications industry and radio spectrum is carried out primarily by the Australian Communications and Media Authority (ACMA). ACMA's responsibilities include monitoring and reporting on service provider performance and the functioning of the industry, and if necessary to create and enforce mandatory telecommunications industry standards to promote the achievement of its mandate. Complementing the work of the ACMA is the Australian Competition and Consumer Commission, the jurisdiction of which includes the telecommunications industry for the purpose regulating anti-competitive conduct. The Australian telecommunications market has been found to be highly concentrated, which the ACCC monitors through its regular market studies.

Third, though not a government agency, the Communications Alliance is an active industry association which exists to manage self-regulation of communications in Australia.

Areas of Regulation

Like other jurisdictions, the Australian government makes use of multiple tools to regulate the telecommunications industry and ensure that it appropriately services consumers.

The Australian government has imposed a broad universal service obligation, described as the Universal Service Guarantee, which aims to ensure reasonable and equitable access for all people in Australia to both voice and broadband services.

Australia's Universal Service Guarantee is complemented by the National Broadband Network (NBN), which is a state-owned and funded open access wholesale data network. The NBN is projected to connect 93% of Australian homes to fibre networks meeting minimum standards of broadband speeds.

Finally, Australia has undertaken a number of initiatives to promote consumer protection. The government has established a Telecommunications Industry Ombudsman (TIO) that provides independent dispute resolution to consumers. The TIO is empowered to investigate and issue directions relating to unresolved complaints with service providers, all of which are required to participate in TIO processes unless declared exempt.

Also related to consumer protection is a collaborative initiative between the ACMA and the Communications Alliance to create a Telecommunications Consumer Protections Code, which dictates how service providers interact with customers and conduct their advertising and billing.

Findings: Japan

Legislation and Regulatory Bodies

The regulation of telecommunications in Japan is provided for in a number of complementary statutes. The *Telecommunications Business Act* sets out measures to ensure the proper functioning of the industry, promote competition and protect the interests of users. The *Wire Telecommunications Act* and the *Radio Act* regulate radio spectrum and wired transmission facilities, and the *Act Concerning Nippon Telegraph and Telephone Corporation* pertains to the partially government-owned Nippon Telegraph and Telecommunication Corporation (NTT Group), which is a telecommunications service provider that previously operated as a government-owned monopoly.

Japan's Ministry of Internal Affairs and Communications oversees the country's telecommunications market through its Telecommunications Bureau, which works to promote the development of network infrastructure and administer spectrum management policy, internet safety programs and a consumer advice centre. It also includes the Information and Communications Bureau which oversees the broadcasting industry.

The Ministry of Internal Affairs and Communications also facilitates the Telecommunications Dispute Settlement Commission, which provides dispute resolution services between telecommunication carriers for issues relating to the interconnection of network infrastructure.

Finally, Japan's Fair Trade Commission enforces the *Antimonopoly Act*, which is a competition law of general application. This Commission's powers are used to identify and eliminate anti-competitive practices in the market particularly by telecommunications carriers with relatively large market shares.

Areas of Regulation

The government of Japan has imposed multiple regulatory measures for the protection of consumers' interests and the achievement of its statutory objectives. Many of these are related to the promotion and maintenance of adequate market competition.

For example, telecommunications service providers are subjected to service fee reporting and accountability obligations which both promote competition and protect consumers. Restrictions on contractual terms such as automatic renewals, high cancellation fees and forced buy-outs of devices, for example, have been implemented to preserve or promote competition and also serve to protect consumers.

Other measures to prevent anti-competitive behaviour also have the related positive impacts on consumer protection, including authority granted to the Ministry of Internal Affairs and Communication to ensure service providers to not treat consumers unfairly or discriminatorily. This power is broad, allowing the Ministry to address any charges, terms or activities that may lead to unfair competition or that risk impairing users' interests.

Also, concerning access to network infrastructure, mobile network operators are required to comply with wholesale access requests from resale-based service providers at fees established by the Ministry of Internal Affairs and Communications. Japan also promotes the improvement of country-wide wired and wireless broadband infrastructure by offering service providers tax benefits, low-interest financing and, in underserved areas, subsidies through public-private partnerships.

The full reviews of legislation and policy are found in Appendices C and D.

Survey

CAC Manitoba contracted Prairie Research Associates Inc. to conduct an online survey of Canadians regarding their perceptions of the state of competition in Canada's telecommunications marketplace. **All slides/figures in this section of the report were created by PRA Inc.**

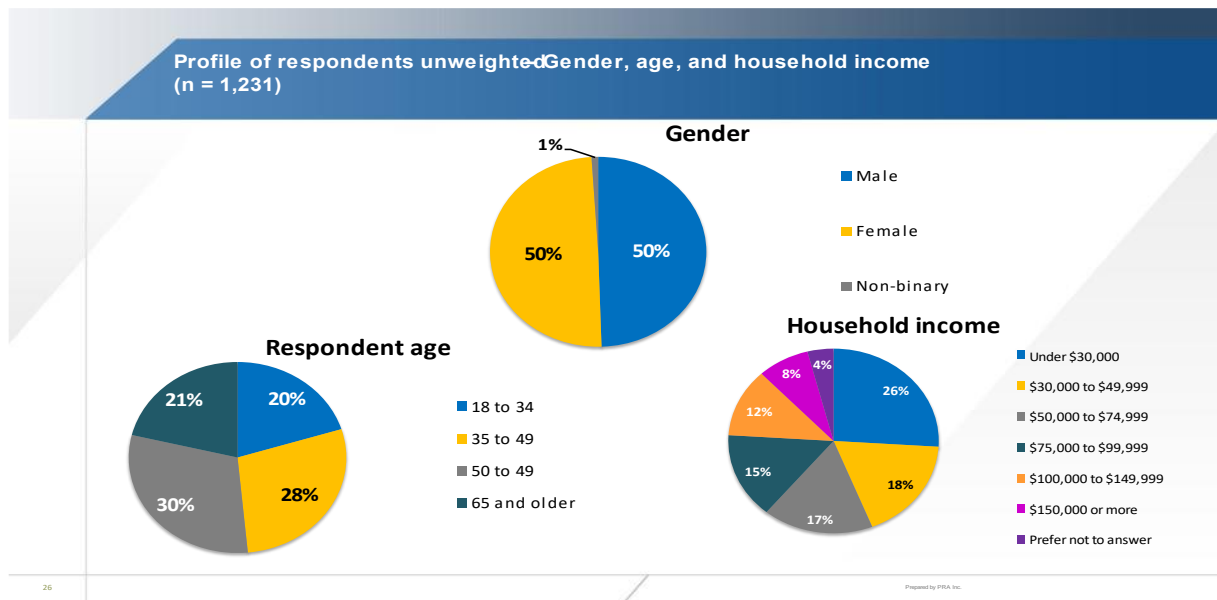
Method

1,231 Canadians were surveyed using a national panel. A similar survey with a random sample of 1,231 would result in an error rate of $\pm 2.8\%$ (19 times out of 20). For this study, the sample is weighted to the general population data for Canada to correct for differences in age, gender, region, and income. Proportions in this report are weighted unless otherwise stated. Data in charts may not always sum to 100% due to rounding.

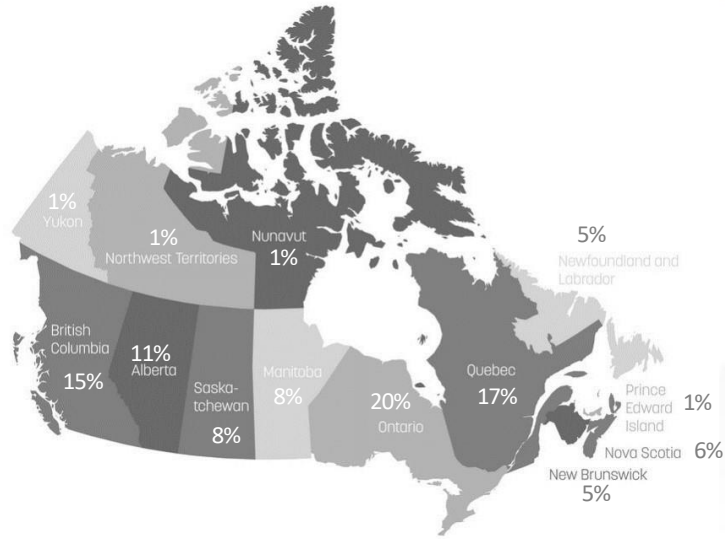
Best efforts were made to “oversample” some underrepresented populations of consumers to ensure that the diversity of opinion within those voices was heard. Those groups include northern, remote, and Indigenous consumers.

Demographics

The following slides represent the demographic profile of respondents:



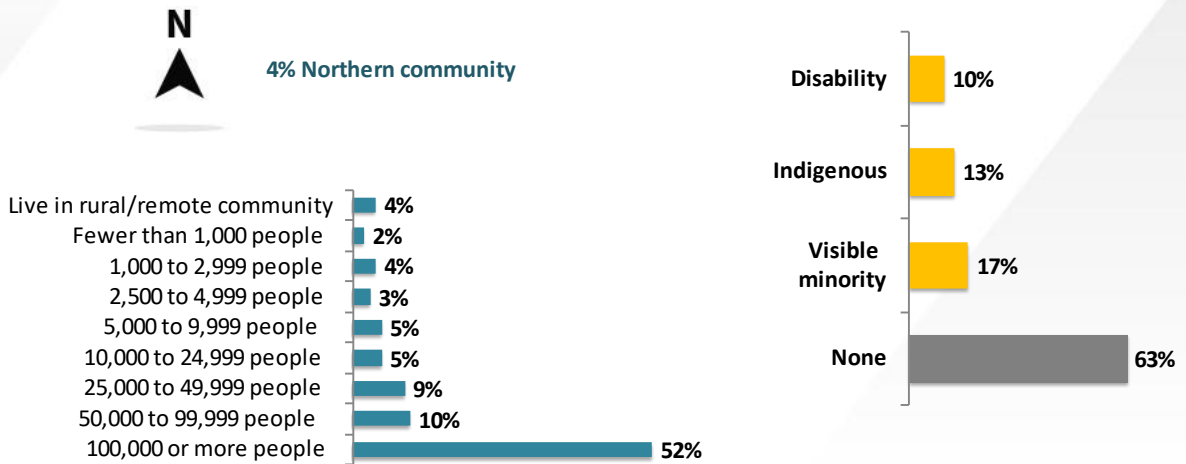
Profile of respondents unweighted - Province of residence
(n = 1,231)



27

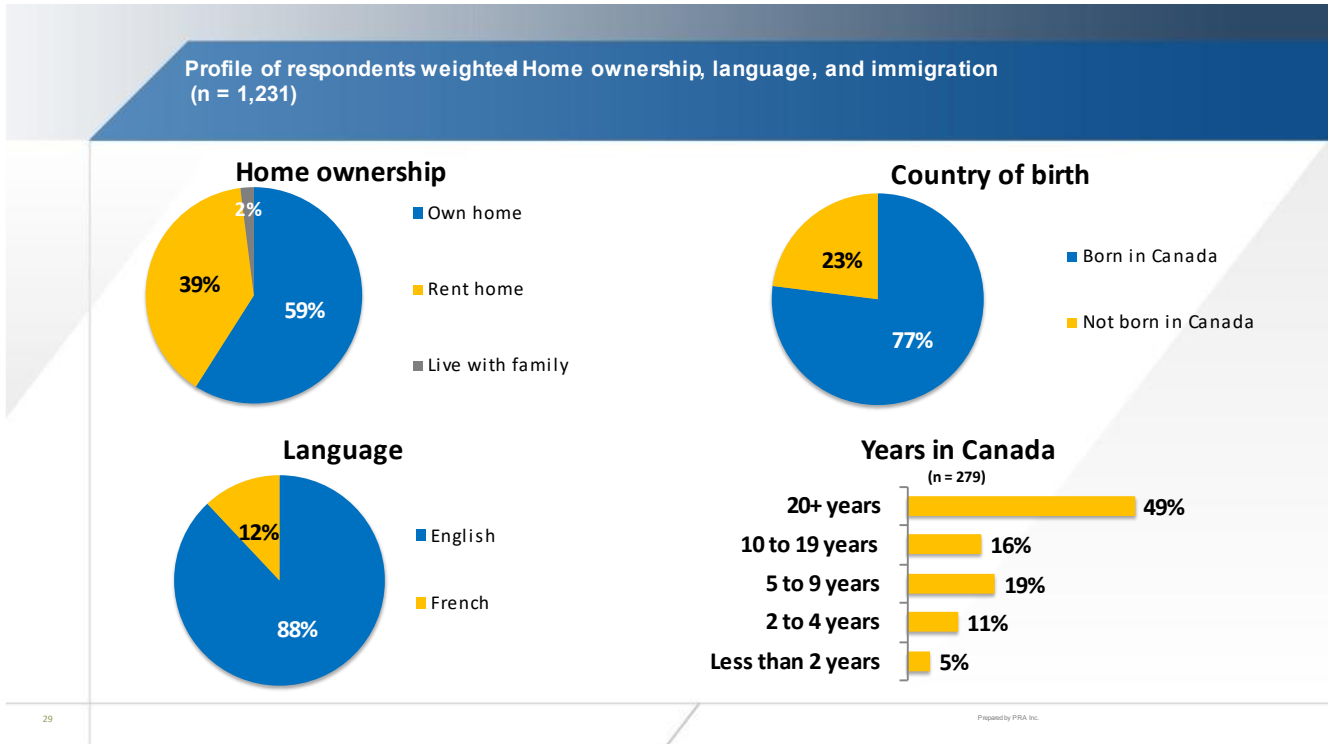
Prepared by PRA Inc.

Profile of respondents weighted (n = 1,231)



28

Prepared by PRA Inc.



Results

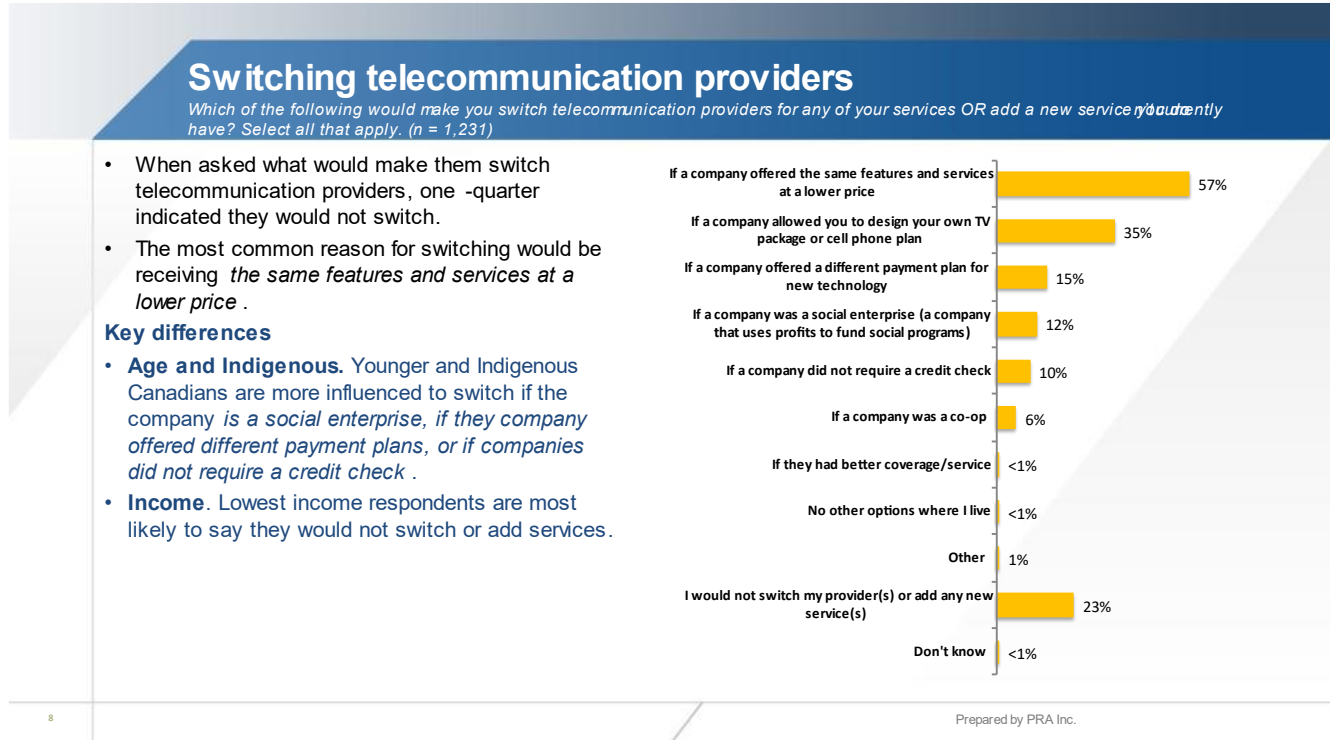
Key Findings

PRA determined several key findings from the survey, support for which arose in a number of the individual questions. These included:

- Price appears to be a significant driver of perceptions of the telecommunication industry. For almost all questions, price and price-related factors drive current and future perceptions of competition in the marketplace.
- Those living in rural/remote communities and low-income Canadians have different views of the telecommunication industry relative to their counterparts. Those living in rural/remote communities see coverage as a more important issue, while those in low-income households appear to be concerned with price (which may be a factor to having certain telecommunication services).
- Age plays a major role in perceptions of the telecommunication industry. Generally, older participants have less favourable views of the industry as a whole, and want to see greater changes, especially as they relate to price.

Looking at the Details

Responses to several of the questions stand out in answer to our initial research questions, or in support of conclusions drawn using other research tools in this project.



When asked what, if anything, would persuade respondents to switch telecom providers, the most popular reason for switching was price (57%), followed by the ability to design one's own television or cellphone package (35%). 23% indicated they would not switch.

There were some key differences between groups of consumers identified by the research firm:

- Age and Indigenous. Younger and Indigenous Canadians are more influenced to switch if the company is a social enterprise, if they company offered different payment plans, or if companies did not require a credit check.
- Income. Lowest income respondents are most likely to say they would not switch or add services.

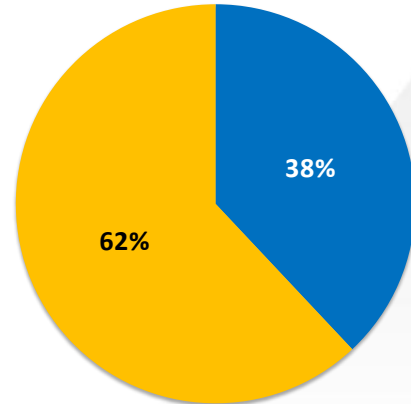
Defining telecommunication companies

Which of the following statements best reflects how you would define telecommunication companies such as Koodo, Chatr, Virgin and Fido? (n = 1,231)

- Most Canadians are fairly knowledgeable about telecommunication companies such as Koodo, Chatr, Virgin and Fido, knowing that they are owned by a larger company.
- However, more than one-third believe these are independent companies.

Key differences

- **Age.** Those under 30 are more likely to believe these companies are independent. In fact, the majority of those 18 to 29 indicated these are independent companies.



- Standalone (independent) companies
- Owned by other (large) companies

Prepared by PRA Inc.

This question revealed a misconception on the part of consumers. While more than half of respondents associated names like Koodo, Fido, Chatr, and Virgin with one of the larger telecommunication providers, 38% thought they were independent companies. Respondents under the age of 30 were most likely to respond in this way.

Most important benefits from telecommunication providers

In your opinion, which of the following are most beneficial to you when you think about telecommunication services? Please rank top 3 by putting a 1 in the box for your most beneficial, 2 for 2nd, and a 3 for 3rd most. (n = 1,231)

- Canadians strongly favour *affordability* as what is most important, with over one-third ranking it as most important and two-thirds ranking it in their top three.
- This is followed by *reliability of access to network and services*, with one-fifth selecting as first and three-fifths in their top 3.
- *Having the newest products* and *having an easy way to compare prices* were least important, with about 1 in 5 selecting in their top 3.

Key differences

- **Age.** Younger Canadians put less importance on the *reliability of the network* and more emphasis on *existence of options that meet the needs of consumer groups* and *easy way to compare prices*.
- **Income.** Lower income put more emphasis on *existence of options/services to meet the needs of specific groups*, and less on *innovative pricing*.

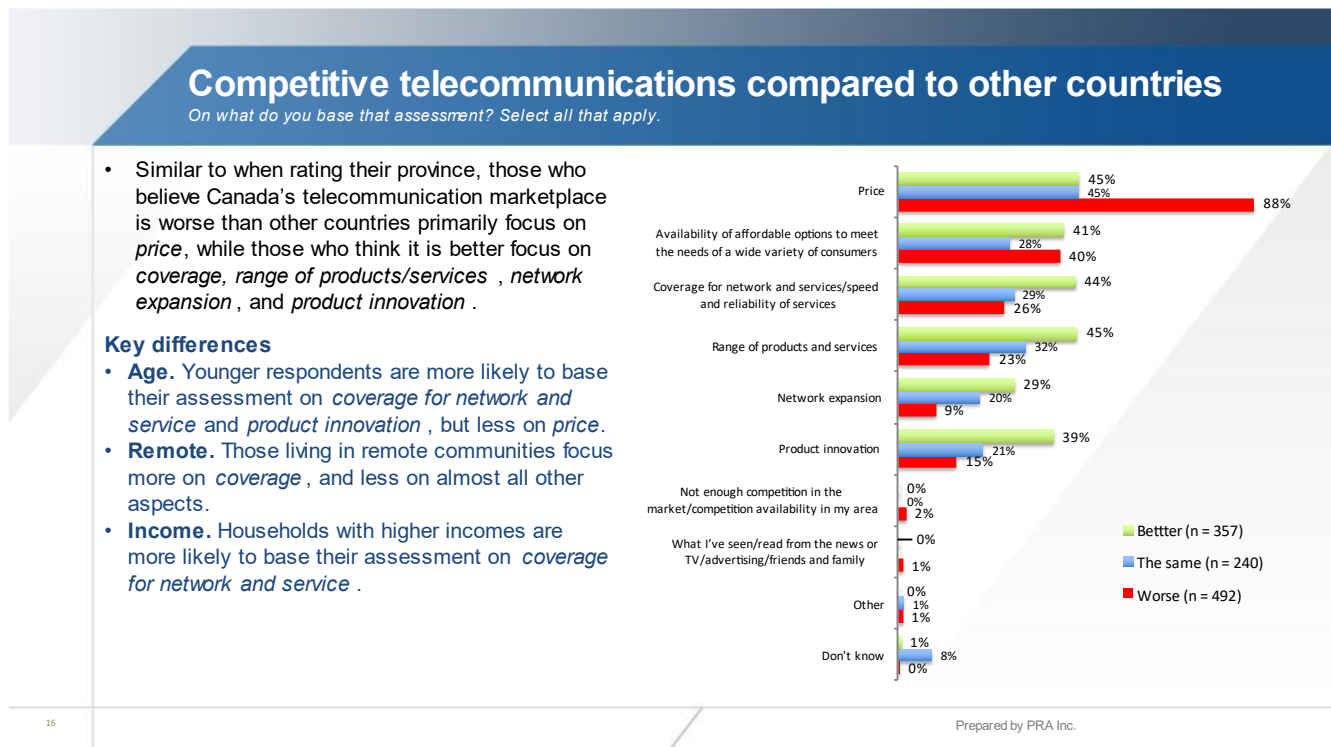
	Ranked 1st	Ranked 2nd	Ranked 3rd
Affordability	37%	17%	13%
Reliability of access to network and services	21%	22%	17%
Good customer service	12%	17%	20%
Innovative pricing and contract options that are available to all customers, both current and new	11%	13%	14%
Clear information about what is included in packages	6%	11%	12%
Existence of options/services available to meet the needs of specific groups of consumers	5%	7%	7%
Easy way to compare prices of products and services between companies	5%	7%	7%
Choice of products that includes newest devices and innovation	3%	6%	10%

Prepared by PRA Inc.

Respondents indicated that affordability (37% ranked 1st, two-thirds ranked in top 3) and reliability of access to network and services (21% ranked 1st, three-fifths in top three) were the two most important aspects of their telecommunications services.

There were some key differences between groups of respondents here:

- **Age.** Younger Canadians put less importance on the reliability of the network and more emphasis on existence of options that meet the needs of consumer groups and easy way to compare prices.
- **Income.** Lower income put more emphasis on existence of options/services to meet the needs of specific groups, and less on innovative pricing.

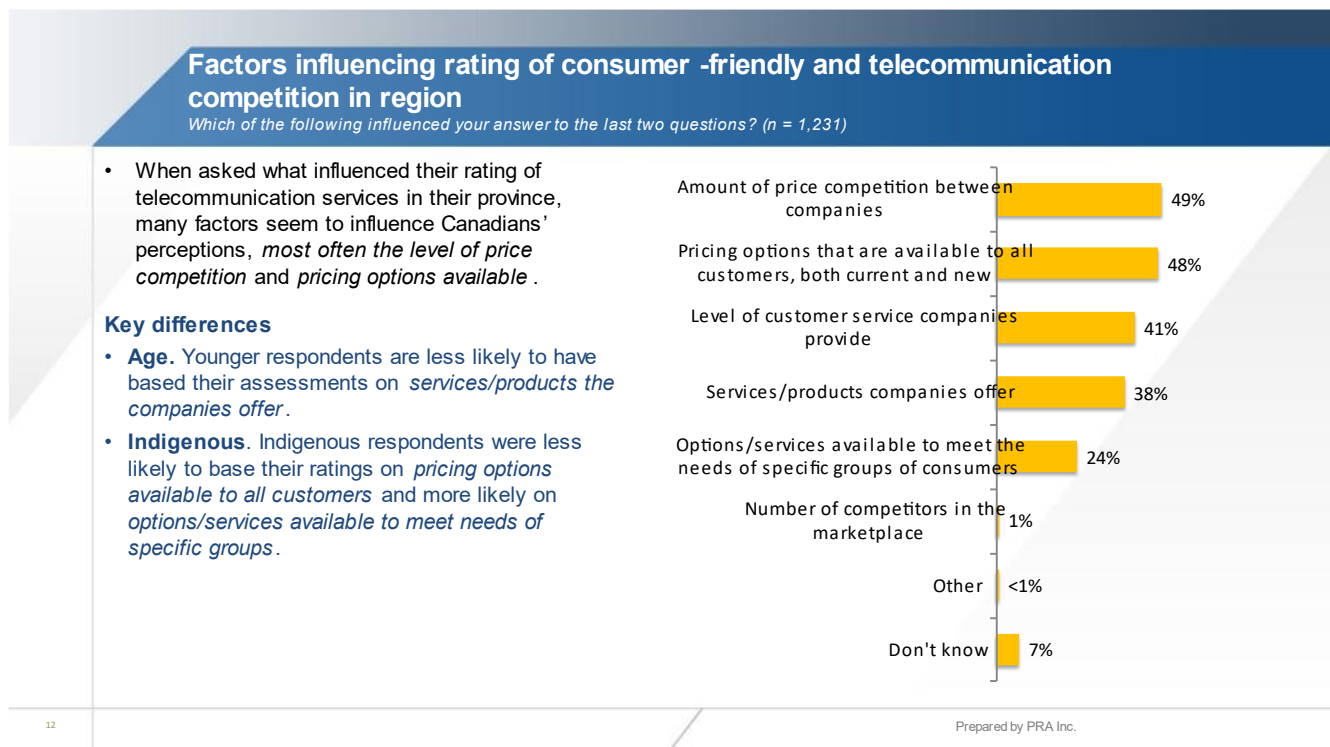


Respondents overall leaned towards Canada having a less competitive telecommunications market than other countries. One of the major reasons cited by those who felt Canada's telecom was less competitive was price (88%). Those who

indicated that Canada's market was more competitive focused on coverage, range of service, network expansion, and product innovation.

Differences amongst groups:

- Age. Younger respondents are more likely to base their assessment on *coverage for network and service* and *product innovation*, but less on *price*.
- Remote. Those living in remote communities focus more on *coverage*, and less on almost all other aspects.
- Income. Households with higher incomes are more likely to base their assessment on *coverage for network and service*.

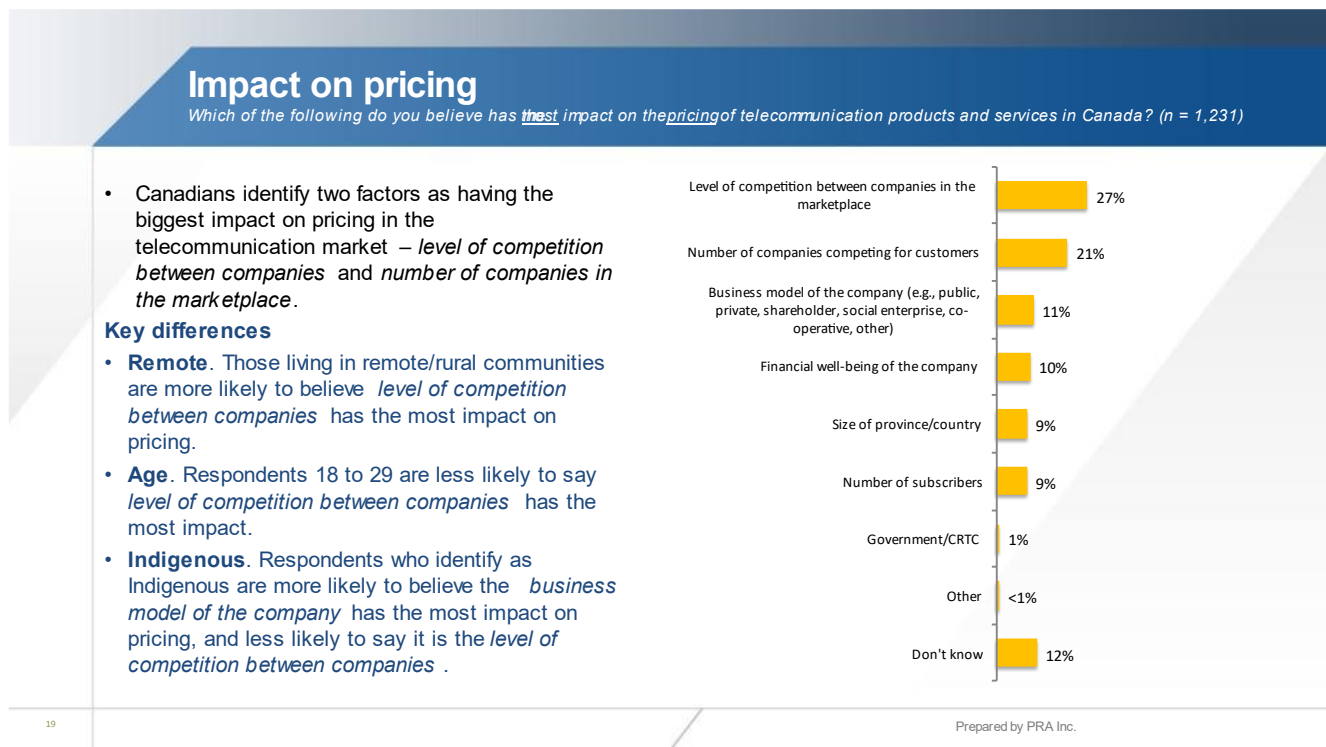


In the slide above, respondents give their reasons for the way in which they rated the level of competition and the consumer-friendly nature of the telecommunications

market. Price competition between companies (49%) and pricing options available to all consumers (48%) were the top two reasons, followed by customer service (41%).

There were some key differences between groups of consumers:

- **Age.** Younger respondents are less likely to have based their assessments on *services/products the companies offer*.
- **Indigenous.** Indigenous respondents were less likely to base their ratings on *pricing options available to all customers* and more likely on *options/services available to meet needs of specific groups*.



This slide reflects respondents' identification of factors that impact telecommunication pricing. The two most common responses were the level of competition between companies (27%), and the number of companies in the marketplace (21%).

Again, there were some key differences between groups of respondents:

- Remote. Those living in remote/rural communities are more likely to believe *level of competition between companies* has the most impact on pricing.
- Age. Respondents 18 to 29 are less likely to say *level of competition between companies* has the most impact.
- Indigenous. Respondents who identify as Indigenous are more likely to believe the *business model of the company* has the most impact on pricing, and less likely to say it is the *level of competition between companies*.

Competition benefits

Which of the following would you say are potential benefits to healthy competition in Canada's telecommunication marketplace? **Select all that apply.** (n = 1,231)

- By far the most common benefit respondents see in healthy competition in Canada in the telecommunication marketplace is *lower prices*.

Key differences

- **Gender.** Men are more likely than women to identify *lower prices* as a benefit to healthy competition.
- **Age.** Respondents are more likely to see *lower prices* as a benefit to healthy competition the older they are.



Pricing Study

Underserving or undeserving?

ASSESSING RETAIL PRICING AND AVAILABILITY OF MODERN
TELECOMMUNICATIONS SERVICES IN CANADA

**Executive Summary of a report prepared by Benjamin Klass for the Consumers
Association of Canada—Manitoba Branch**

Purpose of study

The Manitoba Branch of the Consumers Association of Canada (CAC Manitoba) retained Mr. Benjamin Klass to undertake the following:

Design and lead field research, which will look at the health of competition in the telecom market of five Canadian provinces: Saskatchewan, Manitoba, Ontario, Nova Scotia, and Quebec.

Design and implement the methodology for price data collection

Submit a final field research report to be appended to the project report, including recommendations

Submit a summary of the field research report for inclusion in the final project report

This document presents a summary of that research, and includes a set of recommendations based on the study's findings. This work is a part of the broader research project entitled "What's the right number?" that was "conducted across five regions in Canada over a two-year period, looking at cost, service, and innovation in telecom services, with a view to assessing the nature of Canada's telecom marketplace, and comparing it to other jurisdictions."

This study's main goal was to examine the marketplace for telecommunication services in Canada from a consumer's perspective. This means investigating questions such as:

What services are available, and from what (and how many) suppliers? How much do these services cost, and what do they include? Do the prices change over time, and if so, by how much? What do consumers get for their money, and does the nature of the service change over time? How do the options differ from province to province, and how might we explain these differences?

The study is primarily focused on mobile wireless and home broadband services. The plain reason for this is that mobile wireless services— “smartphone plans” —and home broadband— “internet access” --are the main types of services people use to communicate in today’s day and age.⁵

Structure of study

The study is structured in five main parts. The first section defines the scope of the services being examined, using publicly available demographic information and through the relevant markets approach adapted from competition policy. Second, provincial profiles are developed, highlighting the environment of demand and supply in each province studied. Third, a detailed survey is presented of findings regarding the advertised pricing and service characteristics of mobile markets. Fourth, a detailed survey of findings regarding the pricing and service characteristics of home internet markets is presented. Finally, a list of recommendations is presented based on the study’s findings.

⁵ Data regarding cable television services were also collected, but it was found that the information available for these services does not lend itself to reliable analysis. Cable services are simply too heterogeneous, and advertised information is too vague--when available at all--to draw conclusions beyond surface level observations. Specifically, a growing trend was observed toward making cable television service available only to customers who also subscribe to internet (and consequently making price comparison impossible), and in addition, it was found that assessment of cable services can often amount to making apples to oranges comparisons, since packages are designed to be tailored for individual customers’ needs (i.e. channels are purchased individually or as bundles). This is a finding in itself—and perhaps a cue for further research. Based on the above, a decision was made to focus attention on the mobile and home internet markets.

Defining Service markets

The study collected information monthly on all advertised service plans from a selection of service providers representing most of the marketplace for mobile services, and a representative selection of providers in the home internet markets. Providers advertise prices at a provincial level, and composition of markets differs from province to province. Therefore, the geographic scope was found to be provincial markets and data were collected for each of the 5 provinces covered by this project (i.e. Saskatchewan, Manitoba, Ontario, Quebec, and Nova Scotia). It is important to note that, depending on where people reside within a province, they may have less options, especially for rural residents. This applies both to home internet and mobile markets.

A wide range of service configurations was observed. This includes plans which feature only voice and text, or a combination of voice, text, and data, or only data. Demographic and economic information, primarily from the CRTC, were used in conjunction with a 'relevant markets' analysis borrowed from competition policy to focus the analysis on the most relevant services.⁶ It was determined that a substantial majority of subscribers had postpaid smartphone plans with unlimited calling and some amount of data. Therefore, the main focus for service characteristics is on postpaid "smartphone plans." Prepaid plans were also examined since these plans may be the only available option for a small but significant portion of subscribers, including lower-income, newcomer, and those without access to credit (or with limited access to credit).

Another key distinction that was observed and factored into market definitions was service provider type. Specifically, the national carriers—Bell, Rogers, and Telus—each pursue nearly identical market segmentation strategies that involve the use of "flagship," "flanker," and "discount" brands which offer differently configured services (typically not overlapping), a revenue maximizing strategy which allows the companies

⁶ Briefly, a relevant markets analysis is a method used to analyse comparable goods by categorizing goods or services according to substitutability. A relevant market is that which contains the goods or services amongst which consumers would switch in response to a price change from one or more suppliers. A relevant markets analysis of fruit markets may enable a researcher to make apples to oranges comparisons, for example.

to offer mobile service with different characteristics across a broad price range, and maintain an image of a competitive marketplace.

The analysis of pricing and service trends for mobile markets applies categories that roughly correspond to the market segments created by the national carriers' brand strategy, since each class of brand targets a certain market segment. These categories are: entry level services, defined as those services available for less than \$45 per month, which is the lowest price at which all provinces have an available postpaid voice and data plan in the market, and also is the average per-person level of monthly spending on cellular service across the country;⁷ mid-range services, which correspond to the range of services available from flanker brands (i.e., Koodo, Fido, and Virgin Mobile); and high-end plans, which correspond to the national carriers' main brand offerings (i.e. Bell, Rogers, and Telus brands). For each category, regional carriers' similarly priced plans are included in order to compare offers between competitors. Pricing and 'bonus data' promotions are included in the study.

Similarly, the analysis of home internet plans places service providers into classes and compares services in three different categories. The study compares advertised services from incumbent local exchange companies (ILECs, i.e., the 'telephone company' like Bell, or Sasktel), cable companies (e.g., Rogers, Cogeco), wholesale-based providers (e.g., Teksavvy), and rural providers that use fixed wireless or satellite service (e.g., Xplornet). The categories into which services are organized are: entry-level plans, which are the lowest-priced services available in the market from each type of provider, representing the floor price for home internet service; mid-range services, which correspond to criteria set by the CRTC for an expected level of service to be available to everyone across the country (i.e. 50Mbps download, 10Mbps upload, an unlimited option); and high-end plans, which are simply the most expensive service offered by each provider. Promotions are not included in the study of internet services, since these frequently are time limited or require the purchase of additional service bundles (e.g., only available with TV subscription).

⁷ According to data found in Statistics Canada's most recent survey of household spending, which corresponds to 2019 levels of spending.

Provincial market profiles

After defining the relevant service markets, the report then investigated information about supply and demand for mobile services in each province under review. This involved asking questions such as: how many have mobile phones, and how many have internet? What do they pay for these? What providers are present and what are their market share? How does their service/coverage differ? The following presents a brief summary of the findings:

Observations regarding provincial markets for demand/supply:

Summary of consumer observations:

Adoption of mobile and home internet services is very high. The provincial average for household adoption is at or within a few points of 90% for both services in all provinces. This reflects the high level of importance consumers place on modern communication services.

Adoption of communication services is not equal across income levels. Although adoption of mobile and home internet services is nearly universal for households in the top three income quintiles, those living in households in the bottom two quintiles are significantly less likely to subscribe to either service. For mobile services, households with lower incomes are also less likely to have more than one mobile subscription than higher-earning households.

The expense of mobile and home internet services is also not borne equally by households of different means. Although lower-income households spend less in absolute terms on telecommunication services, they spend approximately 3-4 times as much as a proportion of income than higher-income households.

Summary of provider observations:

Mobile markets across the country are highly concentrated. In each provincial mobile market except Saskatchewan, the national carriers (i.e., Bell, Rogers, and Telus) collectively account for the dramatic majority of subscribers. In 2019, market concentration was lowest in Quebec, with 81.1% going to the three national carriers, and highest in Manitoba, where Bell, Rogers, and Telus together accounted for 98.4% of mobile subscribers in 2019. Each of these provinces tends to feature two dominant

providers, with the third in a weaker position and a fourth regional provider trailing in market share. In Saskatchewan, provincial telecommunications service provider Sasktel was the dominant provider, with 59% of mobile subscribers, with Bell, Telus, and Rogers splitting the rest (in that order—Rogers had only 5% of mobile subscribers in Saskatchewan).

Home internet markets are more localized than mobile wireless markets, but granular data is generally unavailable—the CRTC does not publish information regarding market share at the provincial level for home internet services, for example. However, figures are available for market share by class of provider—a metric which gives an acceptable approximation of provincial market shares. By this measure, markets for home internet access are highly concentrated. In 2019, incumbent telecommunications service providers (the telephone company, e.g., Bell, Sasktel) accounted for 38.3% of revenues, cable companies (e.g., Rogers, Shaw) accounted for almost half (47.8%) of revenues, wholesale-based competitors (e.g., Teksavvy, Vmedia) accounted for 7.2%, and fixed wireless and satellite providers (rural providers like Xplornet) accounted for 6.7%.

Mobile market observations--highlights

Following the provincial market profiles, the study then presents an in-depth review of the findings regarding trends in mobile and home internet pricing from November 2019-March 2021. What follows are the highlights from that section:

Entry level highlights:

Outside of Quebec, postpaid voice and data plans in the entry level category were typically only available from regional providers.

In Quebec, Videotron competes with flankers and flagship brands to offer service in this price range.

In Ontario, regional provider Freedom Mobile offers a variety of postpaid plans from \$25-\$40, but the national carriers have not responded with their own offers at this price level.

In Saskatchewan, Manitoba, and Nova Scotia, there is little to no competition among service providers to offer plans for less than \$45. There were limited offers in this range in these three provinces.

Midrange flanker highlights:

Aside from small variations, flanker offerings were generally very similar across provinces in this price range.

For the most part, flankers mirrored each other's offerings within each province. Flanker brands typically offered service in the \$45-\$75 price range, with no service exceeding \$80 per month. Quebec was the only province where flankers regularly offered service for less than \$45 per month.

The amount of data included in plans generally increased for a given price level over the course of the study.

The price of plans that include the same amount of data stayed the same or decreased over the study period.

We observed no flanker plans above \$80 per month from flanker brands, and those at the \$80 level were offered infrequently.

Saskatchewan midrange highlights

In Saskatchewan, flankers offered more data for the price than Sasktel at price levels where both offered plans in 2021.

For plans with comparable amounts of data, the flankers offered better prices than Sasktel in 2021.

National carriers' flanker brands compete with provincial incumbent Sasktel by offering service with more data for lower prices. Since Sasktel is the only provider that offers mobile, home internet, landline, and cable TV in Saskatchewan, the national carriers may see a need to offer better advertised services in order to effectively compete.

Manitoba midrange highlights: Xplore Mobile disappoints

From the end of 2019 to March 2021, the amount of data included with flankers' plans increased across price levels. For plans with comparable amounts of data, prices decreased.

The same is not true for Xplore Mobile, which increased prices and decreased data offerings over the study period.

Flankers offered substantially more data—between 2-3 times as much—as Xplore Mobile at price levels where both offered service plans in 2021.

For plans with the same amount of data, Xplore Mobile either charged the same or more than flankers in 2021.

Xplore Mobile does not appear to be an effective competitor, leaving Manitoba the only province in which the three national carriers are effectively in control of the entire mobile market.

Ontario midrange highlights: Freedom's offers are consistently superior, but the flankers have improved their service offerings in response

The amount of data included with midrange plans generally increased across price levels, and for plans with comparable amounts of data, prices generally decreased over the course of the study period.

At the beginning of the study period, Freedom's service offerings were generally superior to the flanker brands' plans.

Beginning in 2020, flanker brands improved their services by increasing data amounts and lowering prices for some plans, bringing their offerings closer in line with Freedom's.

Freedom either continued to charge the same price or decreased its price for plans with a comparable amount of data as flankers in 2021.

Competition in the midrange appears to be increasing between Freedom and the national carriers' flanker brands—the latter improved their offers over the course of the study to more closely match Freedom's superior offers.

Quebec midrange highlights: Videotron and flankers compete closely

The amount of data included with midrange plans generally increased across price levels, and for plans with comparable amounts of data, prices generally decreased over the course of the study period.

In Quebec, Videotron offered many more options in this range in 2021 than the flanker brands. Videotron sometimes offered more data than the flankers for the price, sometimes less, and sometimes the same amount.

Videotron charged the same or more than flanker brands for plans with the same amount of data in 2021.

Videotron and flankers in Quebec compete closely.

Nova Scotia midrange highlights: Eastlink and flankers compete closely

The amount of data included with plans generally increased across price levels, and for plans with comparable amounts of data, prices generally decreased over the course of the study period.

In 2021, Eastlink and flanker brands tended to offer similar amounts of data for the price. Flankers offered more options, however, and more data for \$75.

Eastlink and the flankers' prices closely matched each other for plans that included the same amount of data in 2021. Eastlink offered 12GB and 15GB plans for less than the flankers.

Saskatchewan high-end highlights:

In Saskatchewan, flagship brands' lower-data plans stayed the same or increased in price, while the price of plans that include larger amounts of data decreased.

The flagship brands and Sasktel appeared to be in close competition.

Sometimes the flagships offered better pricing for comparable plans than Sasktel, and Sasktel had superior offers for others (see figures 16 and 17 below).

Unlike regional providers in other provinces, Sasktel offered plans that included up to \$50 per month, although these were more expensive in 2021 than comparable flagship plans.

Manitoba high-end highlights:

Flagship plans with lower amounts of data increased slightly in price, while the price of plans that include larger amounts of data declined slightly.

In 2021, Xplore Mobile offered a better price for plans that include 5GB than flagships did, however, that is the only price for which it had a competitive offer (and flankers offered better plans).

Xplore's largest mobile plan in 2021 offered 10GB for \$70 per month, while flagships offered 15GB for \$65.

Xplore Mobile does not compete for customers seeking plans with larger amounts of data.

Ontario high-end highlights:

Flagships increased the floor price for services they offered by \$10 from the beginning to the end of the study.

Flagship prices were relatively static over the course of 2020-2021, aside from promotional activity.

Throughout the study period, Freedom consistently offered better prices or more data than the flagship brands did for comparable plans (see figure 18 below).

Flagship brands offered the only plans in the market above 35GB per month.

Quebec high-end highlights

In Quebec, the flagship brands competed across a much wider range of price levels than they did in any other province. Service offerings in Quebec were more dynamic than elsewhere, too, generally decreasing in price for fixed levels of data and increasing in data for fixed price levels.

Flagships offered plans across the entry level, midrange, and high-end categories, unlike in other provinces. For high end plans, flagship pricing in Quebec was similar to Manitoba and Saskatchewan.

Videotron appeared to be in increasingly close competition with the flagship brands throughout the study period. In the beginning of the study, comparable flagship brands tended to be better than Videotron ones. Toward the end of the study, however, plans closely matched each other, with slight variations in the amounts of data offered—sometimes flagship offered better prices or more data for the price, other times the opposite was true

Nova Scotia high-end highlights:

Eastlink's plans that included less than 20GB were consistently priced lower than equivalent flagship plans, and 20GB plans were priced the same by both. Only the flagships offered plans that included more than 20GB.

Prepaid highlights:

There is a wide variety of prepaid offers in the market.

Prepaid plans vary little from province to province, although different providers pursue different strategies, and therefore offer differentiated services from each other.

Flagship brands, aside from Rogers, have generally improved their prepaid offers by introducing more options at lower price points and by increasing the data included in plans at higher price points.

Flanker brands, aside from Fido, increased the amount of data that they offered with lower-priced prepaid plans over time, but not for higher data plans.

Flanker prepaid plans did not, however, keep up with improvements from other types of plans or providers.

Not all regional providers offered prepaid plans. Freedom offered the lowest priced services, while Sasktel offered a high-end unlimited prepaid plan.

The national carriers each operate discount brands which offer prepaid services at reduced speeds.

Discount prices remained relatively static and only varied minimally between provinces, aside from in Quebec, where promotions were occasionally offered.

Two discount brands, Lucky Mobile and Chatr, offer “unlimited” data with their prepaid plans, but with severe throttling for customers who their data for use more than a set monthly threshold.

Mobile Market recommendations

- The availability of postpaid voice and data plans (smartphone plans) for less than \$45 per month is poor and needs to be improved.
 - Options for postpaid voice and data plans for less than \$45 per month tend to be scarce. Where they are available, it is because of competition from regional providers. Ontario has the best options in this range, offered by regional provider Freedom Mobile—in fact, Freedom is the only provider surveyed in Ontario which offered postpaid voice and data plans for less than \$45 per month. In Quebec, national carriers’ flanker brands offer the best options in this range, spurred on, we believe, by pressure from regional carrier Videotron. Indeed, Quebec was the only province in which national carriers consistently offered postpaid voice and data plans in this price range. In Manitoba and Saskatchewan, there are limited options in this range, and they tended to be available only sporadically over the course of the study period.
 - Flagship brands tend not to offer postpaid voice and data plans in this price range, except in Quebec.

- The fact that regional carriers such as Freedom in Ontario and national carriers in Quebec offer postpaid voice and data plans for less than \$45 per month suggests that service at this price is viable from an economic standpoint, but that competition is not strong enough in some places to bring about the availability of service offerings in this range. In order to improve affordability, in particular for lower-income households who struggle to afford mobile services, attention should be paid and measures taken to address the lack of options at lower prices, or, in other words, to bring down the entry-level price for mobile service in Canada to a more affordable level.
- Carriers should not be permitted to discriminate against users of prepaid services. Prepaid plans should be offered on equal or better terms than postpaid ones.
 - Prepaid plans tend to be more expensive and/or are of lower quality than comparable postpaid plans. This is despite the fact that, from a provider standpoint, prepaid services involve less risk than postpaid ones, since they typically do not require the company to provide a device, and since customers pay up front before using services.
 - It is common for prepaid plans to be much more expensive than postpaid plans that include the same amount of voice and data.
 - Similarly, prepaid plans are often “throttled” or provide lower speeds than comparable postpaid plans. Differentiating price based on speed is not necessarily a bad thing (on its own)—it can make services more affordable than otherwise might be the case. It is important, however, to recognize that there is a fine line between differentiation and unfair discrimination, and that it can be hard to distinguish between the two. At present, for instance, the extent to which prepaid services are throttled—to dial up speed, in some instances--and the overage fees associated with some capped prepaid plans are clearly discriminatory.
 - Prepaid plans with data limits feature much higher (prohibitive) overage fees than similar postpaid plans. Similarly, when prepaid

plans are throttled, they are throttled much more than comparable postpaid plans. There is no technical reason for reducing the quality of prepaid services in this way.

- This is a problem because prepaid plans may be the only option available to certain consumer groups (e.g., those with low or no credit scores). Prepaid plans may also be the only option available to customers seeking only intermittent access (an active phone available for emergency use). A situation in which vulnerable consumers are forced to choose between no mobile service at all or inferior services—when the capability to improve those services exists but runs counter to the commercial prerogative of service providers—is fundamentally unjust.
- The quality and availability of information about telecommunications services should be improved.
 - Top line information about price and included features (e.g., minutes and data included in a plan) is generally featured prominently.
 - Information about additional fees or limitations, however, can be confusing, contradictory, or hard to find (often buried in fine print). This information should be featured more prominently and clearly in online marketing material.
 - Carriers that pursue market segmentation strategies using different brands do not typically disclose these associations. “Flanker” and “discount” brands are not independent competitors and should be required to feature their affiliations prominently on their webpages.
 - In addition, greater and more prominent and up-to-date information about past and present pricing would benefit consumers shopping for telecommunication services. The ephemerality of promotions makes it difficult enough as it is to assess pricing for the purpose of market studies, let alone for the purpose of a consumer’s comparison shopping. Increasing the availability of tools that inform consumers in telecommunications markets, perhaps through third parties such as the CRTC, an industry ombudsman, or trusted commercial services would help consumers navigate this complicated and potentially expensive terrain.

Overall, the study's findings were consistent with the observation that a fourth regional provider improves competitive outcomes for consumers. Sometimes, this meant that the regional provider itself offered better options than the national carriers and their various brands, and other instances it meant that the national carriers responded by improving their own service offerings—in Quebec, even to the point where national carriers and their various brands under-cut the regional competitor's pricing. It is therefore recommended that policymakers should continue to pursue measures aimed at promoting the continued growth and improvement in regional competition, especially in light of the ongoing problems with adoption and affordability among lower-income households.

Home internet market observations—highlights

Entry level observations

Quebec was the province with the lowest price for an entry level service, where in 2021 home internet plans were available for \$30 per month from a wholesale-based provider and a flanker brand. Wholesale brands tended to offer the lowest prices across the provinces, ranging from \$30 in Quebec to \$41 per month in Ontario—only Bell's flanker Virgin Mobile in Quebec offered entry level service for a comparable price.

Cable companies and ILECs offered entry level services ranging from a low of \$50 in Ontario to a high of \$101 (Cable) and \$110 (ILEC), both in Nova Scotia, where entry level service from wireline providers was considerably more expensive than in any of the other provinces surveyed.

In general, cable and ILEC providers' prices varied from province to province, but they tended to match each other's prices fairly closely. Wholesale providers typically offered the lowest entry level prices, and entry level prices for rural services were more expensive than the services offered by wireline cable and ILEC providers.

For most of the services at the entry level, prices correspond to lower speeds as well, typically in the range of 5-15Mbps. For wholesale-based providers and rural fixed-wireless providers, entry level speeds were uniform across provinces. Entry level speeds offered by cable providers were typically much higher in Quebec, Ontario, and Nova Scotia, which in part explains why prices were also higher in some of those provinces; however, it does not change the fact that these are the lowest advertised prices for entry level service, meaning that despite providing more speed, these providers did not offer more affordable options in their respective territories.

Midrange observations

Midrange plans represent providers' lowest-price offers that meet the CRTC's universal broadband objective of 50Mbps download, 10Mbps upload, with an unlimited option. As with entry-level plans, Quebec had the lowest priced midrange plans of the provinces surveyed in this study. In Quebec, Bell flanker brand Virgin Mobile offered a service in this range for \$45 per month in 2021, and wholesale-based providers offered service for as low as \$50 per month.

Cable and ILEC providers' prices tended to be more expensive than wholesale-based providers for these services across provinces. These companies offered service for between \$69 in Quebec (their lowest) and \$106 per month in Manitoba, which had the overall highest price for services in this category.

ILECs prices tended to be higher than cable companies' prices for services in this category. ILEC prices were highest in Manitoba, Nova Scotia, and Saskatchewan, while cable companies' prices were highest in Nova Scotia, followed by Manitoba and Ontario.

Rural providers' prices were the highest, where services were available (no fixed wireless service offering 50Mbps was observed in Nova Scotia). In Ontario, Quebec, and Saskatchewan, fixed wireless services that met the CRTC threshold were priced at \$110 per month.

High-end observations

High end plans ranged in price, from a low of \$60 in Quebec, to a high of \$175 per month in Manitoba. Across the range of providers, high end prices tended to be the greatest in Manitoba and the lowest in Quebec.

The range of speeds offered at the high end varied more than the prices. Wholesale providers' high-end plans differed substantially across provinces, offering as little as 120Mbps for \$88 in Ontario and as much as 1000Mbps for \$115 per month in Manitoba.

ILECs and cable companies' speeds were more uniform; Bell offered 1500Mbps service for between \$115 in Quebec and \$140 per month in Manitoba; Sasktel's top plan offered 1000Mbps for \$125 per month. Cable company Shaw offered the 1500Mbps service in Manitoba for \$175 per month, more speed and a higher price than any other provider. In the other provinces, cable operators offered approximately 1000Mbps service for \$82-\$150 per month.

High end fixed wireless plans for rural areas were priced similarly to wireline services, but offered much lower speed, at 50Mbps where available at all. Although there is some expectation that wireless internet technology will improve in the near- to mid-term, during the study period rural providers such as Xplornet were simply not capable of providing comparable performance for their high end offers, although prices were similar to high end options available via wireline networks.

Home internet recommendations

- Wholesale providers consistently offer comparable services for lower prices—sometimes substantially less—than ILECs and cable companies. This was the case across all three service categories highlighted in this study, and crucially, it means that entry-level prices are lower, improving affordability for families and households who struggle to afford access to home internet services. It is clear, therefore, that wholesale-based service providers fill an important role in the competitive landscape, both by offering lower-priced and innovative services

themselves, and by putting competitive pressure on what would otherwise be a duopoly or monopoly of “facilities-based” service providers with little restraint on their power to extract monopoly rents from captive customers. Policies aimed toward fostering the success of wholesale-based providers in the marketplace are absolutely necessary, and should continue to be improved upon and expanded, not simply for the sake of those competitors but for the communication environment in Canada as a whole and beyond.

- Rural internet services—in particular those provided using fixed wireless and satellite technology—are pricier than their urban counterparts and tend to be of lower quality (i.e., slower speeds, lower monthly data caps, opaque and punitive throttling practices). In some cases, rural service providers did not offer service that meets the CRTC’s criteria for the regulator’s universal service objective—the level of communications service expected to be available to all residents of Canada so that they can meaningfully participate in society. If the Canadian telecommunications policy objectives are to be achieved, particular attention needs to be paid, and efforts undertaken, aimed at improving access to telecommunications services in rural, remote, and Northern areas, as well as to improving the quality of that service where it exists. This could involve, for instance, setting standards that require services in rural areas to be offered on equal terms to those in urban areas (especially when provided by the same company, or when rural service providers receive public subsidies to defray the cost of building and maintaining networks). Standards could also be established requiring rural service providers to extend service to customer premises upon reasonable request, as was the case with telephone service in the twentieth century.

The full pricing study, *Underserved or Undeserving?*, is found in Appendix E

Focus Groups

ICA Associates Inc. a research and facilitation company in Toronto, was contracted to recruit and facilitate six sessions in the six target regions of Canada where the pricing study was being conducted. There was a strong desire to hear from "hard to reach" consumers for in-depth feedback of a focus group style setting from people with real lived experience.

Requirements for participants

- Six sessions of ten participants each as follows:
- One each in Saskatchewan, Manitoba, Ontario, Nova Scotia, Quebec, one session in French; and one Northern location and one focused on Atlantic Canada.
- Sessions should include a variety of income levels, education levels, both rural and urban participants, and especially vulnerable consumers with low income, persons experiencing a disability, and newcomers.
- One session should be entirely Indigenous consumers in the north.
- Every session should include at consumers without telephone or internet access.
- Because of Covid all sessions would be online focus groups.

Two people from each session were permitted to bring one acquaintance with no service to participate in the online session.

1. The Manitoba session was a totally Indigenous session for 11 participants primarily from The Pas and nearby and included participants who were young, middle age, seniors, employed, unemployed, retired, two spirited, and on participant who had no service at all.
2. The Newfoundland session had 9 participants with a mix of ages, 1 with a disability, most with low income, 3 rural, and one with no service at all.
3. The Quebec session in French was an urban, middle to older age group including several people with low income, person of colour, new arrival, a profoundly deaf person, and one person with no service in the household.
4. The Ontario session of 10 people had a mix of ages, 3 unemployed, 1 retired, and several low incomes.
5. The Saskatchewan session of 10 had a good range of ages, mix of rural and urban, one unemployed and 2 low income, and two rural people with no internet.

6. The Nova Scotia session of 10 participants had 6 rural participants, and one rural low income disabled person, one rural low-income person of colour. 3 people had only cellphone service.

Manitoba Focus Group

All participants in this session identified as Indigenous, and live in Manitoba's north.

Highlights:

- Most participants had access to mobile wireless, television, internet, and landline phones in their homes. Two participants used only mobile wireless and internet, one used only mobile wireless, and one did not have any of these services.⁸
- All but one participant who used a cell phone had a post-paid plan, either proceeding month-to-month or on a two- or three-year contract. Only one participant used a pre-paid cell phone.⁹
- Some participants' usage indicated that they were relying on their cell phones and internet connection in place of TV and landline phones.¹⁰
- Some participants indicated that the costs of some services were prohibitively high.¹¹
- One participant with experience accessing services in remote and northern parts of Manitoba noted that services in those regions are more expensive and of poorer quality than in the south.¹²
- Many participants indicated that they would be willing to switch providers to access lower prices.¹³ With very few exceptions, all participants also indicated that they would be willing to switch providers to move to a company if the company operated as a social enterprise, if it permitted customers to design their own product packages or plans, and if the company offered better payment plans and payment/billing options, including different contract lengths, more affordable devices, better device financing, or others.¹⁴

⁸ Question 2.

⁹ Question 4.

¹⁰ Question 6, Participants NIIC, ALLY, JOSL.

¹¹ Question 6, Participants MAAR, SKIE.

¹² Question 9, Participant LIA.

¹³ Question 11, Participant ASH, NIIC, KELT, SARO, SKIE, LIA

¹⁴ Question 11.

- When asked to identify small service providers and their affiliations with larger companies, 8 out of 11 participants did not know how the providers they named were inter-related.¹⁵
- One participant noted that “if one provider owns all of the smaller providers then they essentially have control over the market and how it is handled.”¹⁶
- One participant noted that the fact that there are few service providers in some regions will have an impact on prices in those regions.¹⁷
- Only one participant was aware of Xplore Mobile as a regional cell phone service provider in Manitoba.¹⁸
- Multiple participants described the availability of multiple service options to meet various consumer groups' specific needs as providing benefits for consumers. One participant noted that “clear information about what is included in packages...” was important.¹⁹
- When asked whether the telecommunications market was consumer-friendly, one participant noted that there was “not enough presence of competition in the marketplace within [their] area...” for the market to be consumer-friendly.²⁰ Multiple participants noted that this is especially the case in Manitoba's Northern regions.²¹
- 8 out of 11 participants found that the level of competition amongst telecommunications companies in their area was either “poor” or “could be better”. A 9th participant did not assess the level of competition but noted that there was only one service provider in their region.²²
- As one participant noted, “It's always good to have healthy competition.”²³
- One participant attributed the “Poor” competition in their region to the lack of price competition between providers, the low level of customer service, the lack of sales or innovative pricing, and generally due to high prices for goods and services in the North.²⁴

¹⁵ Question 14.

¹⁶ Question 15, Participant NIIC.

¹⁷ Question 15, Participant MICH.

¹⁸ Question 17.

¹⁹ Question 18, Participant LYD.

²⁰ Question 19, Participant MAAR.

²¹ Question 19, Participants MICH, LYD, LIA, JOSL.

²² Question 20.

²³ Question 21, Participant ALLY.

²⁴ Question 21, Participant LIA.

Newfoundland Focus Group

Highlights:

All participants were cell phone users and all but one also had internet subscriptions. Three did not have television services and six did not have landline phones.²⁵

When asked for reasons why participants do not use certain services, many cited financial restrictions and pricing for services. One noted “I’m low income so I have to minimize my expenditures.” Another said “right now I only use the internet because of financial restrictions.”²⁶

Participants also noted that they did not require all services to meet their needs. For example, one noted that they “don’t use the land line because of all the cell phones in the house.”²⁷

Participants noted that they would consider using additional services if prices were lower, or if they had more control over the available product packages.²⁸

When asked what factors would cause them to consider changing service providers, the consistent answer across participants was pricing and cost. Improved service quality and contract flexibility were also raised.²⁹ Only two participants would change if the new provider was structured as a social enterprise and only one would change for more better device payment plans, but participants found the ability to design their own product packages attractive (9 out of 9).

Participants were generally uninformed about the connections between service providers and were unsure whether Eastlink was an independent service provider.³⁰

As one participant noted, “Any competition is an illusion. We have three national providers in the country. I think Manitoba still has their own, they all share networks and Telus is on Bell's network and they share each other's coverage. I notice they have tiered level service too now. Bell has a top-level service under Bell Aliant where you get free phones and stuff. Then there’s mid-level is maybe Koodo or Virgin Mobile is the

²⁵ Questions 2&3.

²⁶ Question 6, Participants Perry, Rob.

²⁷ Question 6, Participant Rodney.

²⁸ Question 7, Participants Brian, Christina, Rob, Sheldon.

²⁹ Question 11.

³⁰ Question 14.

mid-price, and the low price like lucky that's owned by Bell and public all are owned by bell. **There is really no competition.**"³¹

Participants said unanimously that discounts and innovative pricing options for existing and new customers are important benefits that can be provided to consumers.³²

Addressing levels of competition in Newfoundland and Labrador, one participant noted that "There is no competition. You are with one provider until either you have issues or you randomly see a better price. It's not a matter they are fighting for your business it's kind of you get fed up with one and go to the other."³³

Nova Scotia Focus Group

Highlights:

All participants were cell phone users and all but two had internet subscriptions. Fewer than half of participants subscribed to television or landline services.³⁴

When explaining their reasoning for not using some services, participants primarily cited need, explaining that streaming services through their internet connection displaced their need for television, and that they did not need a landline due to their cell phones.³⁵

These participants indicated that the strongest factor that might entice them to adopt new services would be price.³⁶

Participants were generally satisfied with the service they were currently receiving from their service providers. On a scale of 1-10 with 10 being excellent service, only one participant ranked one of their services lower than 7.³⁷

When asked what factors could prompt them to switch service providers, participants most commonly cited improved affordability without sacrificing service quality.³⁸

³¹ Question 15, Participant Perry (emphasis added).

³² Question 18.

³³ Question 21, Participant Kellie.

³⁴ Question 2.

³⁵ Question 6, Participants M.R., F.F., B.J., D.F., C.S.

³⁶ Question 7, Participants K.B., B.J.

³⁷ Question 9.

³⁸ Question 11.

Participants displayed limited familiarity with the connections between service providers in their regions. Only one participant correctly identified a flanker brand (Koodo) as being affiliated with a large service provider (Telus).³⁹

When discussing the necessary elements of service that provide benefits to consumers, participants unanimously agreed on good customer service, and all but one participant also noted clear information about products and product packages.⁴⁰

All participants found market competition in their regions to be “Poor”, or that it “Could be better”. Participants noted that these ratings were assigned because “no one is offering anything truly innovative”, because “none of the companies are really different”, because “more options need to be available and affordable”, and because of a lack “of options/services available to meet the needs of specific groups of consumers, such as newcomers, or those with disabilities or limited income.”⁴¹

Participants also all agreed that competition in the Canadian telecommunications marketplace is “Poor” compared to other countries.⁴²

Saskatchewan Focus Group

Highlights:

Only 1 participant had subscriptions to all four of cell phone, internet, television and landline phone services. Most participants had only a selection.⁴³ Multiple participants indicated that their cell phones displaced their need for a landline.⁴⁴ Multiple participants who did not have internet connections also indicated that this was because the internet service in their rural region was either of poor quality or too expensive.⁴⁵

Two participants specifically noted that they might be interested in internet service if it was available reliably in remote areas.⁴⁶

³⁹ Question 14.

⁴⁰ Question 17.

⁴¹ Question 20, Participants M.R., F.F., and C.S.

⁴² Question 23.

⁴³ Question 2.

⁴⁴ Question 6, Participants b, c, e, i.

⁴⁵ Question 6, Participants c, d.

⁴⁶ Question 7, Participants c, d.

When asked what factors might cause them to consider switching service providers, pricing was mentioned by 9 participants. Improvement in rural service quality for internet in particular remained a theme under this question.⁴⁷

When asked about the relationships between service providers in their regions, 6 participants indicated that they did not know whether service providers were independent or connected.⁴⁸

After receiving an explanation, 8 participants agreed that the fact that multiple brands are owned by or affiliated with larger companies has a negative effect on prices and service quality.⁴⁹

All participants agreed that good customer service is an important benefit for consumers. 6 participants identified ease of making price comparisons between companies as a benefit, and 7 participants noted clear information about product packages as a benefit.⁵⁰

When asked to rate the level of competition between telecommunications companies in Saskatchewan, 3 participants described it as “Excellent” and another 3 described it as “very good”. 3 said it “could be better”.⁵¹ When asked to explain, one participant noted “very good [product] offerings” but “poor pricing”.⁵²

Most participants were not able to comment on the competition in Saskatchewan as compared to other provinces, but two believed that competition was stronger and prices were lower in Alberta.⁵³

Peterborough Focus Group

Highlights:

⁴⁷ Question 11.

⁴⁸ Question 13.

⁴⁹ Question 15.

⁵⁰ Question 18.

⁵¹ Question 20.

⁵² Question 20, Participant a.

⁵³ Question 23, participants e, g.

All participants were cell phone users. Only one participant had a landline phone and indicated that it was unused.⁵⁴ One participant indicated that a “landline is irrelevant.”⁵⁵ Multiple participants indicated that they had no need for cable thanks to streaming services through their cell phone or internet services.⁵⁶

Multiple participants indicated that they might be interested in adopting new services if prices were lower or if there was more choice provided over product and package options.⁵⁷

One participant noted service quality challenges related to relationships between service providers: “Freedom has its own tower for Peterborough. It also has its own tower for most urban areas in Ontario as well as the highway corridor. When you're outside of the range of the freedom transmission towers, they piggyback you onto Bell and that's when the problem starts.”⁵⁸

When asked about problems participants had had with their services and service providers, all described having had issues, and only one indicated that it had been satisfactorily resolved.⁵⁹

When asked whether there were any factors that might cause them to consider switching service providers, one participant said “For me, it would be dependability. If somebody came to me and said, you know, we've never dropped a call and we've never lost anybody in a zoom meeting. And we can guarantee that I sign up in a second.”⁶⁰ Another described the importance of pricing transparency: “Sure, so transparency, like, you know, if they can give a good deal, they should figure it out how to give it to everyone, instead of having to force people to chase them around.”⁶¹

When asked if the relationships between service providers impacted competition, one participant said that “They create artificial monopoly. Well, they create monopoly by pretending that there is competition, they know each other's prices. And it goes premium, medium, and super discounted packages. In each category. There are three

⁵⁴ Questions 2, 3.

⁵⁵ Question 6, Participant C.

⁵⁶ Question 6, Participants e, f, h, I, j.

⁵⁷ Question 7, Participants c, f.

⁵⁸ Question 9, Participant j.

⁵⁹ Question 10.

⁶⁰ Question 11, Participant a.

⁶¹ Question 11, Participant f.

competitors. So yes, absolutely. The system is rigged.”⁶² Another described the connections as creating “the illusion of choice.”⁶³

All but one participant rated the competition in Ontario as “poor”, and one said it “could be better”.⁶⁴ One participant said that “They all have the same price. And basically, we pick on who we just like, based on personality or customer service. Yeah, there's no competition.”⁶⁵

One participant noted that this reality is particularly impactful on low-income consumers: “I think that if you're in a certain financial demographic, your only option is to do like a prepaid service. Without having a good or decent credit rating. It's pretty difficult to get a postpaid account like it's impossible.”⁶⁶

Montreal Focus Group

Highlights:

8 out of 10 participants had cell phone services. 9 out of 10 had internet services. Only 2 participants had all of internet, television, cell phone and landline services.⁶⁷

For those participants who did not have television subscriptions, multiple participants said that they relied on internet services instead. Similarly, multiple participants used their cell phones and had no need for landline phones.⁶⁸

When asked if any factors might entice them to adopt new services, two noted that lower price would make a difference.⁶⁹ One participant noted that they wished that they could access discounts for multiple services like they used to have when they lived in a different province.⁷⁰ All other participants indicated that they have the services that they need and would not consider adopting others.⁷¹

When asked what factors might entice participants to switch service providers, all participants would be interested in switching for lower prices for the same services,

⁶² Question 15, Participant f.

⁶³ Question 15, Participant j.

⁶⁴ Question 19.

⁶⁵ Question 19, Participant i.

⁶⁶ Question 20, Participant e.

⁶⁷ Question 2.

⁶⁸ Question 6, Participants B, G, J, L, S.

⁶⁹ Question 7, Participant B.

⁷⁰ Question 7, Participant J.

⁷¹ Question 7.

and for social enterprise or cooperative business models. Only one participant would consider switching for the chance to design their own product packages, and none were interested in better device financing or flexible payment options.⁷²

Participants also noted that having more information about other service providers, and the ability to take their devices with them without penalty, might increase their interest in switching.⁷³

The participants in this focus group were familiar with the relationships between large service providers and their affiliated brands.⁷⁴

These participants also explained that the presence of multiple brands did not contribute to competition if they were owned by the same few companies. One participant likened it to multiple grocery stores being under the same ownership.⁷⁵

Another participant described the market as giving the illusion of competition, where in reality there was none.⁷⁶

Participants answered unanimously that good customer service, diversity of product options, easily accessible information about products and product packages and discounts or innovative pricing structures are of benefit to consumers. Participants also agreed that all service providers offering the same products and packages is not of benefit to consumers.⁷⁷

Participants had mixed views on the state of competition in the telecommunications market in Quebec, but most described it as mediocre and lacking true competition.⁷⁸

The focus group questions are found in Appendix F.

⁷² Question 11.

⁷³ Question 11 additional comments.

⁷⁴ Question 14.

⁷⁵ Question 15, Participant B.

⁷⁶ Question 15, Participant S.

⁷⁷ Question 18.

⁷⁸ Question 20.

Discussion

As this research progressed, a number of themes began to recur in the results of various research tools:

Price and Accessibility

Price and its interrelationship with accessibility have been ongoing co-themes in the results of this research. The pricing study results have revealed numerous cost-related issues, including higher overall prices in Canada compared with other jurisdictions, the relatively low number of subscribers per capita in Canada compared with other OECD countries, and the comparatively healthy profit margins enjoyed by Canadian telecom companies. These issues are highlighted by the interview, survey and focus group results indicating that price is a key driver of consumer decision-making when it comes to telecommunications services, including whether or not to switch providers. The results also reveal that, for some consumers with low and limited income, these products are just inaccessible because of price.

The CRTC, in its recent decision on the wireless review (CRTC 2019-57), has recognized the need to address the intersection of price and access. The decision requires companies to offer a low-cost voice, text, and data plan (including 3 GB of data) for under \$35. Those plans are to be in place by July of 2021. It will be important to evaluate the effectiveness of these plans in making telecommunication services more accessible for consumers with low income.

Quality and Availability of Information

This theme was initially raised by data collectors working on the pricing study, and was echoed in results of the interviews, the survey, and the focus groups. Information regarding additional fees, or package limitations, was found to be confusing, and difficult to locate, sometimes being buried in fine print or “drop down” windows. Also, comparison amongst packages (price, services, limitations, fees, etc.) was not always straightforward.

Also, through results of the survey and the focus groups, it became clear that consumers often assumed that “Koodo”, “Virgin”, and other discount or “flanker” brands were separate companies. The company affiliation of these brands does not appear to be prominently visible on websites.

Focus group participants described choosing a “special offer” only to find that the following week, there was an even better special offer “for new customers only”. This was supported by information from the pricing study. CAC Manitoba was intrigued to learn that in at least one other jurisdiction, the United Kingdom, companies were required to inform their customers annually about their best value-for-money offering of the year.

Pre-paid Users Receive Lower Value

Evidence from our engagement with consumers indicates that individuals might choose a pre-paid plan for a variety of reasons, including issues with credit history or avoidance of a credit check, and the need for short-term or emergency only cellphone use. The pricing study revealed that consumers who choose these plans often receive less value for their money. The plans are often more costly than post-paid plans for the same amount of data or talk, data speeds are throttled down to a greater degree than on post-paid plans, and overage fees are higher.

Unequal Access to Wireless Internet

Results of the pricing study, interviews, and focus groups all revealed that northern, rural, and remote consumers were more likely to have reliability and access issues with their Internet. The pricing study indicates that approximately 1/3 of consumers living in those regions subscribe to fixed wireless or satellite wireless, both of which can be more expensive, slower, and do not always meet current standards set by the CRTC.

Remedies and Solutions

Another theme that kept bubbling to the surface during this research was the suggestion of possible remedies or solutions, that might begin to address some of these issues and provide consumers with relief. These suggestions sprang from the literature review and the reviews of legislative frameworks, particularly the

international review, showing how other jurisdictions, or other similar issues, had begun to be addressed.

Three possible remedies that CAC Manitoba noted could have positive impacts in Canada were:

- Enhanced and expanded Universal Service Objectives (USO) - These are already in use in Canada, but could be expanded to address some of the most urgent issues for consumers
- Expanded use of Open Access Regulations - Multiple sources in the literature review identified open access regulations, which allow new entrants to access dominant carriers' wireless network infrastructure and offer services to compete in the market, as having potential to promote competition in telecommunications markets (Benkler, 2010; Bouckaert, van Dijk and Verboven, 2010).
- Government investment of public funds in infrastructure to lower market concentration and increase competition. This arose from both the literature review of the review of legislative frameworks. competition (Nardotto, Valletti and Verboven, 2015). Investment of public funds in particular is broadly identified as having meaningfully contributed to remedying market failures comparable to those persisting in Canada (Government of Australia, 2010; Government of the United Kingdom, 2020; Arai, Naganuma and Satake, 2012).
 - In some jurisdictions, government investment is use to assist in achieving Universal Service Objectives. Also, there are examples in the literature of jurisdictions where government owns network infrastructure.

Conclusions and Recommendations

What IS the right number? What number of telecommunications “players” supports a robustly competitive marketplace? Evidence from the pricing survey and the literature review indicates that markets with a fourth strong provider are much more likely to nurture more robust competition than those with three. Results from regions like Quebec, and Saskatchewan, that have a strong fourth company (Videotron and Sasktel respectively), lend credence to this assertion. The pricing study also highlights the competitive benefits to price and access provided by Freedom Mobile in Ontario, and the advent of Internet wholesalers in regional markets, like Teksavvy and Vtech.

This project, however, has brought to light so much more than just “the right number”! Based on survey and focus group results, the message from consumers, from a variety of regions and lived experience, is that price is a very important aspect of telecommunications consumption.

There has been learning from the interviews, survey, and focus groups, about the impact of high prices on those consumers with limited income, and lack of network reliability on those in remote geographic areas, or living with disabilities or low income. The current pandemic environment has highlighted the plight of those who can't afford, or can't access the communication opportunities that modern telecommunication services provide. Following more than a year of Canadians living largely on the Internet (shopping, socializing, accessing essential services, and more), those consumers in Canada without access to the Internet are more isolated, and left farther behind, than ever before!

The experience of other jurisdictions, seen through the lens of the review of legislative frameworks, has shown that mandating (by legislation or regulation) certain levels of service, government funding of infrastructure, and the adoption of Open Access regulations to enable new entrants to access existing infrastructure, has been beneficial to telecommunications competition, pricing, and innovation in these countries.

Flowing from the results of the reviews of literature and legislation, the pricing study, and key informant interviews, and supported by engagement with consumers through the survey and focus groups, CAC Manitoba offers the following recommendations to government, regulators, and industry.

1. The CRTC should expand its use of Universal Service Obligations (USO) to provide all users with access to a minimum standard of service at affordable rates. As demonstrated by the pricing study, interviews and focus groups, the telecommunications market fails to meet the needs of many consumers on an ongoing basis. To remedy these failures, USOs should:
 - a. Be expanded to include basic telecommunications services at affordable prices,
 - b. Improve the availability of postpaid voice and data plans at prices lower than \$45/month. This research identified this as a gap in the current market which a USO could resolve.
 - c. Promote flexibility and consumer choice by preventing discrimination against users of pre-paid services. Pre-paid services tend to be more expensive and/or are of lower quality than comparable post-paid plans, include more prohibitive overage fees, and are more aggressively subjected to data throttling. Prepaid services are necessary for some consumers, and providing these services expose service providers to no risk, making the higher prices unjustified.
 - d. Be enshrined in legislation rather than telecommunications policy, with implementation supported by meaningful funding commitments and mandated timelines.

2. The availability of postpaid voice and data plans (smartphone plans) for less than \$45 is poor and needs to be improved (see rec #1).⁷⁹
 - a. Options for postpaid voice and data plans for less than \$45 tend to be scarce. Where they are available, it is because of competition from strong regional providers. Ontario has the best options in this range, offered by Freedom Mobile. In Quebec, national carriers' flanker brands offer the best options in this range, spurred on, it appears, from pressure from

⁷⁹ The CRTC decision following CRTC 2019-57 acknowledges the need for lower cost voice and data plans and requires companies to provide low cost options by July of 2021.

- regional carrier Videotron. In Manitoba and Saskatchewan, there are few options available in this range.
- b. Flagship brands tend not to offer service in this range, except in Quebec.
3. Carriers should not be permitted to discriminate against users of prepaid services. Prepaid plans should be offered on equal terms to postpaid ones.
 - a. Prepaid plans tend to be more expensive and/or are of lower quality than comparable postpaid plans.
 - i. It is common for prepaid plans to be much more expensive than postpaid plans that include the same amount of voice and data.
 - ii. Similarly, prepaid plans are often “throttled” or provide lower speeds than comparable postpaid plans.
 - b. Prepaid plans with data limits feature much greater (prohibitive) overage fees than similar postpaid plans. Similarly, when prepaid plans are throttled, they are throttled much more than comparable postpaid plans. There is no technical reason for doing this.
 - c. This is a problem because prepaid plans may be the only option available to certain consumer groups (e.g., those with low or no credit scores).
 - d. This is a problem because prepaid plans may be the only option available to customers seeking only intermittent access (an active phone available for emergency use).
 4. The quality and availability of information about services should be improved.
 - a. Top line information about price and included features (e.g., minutes and data included in a plan) is generally featured prominently.
 - b. Information about additional fees or limitations, however, can be confusing, contradictory, or hard to find (often buried in fine print). This information should be featured more prominently and clearly in online marketing material.
 - c. Carriers that pursue market segmentation strategies using different brands do not disclose these associations. “Flanker” and “discount” brands are not independent competitors and should be required to feature their affiliations prominently on their webpages.
 - d. Require providers to tell customers what their best offering is. Implement a policy to require providers to tell their customers what their best offer of the year will be (minimum of once per year). The UK is an example of one jurisdiction where this is already in place.

- e. Require a clear, upfront critical information summary so customers can more easily compare to see if they are getting a deal.
5. Mandate providers to educate consumers regarding products, plans, options, opportunities for savings and benefits, in much the same way as auto dealers and payday lenders must provide mandated information.
 6. Consider expansion of Open Access regulations to enable new market entrants to access network infrastructure.
 - a. Multiple sources have identified open access regulations, which allow new entrants to access dominant carriers' wireless network infrastructure and offer services to compete in the market, as having potential to promote competition in telecommunications markets (Benkler, 2010; Bouckaert, van Dijk and Verboven, 2010). Canada has implemented limited open access regimes, but at the time of the literature review the CRTC was considering mandating wholesale wireless network access for Mobile Virtual Network Operators (CRTC, 2019). The Pricing study undertaken as part of this research demonstrates that these measures are effective and warrant further consideration.
 - b. Mandated wholesale network access for MVNOs is a model of open access regulations which has shown promise in other jurisdictions and warrants continued consideration in Canada. Such measures may promote competition generally and create opportunities for smaller providers to prioritize presently under-served regions.
 - c. The requirement to possess a spectrum license was identified as an additional barrier for new service providers seeking to entering the market. Reducing barriers to spectrum should be considered alongside Open Access regulations as a complementary measure for mitigating barriers to entry and promoting increased competition.
 - d. Pricing study demonstrates that this is effective. [BK recommendation]
 - e. Key interviews indicate the need to open the market to completely new providers that have local, clear business cases and that were really focused on supporting specific communities...it could have high impact for particular communities".
 - i. Interview results supported a need to break up spectrum into smaller pieces for smaller providers.

7. Government should invest public funds in infrastructure to lower market concentration and increase competition. Provincial and federal governments should undertake creative consideration of various models of network investment, including network ownership, to address persistent market problems.
 - a. The literature identifies investment in wireless network infrastructure as a possible solution to high concentration and low competition (Nardotto, Valletti and Verboven, 2015). Investment of public funds in particular is broadly identified as having meaningfully contributed to remedying market failures comparable to those persisting in Canada (Government of Australia, 2010; Government of the United Kingdom, 2020; Arai, Naganuma and Satake, 2012).
 - b. Government investment in network infrastructure is one strategy adopted in multiple jurisdictions to promote the achievement of Universal Service Obligations. However, other models of government investment, including government ownership of network infrastructure (see, for example, Saskatchewan's Access Network Demand program and Australia's National Broadband Network), have been implemented in other jurisdictions with apparent success.

8. Rural, remote and Northern providers primarily use fixed wireless or satellite. These are (a) more expensive, (b) slower, (c) in some cases not aligned with USO. Approximately 1/3 of rural Canadians subscribe to these services. If we are to achieve the Canadian telecom policy objective, particular attention needs to be paid, and efforts undertaken, aimed at improving access to telecommunications services in rural, remote, and Northern areas, as well as to improving the quality of that service where it exists. This could involve, for instance, setting standards that require services in rural areas to be offered on equal terms to those in urban areas (especially when provided by the same company, or when rural service providers receive public subsidies to defray the cost of building and maintaining networks). Standards could also be established requiring rural service providers to extend service to customer premises upon reasonable request, as was the case with telephone service in the twentieth century.

Appendices

The following Appendices are attached to this report:

Appendix A – Review of Literature

Appendix B – Key Informant Interview Report

Appendix C – Canadian Review of Legislation and Policy

Appendix D – International Review of Legislation and Policy

Appendix E – *Underserved or Undeserving?* Pricing Study

Appendix F – Focus Group Script