Volume 2 Digital Enablement

Connected Saskatchewan is Supported by:

Saskatchewan Economic Development Alliance (SEDA)

SEDA is the provincial backbone organization for those engaged in community and economic development in Saskatchewan. From local to regional development, we work hand-in-hand with communities to strengthen people, places, and economies. We help communities thrive.

Acknowledgements

With respect and gratitude, we serve Treaty 2, 4, 5, 6, 8, and 10 territories, the ancestral lands of the Cree, Saulteaux, Dene, Dakota, Lakota and Nakoda peoples, and the traditional homeland of the Métis.

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Connected Saskatchewan Foreword

The Saskatchewan Economic Development Alliance (SEDA) is leading the Connected Saskatchewan program to support the digital future of local governments, First Nations, and regional organizations.

Increasingly viewed as the "fourth utility," alongside water, heat and electricity, broadband is the most critical infrastructure for communities and regions today. It is essential to the economic competitiveness of local businesses, and well-being of residents. Like other basic infrastructure, its value is not derived from the digital infrastructure of broadband itself but its broader contribution and impact.

Volume 1: Digital Readiness (a review)

Volume 1: Digital Readiness is about technology and infrastructure. It is a toolkit to assist with connectivity planning, understanding the technology and terms, defining key success factors, and providing a community self-assessment tool. We define connectivity, explain why connectivity matters, and define a connected community.

The purpose of Volume1: Digital Readiness is:

⇒ To motivate the installation of digital infrastructure that will meet the immediate and future needs of the community.

⇒ To assist community leaders and planners in making informed broadband related decisions.

⇒ To help local governments determine their role in the digital future.

⇒ To assist in understanding the technology and what broadband enables.

⇒ To ensure that key steps in connectivity planning are considered.

⇒ To provide communities with a starting point for assessment, prioritization, and action planning.

⇒ To establish key success factors for self-assessment.

The desired outcomes are:

⇒ Increased awareness by communities

⇒ Increased preparedness by communities

⇒ Increased interest in collaborative development

⇒ Shift from scarcity thinking to an abundance mindset

⇒ Greater public awareness of success factors

This work is only a beginning but foundational to establishing sustainable, future-proof infrastructure.

Volume 2: Digital Enablement

Volume2: Digital Enablement is about how technology enables all people, all communities, businesses, and sectors to:

⇒ Utilize and apply the technology to improve their well being

⇒ Increase awareness of *what is possible*

⇒ Improve socio-economic performance

⇒ Overcoming barriers

⇒ Build a 'digital community'

A common reaction is that the internet is about technology. Sure, technology is the foundation, but the meaningful conversation is – how do we use the technology for improvement? How can technology enable us?

Volume 2: Digital Enablement defines the challenge of multiple digital divides; identifies barriers and resistance to adoption and looks at enabling the unique needs of all members of the community while addressing risks.

It should be noted that while these handbooks are published in volumes and to some extent are progressive, the work does not need be sequential. Communities are at different stages with different challenges and opportunities. Consequently, it is important to take a broad understanding of the handbooks and apply the learning to the community. In these documents, the term 'community' does not represent the geography defined by an artificial boundary but the broadest definition of community - a feeling of fellowship with others, because of sharing common attitudes, interests, and goals.

Access to broadband has been identified as a basic human right. Broadband provides a "digital prosperity" where industries thrive using computing, and individuals advance through the educational and occupational tools that would otherwise be unavailable to them based on their location. Ultimately, Canadian life has evolved where our workdays, leisure time, and personal relationships have all been positively impacted by access to broadband.

> *We cannot solve our problems with the same thinking we used when we created them.*
>
> Albert Einstein.
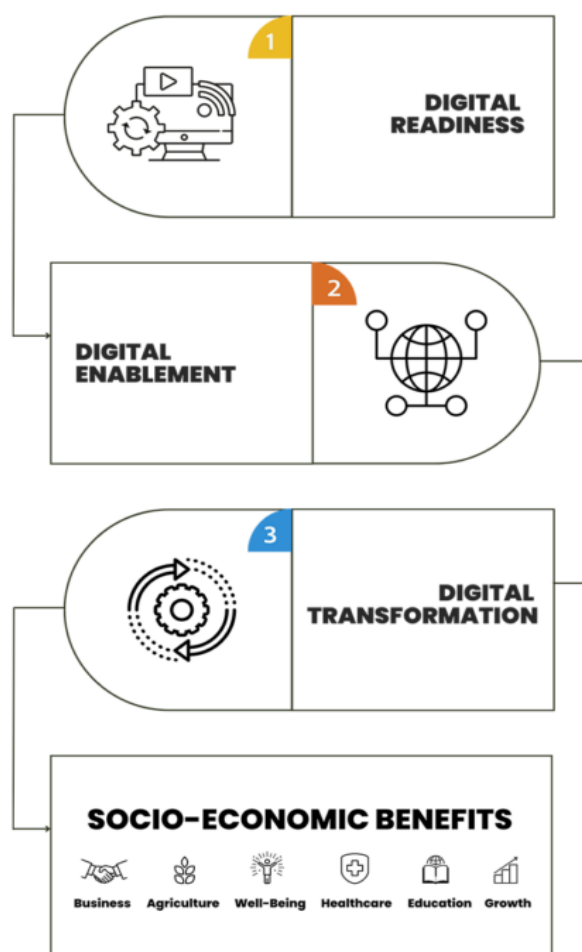
Defining the Challenge—The Digital Divides

In Volume 1, we touched on the impacts of the lack of access to the internet. We will revisit the digital divide as a lack of or inadequate access to technology. The haves versus the have nots and the significant, detrimental impact that inadequate access to the internet and critical technology infrastructure has on our citizens, our communities, and on our economy.

Solving the access divide by providing access to abundant internet and adequate infrastructure alone does not mean success. To realize the socio-economic benefits as a community, as an economy, we must also address the four other digital divides—the cultural, financial, knowledge and geographic divides.

The Cultural Divide

In 2016, the Building Canada Fund provided $2.3 million to 'bring dedicated Internet over fibre' to 80 First Nations and 10 Tribal council Offices. In 2018, CTRC reported that zero First Nations in Saskatchewan met even the minimum standard of internet access as defined by the CRTC.

In her article, "Will technology be the great digital age equalizer?", Denise Williams CEO of the First Nations Technology Council and a Canadian Council of the Academies panel member writes:

> *"This is not a question about technology. The technology exists to connect all Canadians. Instead, this is a moral, ethical, and philosophical question: who in our society gets access to humanity's most powerful tool, what does it get used for and what rights do we – as citizens – have in determining any of this?"*

The United Nations has defined access to the internet as a basic human right, yet this standard is not met by Saskatchewan First Nations communities. According to the CCA report, Waiting to Connect, published in October 2021, only 35% of First Nations in all of Canada meet the standard.

On the urgent need for abundant internet access to indigenous communities, Milton Tootoosis of the Pound Maker First Nation wrote: "We need investment, education, training, jobs, business development, affordable housing, anti-racism education, more respect for diversity, and more." Internet access is a key foundational step to meeting these needs.

The Financial Divide

The financial divide could also be referred to the privileged versus the underprivileged.

According to the Economic Development Research Partners (EDRP),

> *"Access to service is one aspect of the digital divide. Digital inclusion also means ensuring that people can afford service, have devices on which to use the internet, and have the skills to use the internet in a meaningful way."*

According to a 2018 CRTC report, at least 4.4 per cent of youth in Canada from low-income households lack home internet, and up to six per cent of students may be relying on computers in local libraries and community centres to connect. In the lowest income quintile of Canadian households, **more than 1 in 3 homes do not have a computer.**

The cost of the electronic equipment and current internet rate packages make it impossible for many Saskatchewan citizens to have even basic access the internet, even if it is physically available in the community.

Lack of internet access as a barrier to financial inclusion has the potential to continue to snowball—if the status quo persists. Without connectivity there are fewer ways to communicate with financial institutions—they have fewer resources, period. This includes digital tools that might help them build wealth such as financial literacy materials, account management apps or virtual advisors.

The Knowledge Divide

There is a digital divide between the know and the know nots.

According to a UNESCO World Report, the knowledge divide is the gap between those who can find, create, manage, process, and disseminate information or knowledge, and those who are impaired in this process. The report further found the rise in the 21st century of a global information society has resulted in the emergence of knowledge as a valuable resource, increasingly determining who has access to power and profit.

"The rapid dissemination of information on a global scale as a result of new information media and the globally uneven ability to assimilate knowledge and information has resulted in potentially expanding gaps in knowledge between individuals and nations. The digital divide is an extension of the knowledge divide, dividing people who have access to the internet and those who do not. The knowledge divide also represents the inequalities of knowledge among different identities, including but not limited to race, economic status, and gender."

Knowledge has become an essential for all societies.

The Geographic Divide

A strong driver of digital inequality is geography. As a geography, Saskatchewan competes with other geographies in Canada and the world.

The digital divide is synonymous with rural versus urban, yet many areas of our cities and towns, while better than farms, rural communities, and indigenous communities, do not have adequate internet access. The quality and speed varies considerably. The old copper wire infrastructure is still functional but is now obsolete and will continue to provide limited bandwidth until replaced with fibre. In a digital economy, Saskatchewan must have abundant internet to be competitive

The Agricultural Producers Association of Saskatchewan (APAS) produced two reports – Out of Range: Internet and Cell Service in Rural Saskatchewan (June 2020) and the Rural Connectivity Task Force report (March 2021). Online survey demonstrated that 75% of rural residents reported significant dissatisfaction with the current internet service levels in rural Saskatchewan. The commentary from the survey highlighted three main concerns: safety, economic impacts, and access to education.

"*Without good connectivity, rural communities cannot compete with their urban neighbours and risk losing their most important resource: people.*

In Saskatchewan, where industries like agriculture drive the economy, maintaining and building our vibrant rural communities is crucial." APAS

The Impact of the DIvides

The five digital divides (access, cultural, financial, knowledge, and geographic) have socio-economic consequences to every aspect of our lives. From education to health care, to looking for work, to looking for love (36% of Canadians use online dating) the internet becomes a significant differentiator between those that are enabled, and those that are not.

Abundant internet, without barriers, leads to innovation, unconstrained growth and potential for much higher productivity, and improved quality of life. The converse also applies. Without abundant internet, the economy will be less than optimal, the quality of life will decline and the hollowing out of rural Canada, in particular Saskatchewan will continue.

There is also a perception that addressing the digital divide is costly, too expensive. Agreed, the investment required to future proof the internet is significant but the life cycle cost of providing fibre to every premise in the province is much lower than the incremental alternatives. More significantly, the cost to our society of not bridging the digital divides is far greater.

> For more on the impact, see our thought leadership articles:
> Basic Critical Infrastructure for the 21st Century
> Economic Impact of Broadband

The fundamental premise of Connected Saskatchewan is that every citizen in the province must have access to the internet at a level that meets the current socio-economic needs of our society and creates equal opportunity for the future.

Understanding the digital divides, the problems and the socio-economic impacts is the first step, but the true question is, what do we do about it?

First, we need to look at how we overcome the barriers.

DIGITAL ENABLEMENT
Bridging the Digital Divide to Connect People and Society

Overcoming the Barriers

The availability of broadband has now become a minimum condition for socio-economic competitiveness, and this need is particularly true for rural and remote communities.

We have grouped the most common barriers to digital enablement into three categories:

⇒   availability,

⇒   affordability, and

⇒   knowledge.

In this section we will explore each of these barriers, consider what can be done and look at what others have done in other jurisdictions.

Availability

The biggest obstacle by far is availability which can vary from no internet access to limited or restrict-ed speed. This is a core issue affecting all the digital divides.

Addressing the availability barrier

The availability obstacle is not easy to overcome. Under the current market model public policy approach only premises that are profitable are served. Farms and First Nations will likely never get abundant internet, or at least not in a timely manner.

However, at least for the interim, try to adapt to the bandwidth and speed available. To be clear, any access to internet is better than none, so let us begin to prepare for the day when the community has abundant access to broadband and the

internet. The solution requires a shift in public policy or a different approach as adopted in other jurisdictions.

What others have done

There are two components to a broadband network. One is the fibre backbone which is ultra-high speed – the equivalent of an electric transmission line. This is provided by a carrier. The other is referred to as the 'last mile' or the connection between the backbone and the premise. This can be fibre, cable, copper wire or wireless with varying speeds with each alternative. There are three business models or approaches. One is for the internet service provider to invest, install and operate (sometimes with additional funds from the community or citizens to make it profitable). Two, is for the community to invest in the installation and ultimately own and operate the infrastructure. Three, for a hybrid, where the community invests enough to obtain an equity position and to receive a financial return from the investment. Within these three business models there are two approaches – one as an individual community and the other as a region.

Invest as a community

This option, the community invests in the last mile infrastructure to make it profitable for the backbone carrier to provide service to the community – with or without funding from higher levels of   government. Depending on the level of investment, the community can undertake to own the last mile infrastructure, often after a skill, knowledge, or   operational transition. However community leadership, vision of the benefits, technical acumen, and other factors determine the extent of involvement by the municipality or First Nation.

"Our very survival depends on our ability to stay awake, to adjust to new ideas, to remain vigilant and to face the challenge of change." – Martin Luther King Jr.

There are many examples and variations of municipality involved utility business models, but here are a few:

⇒ Olds, Alberta; O-NET (population ~ 9,000)

According to their website, the Olds, Alberta O-NET is Canada's first community-owned and operated fibre-to-the-premises network. There was a desire to connect the community of Olds where residents and businesses had technology services typically found in larger urban centres. By 2014, every resident, business and municipal facility had high quality internet, high definition television, customizable telephone systems, mass storage and virtual private networks. The service delivers up to 1Gbps.

⇒ Brooks, Alberta (population ~14,000)

IBI Group has joined the Community Network Partners to install a fibre optic Next Generation Broadband Network (NGBN) capable of 10 Gigabytes per second (Gbps) to the end user within the City of Brooks.

⇒ Stirling Scotland; Balquhidder Community Broadband (population ~90,000)

A creative example of a community solution is the Balquhidder Community Broadband Project. The project is supported by Stirling Council and private sector partners. The broadband reaches speeds of 1 Gbps. Volunteers dug trenches and laid the fiber optic line in the rural areas so rural residents and businesses will have access to affordable high-speed broadband. They are engaging neighbouring communities that are willing to dig and assist in installing the cable to expand the network further.

⇒ Indigenous community initiatives

Broadband internet in Indigenous communities, Hill Notes December 09, 2021, states: "Indigenous organizations and communities have established their own service providers and telecommunication networks and implemented projects to improve broadband Internet access while addressing community needs." They list several examples:

◊ Pathways to Technology - managed and owned by All Nations Trust Company aiming to bring affordable high-speed internet to First Nations in British Columbia

◊ Clear Sky Connections - Indigenous-owned telecommunications addressing connectivity gaps for First Nations in Manitoba

◊ PanArctic Communications Inc. - Nunavut's first 100% Inuit-owned telecommunications service provider

◊ Mamawapowin Technology Society - Not-for-profit organisation providing free wireless high-speed internet to the Samson Cree Nation in Alberta.

◊ K-Net - First Nations owned and operated information and communication technologies service provider based in Sioux Lookout, Ontario providing internet access to over 100 First Nations in partner relationships developing a community-owned network.

◊ Voyageur Internet - Métis-owned, offers high-speed internet to communities in Manitoba.
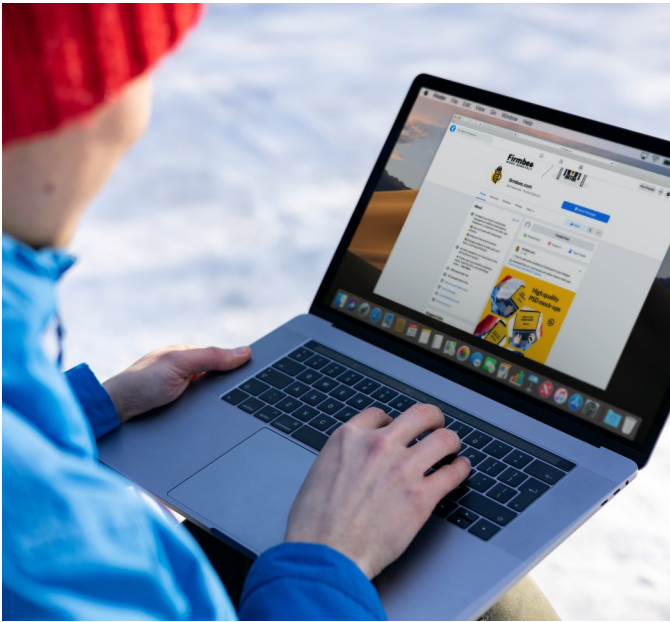
Invest as a region

This option is like the above but much broader, encompassing several communities, farms, and rural premises. This model gains the benefit of scale. It is more economical, more feasible to provide abundant broadband to serve a region than it is for individual communities. Collaboration is key. Again, many different business models and approaches but there are a few examples:

⇒ The Rural Municipality (RM) of St Francois Xavier, MB

In 2020, in a project that took about 7 months, the RM installed a fibre to 'every home, farm and business in the municipality' - population ~1400

⇒ Eastern Ontario Regional Network (EORN)

The Fibre to the Premise (FTTP) project will serve approximately 95% of the 1.76M people with 1 Gbps broadband service at a cost of $1.2 billion to $1.6 billion, all financed through public private partnerships.

EORN has excellent business case analysis for fibre to the premise, and for 1Gbps versus incremental investment from 50/10Mbps.

⇒ Clearwater County, AB

Clearwater County is but one of many regional projects underway in Alberta.

Clearwater County's Broadband Internet Project is an estimated five-year project that aims to provide connectivity to underserved county residents and businesses. The project includes the development of an Open Access Network and will utilise fibre infrastructure with fixed wireless. The model will use fibre-to-the-node (FTTN), which would significantly reduce infrastructure costs for ISPs in low population density areas.

Seek alternatives or hybrid solutions

For remote areas, areas where there is low concentration of premises or geographical barriers that make traditional land-based infrastructure physically difficult or excessively costly:

⇒ Low Earth Orbit (LEO) Satellite

While there are a range of alternatives in satellite technologies, the most publicized is LEO. To restate our position, any access to the internet access is better than none. LEO shows promise for remote areas. (Congestion in non-remote areas may be a challenge for LEO to provide the advertised benefits). The speeds purported by LEO satellite providers are significantly greater than traditional satellite. There are claims of significantly high speeds rivaling fibre when integrated with a land-based fibre network. However, there are many challenges to be resolved at this writing, which include life span of satellites that have a five-year obsolescence (high level of reinvestment needed), the handoff between satellites, satellite tracking at ground level and other challenges

Some LEO options include

⇒ Starlink (SpaceX)

"Users can expect to see download speeds between 100Mbps and 200Mbps download and latency as low as 20ms in most regions." At this writing, Starlink has limited services in limited areas. A positive article from Newfoundland describes one remote user's experience as a 'game changer'.

⇒ Telesat Lightspeed

Telesat is the lesser known, Canadian version of Starlink. "Telesat has developed a highly innovative global network composed of 298 state-of-the-art Low Earth Orbit (LEO) satellites, seamlessly integrated with on-ground data networks."

At this writing, the Telesat Lightspeed project is not fully operational with commercial services commencing in 2023..

⇒ Wireless

There are different types of wireless: mobile (also referred to as cellular) being the most common, point-to-point, and multipoint or matrixed wireless.

Cellular

For many Canadians the only option is to use cellular data to access the internet. Unfortunately, this is an expensive option to use and, if available, is often unreliable or with spotty coverage in rural and remote areas.

5G, the next generation cellular technology is cited as having significantly higher capacity. However, with the high capacity of the bandwidth comes more towers, with tight tower placement necessary to provide seamless coverage. And with more towers comes a requirement for an expanded backbone fibre network. Few envision 5G as a feasible abundant broadband alternative for rural and remote locations.

Point to point

P2P systems rely on a parabolic dish at each end and have been utilized for decades. One dish is connected to a backbone network, ideally fibre and the other up to 24 KM away in line of sight with the first (although distances of 50Km have been reached with towers and wave technologies). This is a good, reliable option for remote communities, farms where the cost of ploughing fibre is cost prohibitive or physically challenged locations (e.g., lakes). Speeds of up to 10Gps are possible.

An overview article from WaveDirect: https://www.wavedirect.net/blog/point-to-point-wireless-internet

Fixed wireless (Mesh) networks

Fixed wireless or Mesh networks are often referred to as multipoint networks. There are many types of fixed wireless and many communities, regions where fixed broadband has been successfully installed. First Broadband has a graphic that illustrates how it works
https://firstbroadbandgroup.com/wp-content/uploads/2019/11/FBG-System-Brochure-2019-10-23.pdf

As outlined in Volume 1, there are several companies that offer a combination of internet services in rural Saskatchewan.

Affordability

Age, location, and education of the user determine the number of people and organizations connected to the internet. For many, the difference between those with and those without internet service subscriptions is attributed to the financial divide and affordability:

https://policyoptions.irpp.org/magazines/april-2021/access-to-high-speed-infrastructure-is-not-the-only-barrier-to-connectivity/

Addressing the affordability barrier

Affordability challenges can be clustered into three groups:

1. The first group is where the infrastructure is nearby, but they lack the financial resources to afford a computer or to subscribe to an internet service, of any kind. Therefore, they are unable to connect to the internet, period.

2. The second group is where the only connection to the internet is through extremely high-cost cellular data services. The connection is limited, often capped, or limited in usage, but more importantly, using this service takes a disproportionate amount of disposable income, just to have even modest access.

3. The third group is where society has deemed it to be too expensive to provide internet service to them – currently rural areas and farms are being left out.

It is important to note that for other infrastructures like transportation (roads, bridges), or electricity, the cost to serve all is averaged out to all those in need rather than the current market model for broadband where only areas where service is commercially profitable are served.

Programs that help affordability

For those who lack the financial resources, there are programs available to help provide affordable internet.

1. Direct government programs

   Through the 'Connecting Families' initiative, the Government of Canada is supporting affordable Internet service for those who need it most. Individuals can apply directly or through service providers as below
   https://ised-isde.canada.ca/site/connecting-families/en

2. The internet service providers.

   TELUS has a service called "Internet for Good" which provides reduced rates and enhanced access through the school system in Alberta and BC.

   SaskTel, Access Communications and Shaw offer the 'Connecting Families' program as provided by the federal government.

Where service is limited, capped or excessively expensive, or where society has determined that it is too expensive to serve them, a community or better, a regional approach is most effective.

Some examples to improve affordability for all:

1. Inclusion
   One region, the Rural Municipality of St Francois Xavier included farms in the 'fibre to the premise' design project – one farm was 12 kilometers from town. To include the farm, it cost each resident a small and almost negligible amount more with a small investment by the municipality. The basic principle was one of inclusivity. The argument, 'we provide other, more expensive infrastructures – roads, bridges, electricity, etc. to the farms, why not also provide abundant broadband?'

   (Note: As stated before, this approach is like rural electrification in SK in the 50's, 60's). Without this inclusive approach, the farm in St Francois Xavier may never have had abundant, affordable internet. As a standalone project, it was unaffordable but with a community, inclusive approach, they achieved service for all.)

2. Community access

Space for a computer with free internet access could be provided in the library, the school, the town office, the fire hall or community centre, in addition to public Wi-Fi. Not only are these computers available for citizens to use, but they can serve as learning tools for community based technical skill development. (See digital literacy)

3. Free public Wi-Fi

An entire chapter could and possibly should be written on providing free public Wi-Fi as it can provide high value for money.

There are three common free public WI-FI options that can be adopted or pursued for your community:

Internet service provider hot spots

SaskTel Select Wi-Fi is available to customers of the SaskTel Wireless, Internet, or maxTV services. It allows for unlimited data usage and may be found in a number of larger centres . https://www.sasktel.com/wps/wcm/connect/content/home/wireless/wi-fi/

Shaw Communications provides hot spots in Lloydminster, Swift Current, Moose Jaw, Regina, Prince Albert and Saskatoon. https://www.shaw.ca/internet/wifi/find-a-wifi-hotspot

A variation is Rogers Communications. Rogers can provide a Wi-Fi Go wireless internet stick which allows users to get mobile Wi-Fi wherever there is a Rogers network available.

Municipal driven Wi-Fi hots pots

Wi-Fi can be within the direct control of municipal government, particularly in areas of greatest need.

One example, the City of Saskatoon has approved a free city-wide WI-FI pilot to address affordability and other public concerns https://www.cbc.ca/news/canada/saskatoon/saskatoon-city-council-moves-forward-with-free-wi-fi-pilot-program-1.5664144

Retail Wi-Fi

Open access from business is common throughout the province where internet is currently available. Businesses provide free Wi-Fi as a customer service, attraction and retention, or even as a revenue generator.

The Alberta Digital Infrastructure Report (2021) outlines the state of broadband in Alberta. Of note is the section on hot spots on pages 32-34.

https://abconnectivity.ca/wp-content/uploads/2021/07/State-of-Alberta-Digital-Infrastructure-Report-2021.pdf

Digital Literacy

In her 2021 State of the Island Economic Report, Susan Mowbray Chief Economist for MNP, emphasized that digital literacy is a key to a community's growth and resilience. Digital literacy is critical in every labour class, including trades as all aspects of business and life increasingly become digitally enabled.
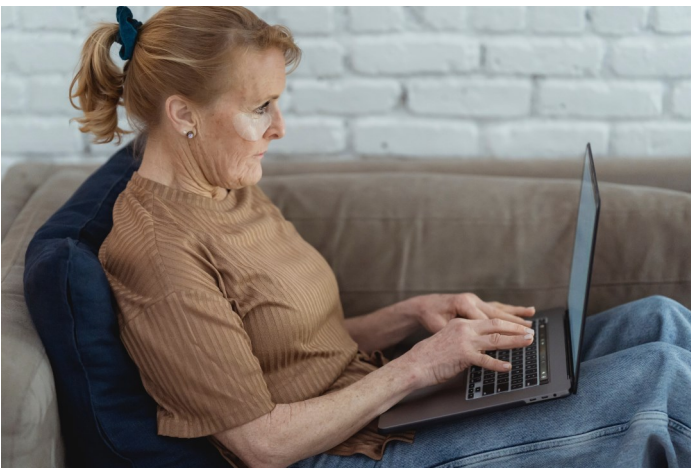
Seniors are too often left behind as we move to the digital economy. The argument 'old people don't use computers' is not a valid argument as we see many sexagenarians including Microsoft's Bill Gates at age 65 and Cathy Wood (renown investment guru) now 65, are changing the computer and internet world through their ongoing work.

Seniors have so much to contribute to society, to the community. This contribution can be further enhanced if they become computer literate. Further, the internet provides so many avenues that enrich a senior's quality of life.

According to the Canadian Internet Use Survey in 2020, the average use of internet among Canadians is 92%, and 65% among seniors 75 and up; however, from 2018 to 2020, there has been an increase from 79%-83% in uptake of household internet by seniors 65 and up. 71% of older internet users go online every day. If digital literacy is a barrier, then those seniors are missing out.

A blog by Nikota Djordjevic, MD (January 2022) provides some interesting infographics and insights into computer and internet use by seniors.https://medalerthelp.org/blog/elderly-the-world-wide-web-infographic/

Addressing the Knowledge Barrier

Engagement with new computer and internet users come at several access points. Service and product providers creating educational opportunities are strong starting points. Apple Care, and Microsoft Customer Support Services are examples of two resources available to new computer owners, with many educational videos provided on YouTube. Community centres and libraries providing classes on how to use smart phones, tablets, or search engines are also invaluable to new users.

Further, programs connecting high school students to older age communities creating cross-educational opportunities further allows for greater community cohesion. Lastly, ensuring schools are providing educational opportunities to all students to enhance their computational knowledge base, aids digital literacy in young and old alike.

What others have done

Project Literacy in the Central Okanagan has a digital literacy program for seniors where one-on-one tutoring is provided. The program uses community volunteers and partners with Baptist Housing. (https://projectliteracy.ca/get-connected-with-new-digital-literacy-program-for-seniors/)

ABC internet Matters is available across Canada and provides a bilingual digital literacy workbook to community organization partners and service providers. The workbook is available to download; however, the 'tangible workbook' is intended to make the information more accessible, promote confidence, and help develop foundational skills among seniors who may not have the capacity or confidence to access a digital file. (https://abclifeliteracy.ca/all-programs/internet-matters/)

ABC Life Literacy Matters uses a Youth Teaching Adults approach where youth volunteer tutors have created lesson plans with clear step-by-step explanations to help adults and older adults increase their capacity to use programs such as Zoom, FaceTime, Google Duo, and Microsoft Teams. There are continually new lesson plans added to the site, and workshop resources are available to community organizations who wish to help community users access the sites. (https://youthteachingadults.ca/)

As interactive video technologies such as Zoom have increasingly become relied upon to hold virtual meetings, medical appointments, and social connections, informing the broader population on using resources like Zoom has become a priority.

Florida State University's Institute for Successful Longevity has created infographics to assist older adults how to create an account, join a meeting and schedule a meeting. Through engagement of other tech savvy seniors they were able to also cater the information and have peer-to-peer education, as well as engaging with seniors centres to provide in person education.

Tori DeAngelis of the American Psychological Association explains how phycologists are helping to study, design and adapt all kinds of technologies to make them intuitively understandable for older adults. That body of knowledge can be found here: https://www.apa.org/monitor/2021/07/tech-older-adults

Overcoming Resistance

So often, training programs are developed by people excited about the technology. They are keen to show the features and the functions and while this is important, it is also important to realize that not all people understand how the internet could apply to *them*; to meet their needs. Training programs, orientation, and support is not a one-time event but a journey. A journey that needs to go to where the audience is – shift their often-preconceived perceptions, address their fears, overcome their reluctance.

Shift perceptions

Some people have no understanding of the value they could realize from the internet. Why do I need it? What would the internet do for me? It is a waste of time – you just play games and watch Netflix – why bother?

The perception of value can be very different for different people. When they see it, it can be quite illuminating.– like researching genealogy, or for others, family photos and emails from the kids/grandkids, or reading about the side effects of medicine. Perceptions can be changed through education, demonstration and experimentation

Address fears

Other resist change – all change not just technology. Or they fear that the internet will impact or diminish their lifestyle. Like the perception of value, the reasons for resistance to change can vary too. The fear of a negative impact, a lack of understanding, the fear of looking foolish from a lack of knowledge are but a few of these reasons.

Can you live without the internet? Absolutely. But fear can be a strong barrier to a better quality of life, to social well being, to economic prosperity.

Overcoming reluctance

It is not just rural and remote locations where people are reluctant to embrace the internet. It is the cities and larger communities as well. The solution may be as simple as tailoring the digital enablement to suit cultural interest, needs and the capability of the potential users.

The scope and the magnitude of the challenge to change, to transform an entire community is daunting. But there is the old saying: *How do you eat an elephant? Answer: one bite at a time.*

An approach is to segment the community or the audience and look at what can be done, what is needed, what steps or initiatives would move the community to great internet adoption and achieve digital enablement.

Overcoming reluctance is three-fold:

1. Create awareness: awareness not just of the technology but of the costs and the benefits.

   Too many community leaders look at the cost of doing broadband for the community or region but not of the cost of NOT doing broadband.

2. Manage expectations.

   If people become disillusioned for any number of reasons (e.g., low speed, poor service, lack of access, etc.) at the onset and the expectations are not set, they are difficult to recapture when conditions improve.

3. Make it easy.

   The focus should be on useability and creating a positive experience, at least within the control of the community.

Address migration

Lastly, there exists a group of citizens that cannot wait to get better, cheaper, faster broadband access for their business or to do whatever it is they want to do. There have no resistance to use the internet, they know what they want and need, they have no fear, and they have the perception that life would be better for them with more abundant broadband. They do not accept the scarcity mentality that they can get by with less when the world is moving to abundance.

This barrier is a very real risk to underserved communities. A risk that this group will move or migrate to a community where they get better internet access. Jobs leave, people leave, schools close, and the community declines. This group of citizens will not move into the community for the same reasons. The pandemic has accelerated problems that have been building for two decades including the inability to work from home, conduct home learning, access modern health care solutions, create business opportunities, and more.

Migration is a difficult challenge to address. However, there are three things a community can do. One, address the digital divides as outlined above with a great sense of urgency. At the current rate of change of technological adoption, significant change will occur in five years. In the digital economy, five years is a long time. The time to act is now. The second, parallel activity is to enable a digital community. The third is digital transformation.

The Five As of Technology Access

In a scholarlily paper for ICT Works, Wayan Vota (February 2019) wrote about the "5As of Technology Access". The 5A's provide a conceptual structure for analyzing the barriers to technology adoption.

In this document, we have addressed the first four of Volta's 5A's:

Availability - availability of connectivity, availability of content in local languages, and availability of adaptive and assistive technologies for people with disabilities.

Affordability - Affordability of technology, internet/broadband, and the ability to use internet without the need for frugality.

Awareness - When technology, devices, and internet are available, the awareness of how they function, how to ensure it is relevant to the user's life, and further the awareness of government initiatives.

Ability - If availability, affordability and awareness are not barriers, ability comes into play when considering the user's effective use of technology, digital literacy, and knowledge. Ability may also be impacted by those in charge limiting training, or creating inclusive products for users of any gender, race or ethnicity, ability, education, or socio-economic status.

But we did not touch on the fifth - Agency.

Agency - If the previous four As are not an issue for the user, **agency can be a barrier if the user does not feel they have the ability to act in a way to bring about change, or act in a way they believe is good for themselves or their community. Their efforts to improve a situation is futile.**

Agency is perhaps the most difficult barrier that we must overcome. If people do not believe it can be any better than it is now they will give up trying.

As with migration it must be addressed by the community as a whole. As community leaders, we must create a forum to create an understanding, demonstrate what is possible, demonstrate that it can be done., to show that it can be inclusive and to look for the common good.

Enabling A Digital Community

There is no power for change greater than a community discovering what it cares about. .

Margaret J. Wheatley

Communities are more than a geography or a series of lines on a map. Communities are diverse and include– citizens young and old; municipal and local governments; farms and agriculture ventures; small and medium businesses in a variety of sectors; schools and academia, health care clinics and for some a hospital; a series of cultural and recreational venues and more. Indigenous communities have similar but unique needs, opportunities, and challenges.

To enable a digital community, we look at a few components of the community namely youth, seniors, governance, business and immigrants. Each have their own needs, interests and roles in creating a digitally enabled community.

Youth

We are frequently asked about ROI or the return on investment or the socio-economic benefits for broadband and the internet. What we should include in these conversations is a very important question – **what more can we do to retain, attract, motivate, and support our youth, (people aged 15 -29?)**

An RBC sponsored study by Youthful Cities, found eleven topics that define a community's attractiveness as a place for youth. (We've broadly applied the city concepts to any community regardless of size.) The topics: good youth jobs, public health, cost of living, income generation, education and training, equity and inclusion, climate change/environment, public transportation, **digital access**, local economy, and entrepreneurial spirit. Some of these topics are self-explanatory but a couple are complimentary - good youth jobs correlates to income generation. It is not any job, it is a livable wage, and gender-neutral career that supports a family. In addition, digital enablement underlies many of these topics. To quote the RBC report:

"In today's online world, access to technology and the internet is essential to being a part of the workforce. Having Wi-Fi, affordable technology and accessories, and access to information and data are all required to work in this modern day. Municipalities need to be providing and promoting this access to young people entering the labour force."

The mental health challenges facing youth have been exacerbated by COVID. Robb Nash, of the Robb Nash Project, when asked the question, 'aside from what you are doing, what can we as a community do?' was quick to provide a one-word answer – **purpose**; give them purpose.

Youth want to contribute, they want to engage, they want to be part of the solution, they want to learn, they want to have purpose in what they do and in who they are. This aligns well with the other topics of education and training, equity and inclusion, climate change and entrepreneurial spirit.

While there is no silver bullet solution, we must give youth the tools to achieve purpose and to collaborate, to problem solve, and to brainstorm. One of the most powerful tools is affordable, abundant internet. The dark side of the internet must be and can be managed if youth are directed toward positive, productive purpose.

High paying, youth-oriented jobs can also provide purpose. According to the World Economic Forum, youth across the country have been severely and disproportionately affected by the COVID crisis. But it is also a once-in-a-generation opportunity to prepare youth to thrive in the future of work. Investing in and re-skilling youth now can help build more just, inclusive, and resilient economies. A statistic from our blog, 'The Economic Impact of Broadband' taken from the Institute for the Future, **85 per cent of new jobs in 2030 do not exist today.** Further, according to the FRED (US Federal Reserved Economic Data) there were **8 million jobs unfilled in the USA in June 2021**. And according to the Canadian Federation of Business (CFIB) there were **235,000 jobs unfilled in Canada in 1Q21**. Many can be filled by working from home – so why can't home be in Ile La Crosse, Nokomis, or Coronach? These jobs will require new skills, a much deeper understanding of the business application of technology, an attitude toward entrepreneurship, critical thinking and more.

So, **what more can we do to retain, attract, motivate, and support our youth, people aged 15-29**?

Three things come to mind—in order. First, we can provide access to affordable, abundant internet – **digital access**. Second, we can be mindful of the other **ten topics that make a community attractive to youth** - good youth jobs, public health, cost of living, income generation, education and training, equity and inclusion, climate change, public transportation, local economy, and entrepreneurial spirit.   Third, and most importantly, we must create **purpose** for our youth**.**

All three are very interrelated and with varying circumstances, the approach and process may be different from community to community. We must give thoughtful creative deliberation to how we form these three topics into a **comprehensive youth strategy**. A strategy that can be actioned with urgency – our future depends on it, literally.

Older Adults

We touched on the topic of seniors and elders in the section on Digital Literacy and Technical Support. But it is worth exploring further as this is an important segment of our population and one that benefits greatly by being digitally enabled. A strategy to enable seniors and elders is critical.

Be cognizant that older adults have different interests, different needs than younger segments of the population. Programs need to be tailored accordingly.

The Centre for Research and Education on Aging and Technology Enhancement (CREATE) is a five university consortium that has been researching and developing tools and programs to make technology more accessible to the older adult population. They developed PRISM (Personal Reminder Information and Social Management), a software system designed for easy use to support the older adult's social connectivity, access to resources, memory, and new learning. Testing groups who had used PRISM were reporting less loneliness and greater perceived social support after six months of use.

Seniors are almost twice as likely to have a disability than those of working age according to Stats Can.

Indigenous Peoples

As stated earlier, abundant internet, without the barriers, leads to innovation, unconstrained growth and the potential for much higher productivity, and quality of life.

However, the barriers, the challenges, and the needs for indigenous communities can be different. That digital access is often extremely limited or non-existent, the financial divide is great, the knowledge divide is significant and geographically indigenous communities are not competitive in the digital economy may understate the barriers and challenges faced by indigenous communities. And there is a need to create culturally sensitive and tailored opportunities.

One success story of digital enablement is the award winning I-ACE program in British Columbia. (Indigenous Advancement of Cultural Entrepreneurship). It is not the technology itself, but the technology enabled bridging of indigenous culture, combined business concepts and experiential learning that has been transformational for 35 communities. I-ACE was initiated by the Tribal Resources Investment Corporation (TRICORP), the University of Victoria, indigenous leaders, elders, and industry. Tthe program highlights collaboration, social innovation, experiential learning, cultural identity while adhering to indigenous values that guide communities' economic approach, the sustainable use of resources and the revitalization of culture. In addition to the very tangible results, the program has achieved many regional, national, and international awards.

Increasingly, the private sector is forming partnerships with indigenous organizations to create digital enablement. According to Forbes Magazine, at the Indigenous Technology Summit held in Montreal June 2019, BlackBerry (NYSE: BB) announced a partnership with four other companies to help indigenous communities deploy foundational and new technologies that will improve health, education, safety, and economic development for First Nations across Canada.

RBC has produced an excellent thought leadership piece 'Building Bandwidth: Preparing Indigenous Youth for the Digital Future ". The report looks at the pathways forward for aboriginal communities. Leadership and partnership play a pivotal role.
https://thoughtleadership.rbc.com/building-bandwidth-preparing-indigenous-youth-for-a-digital-future/

My advice to other disabled people would be, concentrate on things your disability doesn't prevent you doing well, and don't regret the things it interferes with.

Don't be disabled in spirit, as well as physically.

Stephen Hawking

Individuals with Disabilities

One in five Canadians (22%) aged 15 and older have one or more disabilities. Disabilities may be more commonly related to pain, flexibility, mobility, and/or mental health to name a few.

CNBC reported that people who are programming or designing web services do not always know what needs to be done to better support those with disabilities. Accessibility basics, according to usability.gov, state that information should be provided through multiple sensory channels such as sound and sight, and should provide ways to navigate and interact through more than point-and-click interfaces allowing for keyboard-based control, or voice-based navigation. Using more than colour as a way to differentiate items, transcripts or in-sync captioning for voiced content, skip navigation features, and Alt text in markup/code and more extensive descriptions of items should also be included. One blind internet user stated she was concerned when clothing stores began to move to virtual stores as her screen reader read 'graphic, graphic, graphic' when describing clothing on the website rather than providing capacity for use of screen readers to describe the article of clothing itself.

The pandemic brought many events online, which supported many people who may be more homebound due to mental or physical disabilities; however, with limited accessibility efforts of providing captioning or transcripts, people either deaf or hard-of-hearing are unable to participate. Having internet connections that are insufficient in meeting the needs of those with disabilities, the challenges of accessing content is compounded, further excluding the individual. https://policyresponse.ca/making-the-internet-accessible-for-people-with-disabilities-is-critical-to-post-pandemic-recovery/

Dr. Phillipa Clarke has conducted research on broadband and the health of adults aging with a disability. People living with disability experience less employment, lower levels of household income, and more health conditions than those living without disabilities. Saad Nagi (1965) stated, "Disability is a function of the gap between a person's capabilities and the demands created by the physical and social environment".

Dr. Clarke argues that broadband internet access is particularly important for those ageing with disability, she found that people living in neighbourhoods with higher broadband connections showed a 12% reduction in risk for developing cardiovascular disease and a 31% reduction in developing diabetes among people ageing with physical disabilities. Why does it matter? They surmise it could be is access to telehealth, access to ordering groceries online, access to information, access to employment and remote work, caregiver support, and social connections. https://youtu.be/_uzv7HCTKmU

Immigrants

A broad and detailed study by McGill University links digital enablement with immigration decisions and actively supports the immigration process.

> "The digital revolution brought about by the advent of the Internet has transformed our societies, economies, and way of life. Migration is no exception in this revolution," says co-author, Luca Maria Pesando, an Assistant Professor in the Department of Sociology and Centre on Population Dynamics at McGill University.

The study underscores the importance of the internet as an informational channel for immigrants who leave their country in search of better opportunities.

Access to abundant internet enables immigrants or relatives abroad to participate in life events (weddings, funerals, graduations). In addition, immigrants use the internet as learning tools, to master English, understand local customs, develop new skills and in general adapt to their new home.

Communities need to be aware that immigrants may be impacted by several of the digital divides. The barriers encountered may be varied and the needs such as devices to access the internet, financial resources to connect, technical support, cultural adaptation, and more need to be assessed. A strategy to overcome these barriers may be simple or complex, depending upon the circumstance. But regardless, a digital enablement strategy is becoming essential to attract and retain immigrants.

In 2019, Canada welcomed more than 341,000 permanent residents. Despite the challenges resulting from the COVID-19 pandemic, Canada also admitted over 184,500 new permanent residents over the course of 2020. Immigration accounts for almost 100% of Canada's labour force growth.

Governance

While recognizing that there are distinct and unique differences, governance embodies both Municipal and First Nation Councils. The aspect of eGovernance is in common.

eGovernance has become a growing trend in creating improved integration of local government and their community using technology. e-Services enable the engagement of citizens and their municipal government. While the benefits outweigh the challenges, the move to e-services has created a digital-divide that governance boides must be aware of and must overcome to support those who do not have access or capacity to use information and communication technologies, and those with disabilities, to name a few. The limitation of access for those groups must be at the forefront of the minds of local government when creating opportunities for information and communication technologies in their local region, such as the adoption of broadband, to create more opportunities for democratic engagement.

"In 2018, small businesses employed 31.0% of Saskatchewan's workers and paid out over $6.3 billion in wages and salaries, which was 25.3% of the province's total payroll. In addition, 24% of Saskatchewan's gross domestic product (GDP) was attributed to small business."

Government of Saskatchewan

Business—Small, Medium Enterprises

Enabling the SMEs in all sectors to be successful and growing in the digital age is so critical to the prosperity of communities and the entire province

In January 2021, the Saskatchewan Chamber of Commerce surveyed Saskatchewan businesses to gauge the level of digital integration within their business. While 54% expect online sales to increase between 10% – 50%, a full 60% of the businesses that are not going digital, do not have the skills or capacity to do so. Further, 49% do not have staff capacity to support digital integration.

The key findings of a Brookfield Institute, entitled Picking up Speed: Digital Maturity in Canadian SMEs and why Increasing it matters include:

- Digitally mature businesses as of 2018 were 62% more likely than their peers to have enjoyed high sales growth and 52% more likely to have more profit.

- Digitally mature companies have had higher levels of resiliency during the pandemic — helping them maintain higher levels of revenues and employment.

- SMEs still significantly lag larger firms in foundational technologies such as social media use and e-commerce, and not enough small businesses are taking advantage of the internet to make sales. SMEs also fall behind larger companies in adoption of all types of cybersecurity, despite cyber-attacks often being fatal to small businesses.

- SMEs face many barriers to digitization like knowledge and skills shortages that hamper their digital maturity.

SMEs owned or run by equity seeking groups, such as entrepreneurs who are women, Black, Indigenous peoples, and recent immigrants all face systemic discrimination, including racism and sexism, that exacerbate the barriers to digital maturity.

To assist in addressing these challenges, refer to the **eBusiness Tool Kit** and the **Canada Digital Adoption Program—Grow Your Business Online.**

eBusiness Tool Kit

With acknowledgement and appreciation to the Eastern Ontario Regional Network, we have adapted their **eBusiness Tool Kit**. The tool kit is a self-help guide targeted to businesses in the early stages of their digital enablement. The Canada Digital Adoption Program provides a *Grow your Business Online micro-grant* to help with the costs related to implementing ecommerce and supported by a network of e-commerce advisors.

Cyber Safety

The internet gives you access to the world. On the flip side, it gives the world access to you. And that creates risks. It is not a deterrent to going online, but something to be aware of and something to manage. The following section is not intended to be comprehensive on cyber safety, nor meant to discourage the use of the internet. But it is intended to create awareness and act as a basis to create a digital enablement strategy that is cyber safe.

The Royal Canadian Mounted Police (RCMP) have developed the Canadian Anti-Fraud Centre (CAFC) and individuals are able and encouraged to report all incidents of cyber-crime. They are also conducting research to better improve cyber safety for all Canadians. The Government of Canada also has a Canadian Centre for Cyber Security, and getcybersafe.ca website to support individuals and business maintain their cyber security and minimize their risks. The organisation KnowBe4 also provide cybersecurity tools to assist individuals and businesses to protect their security.

Cyber Security

There are several ways to promote cyber security for the individual and business. Using multi factor authentication, and unique passwords are two methods to protect ones identity. Avoiding phishing scams where cyber criminals may send direct messages, texts, or emails using urgent messaging, bizarre language, or offering prizes or money in order to get one's personal details. Businesses may protect their security through having cyber security task forces, training new hires on cyber security/safety, and only allowing a select few employees have access to confidential information.

Fraudsters

Also known as Cyber Threat Actors, which can be "states, groups, or individuals, who with malicious intent, aim to take advantage of vulnerabilities, low cyber security awareness, or technological developments to gain unauthorised access to information systems to access or otherwise affect victims' data, devices, systems and networks. The globalized nature of the Internet allows these threat actors to be physically located anywhere in the world and still affect the security of information systems in Canada."

Addiction

Relatively little is known about Internet addiction and its affects on psychological functioning, mental health, and general well-being. The Pew Research Centre showed that 77% of Americans connected to the internet on a daily basis. There are some people who spend so much time on the internet that it has negatively impacted their daily lives including work, school, and relationships. Cybersex additions, net compulsions (gambling, stock trading, online auctions or online shopping), cyber relationship addiction, compulsive information seeking, and computer or gaming addition are five common internet or cyber addictions that have become most notable. A 20 question internet addiction questionnaire had been developed by Dr. Kimberly Young to help identify whether the individual has an internet addiction; however, there is no one specific treatment for internet addiction, but friends and families are to remain alert and intervene when family members are showing signs of internet or cyber addictions, then seek out tools that may cater to the individual.

Cyberbullying

Cyberbullying can take place over digital devices like cell phones, computers, and tablets. It can occur through SMS, text, apps, social media, forums, or gaming. It is the act of sending, posting or sharing negative, harmful, false, or mean content about someone else, causing embarrassment or humiliation.

Some cyberbullying can be unlawful or criminal behaviour. (https://www.stopbullying.gov/cyberbullying/what-is-it) Cyberbullying that is severe, long-lasting or frequent can cause anxiety, depression, or in rare and severe cases, suicide. It is important for individuals and families to be aware of the signs of cyberbullying and intervene as early as possible. Resources are available for parents here: https://kidshealth.org/en/parents/cyberbullying.html

Identity Theft

Identity theft typically happens when individuals share their information with others that they typically would not share with strangers. It typically begins with a phishing email, and then the thief is able to use the information divulged to do any number of things that could include accumulating credit card charges on the victim's card, getting a loan or line of credit in the victim's name, transferring funds from an account, collecting government benefits, or hide criminal activities behind the victim's name. By limiting how much information is shared online (social networks, emails, websites, etc.), changing passwords frequently, and not engaging with or accepting any messages, or calls from unknown individuals.

Catfishing

Catfishing is the process of luring someone into a relationship by means of a fictional online persona. The 'catfish' is a predator who creates a false identity for the purpose of being abusing and deceptive. It is important that everyone, but in particular youth, know the red flags and how to watch out for catfish.

Ransomware

Ransomware is a malware that locks users out of their devices or blocks access to files until a ransom is paid. The attack causes downtime, data loss, and potential intellectual property theft. It is predicted that ransomware attacks will exceed $265 billion by 2031.(https://www.knowbe4.com/ransomware) There are resources online to help businesses protect themselves against ransomware attacks.

Developing a Digital Enablement Strategy

The secret of getting ahead is getting started. The secret of getting started is breaking your complex overwhelming tasks into small manageable tasks and starting on the first one."

Mark Twa*in*

It is vital we act with urgency to create a digital enabling strategy. A strategy that overcomes digital barriers, engages local government, businesses, youth, seniors, and everyone in between, and enables community plans to move forward.

How can we digitally enable **good governance**?

⇒ Seek external federal and provincial resources to fund infrastructure upgrades and develop regional utilities.

⇒ Look to other local governments (examples listed previously) for precedent and how broadband may be funded, developed, and maintained in their community.

⇒ Identify community business and telecom partners as well as elected leaders at local, provincial and federal levels, and engage with the community to identify priorities and needs associated with broadband.

⇒ Identify challenges, barriers, needs and risks unique to the region including access to computers, demographics of the community, or distances between rural households.

⇒ Create opportunities for public organizations to integrate, such as having high school students teach seniors how to use the internet for school credit, or recreation centres and libraries teaching members of the community how to use their device.

How can we digitally enable **businesses**?

⇒ Identify opportunities to improve digitization and seek out eBusiness tools to enhance how the business operates.

⇒ Engage with local government and Chambers of Commerce to encourage the growth and development of broadband in their region.

⇒ Create an online presence through websites, social media, and virtual networking sites to create opportunities for future growth and expansion of their business.

⇒ Engage with the eBusiness Tool Kit and the Canada Digital Adoption Program as appropriate

How we can **attract, retain, motivate and support youth** through digital enablement?

⇨ Creating or utilizing existing educational tools online and promote the opportunities through schools, libraries, and community centres.

⇨ Identifying needs of youth to support access to broadband, including finding opportunities to provide computers, or devices through organizations such as reBOOT Canada or Connecting Families

⇨ Integrate cyber safety into school and educational programs with a focus on youth-related safety-issues such as cyberbullying, identity theft, and catfishing.

⇨ Digital access is key for youth however, but also include in the strategy, the other ten topics that make a community attractive to youth:

◊ Good youth jobs

◊ Public health

◊ Cost of living

◊ Income generation

◊ Education and training

◊ Equity and inclusion

◊ Climate change

◊ Public transportation

Is there a strategy to engage and **enable seniors**?

⇨ Create opportunities through local governments, libraries, and community centres to provide education and support for technology and internet engagement among seniors.

⇨ Create opportunities for integration of local organizations, schools, and seniors to engage with technology and the internet.

⇨ Educate the wider public of resources available to them and their families, and to support underserved senior members of the community.

Build a digital enablement strategy to include **immigrants and people with disabilities**

⇨ A digital enablement strategy for immigrants to address barriers encountered such as devices to access the internet, money to connect, technical support, cultural adaptation, and more may be varied and individual needs are required to be assessed.

⇨ Develop a deep understanding of the digital needs of the disabled and an appreciation for how abundant internet may help overcome challenges.

Importantly, throughout and on all aspects of the digital enablement strategy, plan for **cyber safety.**

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People With Disabilities

Statistics Canada: https://www150.statcan.gc.ca/n1/pub/89-654-x/89-654-x2018002-eng.htm

Internet accessibility vital for post-pandemic recovery: https://policyresponse.ca/making-the-internet-accessible-for-people-with-disabilities-is-critical-to-post-pandemic-recovery/

Presentation by Dr. Phillipa Clarke on broadband access for people with disabilities: https://youtu.be/_uzv7HCTKmU

Cyber Safety

Getting cyber safe: https://www.getcybersafe.gc.ca/en/blogs/staying-touch-while-remaining-cyber-secure

Fraudsters: https://cyber.gc.ca/en/guidance/cyber-threat-and-cyber-threat-actors

Internet Addiction: https://www.addictioncenter.com/drugs/internet-addiction/

Cyber Bullying: https://www.stopbullying.gov/cyberbullying/what-is-it

Resources for Parents on Cyber Bullying: https://kidshealth.org/en/parents/cyberbullying.html

Identity Theft: https://terranovasecurity.com/what-is-identity-theft/

Ransomware: https://www.knowbe4.com/ransomware

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