Manitoba

Enhancing its Strategic Advantage as a Place to Build a Business with Digitization

Cisco Canada Digital Readiness Index 2023

Manitoba

Provincial Insights Brief

DRI Score: -0.34 | Ranking: 8th

In today's world, digitally mature countries have the infrastructure, governance, labour force, digital services and technologies to support social development, economic growth and global competitiveness.

Major technology trends including mobility, 5G networks, cybersecurity, Internet of Things (IoT) and cloud solutions have compelled countries to reimagine government, enhance access to public services, promote innovation and drive technology adoption.

At Cisco, we are fuelled by our purpose to 'Power an Inclusive Future for All' by leveraging our technology, our expertise and our extended ecosystem to bridge gaps of inequity and drive change. Cisco's desire to solve global problems and create a more inclusive world through technology led to our first Global Digital Readiness Index (DRI) in 2017. In 2023, we completed the Cisco Canada Digital Readiness Index, a comprehensive analysis of Canada to help provinces and territories better understand the building blocks of digital readiness and explore opportunities to improve their relative performance.

This holistic model measures digital readiness across many components beyond technology including basic needs, human capital and the business and start-up environment. While access to technology and the infrastructure to support digital technologies is critical, if, for instance, individuals' basic needs are not met, a country cannot maximize the benefits of digital opportunity. The Cisco Canada Digital Readiness Index provides an understanding of a province or territory's level of digital readiness and what interventions and investments could help them advance.

The Cisco Canada DRI is based on data published from 2019 to fall of 2022. For more information on Canada's national digital readiness score, the full report is available here.*

> This guide was developed to enable provinces and territories to understand their level of digital readiness and explore areas of opportunity to reach their full potential.

https://www.cisco.com/c/m/en_ca/digitalreadiness-2022.html

Measuring Digital Readiness: DRI Components

The Cisco Canada Digital Readiness Index (DRI) employs a comprehensive framework and model based on seven different components of digital readiness including **Basic Needs; Business and Government Investment; Ease of Doing Business; Human Capital; Start-Up Environment; Technology Adoption; and Technology Infrastructure.** Unique, market-specific metrics serve as proxies for performance in each of the components.

Basic Needs

Basic needs for a population to survive and thrive

Metrics

- Life expectancy
- Low Income
- Food insecurity
- Housing affordability

Business & Government Investment

Private and public investment in innovation and technology

Metrics

- Business expenditure on R&D
- Government expenditure on R&D
- Infrastructure investment

Ease of Doing Business

Basic infrastructure/ policies needed to support business continuity

Metrics

- Business density
- Business growth
- Business confidence
- Internal trade barriers

Human Capital

Skilled labour force to support digital innovation (build and maintain)

Metrics

- Labor force participation
- Youth population
- Post-secondary education
- Immigration

Start-Up Environment

Environment which fosters innovation within a community

Metrics

- Venture capital investment
- Business entries
- Access to financing

Technology Adoption

Demand for digital products/services continuity

Metrics

- Zero emission vehicle (ZEV) registrations
- Broadband subscriptions
- Online sales

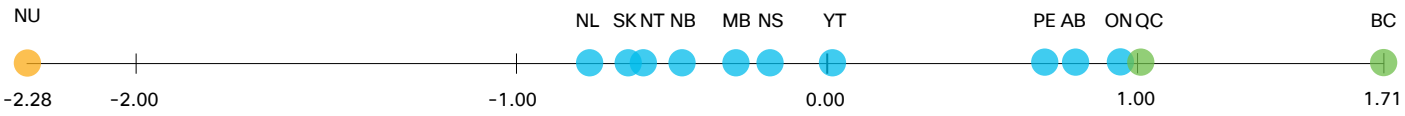
Technology Infrastructure

Infrastructure available to enable digital activities and connected to consumers (IoT, Cloud)

Metrics

- Broadband availability
- LTE coverage
- EV charging stations
- Internet affordability

Overall DRI Score Across Provinces and Territories



Key

1 SD below the mean

Within 1 SD of the mean

1 SD above the mean

The Cisco Canada DRI examines the performance of Canada's provinces and territories and provides a benchmark on their progress towards digital readiness[1]. British Columbia tops Canada's DRI ranking with a sizable lead, followed by Québec and Ontario, while the remainder of the provinces and territories fall closer to Canada's national average DRI score. The exception is Nunavut, which faces unique digital readiness challenges.

[1] Z-scores are a way to measure how far away a particular data point is from the average (or "mean") of a group of data points, and how unusual or "extreme" that value is compared to the rest of the group. If a score is below the mean, it is expressed as a negative number, and if above the mean, it will be a positive number.

Manitoba's Digital Readiness Index

DRI Score: -0.34 | Ranking: 8th

Manitoba has a good foundation of digital readiness, with a strong score on **Ease of Doing Business** and a relatively high labour force participation rate. However, low scores on **Technology Adoption, Human Capital** and **Business and Government Investmen**t weigh against it, leaving it in the middle of the pack.

The Government of Manitoba has an opportunity to strengthen these fundamentals with initiatives focused on digital readiness and closing the digital divide to build equity and inclusion. This could include establishing the province as a hub for technology innovation, increasing digital skills opportunities for Indigenous students and improving broadband access in rural and Indigenous communities.

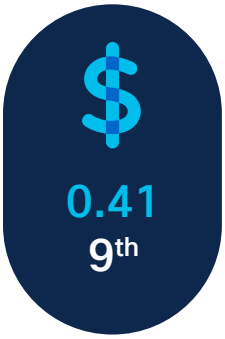
Manitoba's DRI score of -0.34 placed the province below the national average. However, its low internal trade barriers, high youth population and labour force participation are great strengths for the province.

DRI Scores: A breakdown by component

The following section will explore how Manitoba scored in each of the DRI's seven components and what metrics drove performance.

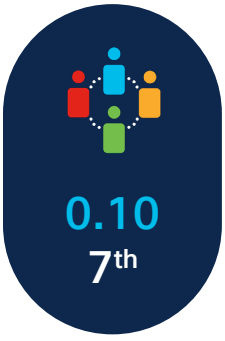
Basic needs are an indicator of the health of a society.

- Manitoba scored the average for life expectancy and above average for food security and housing affordability.
- However, it ranked 12th in percentage of the population in low-income at 16.1%.



The capacity of government and businesses to invest in their future is a key factor in enabling digital readiness.

- Business research and development (R&D), and infrastructure investment were below the national average, ranking seventh and eighth respectively.
- Government R&D totals per capita were above the national average.



An environment where businesses can invest and grow with ease and confidence is a core foundation to digital readiness.

- Manitoba has the second fewest internal trade barriers and the fourth highest business growth rate in the country.
- However, very weak business confidence and low business density impact its Ease of Doing Business score. Manitoba sits just slightly above average in this component.

Human Capital – a society's ability to build and maintain a skilled labour force – is intrinsic to digital innovation and readiness.

- Manitoba's high youth population (fourth in Canada) and labour force participation (sixth in Canada) are great strengths for the province.
- Manitoba would score much higher in this component with an increase in post-secondary education and immigration rates.

Start-ups are an important source of innovation and economic growth.

- Only 7.8% of businesses in Manitoba list access to financing as an obstacle to growth.
- However, Manitoba has a low business entry rate and low venture capital investment in businesses. This likely means there are other factors limiting the business entry rate.

Technology Adoption serves as a proxy for the population's willingness and ability to use new and emerging technologies.

- Manitoba scored below average for each of the metrics in this component. The province's strongest score in Technology Adoption was its percentage of online sales, which ranked sixth.

Modern technology infrastructure is key to economic growth and the delivery of services.

- Manitoba has the third best broadband availability in the country, and above average internet affordability.
- However, its score on Technology Infrastructure is impacted by low LTE coverage and few EV charging stations, both of which are proxies for how well a government can implement cutting edge technologies.

Manitoba's Opportunities

A Path Forward

The Cisco Canada DRI identifies strengths and opportunities for Manitoba to further improve its digital readiness.

Address the gaps in financing for digital businesses

Manitoba has many strategic advantages as a place to start and grow a business, including its well-connected central location, young population and competitive business costs. The Government of Manitoba offers several programs and incentives, including the Innovation Growth Program which provides grants for business innovation projects in sectors including biotechnology, information and communication technology, and clean technology.

However, beyond these opportunities, businesses in Manitoba report challenges in accessing capital for growth at key stages, particularly in venture capital investments and small business loans that can help fuel adoption.

To address these concerns, the Government of Manitoba should build on federal government and private sector initiatives to facilitate access to growth capital for digital businesses and digitization. They could also focus on improving access to venture capital for promising sectors and re-establishing the small business loans offered by the Communities Economic Development Fund.

Improving training opportunities for students to build digital skills

A digitally ready society is one where all individuals have the necessary skills to excel in the labour force of the future. Both the provincial and federal governments have made investments to create new training opportunities for residents to gain digital skills to match the needs of growing industries including cybersecurity, and information and communications technology. While there has been an expansion in educational opportunities, there is a clear equity gap in who has been able to access them.

Indigenous people, who make up almost one-fifth of the population of Manitoba, are significantly less likely to complete post-secondary education. Of Manitobans between the ages of 25-64, only 41% of Indigenous people have a postsecondary education compared to 63% of non-Indigenous people.[2]

[2] https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=9810041401&pickMembers%5B0%5D=1.104&pickMembers%5B1%5D=5.1&pickMembers%5B2%5D=4.1&pickMembers%5B3%5D=3.5&pickMembers%5B4%5D=2.1

To ensure all residents of Manitoba can participate in the digital economy, training opportunities should be targeted to those that have traditionally been excluded. The Government of Manitoba in partnership with the Government of Canada and First Nations, Metis and Inuit communities should work to reduce barriers for Indigenous students to access post-secondary opportunities. Potential opportunities could be increased financial support for Indigenous students, improving remote learning and other opportunities for Indigenous Manitobans to study close to home, and working with Indigenous post-secondary institutions to promote culturally informed learning opportunities.

Improving broadband access in rural and Indigenous communities

Strong broadband connectivity is necessary for a digitally ready society, where businesses and individuals can participate in an increasingly digital economy. Only 73% of Manitobans currently have access to broadband that meets the 50/10 Mbps internet speed benchmark of adequacy set by the Canadian Radio-television and Telecommunication Commission (CRTC). That percentage drops to 14.4% of households in rural communities and 2% of households on reserves according to recent CRTC data.

As part of the High-Speed Access for All: Canada's Connectivity Strategy, the Government of Canada promised to deliver 50/10 connectivity to 100% of Canadians by 2030. While the Government of Manitoba has made strides to improve internet connectivity, the Government does not have targets and a timeline to deliver broadband to all communities.

To bridge Manitoba's digital divide, the provincial and federal governments could partner with rural communities and Indigenous partners to build broadband infrastructure in areas currently lacking access to adequate internet speeds.

The Government of Manitoba should also create a broadband connectivity strategy that looks beyond the Government of Canada's plans to extend 50/10 Mbps by 2030, extends access to rural and Indigenous communities, and sets an ambitious new definition of "high-speed internet." For example, the Government of the Netherlands has set a goal of providing all citizens with fast, fixed-connection broadband of at least 100 Mbps and a vast majority should be taking advantage of 1 Gbps by 2023.[3]

[3] https://digital-strategy.ec.europa.eu/en/policies/broadband-netherlands

Conclusion

With the fourth highest business growth rate in Canada, a high youth population, affordable housing, above-average internet affordability and strategic advantages as a place to start a business, Manitoba is well placed to leverage digital readiness to build labour capacity and economic growth. To realize the economic benefits of digitization, the province must continue to invest to ensure adequate broadband to address the digital divide in rural and Indigenous communities.

To further stimulate new business growth, the government should continue to facilitate access to growth capital for digital businesses, particularly in venture capital investments and small business loans that can help fuel adoption.