

Study
January 2021

Technology industry outlook

How changes in the economy affect
Canada's tech sector

bdc 

Industry at a glance

41,800

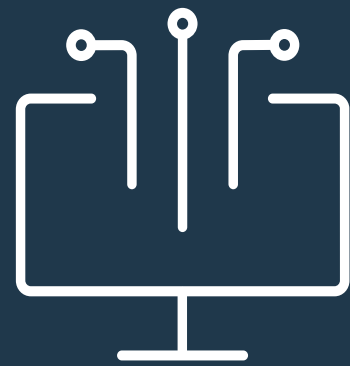
businesses, 90% with 10 employees or less

\$57B

contribution to GDP (2019)



574,000 employed in the tech sector.



41.2% of all private sector R&D investment is in the tech industry.

Why it matters

All industries rely on information technology (IT) to enhance operations and improve productivity. In 2020, new reliance on IT to support remote work, online learning, telemedicine and e-commerce has accelerated technology adoption in all sectors of the economy. A strong tech sector triggers the creation of new industries, processes, business models, products and services. Efficiencies in information processing, distribution, inventory management, production and design boost productivity and make Canadian businesses globally competitive.

4.3%

industry annual growth between 2010 and 2019, more than twice as fast as the Canadian economy.

34%

job growth over nine years, triple the rate of all other industries.

Report highlights

An easy transition to remote work, continuity of service and new demand from all sectors for IT solutions bode well for the tech industry.

40%

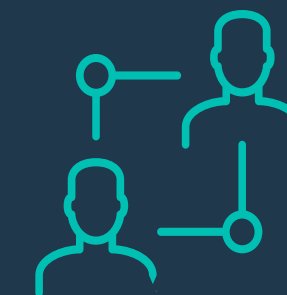
of Canadian companies intend to invest in technology solutions and digital infrastructure over the next three years.

97%

of the tech workforce retained their jobs throughout the pandemic lockdown, reflecting the industry's ease of transition to remote work.

17.4%

growth in output is expected for the tech industry over the next five years.



Remote work creates new demand for tech services and support in other industries, while boosting competition in tech.

Software and computer services: a key economic sector

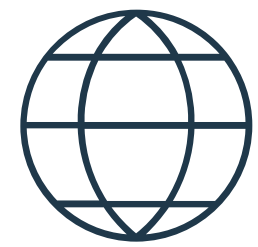
Software and computer services companies represent 93% of the overall technology industry in Canada, including wholesale and manufacturing. These firms implement and manage technology systems for the public sector and private businesses. Activity in the sector is a proxy for the overall industry.

The regional intensity of tech

Canada's tech industry is geographically centralized. Companies in Ontario and Quebec represent 75% of all tech industry output, greater than their share of population (61%) or economic output (57%). The big Canadian "tech clusters" are Toronto, Montreal and Vancouver.

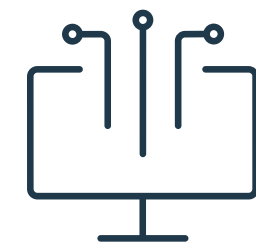


Five economic drivers to watch



Macroeconomic developments

Fluctuations in the broader economy will offer short-term challenges, but as the global economic recovery is well underway, it bodes well for the tech industry.



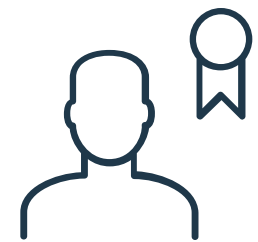
Investment in technologies

Private sector investment in IT infrastructure will drive industry growth over the next five years.



Demand from knowledge-intensive industries

Technology solutions for the financial and professional services sectors to support remote work and data security will propel industry expansion.



Competitiveness

Wage increases will slow, as remote work fuels global competition for tech talent.



Confidence in the economy

Consumers and businesses are still reeling from the pandemic shutdown and face more uncertainty, given the unknown course of the pandemic.

Macroeconomic developments

Technology is integrated with most sectors and globalized, making it vulnerable to fluctuations in the broader economy. The pandemic had a severe impact on the world economy and affected the landscape in which Canadian tech firms operate. Yet, among major industries, technology has shown the strongest performance over the past decade and was well positioned when the pandemic struck. Moreover, the new context led to a surge in demand for companies supporting remote work, health tech and online learning.

Fall 2021

Following a difficult year, the global economy is expected to return to pre-crisis levels by fall next year, largely reflecting the strong rebound forecast for China.

27.6%

of tech industry revenue is expected to come from clients outside Canada in 2020.

Small, short-term decline

3% decline in output for the tech sector between February and April 2020, compared to a 18% overall economic decline.

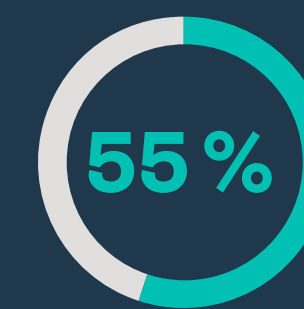
Second wave

The resurgence of high case numbers of COVID-19 **could delay economic recovery.**

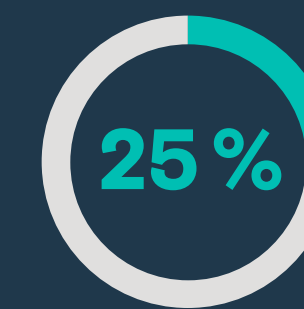
Investment in technologies

Investments in technology are stable and expected to grow this year, despite businesses cutting back on spending to compensate for sharp declines in revenues. Global lockdowns have accelerated the tech-driven economy, with new demand for tech solutions to facilitate remote work, e-commerce, telemedicine and virtual learning.

The rise of remote work and e-commerce



Companies that plan to continue working remotely after the pandemic.



Companies that plan to increase their online sales

A need to remain competitive

While many Canadian firms need to hold back on new spending to survive, others are investing in remote work and online retail to remain competitive throughout the pandemic.

5.2%

Average annual growth expected for Canadian firms' investment in tech over the next five years.

40%

Proportion of Canadian businesses that intend to significantly increase investment in technologies in the next three years.



Demand from knowledge-intensive industries

The financial and professional services sectors have historically been the tech industry's largest markets. Companies in these knowledge-intensive industries develop and own proprietary technology systems and oversee large amounts of sensitive, personal client data.

Big data and advanced analytics will drive growth in the financial and professional services sectors over the next five years, and in turn propel the tech industry, as firms invest in systems to manage and analyze data.

Productivity

3.2%

Knowledge-intensive industries are looking for tech solutions to drive efficiencies to secure their competitive advantage.

Net employment growth expected for financial and business services this year, one of the few sectors to see growth. This promises continued strong demand for tech industry solutions.



Competitiveness

The tech industry is characterized by high investments in human capital. Wages are the biggest cost for tech companies. The need for highly educated employees with specialized expertise and a short labour supply have driven intense competition for talent in the industry. A post-pandemic trend toward remote work will cool compensation increases and reduce operational costs, at the same time boosting demand for IT services from other sectors.

Overall, the pandemic is expected to have a net positive impact on the Canadian tech industry's global competitive position. Low barriers to entry, new specialized workers and worldwide demand will boost competition.

Easier transition to remote work for IT employees than for those in other industries.

87%

Proportion of Canadian tech businesses that intend to allow employees to work remotely, even after the pandemic is behind them.

23%

Proportion of firms that intend to maintain fully remote workforce going forward, with no plans to return to a traditional, centralized office model.

Global talent pool

Remote working models allow IT companies to source talent globally, which will partially solve labour shortages and slow wage increases.



Confidence in the economy

Consumer and business confidence are leading indicators of future industry investment and the trajectory of the overall economy. Expectations about economic performance also affect present consumption decisions. Consumer and business confidences are slowly recovering, but they remain fragile.

24%

decline in business confidence in December 2020 compared to February 2020.

29%

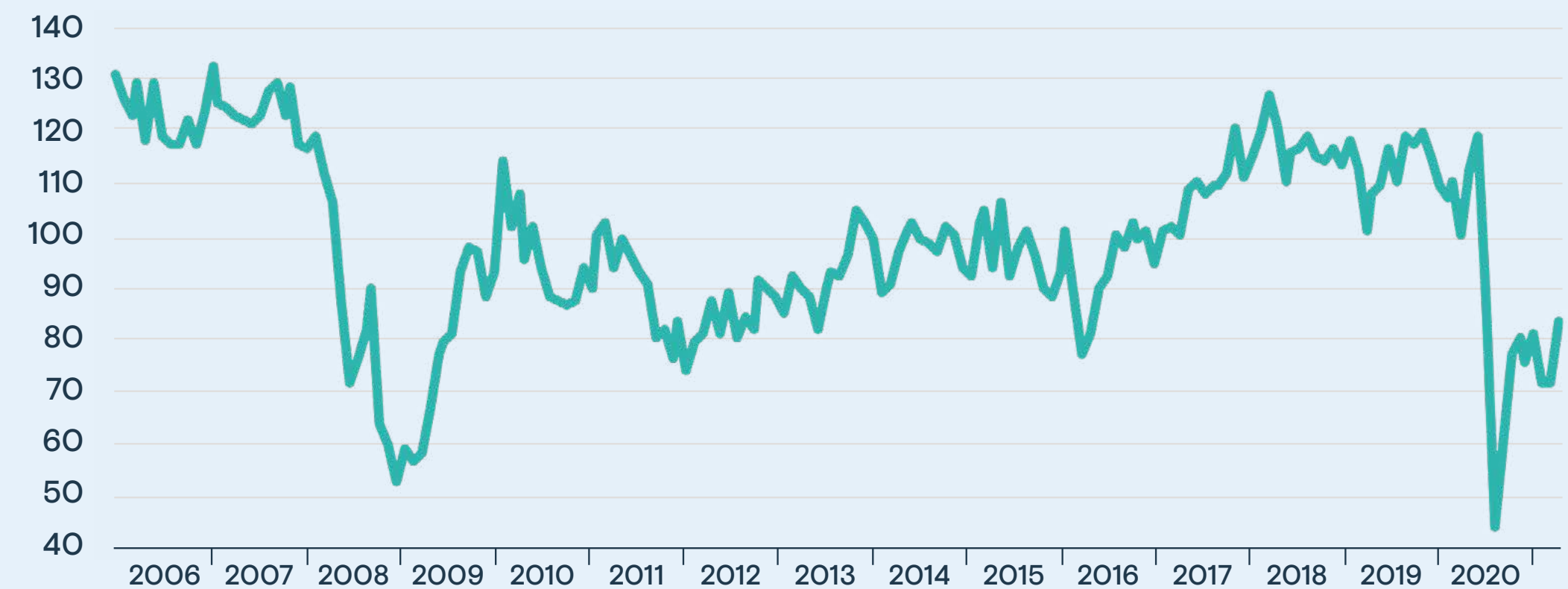
drop in consumer confidence in December 2020 compared to February 2020.

2021

Consumption levels are not expected to resume to pre-pandemic levels until late 2021. Following a slight rebound in consumption due to pent-up demand from the spring lockdown, spending will be weak well into 2021.

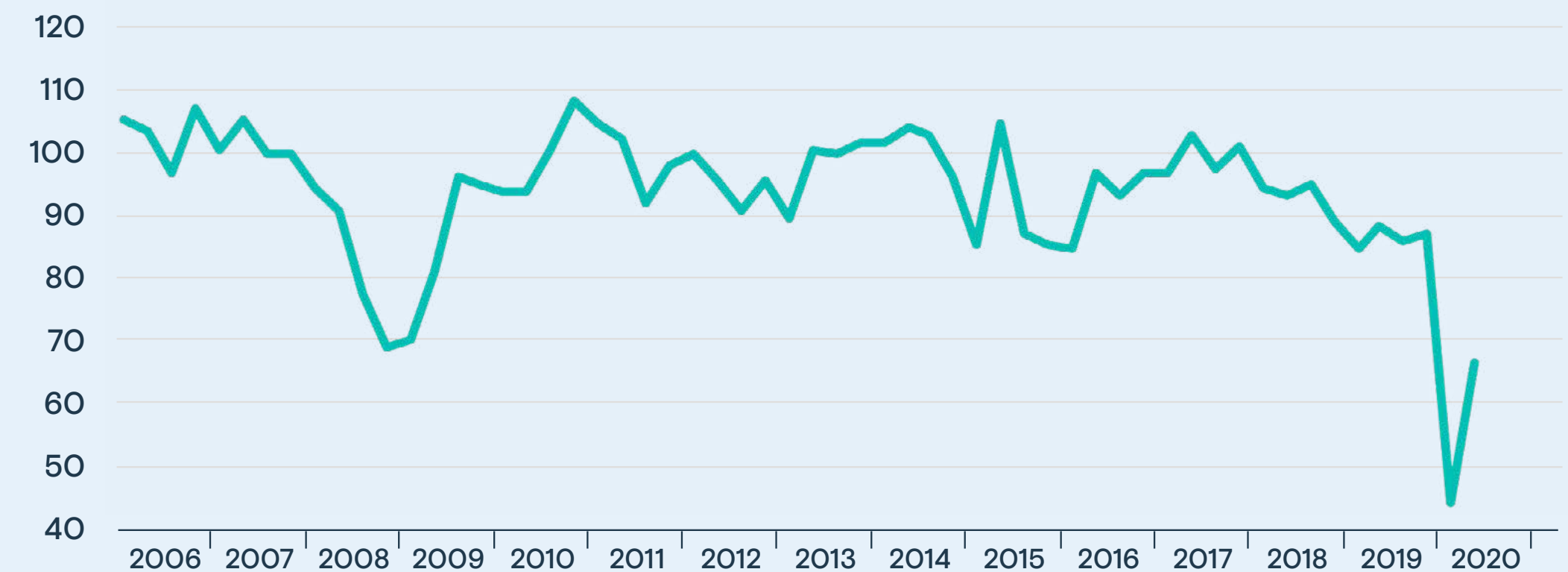
Index of consumer confidence

Conference Board of Canada, Monthly, Index 2014 = 100



Index of business confidence

Conference Board of Canada, Quarterly, Index 2014 = 100



Source : Conference Board of Canada

What is the outlook for the tech sector?

Our growth scenario offers a view over the next five years.



A faster recovery for tech than for the overall economy

The tech industry showed more resilience than other Canadian industries as it emerged from the crisis quickly. An influx of investment in technology to support the new virtual economy creates opportunities and spurs rapid growth in the industry.

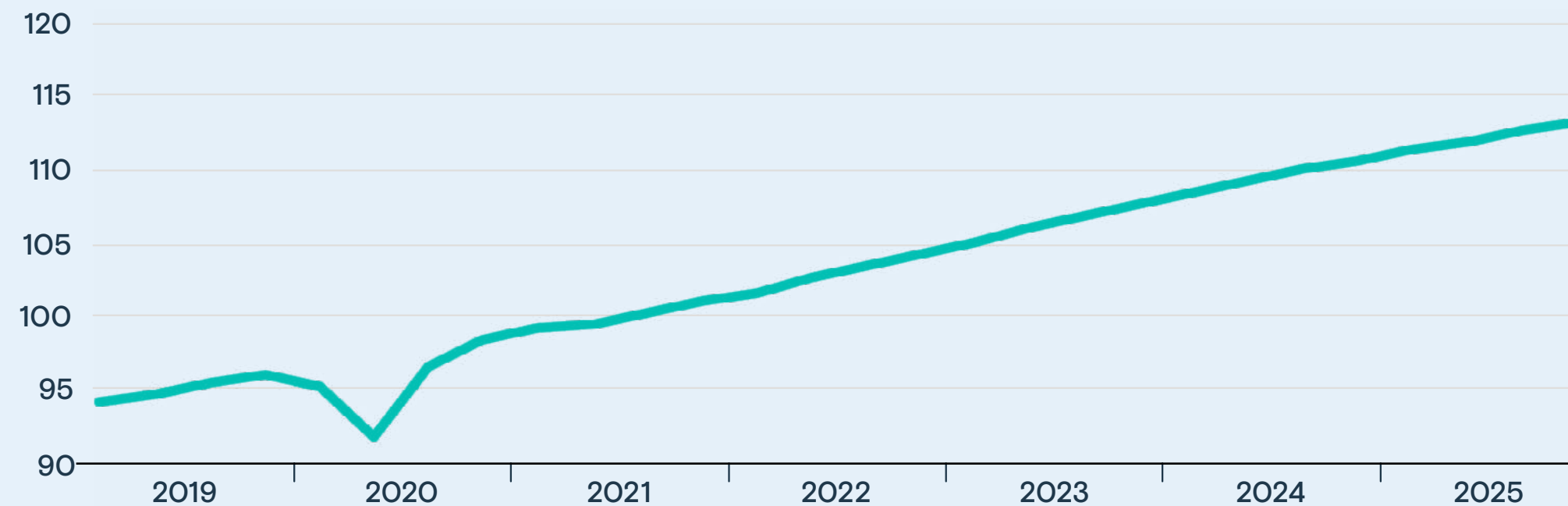
Growth scenario

While the pandemic caused a 3% output decline to mid-2020, the tech sector had already recovered to pre-pandemic levels by the fall of 2020. Our scenario forecasts that the tech sector will experience overall growth of 0.5% in 2020. The industry is then

expected to grow by 5.3% in 2021 and gain a further 2.7% in 2022. Compared to its pre-crisis level, gross output would grow by a cumulative 17.4% by 2025.

Tech sector in Canada

Quarterly, seasonally adjusted at annualized rate, Index 2019=100



Note that our baseline scenario assumes that the economy will return to its pre-crisis GDP only by mid-2022.

Source : Oxford Economics , BDC Economics

Positioning your tech firm for recovery

Canadian tech firms that source customers and talent globally will emerge from the crisis with a competitive advantage. Embracing and developing remote and hybrid work opportunities and investing in employee education will help firms keep pace with new innovations and demand. Special attention to emerging cybersecurity risks will mitigate business interruption and reputational damage.

Global workforce

Challenge

A shortage of skilled workers has intensified competition for a small labour pool, driving up compensation.

Opportunity

Remote work and the rise of consultants give firms access to a larger, global talent pool, potentially at lower costs.

Integrated markets

Challenge

Low barriers to entry is increasing the number of tech firms grabbing local market share.

Opportunity

Canadian companies can deliver IT support to worldwide customers, as firms around the globe accelerate digitization strategies.

Remote work culture

Challenge

Onboarding new employees and fostering team culture require a rethink to implement digital workflows and processes.

Opportunity

Managers can, with the right collaboration tools in place, use remote and hybrid work to enhance efficiency, productivity and employee satisfaction.

Human capital investments

Challenge

With new technologies developing rapidly, employees require upgraded and specialized knowledge and expertise that keep pace with innovation.

Opportunity

Accessibility and cost-efficiency of online learning help employees upskill in niche fields and provide a high return on investment for employers.

Cybersecurity

Challenge

Cyberattacks targeting businesses and workers are on the rise, with more sensitive supplier and customer data moving online daily.

Opportunity

Increased investments in endpoint security, malware detection and prevention, and anti-phishing solutions will mitigate business interruption and build trust.



How tech firms can get ahead in a competitive market

Recruit globally

Industry job growth is outpacing new tech graduates in Canada. Expand your search for specialized experts in other countries.

Retain skilled employees

As other industries digitize and poach IT talent, focus on retention strategies that incorporate brand, lifestyle support and training opportunities to hold onto skilled employees.

Get out of your niche

Expand services, create new verticals or adjust client payment terms to adapt to changes in client behaviour and reach new customers.

Preserve your core business

New entrants in the IT industry allow venture capitalists to be selective about their future investments. Keep R&D spending balanced with existing revenues to give your firm a cash buffer.

Methodology

BDC undertook a comprehensive literature review of economic indicators theoretically associated with the technology sector in Canada. Based on the analysis, we identified five main indicators that influence the level of output in the technology industry. Using the Oxford Economics' (OE) Global Economic Model, multiple univariate specifications that model the selected indicators in the short and medium term were examined. Changes in the variables have a concurrent or delayed impact on the industry, affecting subsequent quarters of technology output.

The OE uses an error correction methodology, where multiple time series estimate the speed at which a dependent variable returns to its equilibrium after an exogenous shock. This large-scale macroeconomic model has the advantage of being comprehensive, as it includes thousands of macroeconomic variables. The firm updates its 25-year macro forecast twice a month for a variety of countries, including Canada.

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