An Informed Approach to Digital Transformation:
CRITICAL CONSIDERATIONS FOR CANADIAN GOVERNMENT

WRITTEN BY:

Alison Brooks, Ph.D.
Research Vice President,
Government Insights, IDC

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Top Priorities for Canadian Government: DX and Innovation

Canada has reached a **digital services tipping point.**

Among Canadian government agencies,

92% are either considering the need for a digital-first strategy or **already in the process of transitioning to it;**

Within that,

33% of Canadian public sector agencies are fully **moving toward a digital-first strategy.**

Q **Which of the following statements best describes where your organization is when it comes to adopting a digital-first strategy?**

28%

33%

23%

8%

6%

2%
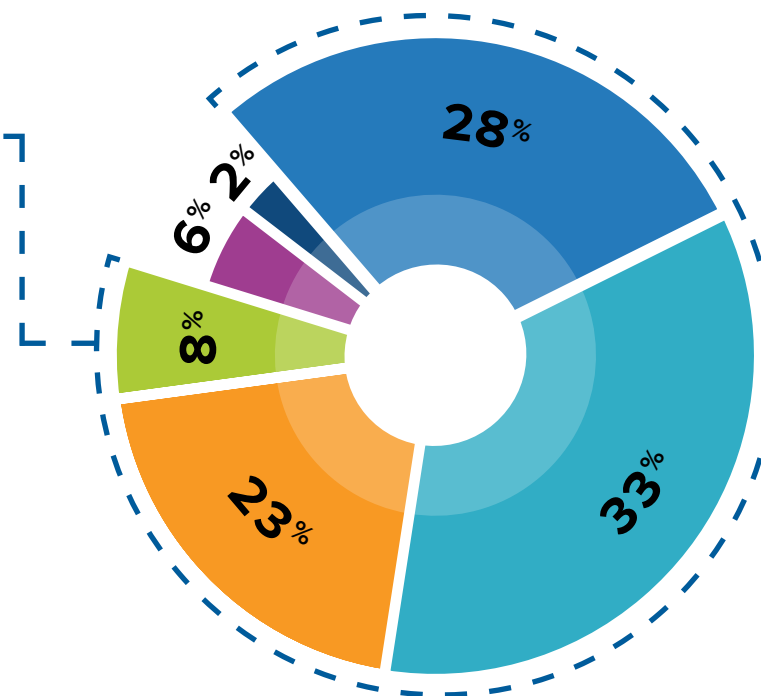
- Our organization recognized this prior to the pandemic and had already changed our technology and business priorities
- Responding to the pandemic forced us to shift quickly to a digital-first strategy, which we continue to extend
- Disruptions of the pandemic highlighted the need for a digital-first strategy, which we are starting to execute
- Disruptions triggered by the pandemic highlighted the need to shift to a digital-first strategy, but we are still figuring out how
- We see no need to adopt a digital-first strategy
- Don't know

Key data underpinning the **digital services tipping point.**

In 2022, Canadian digital transformation (DX) spending reached

C$42.4B

And is **expected to grow**, with a five-year compound annual growth rate (CAGR) of

13.4%

Source: IDC Worldwide Digital Transformation Spending Guide, October 2022

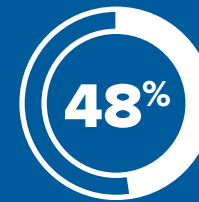# DX benefits are predicated on **strong cybersecurity foundations.**

The cyber-struggle is real:

10% of Canadian public sector agencies incur **more than 100 cybersecurity attacks per day**.

n = 51; Source: IDC Canada ITAP n2 2022, April 2022

When asked to indicate the biggest area for IT tech investment in the next year,

48% of public sector respondents (compared with 36% in the private sector) said **IT security of data and systems**.

n = 104; Source: IDC Canada BITAP n2 2022, May 2022

Q Which privacy, security, and trust issues are affecting your organization?

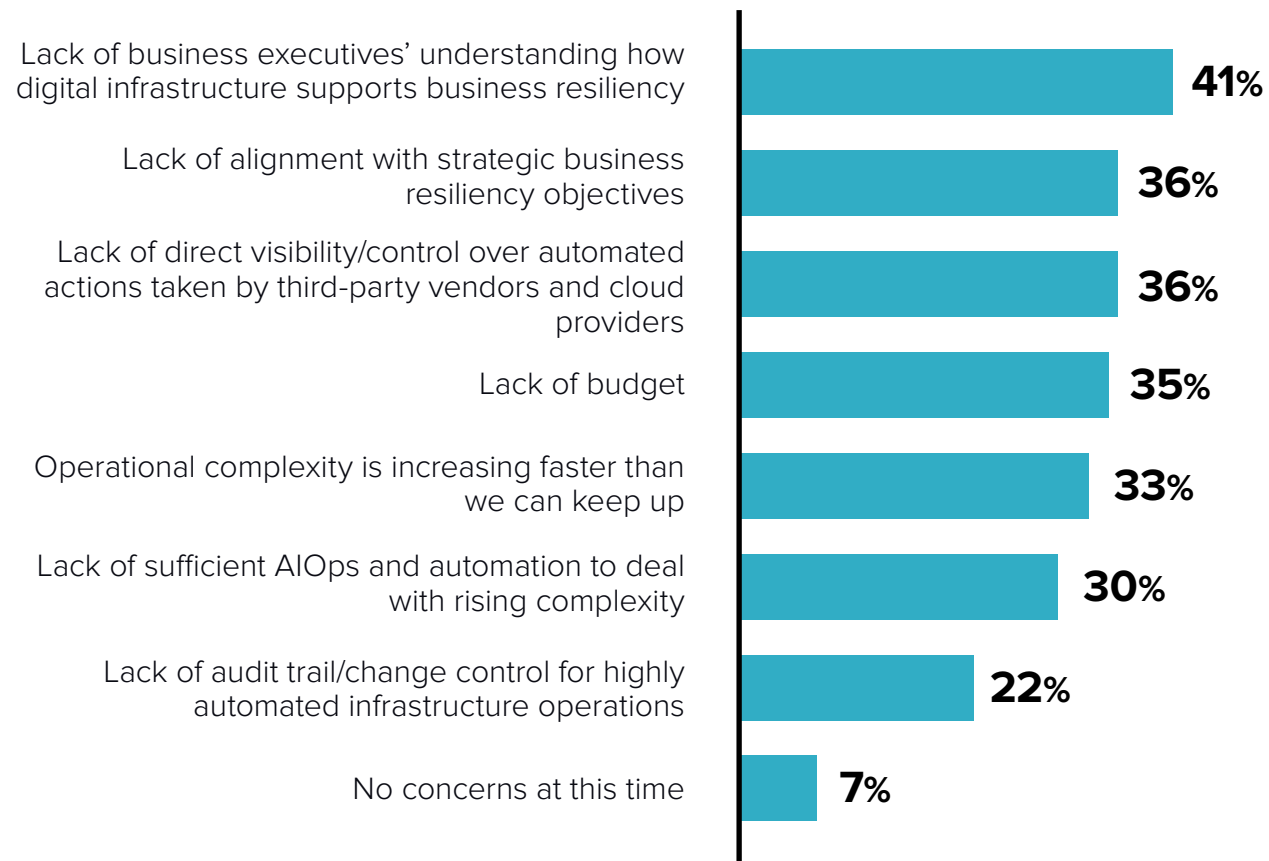| **75%**	**48%**	**44%**	**29%**	**25%**	**23%**	**8%**
Rise in cybersecurity threats (e.g., intrusions, ransomware, etc.)	Change to hybrid or remote work created new vulnerabilities	Need for business continuity and disaster recovery	Growing complexity/ severity of governance and compliance	Vulnerability of industrial and operation equipment (e.g., IoT)	New or changing Canadian privacy laws (e.g., Quebec's Bill 64, federal bill C-11)	New or changing extra-territorial privacy laws (e.g., EU GPDR, California's Consumer Privacy Act, etc.)

n = 48; Source: IDC's BITAP n2 2022, May 2022

Digital service initiatives must prioritize **agility, resiliency, and scalability**.

Q **What are your greatest concerns regarding your organization's overall digital infrastructure strategy being able to fully support your organization's business resiliency plans?**

Concern	%
Lack of business executives' understanding how digital infrastructure supports business resiliency	**41%**
Lack of alignment with strategic business resiliency objectives	**36%**
Lack of direct visibility/control over automated actions taken by third-party vendors and cloud providers	**36%**
Lack of budget	**35%**
Operational complexity is increasing faster than we can keep up	**33%**
Lack of sufficient AIOps and automation to deal with rising complexity	**30%**
Lack of audit trail/change control for highly automated infrastructure operations	**22%**
No concerns at this time	**7%**

93% of survey respondents expressed **worries about their company's digital infrastructure** strategy and its capability to uphold the business's ability to bounce back from unexpected events.

n = 88; Source: IDC Canada, ITAP n5 2022, July 2022

The Responsible Acceleration of Digital Services is About People, Not Technology

The top 3 drivers motivating **investment in digital services:**

Equity

Digital equity initiatives are underway to **improve social and economic access** (**36%**).

Convenience

There is an increased **need for delivery of remote services**, self-service, and interactions (cited by **38%** of respondents).

Usability

Digital services provide a more **convenient and seamless user experience** (**35%**).

Source: IDC Government Insights, 2022

Citizens want **secure, easy, friction-free experiences** in accessing digital services.

When asked to indicate the changes in customer buying and consumption patterns that are most affecting their organizations,
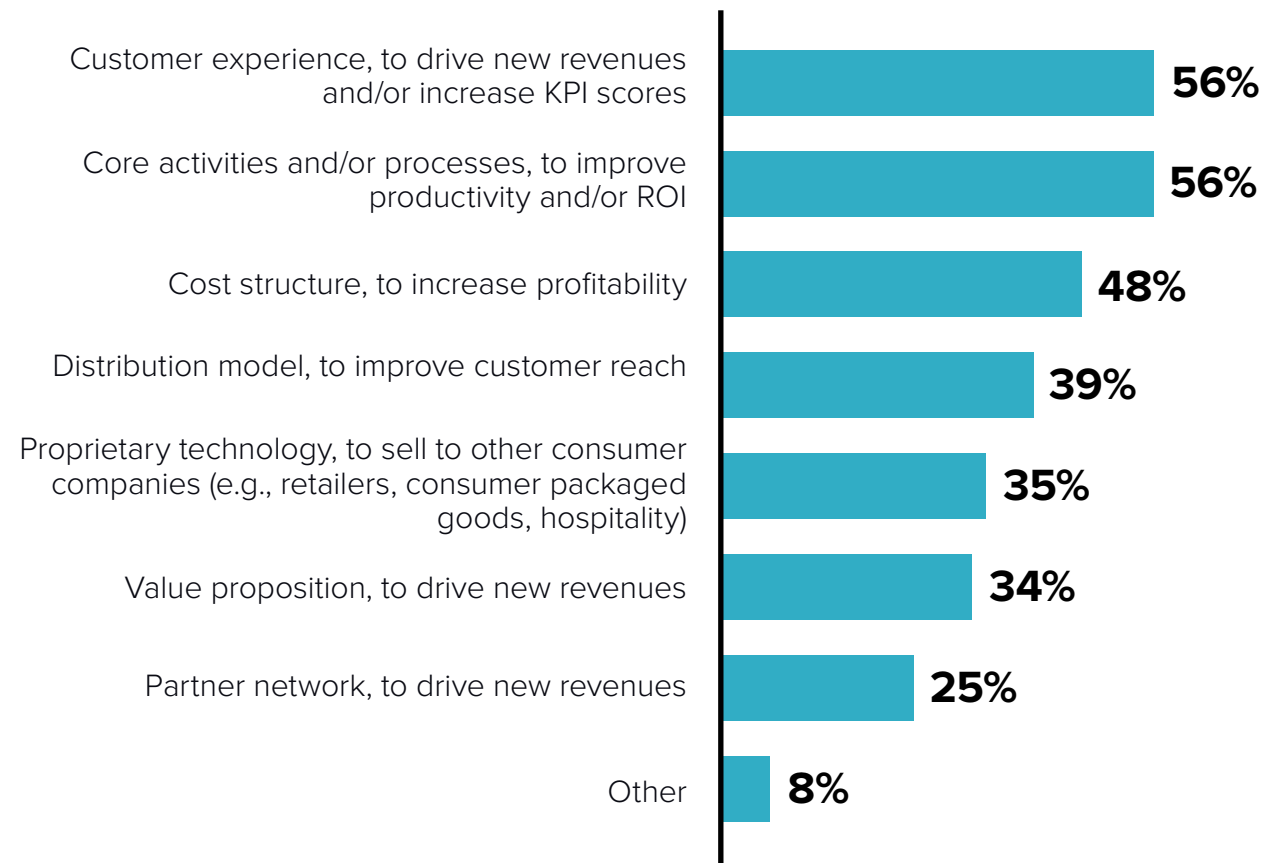
40% directionally said "**increased technology complexities of digital services channels**," making it the number 1 response.

n = 15; Source: IDC Canada, BITAP n2 2022, May 2022

Q **How will your organization transform its business model over the next three years? Please rank the top three areas in which your organization will intervene in the next three years, in order of priority: first, second, and third.**

Area	Percentage
Customer experience, to drive new revenues and/or increase KPI scores	56%
Core activities and/or processes, to improve productivity and/or ROI	56%
Cost structure, to increase profitability	48%
Distribution model, to improve customer reach	39%
Proprietary technology, to sell to other consumer companies (e.g., retailers, consumer packaged goods, hospitality)	35%
Value proposition, to drive new revenues	34%
Partner network, to drive new revenues	25%
Other	8%

n = 104; Source: IDC's BITAP n2 2022, May 2022

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Privacy, security, and trust are the top benefits of DX.

Key business outcomes driving **cybersecurity** investments are **improved trust** (**44%** of respondents) and **protecting constituent privacy** (**40%** of respondents).
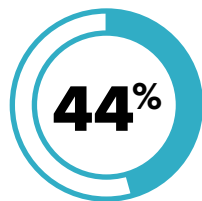
Source: IDC Government Insights, 2022

With **21%** of respondents, the number 1 business outcome driving **digital services** investment is **improved trust.**
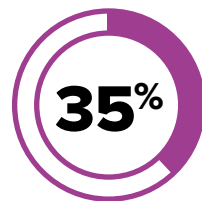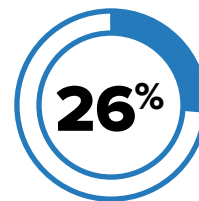
Source: IDC Government Insights, 2022

Q Which of the following actions is your organization and IT leadership prioritizing to address the increased digital sovereignty concerns?

44%
Improve privacy measures and implementation

35%
Improve organizational and regulatory compliance

26%
Incorporate end-to-end encryption for key workflows

24%
Improve digital supply chain management and transparency

22%
Work with our information and communication technology suppliers more closely to mitigate third-party risk

n = 88; Source: IDC Canada, ITAP n5 2022, July 2022

Digital Transformation Challenges

DX can be expensive, and talent-intenstive, and can be thwarted by "technical debt".
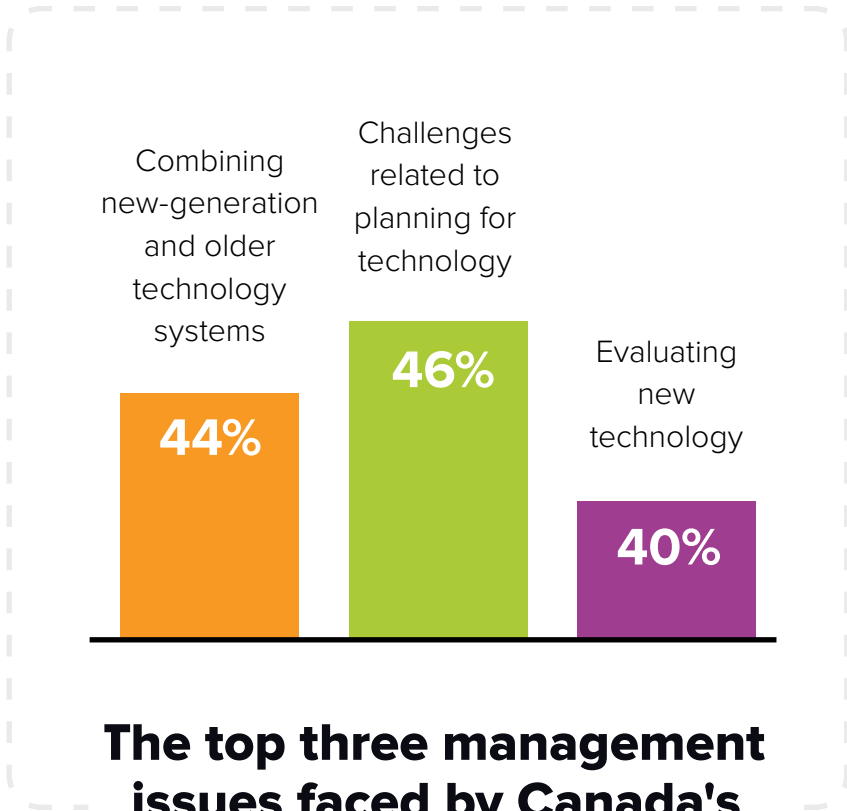
Technical debt is the cost of maintaining aging software and systems, in particular those that have been customized or patched or that have added manual processes due to age or providing a function beyond their original intent.

Disparate, disconnected systems generate technical debt, stifling DX progress.

More than half of constituents (**51%**) felt that technical debt "**limited their ability to provide needed digital services**," and another **21%** said that the agency impact was high and greatly limited digital service delivery. **31%** of government agencies felt that technical debt accounted for between 25% and 50% of total full-time employee (FTE) time, and **25%** felt it accounted for 25–50% of total operational budget.

Source: IDC Government Insights, 2022

Combining new-generation and older technology systems

44%

Challenges related to planning for technology

46%

Evaluating new technology

40%

The top three management issues faced by Canada's public sector.

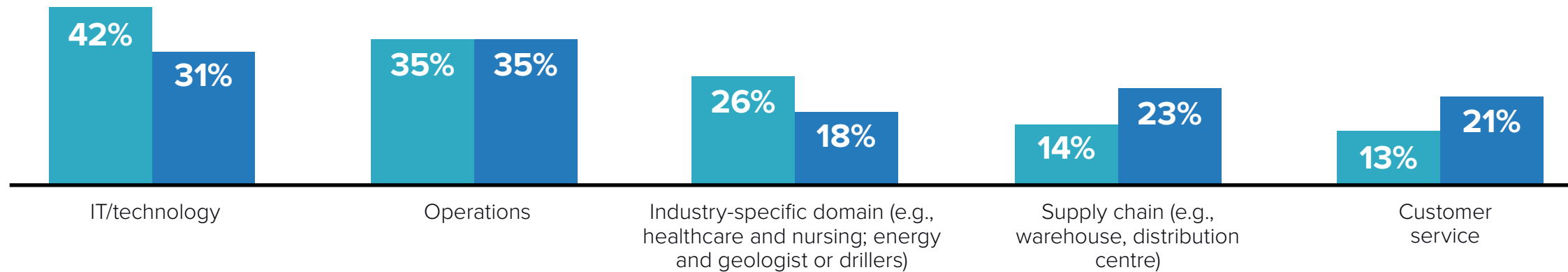n = 115; Source: IDC Canada, ITAP n1 2022, February 2022

HR capabilities in supporting digital transformation are struggling.

Q In which workforce areas is your organization experiencing a shortage?

● Public ● Total

Category	Public	Total
IT/technology	42%	31%
Operations	35%	35%
Industry-specific domain (e.g., healthcare and nursing; energy and geologist or drillers)	26%	18%
Supply chain (e.g., warehouse, distribution centre)	14%	23%
Customer service	13%	21%

n = 104; Source: IDC Canada, BITAP n2 2022, May 2022

The top 2 greatest digital infrastructure skills gaps pertain to

51% Cybersecurity

42% Data management and protection

n = 88; Source: IDC Canada, ITAP n5 2022, July 2022

The top 2 greatest business issues for public sector agencies are

46% Cybersecurity

41% Workforce staffing

n = 104; Source: IDC Canada, BITAP n2 2022, May 2022

Citizens using digital services encounter complex challenges related to **privacy, security, and reliability.** These challenges include:

47%
Ransomware/ malware attacks — e.g., prediction, early detection, prevention

45%
Maintaining uptime/ integrity of mission- critical applications/ infrastructure

40%
Protecting constituent **privacy**

Source: IDC Government Insights, 2022

Government Profiles in Transformation

Learning from government peers about safe, secure, meaningful transformation.

Denver

Launched in 2015, Denver's PocketGov integrates and digitizes 30+ city services into a single mobile platform, helping citizens verify wait times at the closest government service centre or receive proactive neighbourhood event updates leveraging geospatial location data. Mobile, real-time, trusted digital services meet citizens where they are, providing personalized, proactive services. Looking to what is now available in the augmented chat realm, Denver's next iteration could deploy advanced chat capabilities that, instead of helping citizens locate where to fill out an application for a license or a permit, digitally complete the process by issuing the permit.

Singapore

Singapore is historically consistently far ahead on the DX maturity curve. Ninety-nine percent of Singapore's government services are digital end to end. The nation strikes a delicate, dynamic balance between innovation and risk aversion. Its civil servants are being trained on AI chatbots to conduct research and help draft speeches and reports; to support these more innovative ventures, the nation has created five capability centres to guide the implementation of emerging technologies (application design, development, and deployment; cybersecurity; data science and artificial intelligence; government ICT infrastructure; and sensors and the Internet of Things). The Ministry of Home Affairs, for example, has a sovereign cloud — one of the rare few in the world. The sovereign cloud allows for secure data collection and processing across some very sensitive data sets related to national security.

Finland

Of the 27 EU member states examined in the 2022 Digital Economy and Society Index, Finland ranked first, earning the top place across human capital, connectivity, digital technology integration, and digital public services. Finland has implemented the Cyber Security Development Program and a separate legislative act on improving information security and data protection in critical sectors of society. Finland is enacting a "national digital compass" to set national targets and a coherent vision for long-term digital transformation. It has also created the Digital Transformation Ministerial Working Group to create alignment across agencies.

To augment citizen trust in digital services, continuously evergreen solutions that are highly valued by citizens.

To catalyze citizen trust in government, avoid siloed islands of innovation. Singapore's success is predicated on taking a whole-of-government approach to digital services.

To avoid breaking citizen trust in government, do not operate in isolation from neighbouring countries; Finland has been working with adjacent nations to create future digital services alignment.

Key Takeaways

1 Canadian government digital services have reached a tipping point. Now. And digital services are here to stay.

2 Government must adapt to a robust regulatory environment to protect citizen privacy and security.

3 Digital service successes raise citizens' confidence in government.

4 Citizens want easy, reliable, intuitive, secure, trusted digital services.

5 Personalized, proactive government services are predicated on a strong cybersecurity foundation.

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