



The Transformation CIO: A Canadian perspective

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Welcome to *The Transformation CIO: A Canadian perspective*, a report spotlighting the strategies, ambitions, and outlooks reported by Canadian IT leaders in the global [2018 Harvey Nash/KPMG CIO Survey](#).

We have collected and analyzed responses from the 92 Canadian organizations who took part in the largest IT study in the world; particularly as they relate to their digital agendas, governance models, budgeting strategies, workforce development plans, and cyber security tactics.

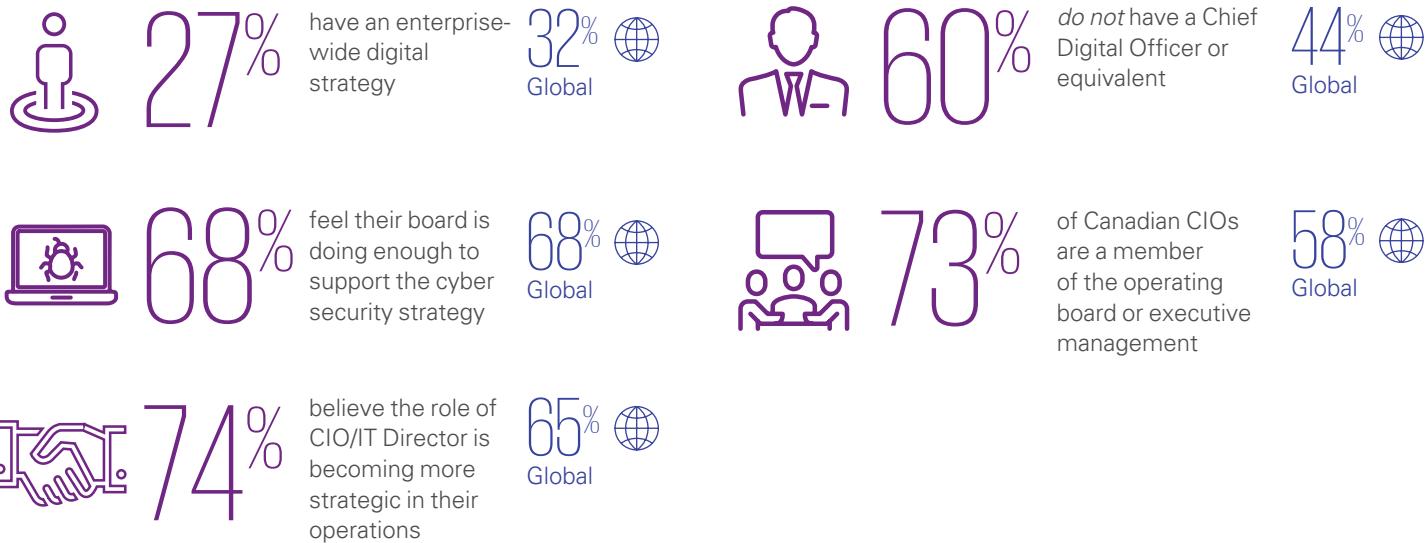
The result is a snapshot of a country in the early stages of digital transformation, but fast making up for lost time. It is a story of how

Canada may be lagging in relation to its global peers, but making the investments in technology, people, and programs to bridge the digital gaps.

See where Canadian IT leaders stand in the pages ahead and, when you're ready, let's do this.

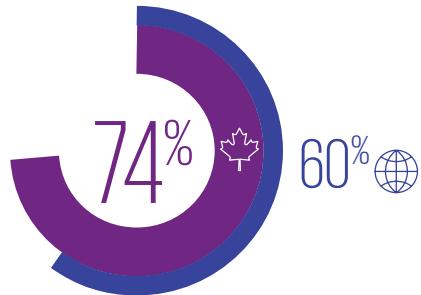
Findings at a glance

Digital strategies

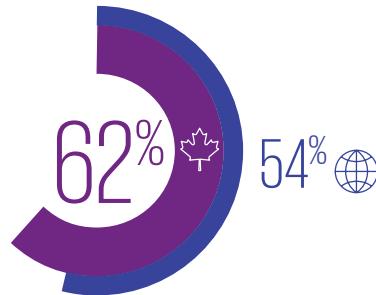


Top 3 digital priorities

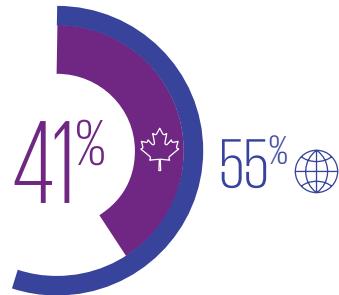
Enhancing the customer experience



Improving business process efficiency



Attracting new customers



Top tech investments

Cloud



Mobile



Internet of Things



IT Budget



plan to increase their IT budget spend in 2018

Cyber readiness



of Canadian CIOs say they are adequately or very well positioned to handle cyber risks

Access to skills



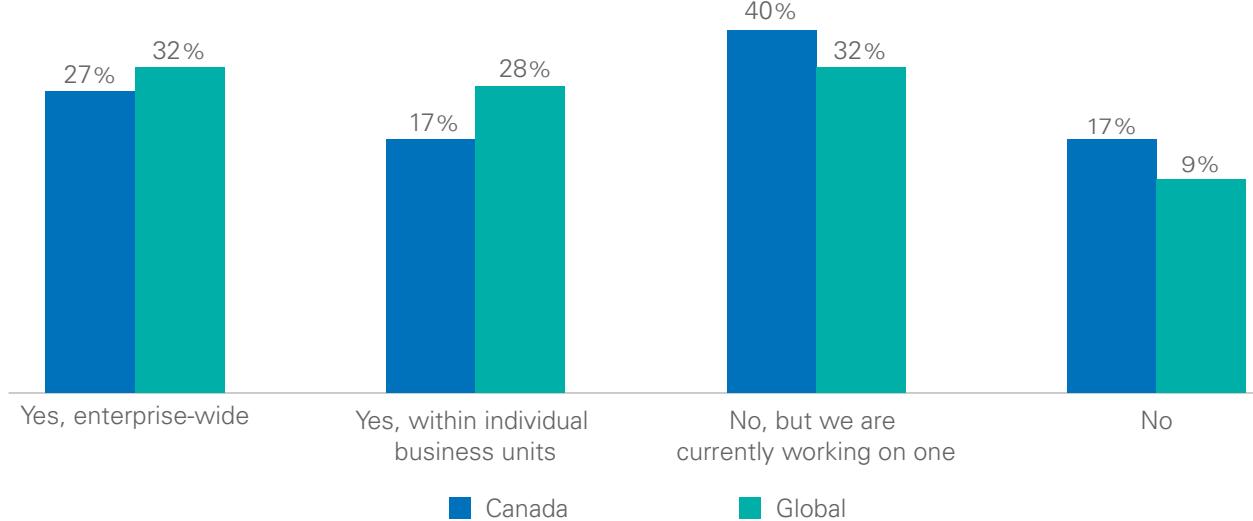
believe skills shortage is preventing their organization from keeping up with the pace of change

At the leader's table

Findings from this year's CIO study reveal some interesting comparisons between how both Canada's IT leaders and global CIOs are taking a seat next to their organization's top decision makers. A majority of Canadian respondents (73 percent) report being a member of their organization's operational board or executive management team, much more than the 58 percent of global CIOs who claim the same. Moreover, three-quarters of Canadians believe the role of CIO and/or IT Director is becoming more strategic in their organization (9 percent higher than total global responses).

While there's reason to believe Canadian CIOs are gaining more ground in the boardroom, our survey results suggest they have yet to catch up with global CIOs in regards to instilling clear digital visions and strategies within their business units or organization as a whole. Little over a quarter (27 percent) of Canadian respondents indicated their organization had a clear, enterprise-wide digital business vision and strategy (32 percent global) while even less (17 percent) said they had such a strategy within individual business units (28 percent global). Promisingly, 40 percent noted that while they did not have a digital vision or strategy at the time of the survey, they were developing one nonetheless.

Clear digital vision and strategy



Closing the digital divide

It's hard to dispute the idea that Canada's affinity for digital strategies lacks when compared to the rest of the world. The relative lack of clear digital visions and strategies is telling, as is the fact that 12 percent of Canadian CEOs don't have a digital strategy.

The disconnect could be a lack of confidence in digital capabilities. Indeed, only 10 percent of Canadian respondents feel they've been very effective in using digital technologies to advance their business strategy, compared to 22 percent of the global respondents who said the same. On the opposite end, less than half (43 percent) believe their digital strategies have been slightly or not effective at all.

A more nuanced theory is that Canadians are simply at an earlier stage in their digital agendas and, as such, not likely to align with their global counterparts in terms of confidence levels and short-term strategies.

That's not to say our longer-term digital ambitions aren't aligned. Both Canadian companies and organizations in other parts of the world share similar priorities in regards to using technology to enhance the customer experience, improve business efficiencies, and deliver consistent and stable IT performances – goals which will only be met through robust digital strategies.

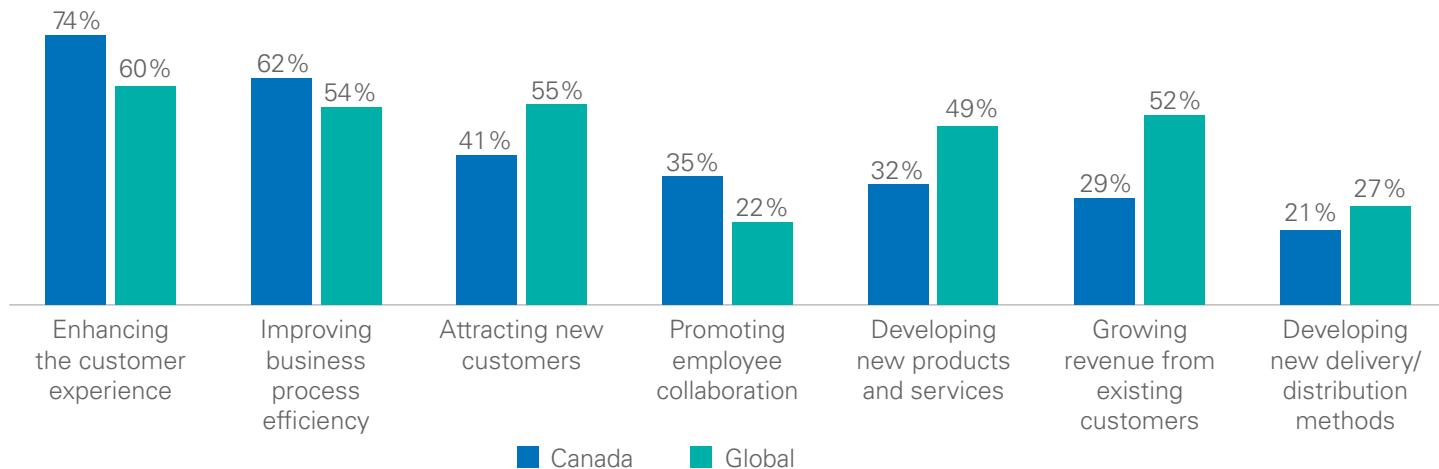
Customer calling the shots

Canada's pursuit of digital is being driven in large part by a desire to make deeper inroads with today's customers. This mandate is echoed throughout the findings in KPMG's 2018 [Canadian CEO Outlook](#). A majority of leaders shared the belief that personalizing and enhancing the customer experience is a critical path to growth, and that technologies such as data analytics, mobile apps, cloud computing, and on-demand platforms are proven means to those ends.

Yet, according to this year's CIO survey, Canadian IT leaders lack confidence in their organization's ability to create engaging customer experiences, generate actionable customer insights, and obtain a single view of customer interactions across all service channels. In fact, no more than one-in-five rate themselves at least very effective in all five critical customer-focused capabilities presented in the survey.

Canadians IT leaders recognize the need to up their game in regards to customer capabilities and the value of digital technologies in doing so. That awareness is reflected in their current priorities which have replaced cost-conscious priorities from past surveys,

Prioritizing digital technology initiatives

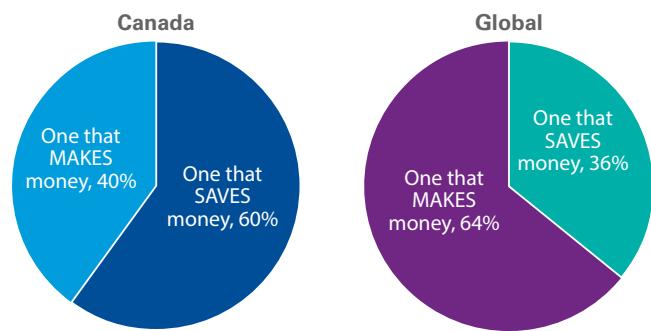


with goals to improve the customer experience, attract and retain customers, and use data to develop new products and services. Once again, this focus is shared by Canada's CEOs, half of which are also intent on improving their use of data analytics, and a majority of which look to be the disruptors, rather than the disrupted.

Most appealing IT projects

Motivation behind IT projects varies between Canada and its global peers. Sixty percent of Canadian CIOs say their CEO would be most interested in IT projects that save money, as opposed to 64 percent of global CEOs that are believed to be more interested in IT projects that make money.

Motivation behind IT projects



86%
of Canadian CEOs expect significant returns on their digital investments

of Canadian CEOs expect significant returns on their digital investments

*Canadian CEO Outlook 2018

The fact that enhancing the customer experience didn't appear among the top three priorities for global CIOs is interesting. Rather than indicating a lack of customer focus, however, it is more related to the fact global respondents are further along in their own digital strategies and have shifted their focus respectively.

The virtual employee

Advances in automation and artificial intelligence (AI) have opened doors for digital labour in virtually every business department. While interest in doing so among Canadian CIOs is tepid at best, around one-third still plan to implement digital labour within several key functions, including within IT (39 percent), finance (33 percent), customer support (31 percent), and marketing (30 percent).

Global results reflect these shared targets for digital labour, albeit at a higher intensity than Canadians.

	Canada			Global		
	Planning to implement	Implemented	No plans to Implement	Planning to implement	Implemented	No plans to Implement
Within IT	39	13	48	41	28	31
Finance	33	9	58	34	18	48
Customer Support	31	10	58	38	22	41
Marketing	30	5	65	29	14	57
Supply Chain	21	6	74	26	14	60
HR	18	13	69	29	16	56
Sales	18	6	76	29	14	57
Legal	7	3	91	15	5	80

The millennial factor

The need to meet tech-savvy customers on their own terms is one of the biggest drivers of digital transformation. But who are those customers, and what expectations are they bringing to the market? According to KPMG's 2018 *Me, My Life, My Wallet* study, they are a mix of multiple generations – each of which is growing increasingly accustomed to personalized, secure, 24/7, and on-demand services. Core amongst this mix, however, are millennials who will represent the largest single demographic in the world by 2019 and the single largest grouping by 2025. Therefore, their tech appetites and capabilities must be centre focus as companies move forward with their digital strategies.

The business case

Canadians aren't forgetting the back office in their digital plans. While digital investments in customer-facing platforms and channels remain a top focus, leaders are also eyeing IT investments to address a host of business issues. The top 5 include:

66% Delivering consistent and stable IT performance to the business

64% Increasing operational efficiencies

57% Enhancing the customer experience

57% Improving business processes

57% Improving cyber security

Building the foundation

Cloud technologies and mobile solutions are reported as the top technologies on Canadian CIOs' radars. That makes sense given these are the foundational tools required to move forward with more "next-gen" technologies. It's also no surprise that Canadians are significantly less focused on the likes of robotic process automation (RPA), blockchain, AI, and augmented reality than their global peers, given many are not likely at a point yet where these technologies can be embedded and used effectively.

Technology Investments

Top 3



Cloud

Bottom 3



Robotic process automation



Blockchain/distributed ledger



Augmented Reality/Virtual Reality

Mobile solutions



Internet of Things

■ Minimal to Significant

■ Planning

■ No plans

But we're getting there. More and more, our Canadian clients are migrating their legacy environments to more nimble cloud environments, modernizing applications, and striving to deliver consistent, effective, and customer-friendly experiences across all channels (digital and physical). We're pushing ahead with mobile apps and technologies, intelligent systems, natural language processing, and (in some cases) leading the way in AI and other disruptive tools.

Bit by bit, Canada is building its digital foundation. And with the Federal Government now moving forward with a defined digital strategy, we anticipate next year's survey will show Canadians pushing further ahead with next-gen tools.

Supporting the cyber mandate

Cyber continues to dominate boardroom conversations among Canadian and global companies alike. Herein, there is alignment on what they perceive to be their biggest threats (organized cyber crime, amateur cyber criminals, spammers, etc.) as well as overall confidence in their cyber postures. Sixty-four percent of both Canadian and global CIOs say they are well positioned to identify and deal with a future IT security or cyber attack, while 68 percent of each also believe their board is doing enough to support their cyber security strategy.

73%



of Canadian CIOs are a member of the operational board or executive management team, much more likely than their global counterparts (58%)

74%



of Canadian CIOs believe the role of CIO/IT Director is becoming more strategic in their organization (65% global)

While there is little deviation between Canadians and their global counterparts, future surveys may tell a different story. Canada's mandatory breach reporting laws will likely alter confidence levels among CIOs moving forward, if not redefine internal strategies and board-level responsibilities. It will be interesting to revisit these comparisons in 2019 to compare both incident rates and the levels of comfort around cyber security controls when those rules have had time to settle in.

Canadian CEOs share similar reservations and strategies with CIOs when it comes to cyber security. In our 2018 [Canadian CEO Outlook](#), over 40 percent think security breaches are a key threat to their organizations and half believe cyber attacks are a matter of "when" and not "if". The upside is that CEOs share CIOs' confidence in their organization's cyber security governance, with 86 percent stating they are confident in their cyber security abilities.

The price to play

Canada's appetite for digital is evident in its allocation of tech-related funding. Results from the last few years of the CIO survey demonstrated nominal budget increases among Canadian CIOs, whereas this year the results show a significant uptick in digital investments compared to global peers. Fifty-nine percent of Canadians report increasing their budget over the last 12 months (compared to 49 percent globally). Fifty-nine percent also report plans to increase their budget in the year ahead (48 percent global). A mere 7 percent of domestic CIOs report that they won't be increasing investment, whereas the number climbs to 14 percent among their international counterparts.

This motive behind these heightened levels of investment can once again be traced to Canada's place in its digital transformation journey. With Canadian companies in earlier stages of their journey, their technology spends are understandably higher than those who have already incurred the costs.

Elsewhere in this year's study, controlling spend outside of IT remains consistent to previous years and aligned to global peers. Still, Canadians possess a centralized view of how IT spend is being managed, and it is likely that as CIOs and their organizations move further into their digital agendas over time, we'll see a higher diversification of investments being made.

Human talent in demand

Despite the inevitable "rise of the machines", organizations remain dependent on the right talent to guide, implement, and sustain their digital ambitions. Canadian employers in the 2018 [Canadian CEO Outlook](#) cite emergency technology specialists, digital transformation managers, and data scientists among the most valuable talent in the years to come and, in some cases, even more so than global CEOs.

Insights from our CIO survey paint an interesting story as to how Canadian organizations are filling their ranks with the right talent. Interestingly, less than half of Canadian CIOs believe they are effective in hiring and developing talent with the digital skills they need to make good on their digital strategies, with 36 percent either saying their organization is slightly or not effective at all at filling their digital roster.

Intelligent Interactions

In summer 2018, KPMG announced the integration of its Intelligent Interactions machine learning solution with Google Cloud's Contact Center AI, a solution that combines multiple AI products to improve the customer service experience and productivity of contact centers. The initiative was launched in response to a growing demand among Canadian clients with limited machine learning experience to deploy AI within their contact centres to enhance customer service, acquire data-driven insight, and remove significant annual operating costs.

"Contact Center AI accelerates an organization's ability to understand customer trends so they can enable customer interaction channels with operational, training and decision making analytics," said Miriam Hernandez-Kakol, Global Leader for Customer & Operations Advisory, KPMG in the US. "With faster access to insights and enhanced understanding of intent and reason, businesses can proactively respond to trending customer needs, while reducing costs and improving efficiencies."

Learn more

[KPMG and Google:](#)
[KPMG Intelligent Interactions](#)

Functions impacted by a skills shortage

	Canada (%)	Global (%)
Big data/analytics	45	46
Enterprise architecture	35	35
Artificial intelligence	34	38
IT strategy	32	26
Business analysis	29	31

GDPR on the radar

Enacted in May 2018, the EU's General Data Protection Regulation (GDPR) imposes significant rules and expectations for any organizations dealing with data belonging to EU citizens. According to this year's survey, that includes 16 percent of Canadian firms (32 percent global), only a third of which report being prepared for the regulation.

GDPR transformation



[Read more on GDPR.](#)

20%
of Canadian CIOs
were subject to
an IT security or
cyber attack in the
last two years
(33 percent global)

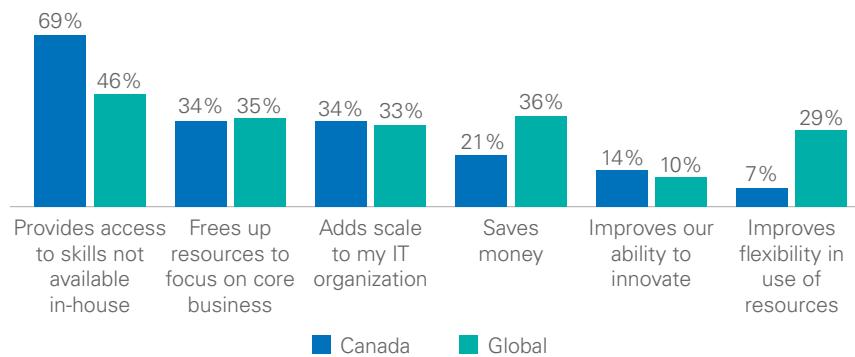


For one, 38 percent of CIOs are currently outsourcing or offshoring talent. This can be attributed to a number of factors. Canada is hobbled by a skills shortage in a number of the more advanced capability sets; a shortage that our current post-secondary education systems are struggling to meet. This is supported by findings from this year's Canadian CIOs, 69 percent of which say their prime motive behind outsourcing or offshoring is to provide access to skills not available in-house (significantly higher than 46 percent globally).

It can also be argued that there are challenges around our immigration laws and the system's ability to bring those capabilities into Canada at the rate at which they are required. Indeed, only one-quarter of Canadian CIOs say work VISA legislation is beneficial to their hiring/talent strategy, with the rest not sure or outright not confident in the system's ability to address the gaps.

Interestingly, Canadians are outsourcing / offshoring at far fewer rates than global companies. This can be attributed to the fact that Canadian companies are not as advanced in some of the more disruptive areas (RPA, blockchain, etc.) and are therefore drawing from a different pool of resources. It may also be a symptom of the larger trend towards moving to a cloud environment in general, which drives an alternate strategy around how companies access skills and whether you need to leverage outsourcing agreements more broadly. Here again, the fact that global companies are more acclimated to cloud environments, and have made the journey already, might address the variance.

Motives for outsourcing/offshoring



55%
of Canadian CIOs say skills shortage is preventing their organizations from keeping up with the pace of change

91%
of Canadian CIOs are using contractors or consultants to find the right skills



Shedding the stereotype

Canadians have a reputation for taking the long route towards digital transformation, but it's an image CIOs appear eager to shed. As CIO/IT Directors assume a greater role in the boardroom and organizations build confidence and capabilities around disruptive technologies, the appetite for innovation and disruption is growing.

Canadian CIOs recognize the value of investing in cloud-based capabilities, intelligent automation, data analytics, and AI to drive operational improvements and secure their cyber environment. They also acknowledge the need to use these tools to gain greater insights into today's customers and to develop the platforms, apps, and innovative services to win their business.

Yet while digital strategies are maturing and IT budgets are on the rise, the journey is far from over. Canadian organizations continue to trail their global peers in embedding digital strategies and the technologies to see them through. Many remain challenged to acquire the skills and talent to unlock the full potential of their digital investments. Overcoming these obstacles will be a priority for CIOs as new competition and online alternatives continue to tempt Canadian customers from beyond our borders.

Fortunately, Canadians are always up for a challenge. And while this year's survey reflects Canada as somewhat behind its global peers in its digital transformation journey, it also reveals an intent to make up for lost time and close (or even surpass) that digital divide. Calling on Canadian businesses - let's do this.

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