

The Age of Disruptive Innovation

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Canada's economy, like others around the world, is facing rapid advances in technology. The incredible disruptive potential of these changes—including, but not limited to, artificial intelligence, advanced robotics, networks, advanced manufacturing and collaborative connected platforms—clearly demonstrates the need to be prepared.

Disruption is coming—and Canadian firms are not prepared.

The way Canadians live and work is about to change profoundly. Rapid advances in technology are poised to disrupt many of the sectors that anchor Canada's economy. The impact will be felt across the country—and Canadian businesses are not prepared for it.

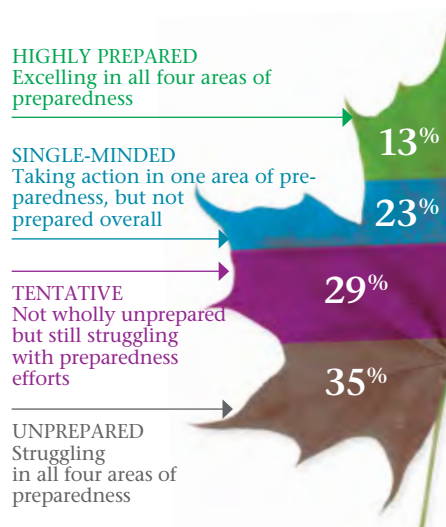
Disruptive innovation has the potential to impact each and every firm, no matter its size, sector or location. The development and application of advanced technology is accelerating at such an exponential rate that people have difficulty coming to grips with the sheer pace of change. Among the key factors propelling these advanced technologies is the exponential growth in computer processing power—and, in turn, the staggering drop in the price of computer chips. In 1992, one would pay \$222 for a million transistors; today the cost is \$0.06.

Advances in technology have also increased the rate of business growth—and business failure.

Since 2003, a new company has reached a \$1-billion valuation every three months in the United States. Yet the time it takes to reach that valuation has shrunk considerably: Shopify took nine years; Slack took one.

As businesses are growing more quick-

ly, they are also exiting much more quickly. In 1960, the average lifespan of an S&P 500 (Standard & Poor's) company was 56 years; by 2014, it had dropped to almost 15 years.



In the public sector, governments across the country are grappling with disruption from technology both in terms of regulatory and legislative frameworks that may no longer speak to the technological experience of today, and in terms of the way they do business. The advent of e-government offers both challenges and opportunities as jurisdictions all over the world imagine new ways to connect with and empower their citizens.

Advanced technologies are driving the disruptive innovations that will bring significant and permanent change to Canada's business landscape. In a recent report released by Deloitte, *Age of Disruption—Are Canadian Firms Prepared?*, five technologies were identified for their considerable disruptive potential: artificial intelligence, advanced robotics, networks, advanced manufacturing and collaborative connected platforms. Whether profound change comes from these specific technologies, others, or some combination that has yet to be seen, the incredible disruptive potential of these five will illustrate the importance of being prepared.

For over a year, Deloitte studied the Canadian economy to better understand whether or not firms have what it takes to withstand significant technology-driven disruption. As part of this research, 700 business leaders across Canada were surveyed to gain their insights into the issue.

Each firm's performance was evaluated in four areas that are vitally important to disruption preparedness:

- **Awareness:** understanding changing technologies, the accelerating pace of change and the potential for technology-driven disruption in the firm's industry and business environment;
- **Culture:** the extent to which a firm promotes, encourages and provides incentives for innovative behaviours and practices;
- **Organizational agility:** the ability to rapidly redeploy systems, assets and people to address external opportunities or threats; and
- **Effective resources:** the technology, human capital and financial assets that firms can use to enable change.

Based on results from the survey, Deloitte discovered that a mere 13 per cent of Canadian firms can be considered highly prepared for disruption, 23 per cent are prepared in one area, but not others, 29 per cent have started, but are struggling with their overall preparedness efforts, and, most disturbingly, 35 per cent are completely unprepared.

The implications are dramatic. More than four out of five Canadian businesses are not well-prepared for disruption.

Compounding the essential lack of preparedness is the fact that a large number of firms—almost half—believe themselves to be more prepared than they actually are. This “perception gap” is based on firms reporting a lack of substantive activity in key areas of preparedness, while simultaneously arguing that they are, in fact, prepared.

To improve preparedness, consider looking to Canada’s best-prepared firms. One survey result that was particularly interesting was the diversity of the 13 per cent of highly prepared firms themselves. They do not fit a single mold. They represent firms from every sector, of all shapes and sizes. From a large bank to a small bakery, these firms are as diverse as Canada. However, there is one important similarity: they are all taking concrete steps to ready themselves for disruption from a future that can only be imagined.

By understanding what sets Canada’s highly prepared firms apart from their peers, it is possible to identify how the country’s numerous, poorly prepared businesses can change. It has already been stated that the highly prepared firms excel in all of the key preparedness areas: awareness, culture, agility and resources. Yet, it was also discovered that these same organizations exhibit attitudes and behaviours of highly productive companies, as identified in previous studies on Canadian productivity. Specifically, highly prepared firms do the following:

- Remain committed to research and development investment, and more than half of them plan to boost R&D spending over the next five years;
- Are more likely than their peers to focus on national or international markets, which brings them into contact with new ideas and approaches and gives them a different perspective on how to create and sustain success; and
- Were almost 25 per cent more

likely than unprepared firms to report revenue growth over the past five years.

The implication? Investments that can improve a company’s productivity today can enhance its preparedness for the wave of technology-driven disruption tomorrow.

After reviewing the data, it becomes clear that Canadian firms, be they private, public, or non-profit, can take concrete steps to dramatically improve their capacity to anticipate, respond to and capitalize on the disruptive storm that is coming:

- Cultivate awareness: Creating sensing engines to identify and assess the forces that have the potential to disrupt a business or industry better positions a firm to take action today to prepare for disruption’s impact tomorrow;
- Build the right culture for preparedness: Developing a resilient, innovative organizational culture can help companies withstand disruption in the future, and also offers important benefits today;
- Foster organizational agility: Embracing new ways of working and making decisions can help firms avoid becoming mired in the bureaucracy that can bring change to a screeching halt; and
- Develop effective resources: Investing in advanced technologies and using resources effectively can increase companies’ resilience in the face of change. Acquiring and deploying the best people, technology, and financial resources can help firms become more competitive as they prepare for future disruption.

While it can be difficult for governments and academic institutions to directly influence the actions taken by Canadian businesses, Deloitte’s report asserts that both can take steps to support firms in their preparedness journey. Areas under government influence, like education or immigration, can have a significant impact on the way companies in Canada prepare. Some key areas of focus are:

- Evolve education at all levels: Governments must use their funding and regulatory levers to encourage a shift in how Canada’s students are educated at the elementary, secondary and post-secondary levels, embracing new education practices, models and partnerships. It is also crucial to begin educating students on what is possible in the new economy, discussing new technologies and business models.
- Alter protectionist regulations in Canada’s visa regime. The government must review its visa processes to ensure our companies can compete with their worldwide peers for the best global talent. Improving the speed and efficiency of the application process is a start, but governments must also resist the tendency to establish protectionist policies that make it more difficult to work in Canada than in many other countries.
- Redesign post-secondary institutions into vibrant, diverse learning zones. Canada’s post-secondary education system was built at a time when only a small proportion of people attended university. At that time, highly specialized learning, housed in silos and based on static curricula, proved a successful format for producing successful students. However, the past 50 years have seen unparalleled change, and our education system must adapt.
- Invest strategically in building true business ecosystems. Governments must work to deepen the impact of existing clusters of businesses and help them transform into full-fledged ecosystems that support and promote business. While having a cluster in every major Canadian city is an excellent goal, what’s needed now is a transition from clusters to world-class business ecosystems.

Canadian firms are facing serious, significant challenges in their preparedness for disruption. But they also face incredible opportunities to improve their productivity and to become better prepared for what is to come. **P**

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