

Canada Becoming a Leader of Technological Advancements: Discussing Artificial Intelligence, Automation and Technological Hubs

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Abstract

Technology plays a significant role in contributing to changes in the economic sector. It is changing the way sectors and businesses operate. Canada is at the top of its game with artificial intelligence, automation, and attracting of business giants to our tech hubs. However, there are fears that technological advancements will cause a spike in unemployment rates by replacing human jobs. This report will show that advancements in technology will only create more jobs, more productivity, and efficiency. The nature of jobs may change, but with education and training, we will be future ready to embrace technological advancement leading to economic development.

Introduction

The Economic Development Council of Ontario (EDCO) conference on January 29th and 30th, 2019 focused on recent trends and changes affecting communities. The discussions were centered around the Future Ready- Preparing for Tomorrow's Economy report which highlighted seven themes: economy, funding, governance, demographics, environment, talent & skills, and technology. A highlight of the conference was Economic Development Professionals (EDPs) sharing technology's significant role in contributing to changes affecting communities and the nation as a whole. Some of the major themes discussed under the umbrella of technology were artificial intelligence, automation, and the rising popularity of technology hubs in Canadian cities which has attracted world attention.

Technological Trends and Challenges in Communities

It is hard to separate technology from the economy itself. Businesses are investing in technology because of the widespread smartphone users who have access to the internet at all times. This, in turn, gives leverage to business owners to use technology for their benefit.

EDPs stated that a new trend technology brought to their community was the lack of need for office spaces for businesses that operate from home. There are vacant retail stores as most people are shopping online and having their products shipped to the house.

An EDP discussed the revitalization of their rural town's downtown core. The EDP stated that the retail stores have become warehouses for businesses who are looking to ship locally or

internationally. Business owners are finding it much cheaper to operate using warehouses to ship products out rather than having a store that targets only residents. New Technologies encourage this type of shift in business processes to increase service and profits. A small business owner can be offering online chat options that “no longer requires someone to sit at their desk and monitor it day and night thanks to artificial intelligence (“7 Technology Trends”, 2018). It has recently become even easier to allow customers access to a business 24/7 through automated chat tools that interact with customers “without the need for dedicated staff to answer phone calls or chat online every hour of the day (“7 Technology Trends”, 2018). Other empty spaces are being used as experiential shops to attract tourists to communities using social media apps. We live in a society where people are scrolling through their social feeds to stay up-to-date and to see the latest trends and content. Using apps can give small businesses leverage in showing interesting content, photos or videos of experiential shops. One may think that apps may not create a difference in marketing businesses, usually for free, but it is shown that “smartphone users spend 90% of their time on mobile using apps they’ve downloaded” (Chaffey, 2018). It is the perfect way for businesses to use technology to thrive financially.

A concern for economic developers in rural municipalities is the need for better broadband internet access in a world where everything is digitalized. Economic specialists believe that with better broadband internet access, rural regions’ businesses would benefit. Currently, some businesses that operate from home have two internet providers, so that there is no loss to businesses due to internet issues. According to another EDP in the conference, in most remote areas there is only one technical support specialist to fix Internet issues. There was unanimous agreement on the table of EDPs that as a country we can do more to provide better broadband internet access to remote areas and it can result in more people wanting to live and work in rural communities.

Trends and challenges in rural areas show that technology has transformative impacts on businesses and the economy. Further, we are entering a new wave of technological transformation that includes artificial intelligence, automation, and technology hubs that promote even more innovation and economic development.

Artificial Intelligence & Automation

Artificial Intelligence (AI) is not a foreign concept to us as we have experience using voice assistants like Siri, Alexa and Google Assistant that make our lives easier. AI is gaining dominance in Canada and representing the country as the go-to place for experts and large companies. Government and investors are securing millions for AI and attracting skilled and talented workers to the country. Canadian universities are also home to some of the brightest minds in the field of AI, “specifically in the areas of machine learning, reinforcement learning, and deep learning, leading researchers and professors have been graduating some of the most promising talents out of cities like Toronto, Montreal and Edmonton” (Bushey, 2017). Canadian AI start-ups have attracted not only government attention who fund programs, but also the focus of large corporations who want to invest in AI research. For example, AI start-up Element AI in Montreal, that brings machine-learning business solutions to the masses, has received a \$102 million from

companies like Microsoft Ventures, Intel Capital and Nvidia to create a platform that combines academic AI research with real-world business implementation (Lunden, 2017). AI research has become a force to be reckoned with in Canada as it has leading researchers, talented workers, and funding support from both government and tech giants.

The advancement of technology to automation has big companies such as General Motors (GM), Google, and Uber all testing out driverless vehicles (Chan, 2017). Canada has been taking an interest in making driverless trucks a reality in the near future to “boost productivity amid a driver shortage and governments seek to reduce deadly crashes” (Marowits, 2017). The trucks are being tested in empty, traffic-less areas and have safety drivers. There is a great hope for autonomous trucks to reduce human error and increase safety and efficiency (Marowits, 2017).

According to CNN Business, GM and DoorDash, a food delivery company, have teamed up to test driverless deliveries. The car will mostly be driving itself under the test program, but there will be a safety driver that will only take over in case of an emergency (Valdes-Dapena, 2019). The idea is that the DoorDash customer will be able to order meals or groceries and have them delivered by autonomous cars. Uber plans to launch drones delivering food showing AI's boundless limits. GM wants to make autonomous vehicles in the future to expand its business to extend to ride sharing and to operate them in fleets (Valdes-Dapena, 2019).

Technology Hubs

Canadian cities are gaining more fame among tech hubs of the world. Toronto has been dubbed as one of the best tech hubs in the world (“Toronto Ranks”, 2018). Large companies such as Airbnb, Facebook, Google, and IBM have satellite offices in Toronto. Amazon even considered making Toronto its second headquarters (“Toronto Makes Cut”, 2018). Amazon expanded its Toronto tech hub and created 600 new tech jobs. Some of the jobs performed by employees of Amazon focus on research and software development, “machine learning, cloud computing, digital advertising, and artificial intelligence” (Shum, 2018). Amazon plans to create another 6000 new jobs in Canada. Canada has proved that there are skilled and talented workers and innovators because we are getting more international tech companies investing in our cities to either do business, expand or relocate (“Canada’s Tech Industry”, 2018). Other Canadian cities such as Ottawa, Vancouver and Montreal also make the list of top cities for tech innovation (“New Study Rates”, 2018).

The Big Question: Are we heading towards job losses?

Economic developers at the roundtable discussed their communities’ fears of technological advancement causing unemployment. The experts unanimously agreed that new technological advancements bring a positive impact to the labour market because jobs become automated and there is an increase in efficiency and productivity. Automation and AI are sometimes negatively viewed as replacing the jobs of people by machines. However, it has been many years, and there hasn’t been a dramatic unemployment rate, and according to the World Economic Forum (WEF), “artificial intelligence will actually create 58 million more jobs than it displaces by 2022”

(Chowdhry, 2018). Businesses will reinvest their human staff to other jobs within the company, and only manual, repetitive jobs will be replaced by automation and AI. Automation and AI will free up workers to do “more creative and people-oriented activities...and take on new skills and expanded roles” (Kinson, 2019). Automation and AI will create more room for creative jobs rather than manual, mundane jobs which can be tiresome. People will tap more into their creative side in their jobs.

If we are going to be concerned about job losses, then looking at automation and AI is not the place. With the number AI talent graduating and working in the tech field, there are always going to be countries that would try to take the talent. It is essential to invest more into universities and programs and give the talents a competitive salary, so Canada does not suffer a brain drain in the tech sector.

Conclusion

Technology has shown transformational impacts in the Canadian economy and based on the trends, it will dramatically change the workforce of the future. We have to be future ready and become technology-literate as technology will impact all of us. We do not necessarily have to become experts but it is important we know the concepts of modern technology and innovation, and most importantly not fear changes coming our way. We are a tech revolution and Canada is currently at the top with AI research, automation, and attracting business giants to expand and invest in our tech hubs. We need to be future ready by education and investing in people to adapt to the changes faster and more smoothly in the tech sector.

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