



Inclusivity and Accessibility at the Core

Pathways to Employment
in the Digital Economy
for Albertans with Disabilities

March
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Research by



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The Province of Alberta is working in partnership with
the Government of Canada to provide employment
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Preface

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Abstract

The digital economy has and continues to play a key role in Alberta's economic success and will be a central pillar to its recovery and rebound from COVID-19. Despite a struggling overall economy, employment in Alberta's digital economy at the end of 2020 was above pre-pandemic levels. Not only has Alberta's digital economy proven resilient to these large-scale economic shocks, but it has also created high quality employment for Albertans throughout one of the most challenging economic periods in modern history.

Employers in this rapidly growing digital tech space continue to assert that the demand for talent far outstrips available supply. They are also becoming increasingly aware of the reality that leveraging all talent streams is essential, including Albertans with disabilities. People with disabilities represent an untapped pool of skilled workers. Many possess advanced education in STEM disciplines, business, social sciences, and legal studies. Yet, according to employers, engaging and hiring people with disabilities remains a challenge, with many not knowing where to begin.

Using mixed methods—key informant interviews, literature review, an employer survey, workshops, and an advisory committee—this report looks at the barriers that people with disabilities face in accessing meaningful employment in Alberta's digital economy. It also discusses the barriers, challenges, and overall uncertainty that persist among employers with respect to recruiting and retaining people with disabilities. These include a lack of knowledge of employer legal obligations and a lack of awareness of where to obtain reliable information and resources to shape better policies and practices. These and other factors combine to create employer resistance to hire people with disabilities.

However, there are also some opportunities and a pathway forward. Most employers are willing to hire more people with disabilities and want to develop training, policies, and organizational practices to achieve a more diverse, inclusive, and accessible workforce and work culture. Remote work was also seen favorably, with many employers viewing it as an opportunity for better engagement and increased hiring of people with disabilities. Although significant work remains to be done, employers are keen to broaden their pool of skilled talent and understand that people with disabilities can play a critical role in the success of their businesses.

Key Words:

People with disabilities, digital economy, workforce development, remote work, lifelong learning, diversity and inclusion, accessibility, accommodations, disclosure, workplace culture, training.

Executive Summary

The onset of COVID-19 changed the course of the global economy. Almost immediately, previous year's forecasts of scaling prosperity and labour market opportunity¹ were inconsequential. As the pandemic spread in spring 2020, markets reacted and contracted. Canada was not spared from this downturn, and some of the pandemic's most severe impacts were felt in Alberta. Unemployment rates reached an all-time high of 13.4% in the province during April 2020² as the combination of a global pandemic and rapidly falling oil prices sent overall employment opportunities tumbling. Yet as 2020 progressed, the digital economy in the province and across Canada proved not just resilient but a cornerstone of recovery and a catalyst for future growth.

In December 2020, despite overall employment still well below pre-pandemic levels, employment in the Canadian digital economy was 7.5% higher than it was in January 2020. In Alberta, among the hardest hit provinces by the pandemic, digital economy employment also remained above January levels, and at its height in early fall it added over 30,000 jobs to the struggling provincial economy. The digital economy is therefore a bastion of economic prosperity and employment opportunity for Alberta, and its demand for talent continues to outstrip available supply. Digital economy businesses surveyed in this study continue to assert that a lack of digital talent is a substantial barrier to growth.

As the digital economy continues to expand across all sectors, demand for talent will only grow. New opportunities are already visible in key areas, including digital health, agtech, fintech, and clean technology. Undoubtedly, the digital economy will be at the centre of Alberta's economic recovery and future growth. Skilled talent from all supply streams must be developed, empowered, and leveraged to fill critical roles and drive it.

In partnership with the Alberta Ministry of Labour and Immigration, ICTC investigated the opportunities and pathways to meaningful employment in the digital economy for Albertans with disabilities. This report is a deep dive into how people with disabilities can and do play a critical role in helping Alberta's digital economy grow.

¹ "World Economic Outlook 2020," IMF, January 2020, <https://www.imf.org/en/Publications/WEO/Issues/2020/01/20/weo-update-january2020>

² Melissa Gilligan, Karen Bartko, "Alberta's 13.4% unemployment rate in April among highest in Canada amid COVID-19," Global News, May 8, 2020, <https://globalnews.ca/news/6881443/coronavirus-alberta-unemployment-april-2020/>

and succeed. It brings to the forefront barriers and obstacles that people with disabilities face when attempting to enter the labour market and access work. These insights are combined with an analysis of knowledge gaps, organizational culture and perceptions, needs, and opportunities relating to people with disabilities, as expressed by Alberta's digital economy employers. From this analysis and comparison, the following key findings emerged:

The demand for talent in Alberta's digital economy remains high despite the pandemic, and skilled workers continue to be in short supply. During 2020, eight core digital occupations represented over 4,500 jobs in Calgary alone. The digital economy offers numerous and varied opportunities for employment in Alberta, and employers assert that the supply of skilled talent available to fill roles is insufficient, acting as a key barrier to growth. Hiring from diverse supply streams is a necessity.

A lack of understanding of employer responsibilities when engaging and hiring people with disabilities is a significant concern among employers, in some cases leading to risk-averse hiring practices. Many digital economy employers noted a lack of clarity on roles and responsibilities when engaging people with disabilities. The areas where knowledge gaps were most common were with respect to workplace accommodations and employee performance assessment. In some cases, these uncertainties caused fear, leading some employers to avoid engaging people with disabilities altogether. Filling these knowledge gaps is critical to ensuring equitable, inclusive, and accessible pathways to employment for all Albertans.

Misconceptions about disability persist, but the growing reality of lifelong learning and continuous upskilling brings non-linear training and career development to the forefront. Depending on the disability type and severity, people with disabilities do not always have linear education and career pathways. Some may have had a "late start" in the workplace and may face challenges in job security and career advancement. Yet, the need for continuous upskilling among all workers today presents an opportunity for workers with non-traditional educational or career paths, potentially improving the visibility to their diverse skills and competencies among employers in the digital economy.

Workplace cultures are adjusting, and employers need support to build specific diversity, inclusion, and accessibility policies and practices across their organizations. Many employers highlighted a belief that their current workplace culture is a barrier to people with disabilities.

Challenges addressed include lack of diversity, inclusion, and accessibility training for managers and employees. Employers expressed a desire to address these challenges, including building specific diversity, inclusion, and accessibility policies and practices and prioritizing training at all levels.

The advent of remote work is seen as an opportunity to engage more people with disabilities. Remote work has made evident the reality that all workers need accommodations at times. For some people with disabilities, commuting to work or lacking the ability to setup their home workplace can be barriers to employment. Some digital economy employers surveyed said that remote work caused them to review their existing diversity and inclusion policies, and most believed that remote work would better enable them to hire people with disabilities.

Employers would like to hire more people with disabilities but need accurate, timely, and validated information, resources, and tools to assist them on this journey. Many employers surveyed were simultaneously unclear on their obligations when hiring people with disabilities and willing to expand this demographic of their workforce. Familiarity with relevant legislation and conventions was generally low. Disparate sources of information, tools, and reports create confusion among employers, leading to risk-averse hiring practices that may exclude people with disabilities. Improved collaboration between industry, support organizations for workers with disabilities, and the public sector can be leveraged to create a repository of timely, accurate, and validated resources for all Alberta digital economy employers. The creation of a sub-committee, building on this project's advisory committee, is recommended to collect, update, and validate resources that employers can use to create improved pathways to employment for people with disabilities.

This research offers a deep exploration of the challenges and opportunities for creating inclusive, diverse, and accessible workplaces in the Alberta digital economy. It provides an overall understanding of the barriers to employment among Albertans with disabilities alongside the needs of Alberta's digital economy companies in accessing and hiring candidates with diverse abilities. Understanding the challenges and opportunities on both sides of the employment equation is the first step in building actionable, achievable, and sustainable strategies for improved workforce participation of Albertans with disabilities in the ever-growing digital economy.



Part I

Understanding Disability

“About 15% of the Canadian population has some sort of disability...employers have to realize that.”

— Disability and Accessibility Consultant, Alberta Employment Agency

Developing inclusive, equitable and sustainable pathways to employment is critical. Research has long identified that a diverse and inclusive leadership team ultimately empowers a more productive and innovative workforce.^{3 4} Increasingly, the same finding is echoed for all levels of an organization. A research series on diversity and inclusion spanning five years has led McKinsey & Company to conclude that, beyond leadership, companies with the higher rates of diversity are significantly more likely to possess above-market profitability compared to peers lacking this workforce characteristic. Understanding diversity necessitates understanding inclusion, equity, and accessibility. A diverse workforce is one that encompasses and celebrates differences in gender, race, culture, orientation, religion, and ability.

People with disabilities play a central role in developing a diverse, inclusive, and equitable workforce in Canada, yet the term “disability” is inherently diverse. Understanding the benefit of employing people with disabilities must start with a comprehensive understanding of the term itself.

Disabilities can range in severity (from mild to very severe) and manifest in different ways (e.g., physical, developmental, mental health-related). Some

³ Rocio Lorenzo et. al., “How Diverse Leadership Teams Boost Innovation,” Boston Consulting Group, January 23, 2018, <https://www.bcg.com/en-us/publications/2018/how-diverse-leadership-teams-boost-innovation>

⁴ Sundiatu Dixon-Fyle et al., “Diversity Wins: How inclusion matters,” McKinsey & Company, May 19, 2020, <https://www.mckinsey.com/featured-insights/diversity-and-inclusion/diversity-wins-how-inclusion-matters>

disabilities are temporary, whereas others are long-term or permanent. The World Health Organization (WHO) refers to “disability” as an umbrella term that covers impairments, activity limitations, and participation restrictions.⁵ Under this definition, a disability is one that can affect a person’s ability to see, hear, move, think, remember, learn, communicate, or maintain good mental health and social relationships.⁶ For the purposes of this study, the definition of disability is broad, encompassing all of the above. An all-encompassing definition of disability is critical to effectively understand its manifestation and help employers unravel uncertainties or misconceptions. This knowledge and understanding can help employers across sectors and provinces better chart and maintain equitable pathways for employment of people with disabilities.

⁵ “International classification of Functioning, Disability and Health (ICF),” World Health Organization, 2021, <https://www.who.int/classifications/international-classification-of-functioning-disability-and-health>

⁶ “Disability and Health Overview,” Centers for Disease Control and Prevention, <https://www.cdc.gov/ncbddd/disabilityandhealth/disability.html>

Introduction

Prevalence of Disability in Canada and Alberta

According to research by the WHO, there are over 1 billion people (or nearly 15% of the world's population) that live with a disability.⁷ Of this figure, 190 million possess a disability that makes it difficult to function on a day-to-day basis, and some require healthcare services and assistance.⁸ Additionally, research shows that the number of people with disabilities appears to be growing.

According to the World Bank, aging populations, coupled with a growth in chronic health conditions (such as cardiovascular disease, or mental illness)⁹ contribute to this increase in disabilities.

In Canada, the most recent research by the Canadian Survey on Disability finds that in 2017, one in five (or 22.3%) of Canadians aged 15 and older lived with one or more disabilities.¹⁰ This represents over 6.2 million Canadians. The prevalence of disabilities tended to increase with age and gender. According to the survey, women are nearly 25% more likely to possess a disability than men and are more likely to experience a severe form of disability.

⁷ "World Report on Disability," World Health Organization, December 13, 2011.

⁸ *Ibid.*

⁹ *Ibid.*

¹⁰ "Canadian Survey on Disability," Statistics Canada, 2017.

Types of Disability Among Canadians

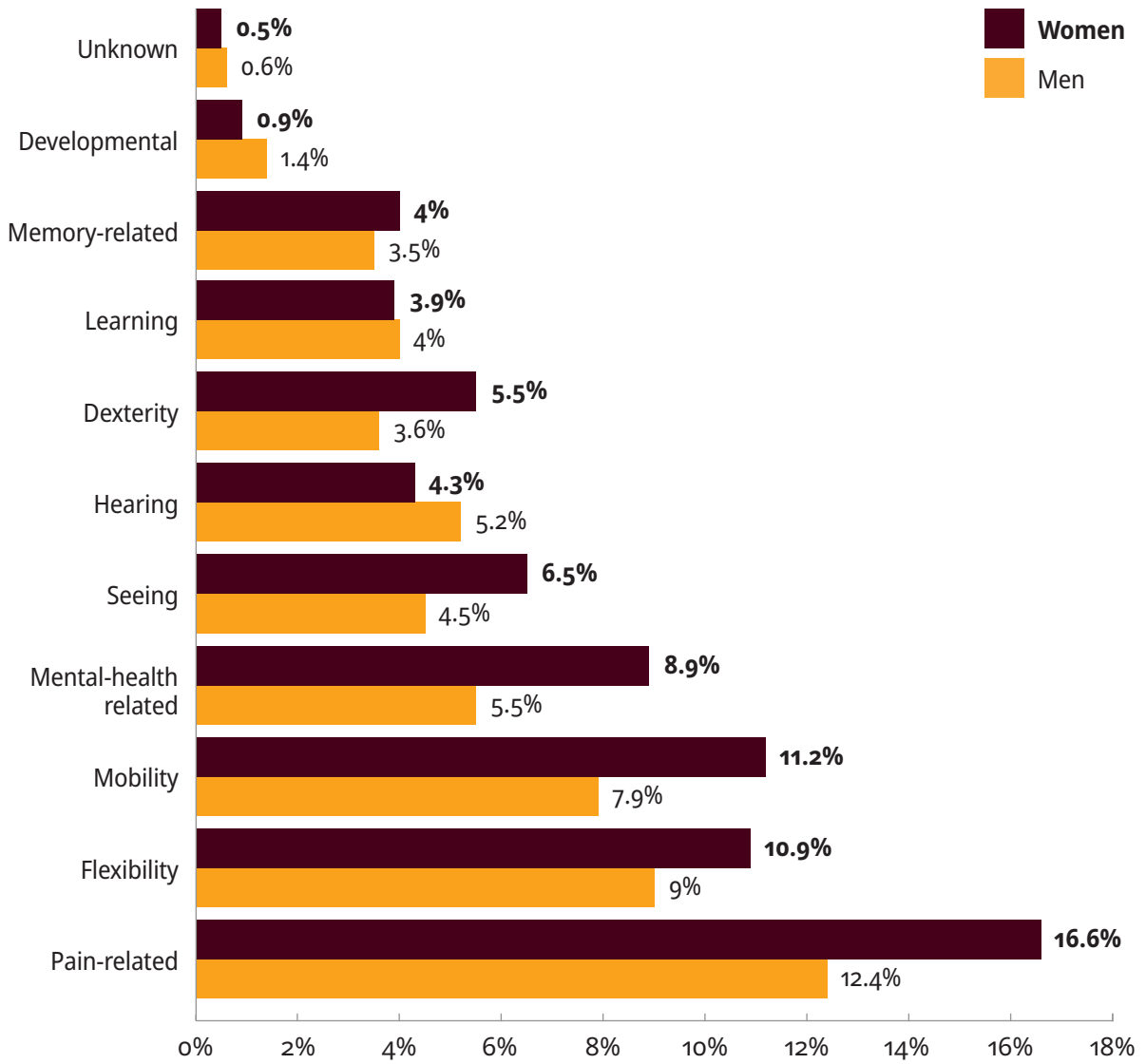


Figure 1: Types of Disability Among Canadians

Source: Statistics Canada, Canadian Survey on Disability, 2017.

In Alberta, over 680,000 people aged 15 and older identify as having a disability (21.7% of the population).¹¹ Similar to results at the national level, women were more likely to report a disability than men.¹² Although this represents a material difference, it is yet unclear if the higher rates of disability among women relate to more cases of disability or perhaps a higher tendency among women to report or disclose a disability. The Canadian Survey on Disability, like many surveys of this nature, is rooted in self-identification (i.e., respondents identify as belonging to a certain group or not).

¹¹ Ibid.

¹² Ibid.

Alberta Men and Women with Disabilities



Figure 2: Gender and Disabilities in Alberta
Source: Statistics Canada, Canadian Survey on Disability, 2017.

Zooming in on Alberta: Disability and Education

In 2018, UNESCO completed a study, Education and Disability, analyzing educational attainment among people with disabilities across 49¹³ countries. Among other findings, the study highlighted that people with disabilities are less likely to complete primary and secondary education, and thereby less likely to possess basic literacy skills.¹⁴ In Canada, people with disabilities are less likely to graduate from high school or obtain traditional postsecondary education such as a college diploma or university degree. According to the 2017 Canadian Survey on Disability, 20% of Canadians with disabilities lacked a high school education, compared to 11% of Canadians without disabilities.¹⁵

In Alberta, rates of postsecondary education are also lower among Albertans with disabilities versus those without (54% vs. 62%), however, the difference is smaller than at the national level. Moreover, people with disabilities in Alberta are more likely to possess college diplomas or trades certifications compared to Albertans without disabilities. The most material differences are at university education levels. Here, Albertans without disabilities are 10% more likely to possess a bachelor's degree or higher, with Calgary having the highest proportion of university graduates, both with and without disabilities (26% and 37%).

¹³ Including Canada.

¹⁴ "Education and Disability: Analysis of Data from 49 Countries," UNESCO Institute for Statistics, Information Paper N.49, March 2018, <http://uis.unesco.org/sites/default/files/documents/ip49-education-disability-2018-en.pdf>

¹⁵ "A profile of persons with disabilities among Canadians aged 15 years or older, Chart 7," Statistics Canada, February 15, 2017, <https://www150.statcan.gc.ca/n1/pub/89-654-x/89-654-x2015001-eng.htm#a3>

Educational Backgrounds of Albertans With and Without Disabilities

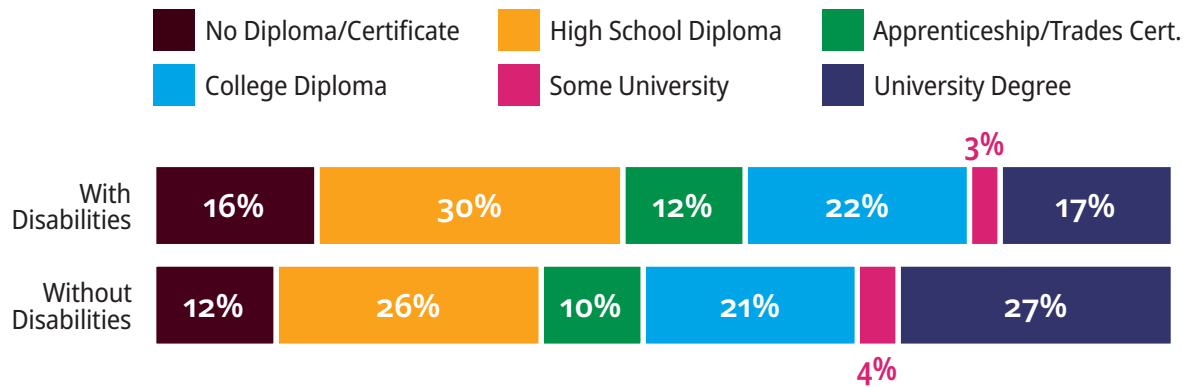


Figure 3: Educational Backgrounds of Albertans With and Without Disabilities
Source: Statistics Canada, Canadian Survey on Disability, 2017, workers over 15.

Fields of Education: STEM a Universally Popular Choice

STEM (Science, Technology, Engineering, and Math) education is a popular choice for Albertans with and without disabilities. One in five Alberta postsecondary graduates have a STEM background. This proportion drops to about one in seven among graduates with disabilities. Likely owing to Alberta's historical strength in the natural resources and energy sectors, the most common area of specialization is engineering, followed by sciences. Although the Alberta digital economy has seen notable growth over the last few years and has seen considerable resiliency during the COVID-19 pandemic, until relatively recently, math and computer science were not considered studies with significant employment demand. As of 2017 when the Canadian Survey on Disability took place, only 2% of people with disabilities with STEM backgrounds (and 4% of Albertans without disabilities with STEM backgrounds) were in math or computer science. Overall, in Alberta, the biggest discrepancy among STEM graduates was not related to ability but gender. Today, over 70% of STEM grads in Alberta are men, regardless of disability status.

Education in the trades and natural resources is also common among Albertans with disabilities (28%), in this case surpassing the representation of Albertans without disabilities. Once again, owing to Alberta's global strength in the natural resources sector, for many years education in the trades related to the energy industry was regarded as a clear pathway to high-quality employment and, to some degree, this sentiment continues to prevail. Despite the downturn in the Alberta economy in 2015, Alberta's aging population coupled with the expectation of an oil and gas resurgence led many to sound the alarm of a looming skilled trades shortage, which students were urged to fill the gap.¹⁶

¹⁶ Tony Seskus, "Growing grey wave set to crash on Alberta trades," CBC News, March 15, 2018, <https://www.cbc.ca/news/business/oil-jobs-boomers-1.4576056>

Aside from STEM and the trades, the highest numbers of people with disabilities are found in business and legal studies. In the latter, graduates with disabilities outnumber those without disabilities by more than eight times. Although there is no available research to explain the reasons for this degree of representation, some interviewees suggest that many people with disabilities have likely experienced a lack of representation under existing legal structures and systems, which may contribute to their heightened interest in legislative processes and advocacy.

Fields of Study Among Albertans With and Without Disabilities

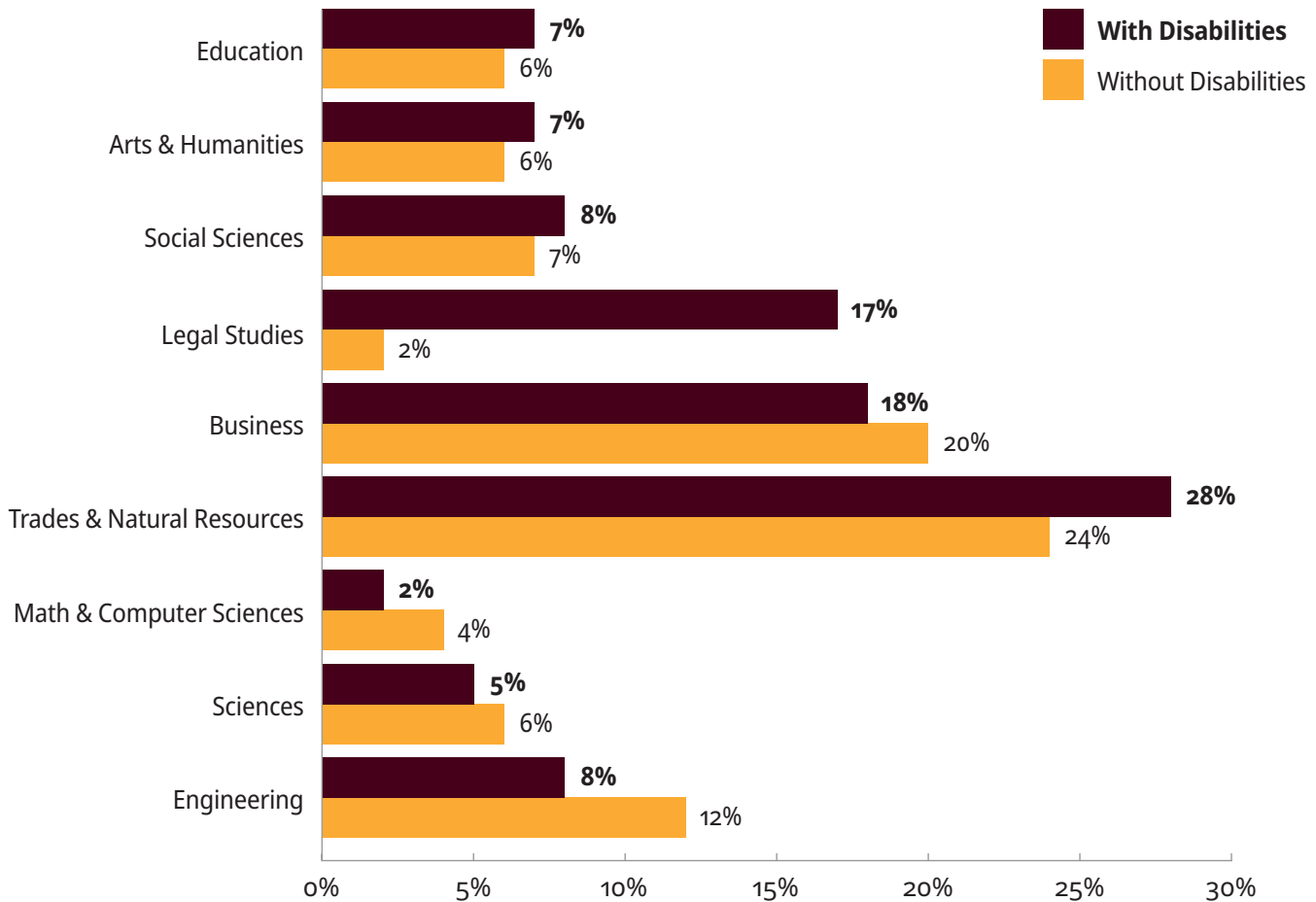


Figure 4: Fields of Study Among Albertans With and Without Disabilities
 Source: Statistics Canada, Canadian Survey on Disability, 2017, workers over 15.

STEM Education and People with Disabilities

Despite high rates of postsecondary completion in STEM programs, some research suggests that the educational delivery and supports common in STEM programs may pose challenges for students with disabilities. While there is some evidence that students on the autism spectrum are beginning to choose STEM education at higher rates than students without disabilities,¹⁷ other research finds that STEM programs today are still dominated by conventional lectures, compared to other programs. A 2018 study published in *Science Education*, surveyed 550 faculty members teaching over 700 courses at 25 institutions in Canada and the US. This study concluded that over half (55%) of STEM classrooms relied extensively on conventional lecturing, with only 18% emphasizing student-centred learning (education and academic-support strategies that address distinct learning needs, interests, aspirations, or cultural backgrounds of students).¹⁸ Although student-centred learning is not necessarily the panacea for effectively teaching students with disabilities, traditional lecturing can make it more difficult for students with disabilities to acquire the additional support, attention, and accommodations they may need (e.g., recorded lectures¹⁹ or closed captioning).

COVID-19 has caused instructors and educational institutions around the world to adjust pedagogies and teaching styles to suit an online environment. In this environment, educators have had to learn how to engage with students virtually yet still teach effectively. The pandemic's impact on education has prioritized discussions on universal design as well as the inherent connections between teaching, equity, and inclusivity.²⁰

To gain an in-depth understanding of employment pathways for Albertans with disabilities in the digital economy, ICTC surveyed 150 employers in the Alberta digital economy on topics like diversity and inclusion policies, recruitment practices, etc. On the topic of education, these employers echoed the prevalence of traditional educational pathways as cornerstone to employment.

Although non-traditional forms of training are gaining increasing recognition globally as ways to better align education with real-life skill needs of industry,²¹ a significant proportion of employers surveyed believed that micro-credentials were only valuable as “add-ons” after a college diploma or university degree was completed. Overall, 44% of employers believed this to be the case. Small companies were the most likely to consider micro-credentials or other forms of non-traditional education in the absence of a college diploma or university degree.

¹⁷ Xin Wei et al., “Science, Technology, Engineering, and Mathematics (STEM) Participation Among College Students with an Autism Spectrum Disorder,” *J. Autism Dev Disord* 43, 1539-1546 (2013). <https://doi.org/10.1007/s10803-012-1700-z>

¹⁸ M. Stains, et al., “Anatomy of STEM teaching in North American universities,” *Science Education*, Vol. 359, Issue 6383, March 30, 2018, DOI: 10.1126/science.aap8892

¹⁹ Danielle Picard, “Teaching Students with Disabilities,” *Journal of Learning Disabilities* 33 (1), 2015, <https://cft.vanderbilt.edu/wp-content/uploads/sites/59/disability.pdf>

²⁰ “The impact of COVID-19 on student equity and inclusion: supporting vulnerable students during school closures and school re-openings,” OECD, November 19, 2020, <http://www.oecd.org/coronavirus/policy-responses/the-impact-of-covid-19-on-student-equity-and-inclusion-supporting-vulnerable-students-during-school-closures-and-school-re-openings-d593b5c8/>

²¹ Thomas Gauthier, “The value of microcredentials: The employer's perspective,” *The Journal of Competency-Based Education*, May 4, 2020, <https://doi.org/10.1002/cbe2.1209>

Non-traditional education (e.g., Microcredentials) are not considered unless a candidate has a university degree or college diploma

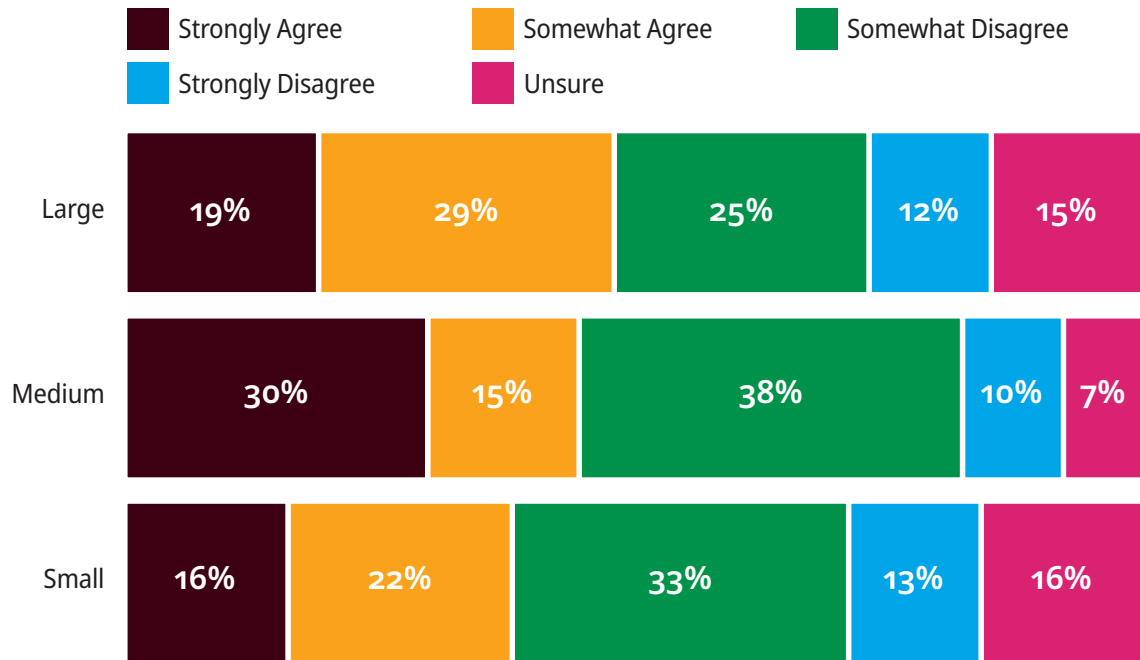


Figure 5: Perceptions of Non-Traditional Education by Alberta Digital Economy Employers, by Company Size
Source: ICTC Diversity & Inclusion Survey, 2021

Disability's Impact on Employment

In Alberta, labour force participation for people with disabilities has significantly increased since 2012. Potentially this is the result of greater efforts for labour market inclusion of under-represented groups and the founding of the Canadian Centre for Diversity and Inclusion in 2012. In 2017, 75% of people with disabilities were participating in the labour market, compared to 58% in 2012.²²

While this is a positive trend, labour force participation must be coupled with inclusive pathways to high-quality and higher-paying employment for people with disabilities. Although this data is not available for Alberta, according to the Canadian Survey on Disabilities, in 2017 just over 40% of Canadians with disabilities earned income from employment, compared to 75% of Canadians without disabilities. The earning potential between Canadians with and without disabilities also varies significantly, particularly at higher wage levels.

²² "Canadian Survey on Disability", Statistics Canada, 2017.

Annual Income Among Canadians With and Without Disabilities

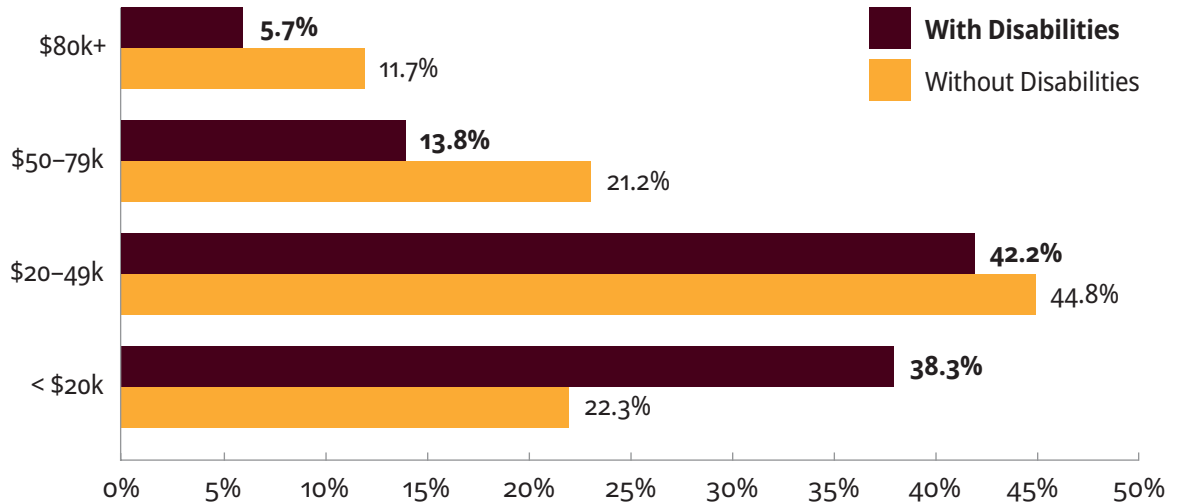


Figure 6: Annual Income Among Canadians With and Without Disabilities, 2020

Source: Statistics Canada 2017 Canadian Survey on Disabilities; Canadians aged 25 and over, after Tax income

The rate of labour force participation and earning potential also decreases with the severity of the disability. Research by Statistics Canada from the Longitudinal and International Study of Adults found that individuals with a more severe disability or combined disabilities (e.g., physical and cognitive) were 20% more likely to draw lower income.²³ These findings are echoed internationally as well. Research by the Joseph Rowntree Foundation in the UK found that in 2018, 31% of the 13 million UK residents with disabilities were living in poverty. Comparatively, the rate of poverty among UK residents without disabilities was 20%. In families where both an adult and child experienced a disability, the poverty rate climbed to 40%.²⁴

Interviewees in this study also noted that in many cases, the more severe a disability, the more difficult it is for that individual to find full-time work. Interviewees said that in such cases, finding employers willing to make the necessary (likely significant) accommodations such as tailoring a job to fit the individual's abilities is challenging.

²³ Katherine Wall, "Insights on Canadian Society: Low income among persons with disability in Canada," Statistics Canada, August 11, 2017, <https://www150.statcan.gc.ca/n1/pub/75-006-x/2017001/article/54854-eng.htm>

²⁴ "Nearly half of everyone in poverty is either a disabled person or lives with a disabled person," Disability Rights UK, February 7, 2020, <https://www.disabilityrightsuk.org/news/2020/february/nearly-half-everyone-poverty-either-disabled-person-or-lives-disabled-person>

Employment in the Technology Sector Among Albertans with Disabilities

The employment of people with disabilities in the Canadian and Albertan technology sectors is low. Of the 3 million Canadians with disabilities in the labour market, roughly 5% work in the technology sector, and another 6% are employed in tech occupations in other sectors of the economy. In Alberta, these percentages drop to 2% and 5%, respectively. As a proportion of the total technology workforce in the province, the representation of people with disabilities increases to 14% when measured against the entire workforce in Alberta.

People with Disabilities as a Portion of the Workforce

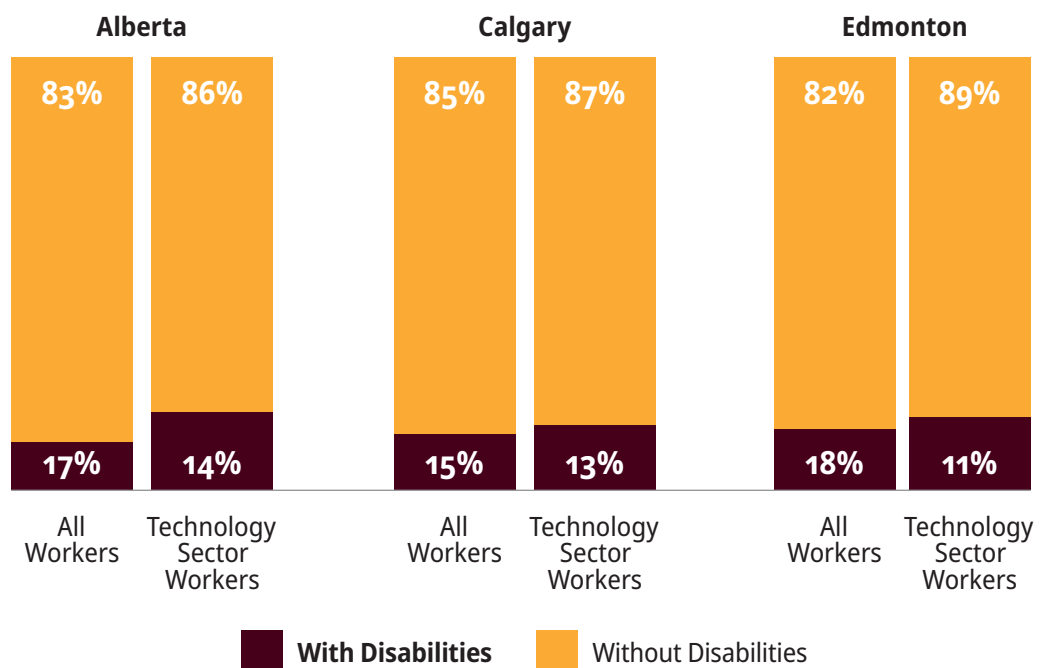


Figure 7: People with Disabilities as a Portion of the Workforce

Source: Statistics Canada 2017 Canadian Survey on Disability; custom tabulation ICT NOCs²⁵

Interestingly, although women are significantly under-represented in core technology employment in Canada (stagnating at approximately 20% over the last 10 years),²⁶ in Alberta, women with disabilities significantly outnumber men with disabilities in technology jobs. About 59% of Albertan technology workers with disabilities are women, and Alberta women with disabilities with a STEM background are nearly two times more likely to be employed in technology occupations than Alberta men without disabilities.

²⁵ ICT NOCs (30) used in this study: 1253, 2283, 5224, 7247, 2171, 7241, 2174, 1123, 4163, 2281, 0601, 0051, 0213, 5241, 2133, 2173, 2282, 2241, 7242, 2175, 7246, 2147, 2172, 0211, 7244, 2161, 7245, 5223, 7243, 2148.

²⁶ "Up the Numbers: 2020 Report," Women in Communications Technology, 2020, <https://www.wct-fct.com/sites/default/files/wct-upthenumbers-report-2020.pdf>

Gender as Proportion of Workforce

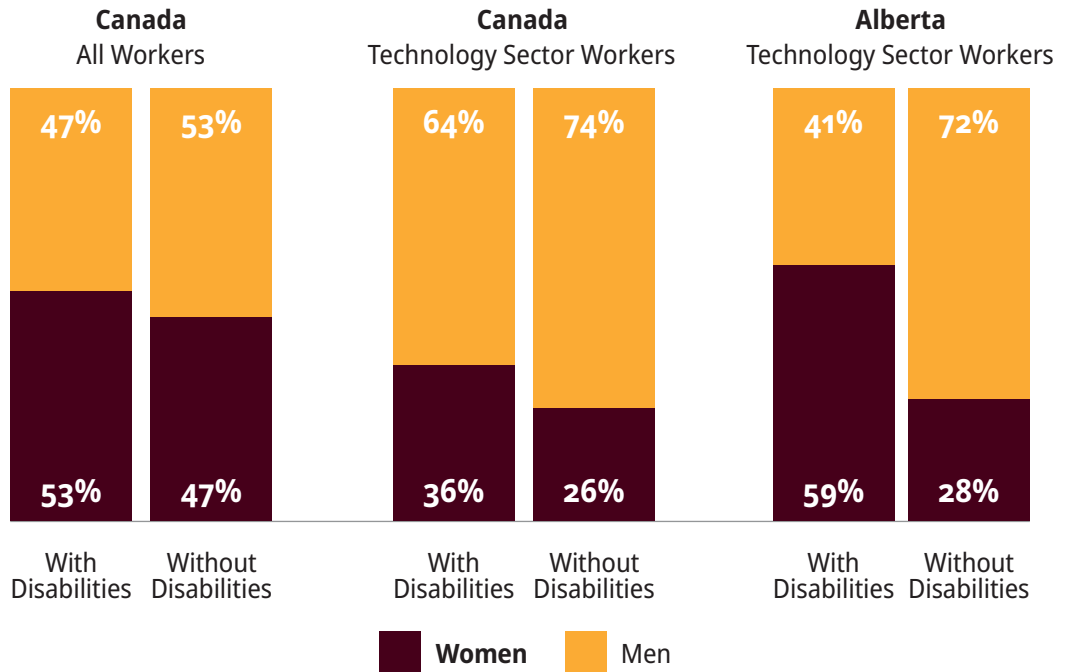


Figure 8: Gender and Disability as a Portion of the Workforce



Part II Employment Opportunities in Alberta's Digital Economy

Before the Change: 2019 to Early 2020

In summer 2019, ICTC released the report *A Digital Future for Alberta*,²⁷ which analyzed and forecast employment in core digital occupations across Alberta's economy during a period of economic diversification that was largely backed by growing investments in technology. This study leveraged primary research to identify the fastest-growing digital jobs in the province alongside their in-demand digital skills. Using this information, the study forecasted the demand for talent in Alberta's digital economy until 2023.

Alberta's tech sector began to grow in the early 2000s, picked up steam following the market crash of 2008, and saw notable growth starting in 2015. From 2001 to 2018, digital occupations grew at a cumulative average annual rate of 3.2%. Although this growth rate was more tempered than in neighbouring British Columbia, it far outstripped employment growth across the entire Alberta economy during this period. In 2019, there was no reason to believe that high employment growth in digital roles would not continue over the coming years, as technology was increasingly adopted across sectors. These assumptions, paired with estimates of relatively calm economic waters at the time, led ICTC to predict that employment growth in core digital roles would continue, creating a demand for nearly 9,000 digital roles and a total employment figure of over 77,000 by 2023.²⁸

²⁷ Alexandra Cutean, Ryan McLaughlin, "A Digital Future for Alberta: An Analysis of Digital Occupations in Alberta's High-growth Sectors," ICTC, June 2019, https://www.ictc-ctic.ca/wp-content/uploads/2019/06/ICTC_alberta-digital-future-final-6.2919.pdf

²⁸ Ibid.

Less than a year later after this study was released, COVID-19 crushed the global economy. In Alberta, collapsing oil prices²⁹ followed, creating a “triple whammy”³⁰ shock that further destabilized employment, notably in the province’s energy sector, which was already hard hit prior to the pandemic. Although the digital economy would later prove to be somewhat insulated from the shocks of COVID-19, these events rendered the 2019 employment forecasts in need of a correction.

In Spring 2020, COVID-19-related supply chain blockages and waning demand for fossil fuels brought severe implications for the entire economy. Even bullish post-COVID-19 assumptions about an economic rebound and expansionary growth do not bring employment demand to the previously forecast levels. A contractionary scenario—where the recession lingers in Alberta during all of 2021—translates to a significant shrinking in digital employment by 2023, bringing labour demand to just over 5,000, and total employment to 73,700.³¹

A Welcome Easing: Summer to Fall 2020

Following initial lockdowns across Canada during spring 2020, the global and Canadian economy began to open again in the summer. In Alberta, lockdowns lifted in May 2020, bringing a resurgence of employment across sectors. Although many sectors remained well below their pre-pandemic employment levels during this period, some employment growth was seen until the fall.

From January to September 2020, the total Alberta economy continued to decline, despite some positive growth in the summer. Accommodation and food services remained the most severely impacted of all sectors; more than 40,000 jobs were lost during this period. Other sectors, like education and oil and gas only saw a slow recovery, with 26,000 jobs still lost during this period. Yet, the digital economy proved not only resilient but a beacon of hope and opportunity. Largely reliant on occupations that are performed effectively from home, Alberta’s digital economy thrived during this period. From January to September 2020, Alberta’s digital economy added over 33,000 jobs, totalling a 18.4% growth since pre-pandemic times.

²⁹ Sarah Rieger, “Oil prices take biggest plunge in decades, taking another bite out of reeling Alberta,” CBC News, March 8, 2020, <https://www.cbc.ca/news/canada/calgary/oil-prices-1.5490535>

³⁰ “Kenney heads to Ottawa to demand urgent help from federal Liberals, warning Alberta faces ‘triple whammy,’” CBC News, March 11, 2020, <https://www.cbc.ca/news/canada/calgary/kenney-live-alberta-calgary-covid-coronavirus-oil-prices-energy-economy-first-ministers-1.5493559>

³¹ Ryan McLaughlin, “Alberta’s Digital Economy Employment: Reassessing previous forecasts,” ICTC, May 4, 2020, <https://medium.com/digitalthinktankictc/albertas-digital-economy-employment-reassessing-previous-forecasts-bda25c9d58d0>

Employment in Alberta

January to September 2020 by Sector

Sector	Percent Growth	Job Growth
Digital Economy	18.4%	33k
Total Economy	-2.8%	-63k
Finance & Insurance	27.3%	17k
Utilities	10.6%	2k
Construction	8.6%	18k
Public Admin	5.1%	5k
Transportation & Warehousing	1.3%	2k
Healthcare & Social Assistance	-1%	-3k
Retail & Wholesale	-2%	-7k
Professional & Scientific	-6.1%	-12k
Manufacturing	-7.4%	-10k
Agriculture	-7.7%	-3k
Education	-7.8%	-13k
Mining, Quarrying, Oil & Gas		-13k
Accommodation & Food Service	-26%	-40k
Forestry & Fishing	-26.4%	-1k
Real Estate Leasing	-28%	-12k

Figure 9: Employment in Alberta by Sector, January 2020-September 2020

Source: Statistics Canada Labour Force Survey, ICTC analysis, 2020

Battling Second Waves, Warding off a Third: Entering 2021

By 2020 yearend, the digital economy concluded on an optimistic note. As early as October 2020, WHO warned that Canada was seeing a “second wave” of COVID-19.³² As summer turned into fall, people began to congregate indoors, and rates of infection began to increase. Around the same time, a new variant of COVID-19 was detected in the UK. The variant was estimated to be 70% more transmissible than the previously circulating virus.³³ Originally the COVID variant was contained in the UK, and by September, the variant represented one in four cases of COVID-19 in the UK. By December it represented two-thirds of new cases.³⁴ At the end of 2020, the UK variant—the first of several variants—had made its way to Canada.³⁵

Fresh lockdowns were put in place across the country, and in many provinces, they persisted into the new year. Despite the optimism that came with two approved vaccines and a general hope for a more productive 2021, second waves of contagion produced labour market contractions across the overall economy. In January, Statistics Canada reported that the Canadian economy shed 63,000 jobs in December 2020—the first decline since April 2020.³⁶ Yet, despite this downturn, the digital economy remained largely unscathed. In December 2020, employment in Canada’s technology sector was 9.7% above January 2020 levels, and employment in the broader digital economy was 7.5% above pre-pandemic levels.

³² Noah Higgins-Dunn, “WHO warns Canada is facing a ‘second wave’ of coronavirus cases,” CNBC, October 14, 2020, <https://www.cNBC.com/2020/10/14/who-warns-canada-is-facing-a-second-wave-of-coronavirus-cases.html>

³³ Tony Kirby, “New variant of SARS-CoV-2 in UK causes surge of COVID-19,” *The Lancet: Respiratory Medicine*, January 5, 2021, [https://doi.org/10.1016/S2213-2600\(21\)00005-9](https://doi.org/10.1016/S2213-2600(21)00005-9)

³⁴ *Ibid.*

³⁵ Alexandra Mae Jones, “Confirmed cases of new COVID-19 variant in Canada are ‘unsurprising’, experts say,” CTV News, December 26, 2020

³⁶ “Labour Force Survey, December 2020,” Statistics Canada, January 8, 2021, <https://www150.statcan.gc.ca/n1/daily-quotidien/210108/dq210108a-eng.htm>

Employment Percentage Change

January to December

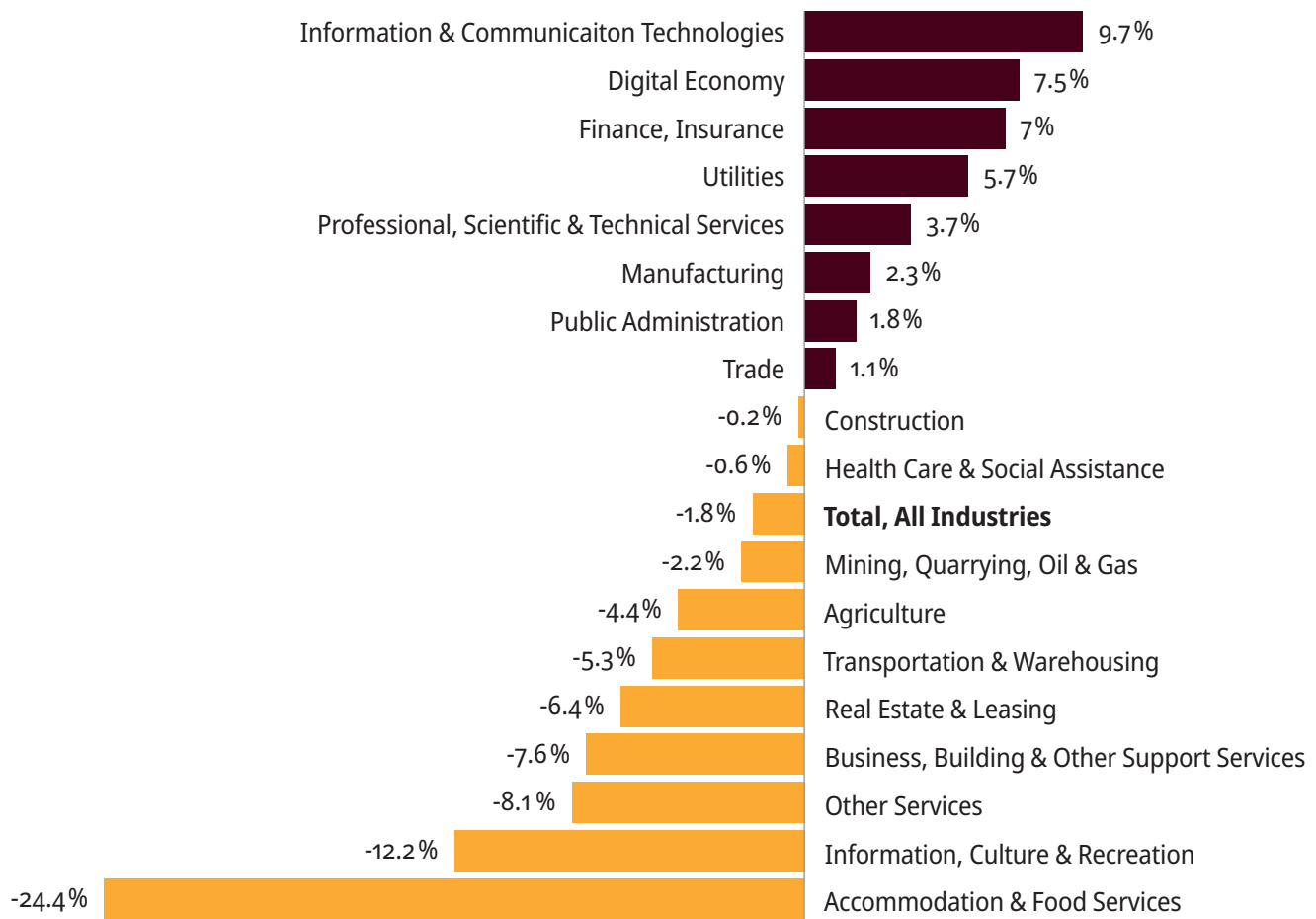


Figure 10: Employment Change in Canada Across Sector, January 2020- December 2020

Source: Statistics Canada Labour Force Survey, ICTC analysis, 2021

Within the digital economy, nearly every core digital occupation saw significant growth during this period. Notably, the demand for web designers and developers was up by more than 40% from January 2020. Demand for software developers was up by more than 35%. The only occupations that experienced a decline in employment during this period were computer designers and interactive media developers. One potential reason for this pertains to the decline in activity in the film and visual effects industry. With live action film shut down or limited for most of 2020,³⁷ the post-production work that follows (completed by interactive media developers) was delayed. When live action film resumes to its full potential, it is expected that these roles will see a rebound in employment as well.

³⁷ Stephanie Ip, "B.C. film industry saw improvements, frustrations following 2020 pandemic shutdown," *Vancouver Sun*, December 30, 2020, <https://vancouversun.com/news/local-news/b-c-film-industry-saw-improvements-frustrations-following-2020-pandemic-shutdown>

Normalized Employment Change in Core Digital Occupations Percent Change in Employment from January to December 2020

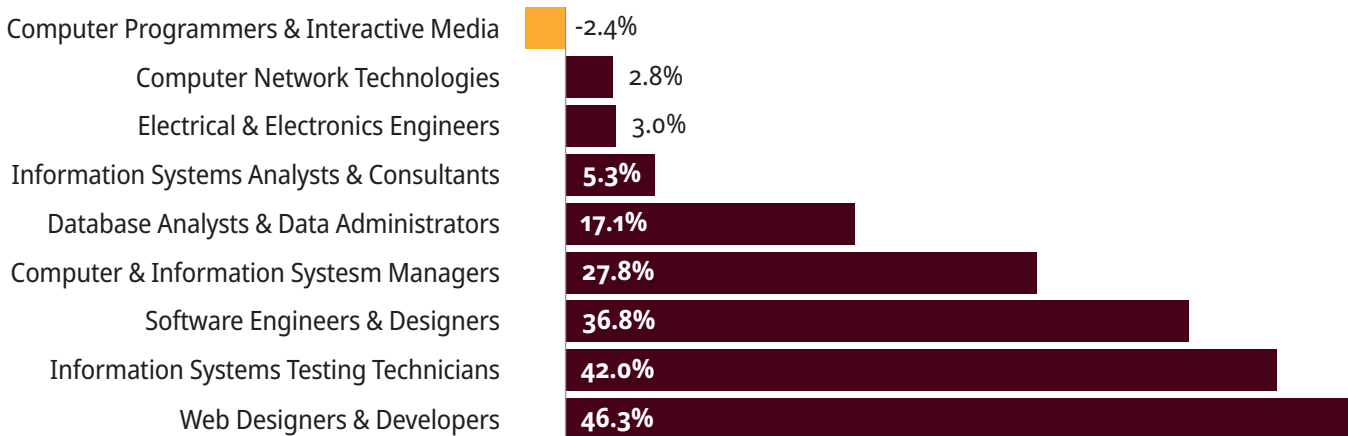


Figure 11: Employment Change in Core Digital Occupations in Canada, January 2020-December 2020
Source: Statistics Canada Labour Force Survey, ICTC analysis, 2021

At the start of 2021, it was clear that the impact of the COVID-19 pandemic on Alberta's economy and overall labour market was among the most severe in all of Canada. In January 2021, Alberta's unemployment rate was 10.7%. Despite a slight decrease from the month prior, the unemployment rate in Alberta was among the highest in the country—surpassed only by Newfoundland and Labrador (12.8%).³⁸

Despite this, recent ICTC research finds Alberta's digital economy remains comparatively resilient to COVID-19. At its height, from February 1, 2020 to June 1, 2020 digital economy employment in Alberta grew by nearly 45,000. Although this growth has since tapered, as other sectors like finance and healthcare see large surges in employment, overall digital economy employment remains above pre-pandemic levels and represents a source of high-quality and sustainable employment for Albertans.

Alberta Digital Economy Pre- and Post-COVID Employment Level

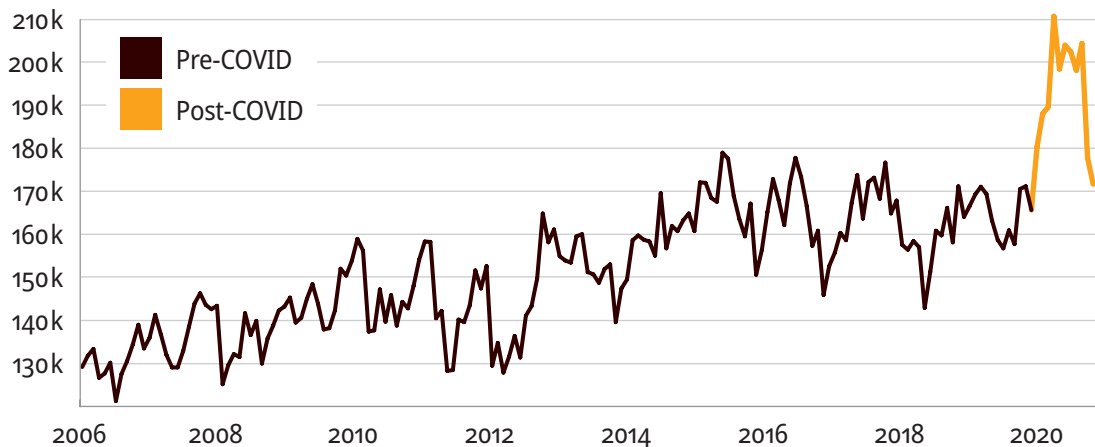


Figure 12: Alberta Digital Economy Employment, 2006-2021
Source: Statistics Canada Labour Force Survey, ICTC analysis, 2021

Employment in Alberta

January 2020 to January 2021 by Sector

Sector	Percent Growth	Job Growth
Digital Economy	0.3%	500
Total Economy	-3.5%	-79k
Finance & Insurance	24.2%	14.4k
Healthcare & Social Assistance	3.9%	11.4k
Mining, Quarrying, Oil & Gas	3.9%	5.2k
Transportation & Warehousing	3.9%	4.9k
Education	2.4%	3.9k
Construction	1.6%	3.3k
Retail & Wholesale	0.8%	2.6k
Public Admin	-0.9%	-900
Utilities	-0.9%	-200
Forestry & Fishing	-1.9%	-100
Professional & Scientific	-4%	-7.3k
Manufacturing	-8.7%	-11.7k
Real Estate Leasing	-18.7%	-7.3k
Agriculture	-22.2%	-10k
Information, Culture & Recreation	-24.4%	-18.1k
Accommodation & Food Service	-44.3%	-66.9k

Figure 13: Alberta Employment Across Sectors, January 2020-January 2021
Source: Statistics Canada Labour Force Survey, ICTC analysis, 2021

Zoom in on Calgary and Edmonton: Demand for Core Digital Roles

Within Alberta, the majority of employment in the overall economy and the digital economy is found in the province's two major cities: Calgary and Edmonton. Moreover, recent surges in sectors like finance and healthcare for example, can be largely attributed to these two cities. Invest Alberta estimates the existence of over 1,400 financial services businesses in Calgary,³⁹ and in January 2021, Calgary represented nearly half (roughly 32,000) of all employment in the province's finance sector. More and more, sectors like finance, healthcare, and many others will blend with technology, augmenting skill needs for existing occupations, while simultaneously creating new opportunities.

ICTC collected monthly job count data across numerous occupations in the digital economy in Calgary and Edmonton, starting in the fall of 2019. The below figures showcase the number of monthly job posts found in eight core digital roles: four in the category of software development, and four in the category of data. Although many of these roles were impacted by the COVID-19 pandemic to some degree—that is, nearly all of them saw dips corresponding to periods of economic lockdown—demand remained high, comparatively. In Calgary, from January 2020-Janaruy 2021 eight core digital occupations represented more than 4,700 jobs. In Edmonton, the same eight occupations represented more than 2,300. In Calgary alone, the demand for employment demand in these eight occupations during a year of mass economic contraction across the economy nearly matched total provincial employment in the forestry sector.

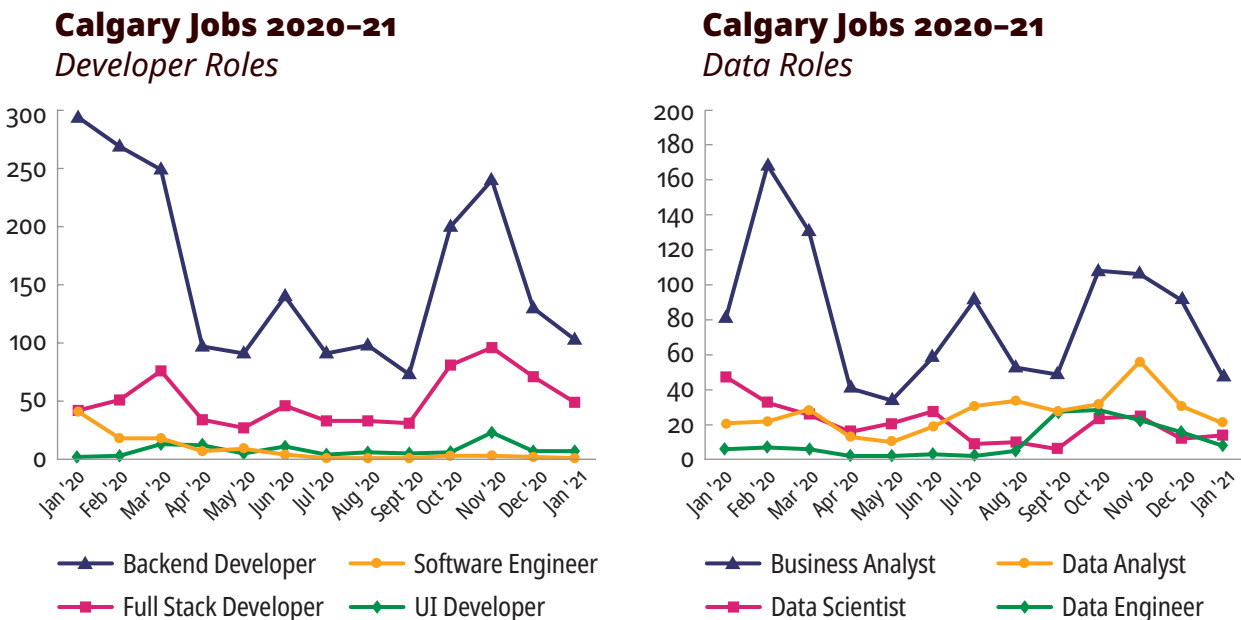


Figure 14: Calgary Jobs 2020-21: Top Developer and Data Roles
Source: ICTC, 2021.

³⁹ "Financial Services," Invest Alberta, <https://investalberta.ca/key-sectors/financial-services/>

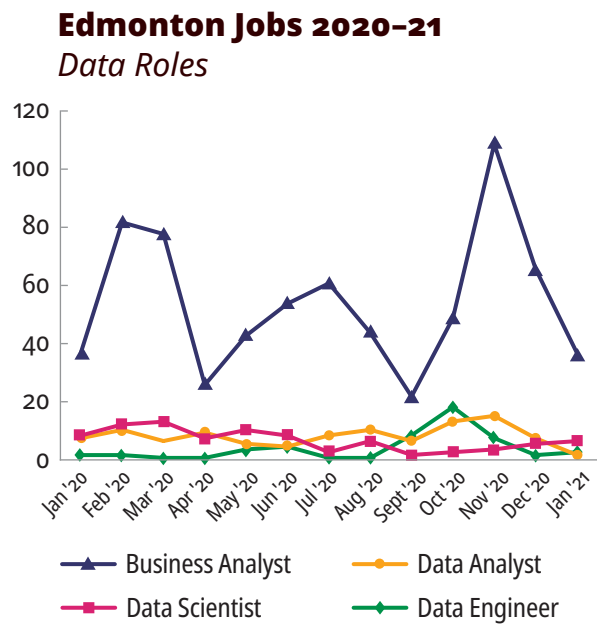
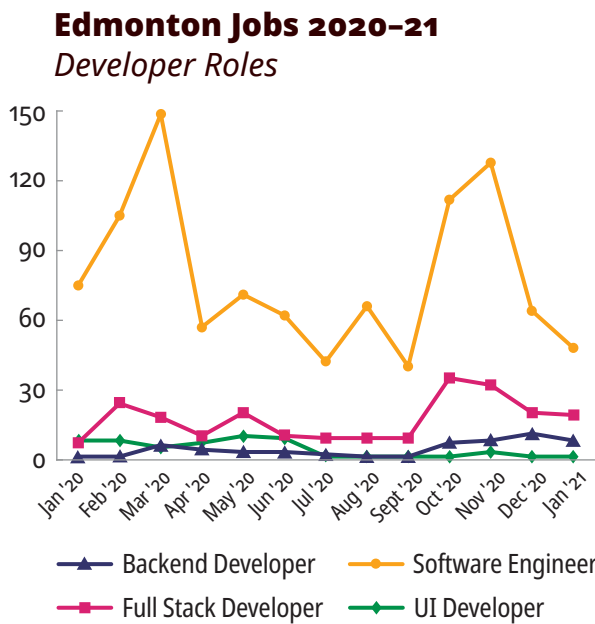


Figure 15: Edmonton Jobs 2020-21: Top Developer and Data Roles
Source: ICTC, 2021.

Building Supply Pipelines for In-Demand Jobs

ICTC research finds that the demand for talent in the Canadian digital economy continues to outstrip available supply. Although the pandemic may have slightly dampened demand in the short term, the inherent suitability of digital employment for remote work suggests that the digital economy is better able to withstand disruptions from lockdowns or stay-at-home orders and will continue to see significant talent demand in the short and long terms.⁴⁰

In Alberta, consultations with employers also indicate a continuation of digital talent demand. Despite the impacts of the pandemic, a survey of Alberta digital economy employers conducted in this study revealed their challenges in sourcing sufficient talent to fill in-demand roles. Employers identified the biggest bottlenecks in mid-level talent (37% of respondents), followed by the senior talent (28%). Although junior talent appears to be more readily available, nearly one quarter of employers also expressed challenges here.

⁴⁰ Maryna Ivus, Akshay Kotak, Ryan McLaughlin, "The Digital-Led New Normal: Revised Labour Market Outlook for 2022," ICTC, August 2020, <https://www.ictc-ctic.ca/wp-content/uploads/2020/08/Outlook-ENG-FINAL-8.24.20.pdf>

Digital economy employment is expected to be a cornerstone of Alberta's economic and labour market recovery. As seen throughout 2020, when most sectors were severely impacted, the digital economy remains resilient and is growing. Supporting this growth will undoubtedly require a concerted effort among employers to seek out and engage multiple talent streams and leverage diverse groups to meet this demand. Albertans with disabilities have educational backgrounds that parallel those of the general population. Many are trained in STEM, business, and legal fields—all areas that are heavily utilized in the digital economy and necessary for its growth. Engaging with and leveraging this skilled yet under-represented talent pool is essential to support Alberta's economic recovery and digital leadership in a post-pandemic future.

“There are tools and resources available for employers, especially small and medium tech companies in Alberta, to help them be more intentional about hiring people with disabilities...[people with disabilities] can help them mitigate their labour crunches.”

— Executive, Foundation for People on the Autism Spectrum



Part III

Employment of People with Disabilities in Alberta's Digital Economy

The Foundations: Data Collection and Measurement

Diversity, inclusion, and accessibility are key to any resilient, sustainable, and innovative workforce. Although in 2020 organizations across sectors vowed to devote permanent support to diversity and inclusion initiatives,⁴¹ benchmarking data necessary to understand status, uncover gaps, and set actionable targets has been largely unavailable and untracked. However, this data will increasingly be needed. In 2021, the Fortune 500 list will include—for the first time ever—diversity and inclusion rankings.⁴² Announced in the fall of 2020, Fortune committed to this change in an effort to “make corporate diversity disclosure the new standard for doing business.”⁴³ Increasingly, the collection and reporting of this data will be a standard practice for all companies, digital or otherwise.

To start, this data must be consistently collected, aggregated, and analyzed. To be useful, gaps and needs identified must be acted upon. Simply collecting data is not enough to inspire and drive organizational change, but it is a first step in the process. Alberta digital economy employers surveyed in this study varied in the collection of this critical data needed to inform policy and drive change. Although nearly three-quarters of all medium and large sized companies did collect this data, more than three-quarters of small companies did not.⁴⁴

⁴¹ Jason Wingard, “Leading in 2021: 5 Key Business Trends and 15 Companies to Watch,” *Forbes*, December 21, 2020, <https://www.forbes.com/sites/jasonwingard/2020/12/21/leading-in-2021-5-key-business-trends-and-15-companies-to-watch/>

⁴² Kate Tornone, “2021 Fortune 500 list will include D&I rankings,” *HR Dive*, November 2, 2020, <https://www.hrdiver.com/news/2021-fortune-500-list-include-diversity-inclusion-rankings/588203/>

⁴³ “FORTUNE and Refinitiv encourage unprecedented corporate diversity disclosure and accountability through new measure up partnership,” *Refinitiv*, <https://www.refinitiv.com/en/media-center/press-releases/2020/october/fortune-and-refinitiv-encourage-unprecedented-corporate-diversity-disclosure-and-accountability-through-measure-up-partnership>

⁴⁴ Unknowns with respect to companies that do collect data include consistency, frequency and timeliness of data collection, purpose of data collected, how the data is used, etc.

Without knowledge of workforce composition, research suggests that employers are likely to underestimate the portion of their workforce that are from under-represented groups,⁴⁵ or who may need specific accommodations. In other words, without this data, employers will not be able to understand the composition of their workforce, let alone act on specific needs or make changes to policies and practices that favour a more inclusive workforce.

Does your organization collect demographic data about the workforce?

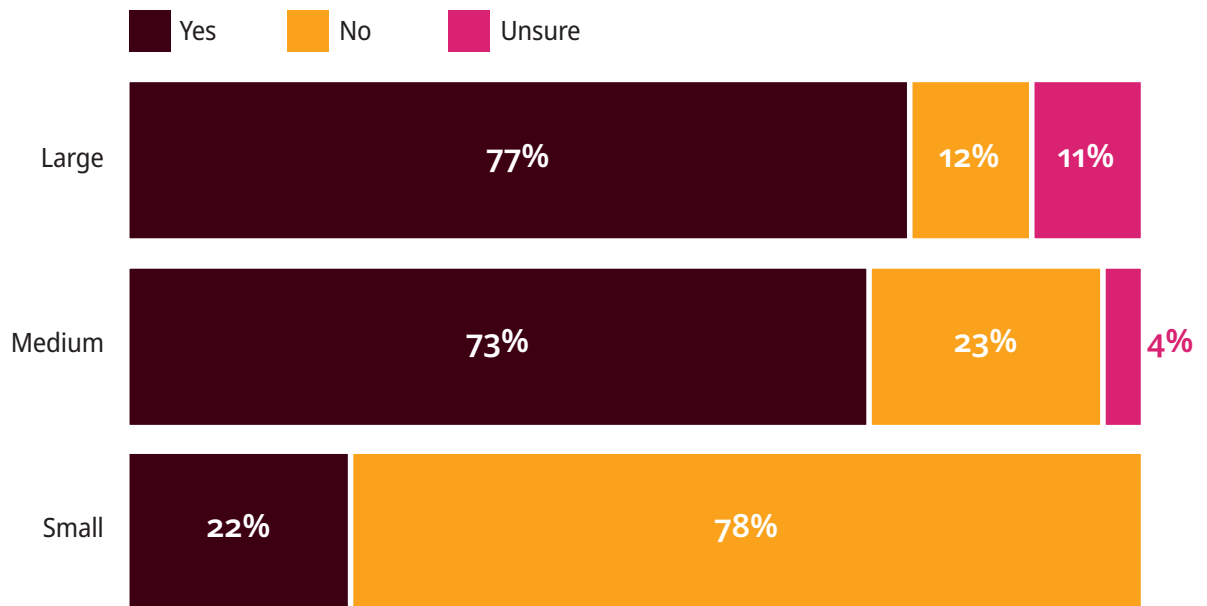


Figure 16: Alberta Digital Economy Employers That Collect Demographic Workforce Data, by Company Size
 Source: ICTC Diversity & Inclusion Survey, 2021.

Interviews with employers in this and other ICTC studies have highlighted that some employers were concerned about the legality of collecting workforce demographic data. For example, some are uncertain about whether or not they are legally allowed to collect this data from employees, and if so, how. Most had a general understanding that they could deploy self-identification based surveys to collect this information but were unsure of how to phrase questions, and some expressed a general sense of apprehension about doing something “wrong” and the resulting potential fallout.

⁴⁵ Rebecca R. Hastings, “Do You Know Who Your Employees Are?,” SHRM, November 5, 2010, <https://www.shrm.org/resourcesandtools/hr-topics/behavioral-competencies/global-and-cultural-effectiveness/pages/doyouknowwho.aspx>

Two Sides of the Same Coin: Disclosing A Disability

Although data collection is key to understanding gaps, identifying challenges and charting pathways forward, disclosure is not always straightforward or something that people with disabilities do. Recent research by the Harvard Business Review found that in the US less than 40% of people with a disability disclose their disability to their employer.⁴⁶ Although it may seem counterintuitive—that is, if employers are not aware of the specific composition and needs of their workforce, they cannot make the necessary accommodations or policy changes—the reason for this lack of disclosure is often fear-related, specifically for employees with “invisible” disabilities. Research completed by the University of Victoria for Employment and Social Development Canada highlighted numerous reasons that people with disabilities may feel uncomfortable disclosing their disabilities. These include the possibility of reliving previous negative experiences related to disclosure (like job loss or negative responses from co-workers), being viewed as “different” by managers or co-workers, being viewed as unable to perform at the level of their peers, and fear of demotion or being overlooked for future projects or opportunities.⁴⁷

To counter these reservations, some interviewees suggested that employers could try to build bonds and trust-based relationship with all employees to create a culture of openness. Others stated that employers could develop or augment existing practices to be naturally accommodating, instead of waiting for the employee or candidate to request accommodations. This can include actions as simple as offering different assessment methods for hiring—some people may feel comfortable in a panel interview, others may feel more comfortable in a one-on-one setting.

“People with disabilities don’t [necessarily] feel comfortable disclosing a disability. We do surveys and have conversations in this space and have learned they don’t want to be treated differently. It becomes an issue of how companies create trust and [enable people to] feel comfortable to disclose a disability... A person needs to believe they’re understood by the organization. When you have this [you can start to move forward].”

— Executive, Technology Company

⁴⁶ Pooja Jain-Link, Julia Taylor Kennedy, “Why People Hide Their Disabilities at Work,” *Harvard Business Review*, June 3, 2019, <https://hbr.org/2019/06/why-people-hide-their-disabilities-at-work>

⁴⁷ Michael J. Prince, “Policies and Practices on the Accommodation of Persons with Invisible Disabilities in Workplaces: a Review of Canadian and International Literature,” April 22, 2015, https://www.crwdp.ca/sites/default/files/documentuploader/full_report_-_lit_review_on_persons_with_invisible_disabilities_in_workplaces_prince_2015.pdf

Understanding Workplace “Culture”

Workplace or organizational culture can be characterized as an organization’s values, mission, beliefs and attitudes. Although there is no uniform “tech culture,” many equate the origins of tech culture—as something apart from traditional corporate culture—as something that emerged in the early 2000s in tandem with the flourishing of Silicon Valley. The term “tech culture” may conjure images of flexible hours, hyper casual dress codes, open offices, and numerous other “perks,” like entertainment, events, and even travel stipends.⁴⁸ However, as an attempt to create a welcoming and enveloping culture, it can be argued that work-life balance got replaced with something more akin to “work-life integration,” characterized by long hours in the office, coupled with the conditions (like free food, entertainment, and other “perks”) to enable that.⁴⁹ Prior to the pandemic, the largest tech firms in the world were characterized by this very notion. Mike Robbins, executive coach to numerous multinational businesses summarizes this notion, stating “Silicon Valley’s biggest export is the collapsing barrier between work and life”.⁵⁰ With the rise of mass remote work as a result of the pandemic, the delineation between work and life may be further blurred.

The expectation of long hours as a staple of “tech culture” is something that is beginning to be debated in terms of its necessity and relevance. In late 2019, co-founder and CEO of eCommerce giant Shopify publicly questioned the culture of overwork within the tech industry, challenging the notion “that you have to work 80 hours a week to be successful”.⁵¹ Others have gone further to suggest that long hours that are characteristic to the tech industry are not only counterproductive⁵² but actually discriminatory, in particular to people with disabilities.⁵³

Nearly half (42%) of Alberta digital economy employers surveyed in this study felt that their workplace culture was or would be a barrier to someone with a disability. Analyzing results by size, medium sized companies were more likely to believe that their culture would be a challenge for someone with a disability. Here, nearly 60% agreed with the statement, 20% of which strongly agreed. Small companies, by contrast, were least likely to agree with the statement. Members of the advisory committee for this study suggest three potential reasons why small companies may be less inclined to see their workplace culture as a barrier: first, the small companies surveyed may just have more inclusive and accessible cultures; second, lacking some elements of process and bureaucracy that larger companies may

⁴⁸ Mary Meisenzal, “10 of the Most Incredible Benefits Offered by Silicon Valley Tech Companies,” *Inc*, <https://www.inc.com/business-insider/11-incredible-benefits-silicon-valley-tech-companies-offer-amazon-apple.html>

⁴⁹ Arielle Pardes, “Silicon Valley Ruined Work Culture,” *WIRED*, February 24, 2020, <https://www.wired.com/story/how-silicon-valley-ruined-work-culture/>

⁵⁰ *Ibid.*

⁵¹ Tobias Lutke Twitter Thread, December 26, 2019, <https://twitter.com/tobi/status/1210242184341000192?>

⁵² Sarah Green Charmichael, “The Research Is Clear: Long Hours Backfire for People and Companies,” *Harvard Business Review*, August 19, 2015, <https://hbr.org/2015/08/the-research-is-clear-long-hours-backfire-for-people-and-for-companies>

⁵³ Rachel Thomas, “Tech’s Long Hours Are Discriminatory and Counterproductive,” *Medium*, February 11, 2019, <https://medium.com/s/story/techs-long-hours-are-discriminatory-counter-productive-17dc61071ed5>

have, smaller companies may be naturally more nimble and able to reshape or adjust factors that contribute to culture as needed; third, smaller companies may have less experience working with people with disabilities or other under-represented groups and therefore may not fully grasp the impact of workplace culture on different employees. In this study, small companies either employed just one person with disabilities or none (that they knew of).

“[Here in] Calgary, the tech field right now has a lot of start-ups with very high intensity [job] demands...I think there’s definitely a stigma around persons with disabilities finding jobs in the tech field compared to other fields [because of these demands].”

— Instructor, Tech Training Institution

Workplace culture is a deterrent to people with disabilities at my organization

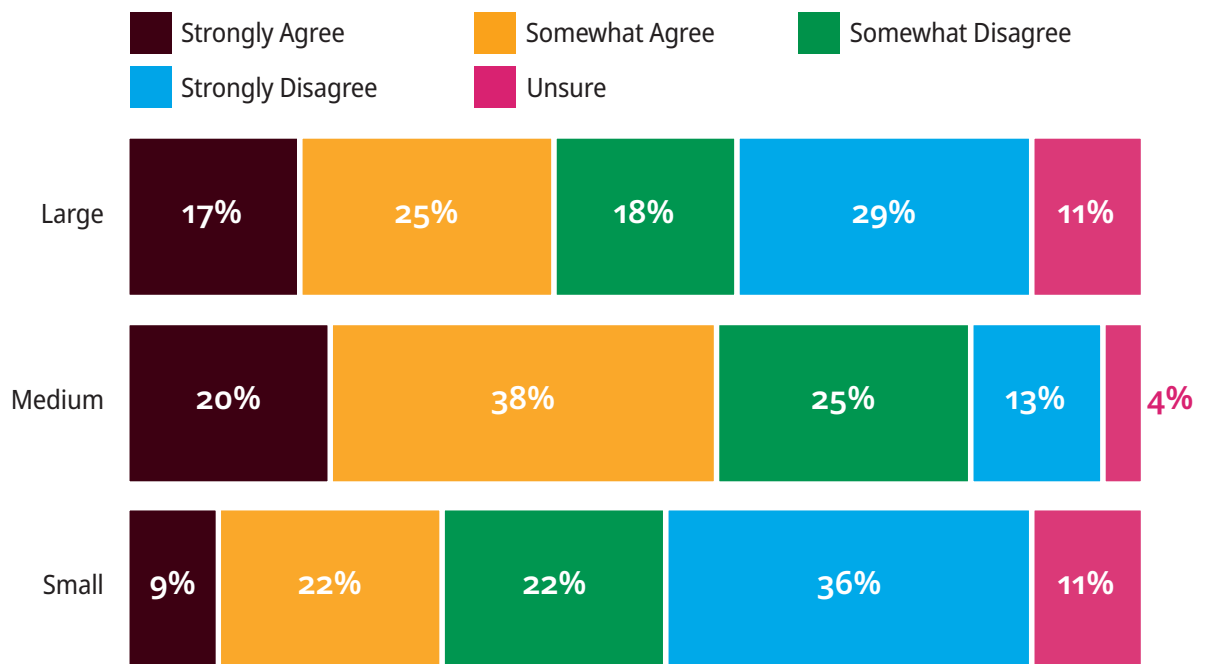


Figure 17: Alberta Digital Economy Employers’ Perceptions of Workplace Culture as a Deterrent to People with Disabilities, by Company Size

Source: ICTC Diversity & Inclusion Survey, 2021.

Organizational Values and Change Management

Organizations have always struggled with change management. The struggle may vary from company to company, depending on the change undertaken. Moreover, research suggests change that is planned for the long-term tends to be more beneficial to the organization's success than short-term change.⁵⁴ However, from the perspective of employees, it is this very long-term and organization-wide change that is the most difficult to implement, as it inherently involves an element of cultural change.⁵⁵ In contrast, subsystem change⁵⁶—such as the implementation of a new process—is more limited in scope and generally easier to affect, but less impactful for the success of the business. Changing organizational practices and policies to be more accessible and inclusive is, by its nature, a change of organizational culture, which companies tend to struggle with most.

Interviewees in this study highlighted change management as a key area of struggle for Alberta tech businesses. For example, some interviewees said that companies do not always understand why specific practices or policies are problematic or may be alienating for someone with a disability. As a result, they may be reluctant or unsure how to change these policies. The topic of workplace accommodations was a key example of where companies struggled the most with change management. Much has to do with the very definition of “accommodations.”

In modern literature, accommodations are framed as modifications to “employment requirements, rules or policies that could be considered discriminatory because they have a negative effect on an individual or protected group.”⁵⁷ Here, accommodation is put as an exception to a standard practice. Instead, interviewees suggest that accommodations be framed within the context of creating more equitable and accessible workplaces and workspaces to benefit all employees, including people with disabilities. Interviewees stated that employers who tackle accommodations from the perspective of long-term organizational change and culture shift are more likely to create an environment where all employees, irrespective of ability, feel supported.

⁵⁴ Revenio Jalagat, “The Impact of Change and Change Management in Achieving Corporate Goals and Objectives: Organizational Perspective,” *International Journal of Science and Research*, November 2016.

⁵⁵ *Ibid.*

⁵⁶ *Ibid.*

⁵⁷ “Managers’ Guide to Reasonable Accommodation,” BC Public Service, April 2019, https://www2.gov.bc.ca/assets/gov/careers/managers-supervisors/managing-employee-labour-relations/managers_guide_to_reasonable_accommodation.pdf

Organizational values and leadership are related to job performance, turnover, and job satisfaction.⁵⁸ Moreover, all employees, including people with disabilities, tend to be more productive in organizations that are flexible and adaptable.⁵⁹ However, despite the reality that all workers need some form of accommodation, organizations that tend to be more equity-ruled (impartial fairness) rather than needs-ruled (adaptive to individual requirements) were more inclined to view accommodations as “special treatment” rather than a measure of their adaptability. In equity-ruled organizations, implementing accommodations has the potential to cause animosity among workers⁶⁰ rather than unification toward a common goal. Interviewees noted that open discussions about accommodation are one way that employers can showcase flexibility, challenge preconceived notions and biases, and work toward building a culture of inclusivity as a core value.

“We need to make environments work for people. [What companies refer to as] accommodation... should be called adaptation. Accommodation means you create something for someone who doesn’t belong to the environment. But if you adapt, you create an environment where everyone can feel a sense of belonging.”

— Executive, Technology Company

⁵⁸ Yafang Tsai, “Relationship between Organizational Culture, Leadership Behavior and Job Satisfaction,” *BMC Health Services Research* 11 Article Number 98, May 14, 2011. <https://doi.org/10.1186/1472-6963-11-98>

⁵⁹ Adi Gaskell, “Why A Flexible Worker Is A Happy And Productive Worker,” *Forbes*, January 15, 2016, <https://www.forbes.com/sites/adigaskell/2016/01/15/why-a-flexible-worker-is-a-happy-and-productive-worker/?sh=1c676a0314c4>

⁶⁰ Lisa Schur et al., “Accommodating Employees With and Without Disabilities,” *Human Resource Management*, V 53, Issue 4, July 1, 2014, <https://doi.org/10.1002/hrm.21607>

Understanding Workplace Accommodations

Many employers are unfamiliar with what workplace accommodations are available and what their obligations are in providing them. According to interviewees in this study, employers have a tendency to “overthink” accommodations, oftentimes assuming that they will be costly to implement. Yet much of the time, accommodations are “soft” and cost little or nothing.

All employees, irrespective of ability, require accommodations at some point in their careers. As a result, most employers have made accommodations for employees without necessarily knowing it. The most common forms of accommodation include changes to a role (e.g., flex time, task reassignment, retraining), ergonomic adjustments, or environmental adjustments.

“A healthy workplace culture [is one] where people are getting supported. Somebody’s going to break a leg, somebody’s going to [need parental leave]...employers are always giving workplace accommodations to people.”

— Executive, Diversity & Inclusion Consulting Firm

When it comes to cost for hard accommodations, current-day technology has come a long way to mitigate these challenges. Today, many workers with disabilities may not need specific accommodations at all. For example, many computers and mobile devices already come equipped with accessibility features. Where there is a cost, interviewees in this study suggested it is often a one-time fee, usually totalling no more than \$500. The following are examples of the most common forms of workplace accommodations made for people with disabilities:

- Changing a desk layout from the right to the left side for a data-entry operator who has a shoulder injury (no cost)
- Supplying a telephone amplifier for a computer programmer who is hard of hearing (\$70)

- Providing an articulating keyboard tray to alleviate the strain of repetitive motion and carpal tunnel syndrome (\$150)
- Providing a specialized chair for a district sales agent to alleviate pain caused by a back injury (\$400)
- Providing a drafting table, page turner, and pressure-sensitive tape recorder for a sales agent with paralysis (\$1,100)

“The majority of accommodations don’t cost a lot. Some are hard accommodations, like screen-reader software, or speech-to-text software, or remote captioning, or a sign language interpreter. But there could be other accommodations a person might request, like being able to work from home. It doesn’t really cost as much as people think.”

— Human Resources Executive, Technology Company

Diversity, Inclusion, and Accessibility Training

The broader spectrum of diversity training did not officially take shape until the late 1960s. At the time, it focused entirely on compliance based on the Civil Rights Act of 1964.⁶¹ Title VII of the Act made it “illegal for employers with more than 15 employees to discriminate in hiring, termination, promotion, compensation, job training or any other term...based on race, colour, religion, sex, or national origin.”⁶² Title VII has since been augmented to include anti-discrimination based on pregnancy, age, and disability. Attempting to avoid potential lawsuits and negative impact on business reputation, many companies began offering organization-wide training on the legal requirements of diversity in the workplace.⁶³ Yet, lacking in these compliance measures was an understanding of how diversity and inclusion created improved economic or business outcomes.⁶⁴ This connection would not be made until decades later (in the late 1980s) when the iconic paper *Workforce 2020*⁶⁵ was released.

Workforce 2020 highlights what were then seen as looming demographic changes in the United States. It argues that an aging workforce, and especially the rising wave of baby boomer retirements, would require a shift in current workforce practices and hiring. To fill this gap, diversity in the workplace—primarily via the integration of newcomers, women, and visible minorities—was key to economic prosperity. *Workforce 2020* shifts the conversation about diversity in the workplace from one of merely legal compliance to economic benefit and business growth.⁶⁶

Training Managers

Despite the reality that many businesses may commit to supporting diversity, inclusion, and accessibility in the workplace, training is essential to turn those commitments into reality. Managers need to be trained on several fronts, including recruitment practices, team and one-on-one communication, and how to effectively deliver feedback on performance.⁶⁷ Many employers, namely small ones with limited resources, can struggle with sourcing the right materials for this training.⁶⁸

⁶¹ Rohini Anand, Mary-Frances Winters, “A Retrospective View of Corporate Diversity Training From 1964 to the Present,” *Academy of Management Learning & Education* Vol 7, No. 3, 2008.

⁶² “Title VII of the Civil Rights Act of 1964,” US Equal Employment Opportunity Commission, <https://www.eeoc.gov/statutes/title-vii-civil-rights-act-1964>

⁶³ *Ibid.*

⁶⁴ *Ibid.*

⁶⁵ Richard W. Judy, Carol D’Amico, “*Workforce 2020: Work and Workers in the 21st Century*,” Hudson Institute, 1987.

⁶⁶ *Ibid.*

⁶⁷ “*Training Managers*,” Project Include, https://projectinclude.org/training_managers#

⁶⁸ Megan Rose Dickey, “The future of diversity and inclusion in tech,” *Tech Crunch*, June 17, 2019, <https://techcrunch.com/2019/06/17/the-future-of-diversity-and-inclusion-in-tech/>

Interviewees suggested a degree of fear or apprehension that employers have, especially when communicating a performance issue with an employee with a disability. They noted that some employers are unsure of what they can or cannot say, how feedback should be communicated, and what recourse they have if performance does not improve. According to these organizations, some employers can be so fearful of how to approach the issue of performance related to an employee with a disability that they simply avoid it altogether. This is not dissimilar to other existing research that highlights the gap between an employer's ability to evaluate the performance of a person with disabilities or other under-represented groups, namely those that have experienced employment challenges.⁶⁹ To create an inclusive workplace, managers and supervisors need effective training on how to work with all employees and how to create the conditions to enable everyone, regardless of ability, to succeed.

“There’s this assumption with some employers that a person with a disability needs a ‘free pass’; that they’re not going to be performing up to standard.”

— Manger, Placement Agency for People with Disabilities

According to the survey conducted for this study, most Alberta digital economy employers had some degree of confidence with communicating performance issues. Medium and large companies expressed the highest level of confidence in such circumstances, potentially due to previous experience and/or having more robust HR teams and clear practices. What is unclear is whether this level

⁶⁹ Dr. Lynn Shaw, “Literature Review on Hiring Persons with Disabilities,” Office of Disability Issues, HRSDC, April 19, 2013, <https://deep.idrc.ocadu.ca/lit-review-hiring/>

of confidence is shared by all managers in the organization. Since the survey was conducted with senior-level managers and others with strong knowledge of organizational practices, it is possible that confidence in addressing performance issues or having other conversations with people with disabilities wanes with less experienced managers.

I am confident about addressing performance issues with all employees, including people with disabilities

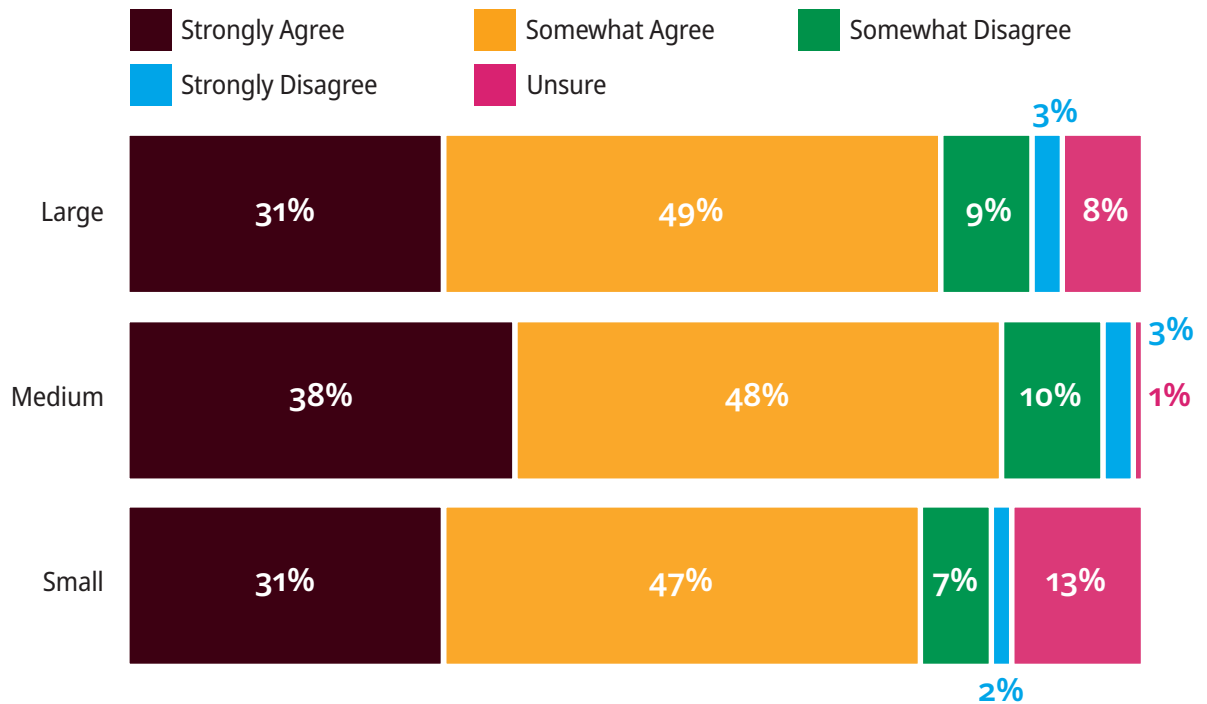


Figure 18: Manager Confidence Addressing Performance Issues with People with Disabilities at Alberta Digital Economy Companies, by Company Size

Source: ICTC, 2021.

Several consultancies and non-profits offer diversity and inclusion resources, training, and support. In the US, Project Include is a non-profit that focuses expressly on helping technology companies create drivers for an inclusive and accessible work culture in which all employees can succeed. In Alberta, organizations like Prospect Now offer diversity training, team building events, and workshops for broader teams. Manager training is critical to the success of organizations. Interviewees representing technology companies who had received such training said it improved the functionality of their organizations on numerous fronts. In some cases it was the needed catalyst to support a more cohesive team culture that understands and values diversity.

“The future of our sector is not in just getting people with disabilities employed. It’s in helping employers develop inclusive workplaces so that [diversity and inclusion consulting firms] are not needed anymore.”

— Executive, Diversity & Inclusion Consulting Firm

Training Employees

Diversity, inclusion, and accessibility training for employees is equally important to manager training. This training creates a more inclusive team and workplace culture by raising awareness. It helps employees understand concepts like unconscious bias and the value of differences among team members.⁷⁰ Interviews with relatively large digital economy employers in this study tended to highlight a wealth of diversity and inclusion training resources available. For example, one employer noted providing *“disability awareness training for all employees... positive literature, success stories, and [access to] consulting services provided by disability service organizations.”* Naturally, this was not the case for all employers. Particularly, smaller employers were less likely to have dedicated training resources or materials on diversity and inclusion separate from general onboarding and HR training. In the employer survey for this study, a quarter of small companies did not believe that employees were provided the opportunity to receive this diversity and inclusion training, oftentimes because the training resources did not exist in the company.

⁷⁰ Manisha Srikanth, “What is Diversity Training? And Why It’s Important,” *Infopro Learning*, July 16, 2020, <https://www.infoprolearning.com/blog/what-is-diversity-training-and-why-it-is-important/>

Employees are provided with the opportunity to receive training on diversity, inclusion, and accessibility

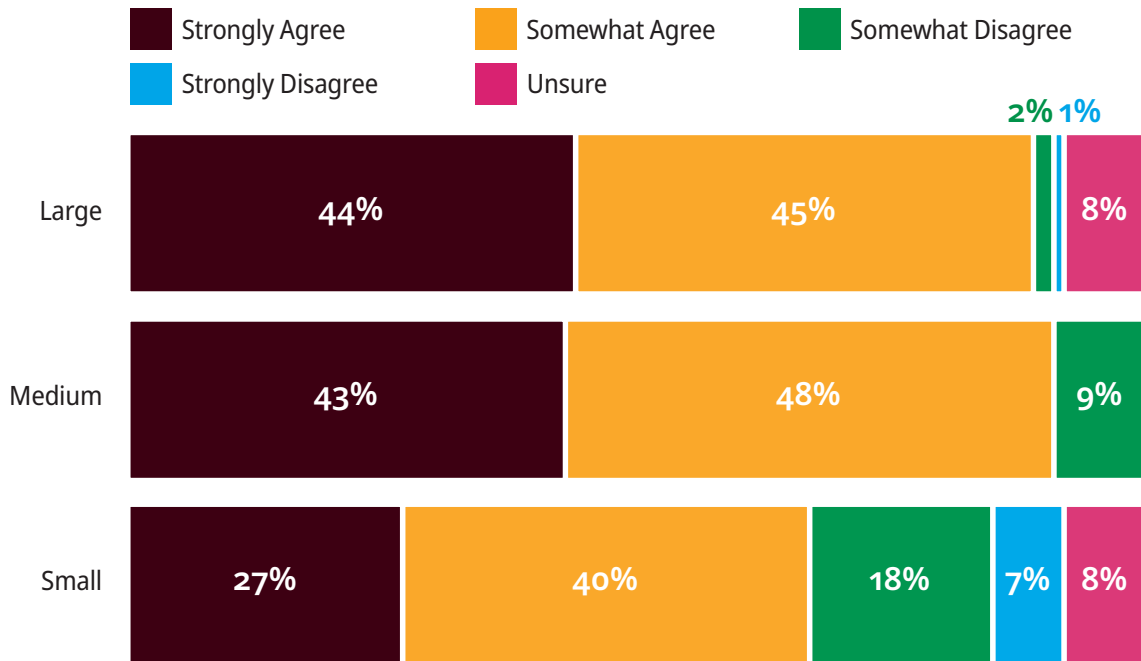


Figure 19: Diversity, Inclusion, and Accessibility Training for Employees at Alberta Digital Economy Companies, by Company Size

Source: ICTC Diversity & Inclusion Survey, 2021.

Many employers said that they would be interested in offering diversity and inclusion training but did not know where to find free resources to start them on the journey. Others raised concerns about the quality of available training resources—interviewees noted that although there were numerous resources available, including some at no cost, it was not always clear which materials were of good quality. For companies with little to no experience delivering such training, the fear of potentially “doing something wrong” was clear. In fact, deployed incorrectly—such as leveraging negative incentives (i.e., threats related to non-compliance) to frame the reason for the training—diversity training can backfire, and in some cases, even reinforce or amplify existing biases.⁷¹

Alberta has numerous organizations, such as Prospect Now and EmployAbilities, that provide some free information and resources for employers. Other national or international organizations like the Canadian Centre for Diversity and Inclusion, Specialisterne, March of Dimes, and Access Now also offer some resources on topics such as unconscious bias and managing bias in hiring. A set of standardized, validated, and timely diversity and inclusion training resources—managed and updated by a working group of internal company experts and organizations that support people with disabilities—was regarded as a critical component to success.

⁷¹ Frank Dobbin, Alexandra Kalev, “Why Diversity Programs Fail,” *Harvard Business Review*, August 2016, <https://hbr.org/2016/07/why-diversity-programs-fail>

Lastly, offering the opportunity to take diversity and inclusion training is not the same thing as mandating it. As mentioned by a member of this study's advisory committee, *"Just having resources available is not enough—people will not just take the training because it's there."* Research is inconclusive regarding the mandatory nature of this type of training. Some findings suggest that diversity training is more effective among employees when it is an option versus mandatory;⁷² other findings suggest there are benefits to mandatory training (such as mass exposure and awareness-raising), which are not realized if training is optional.⁷³ For example, some research suggests that mandatory training does not fail simply because it is mandatory; rather, where mandatory training has fallen flat in the past, the issue was inconsistent messaging or a lack of organizational commitment to apply it.⁷⁴ The question of mandatory or not is entirely up to the organization in question, but what should be certain is the need for employers to make clear its value and encourage employees to leverage it for their own benefit as much as for that of the organization.

Building Inclusive and Accessible Recruitment Practices

A key finding of this study is that many employers lack certainty in following inclusive and accessible recruitment practices. According to the employer survey, employers tended to believe that they were meeting legal requirements for accommodation in the interview, but they were not always sure about the degree of accessibility in associated practices such as job postings, or methods of assessment. For example, inclusivity and accessibility in job postings extend beyond how job requirements and skill needs are written; they include the language used to describe the work, and even which job boards the listings are posted on.

Similarly, numerous candidate assessment factors impact accessibility and inclusivity. Although some candidates may be comfortable expressing their skills and qualifications via traditional interviews, others may be more comfortable and able to effectively showcase their skills leveraging alternative methods like competency-based assessments. Competency-based assessments are designed to test specific skills. Each question is designed to test a specific skill according to pre-determined criteria of a given role.⁷⁵ For example, instead of asking a broad

⁷² "Ten ways to support diversity, equity, and inclusion in the workplace," *Ceridian*, January 13, 2021, <https://www.ceridian.com/ca/blog/support-diversity-and-inclusion-in-the-workplace>

⁷³ Heather Dwyer, Joyya Smith, "A Mandatory diversity Workshop for Faculty: Does it Work?" *Academy Journal of Educational Development* V. 39, Issue 2, Fall 2020, <https://doi.org/10.3998/tia.17063888.0039.208>

⁷⁴ *Ibid.*

⁷⁵ Dan Mason, "Competency-based interviews," *Prospects*, May 2019, <https://www.prospects.ac.uk/careers-advice/interview-tips/competency-based-interviews>

question like “What are your strengths?” the interviewer can instead ask, “Can you tell me about a time where you were able to complete a project ahead of schedule?”⁷⁶ This differs from the common unstructured interview, which is often more informal, posing open-ended questions designed to understand candidates more generally.⁷⁷ The main benefit of competency-based assessments is that they allow interviewers to effectively shift from focusing on experience, education, or training to focus on the candidate’s competencies for a specific job.⁷⁸ In other words, this style of assessment creates more room for interviewees to demonstrate their specific skills and suitability for the job.

“I think competency-based assessments are becoming more standard and across many different jobs, [in the place of standard interviews where candidates] talk about their skills, education, and work history.”

— Executive, Non-profit for People with Autism

Other examples of accessible and inclusive assessments in the place of traditional interviews include challenges (or tests), portfolio assessments, and job shadowing. The use of these methods tends to vary by sector and job. For example, challenge-based assessments are commonly used for core technology roles like software developers or data scientists, whereas portfolio assessments are more common for creative roles such as animators or visual effects artists. Nevertheless, companies that possess and emphasize alternative assessment methods may be seen as naturally more inclusive and accessible to all candidates, regardless of ability.

⁷⁶ “Interview Questions,” Discover Ability Network, https://discoverability.network/wp-content/uploads/2019/10/Discover_Ability_Network_Roadmap_Interview_Questions-.pdf

⁷⁷ Ibid.

⁷⁸ “Competencies for Interviews & Hiring,” Government of British Columbia, <https://www2.gov.bc.ca/gov/content/careers-myhr/all-employees/career-development/competencies-in-the-bc-public-service/interviews-hiring>

“Traditional recruiting practices are going to screen out people with non-traditional experience, education or employment gaps. However, I’ve talked to Microsoft for example, about their autism hiring program, and they have a completely different approach. They bring in people that are interested in skilled jobs for a variety of tech roles, and they have a multi-day interview process [that includes activities related to] teamwork and project work. It’s very effective.”

— Executive, Diversity & Inclusion Consulting Firm

Although research suggests that unstructured interviews remain common—and problematic—in the tech sector,⁷⁹ employers surveyed in this study believe that their recruitment practices were largely inclusive and accessible to all. About 80% of employers felt that their hiring practices were inclusive and accessible. Once again, however, there may be a slight conflation of inclusivity and accessibility with legal responsibility. Although most companies are likely compliant with their obligations when interviewing someone with a disability, this does not necessarily equate to true inclusivity. This disconnect may be reflected in Figure 19 below. Although most employers felt that their recruitment practices were inclusive and accessible, overall, more than 30% also believed that their organization had turned down talent based on bias or discrimination.

⁷⁹ “Tech sector job interviews assess anxiety, not software skills,” *Science News*, July 14, 2020, <https://www.sciencedaily.com/releases/2020/07/200714101228.htm>

My organization has turned down talent based on bias or discrimination

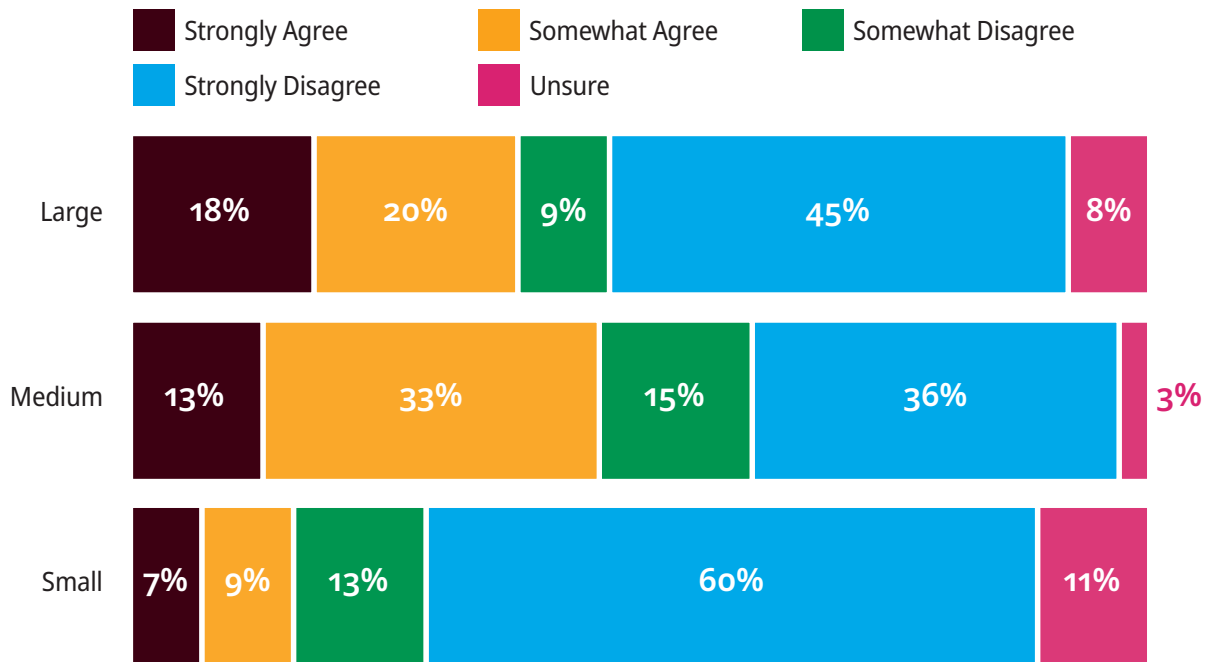


Figure 19: Perceptions of Alberta Digital Economy Companies Regarding Turning Down Talent Based on Bias or Discrimination, by Company Size

Source: ICTC Diversity & Inclusion Survey, 2021.

Bias and discrimination can come in many forms and manifest in many ways. Therefore, no direct correlation can be made between existing recruitment practices of digital economy companies in Alberta in relation to these outcomes. However, offering different methods of assessment will inevitably expand the pool of qualified candidates that a company can access. Exposure to candidates that bring unique perspectives, backgrounds, and experiences is critical to breaking down conscious or unconscious biases and preconceived notions of what a “perfect candidate” looks like.⁸⁰ Put differently, built-in adaptations to what is considered an acceptable method of assessing a candidate and their qualifications can be key to creating a workplace culture that can understand, spot, and root out bias, implicit or not.

⁸⁰ Christina Pavlou, “Unconscious bias in recruitment: How can you remove it?,” Workable, <https://resources.workable.com/stories-and-insights/unconscious-bias-in-recruitment>

Augmenting the Job Posting and Providing Opportunities for Disclosure

Job postings are the first gatekeepers to a job opportunity. Ensuring that a job posting is framed in an inclusive and accessible way is critical to accessing skilled talent from various supply streams, including under-represented groups. Various considerations go into creating an accessible and inclusive job posting, such as ensuring that accessibility standards are met in layout and content of the job postings, ensuring the use of gender-neutral language, using clear and specific language, and where possible making it clear that applicants with diverse abilities are welcome.⁸¹

“If you put out an inclusive and detailed job advertisement and somebody applies, you’re already inviting them to the next step. [You are signalling to them your intention] to make it a successful interview ahead of time.”

— Executive, Foundation for People on the Autism Spectrum

An equal employment opportunity (EEO) statement is another mechanism to support inclusivity both at the organizational level and on job postings. Interviewees largely identify EEOs as an “easy first step” to showcasing a welcoming and inclusive environment that will potentially invite people with disabilities to apply. The statement can be as simple as the following: *“At SurveyMonkey, our goal is to create an environment where everyone—no matter their background—can succeed, feel a sense of belonging, and learn from one another. We know that diversity, equity, and inclusion improve employee experience, helps us understand and serve our customers better, and makes us a stronger business. With the strong support of our CEO and leadership and true passion from our employees, we strive to be an industry leader and create a culture that represents our values.”*⁸² Others can be more detailed, with examples of policies or practices in place that support diversity and inclusion.

⁸¹ Greg Thomson, “How to Make the Hiring Process Accessible,” *Accessibility for Ontarians with Disabilities Act*, November 7, 2018, <https://aoda.ca/how-to-make-the-hiring-process-accessible/>

⁸² “Celebrating Diversity,” *SurveyMonkey*, <https://www.surveymonkey.com/mp/diversity-and-inclusion/>

Microsoft is also a well-known champion for inclusive and accessible recruitment practices and work culture. Their EEO statement is comprehensive, including specific language and examples of standard practices: *“Microsoft believes that a diverse and inclusive workplace leads to better products and services for our customers. As our workforce evolves to reflect the growing diversity of our communities and marketplace, the ability to leverage different perspectives for innovation and problem solving becomes increasingly important. Diversity and inclusion are foundational to a One Microsoft culture, fuelling our business growth by allowing us to attract, retain, and develop the best talent from around the world. We address diversity and inclusion through clear, measurable strategies aligned to the priorities of the Microsoft CEO and senior leadership team.”*⁸³

Although some interviewees expressed hesitation on the effectiveness of an EEO statement on a company website or job posting, the majority agreed that they were useful and generally reflected a welcoming environment to all applicants. Most large and medium sized digital economy employers surveyed in this study were already leveraging EEO statements, while half of small companies were not.

Does your organization have an equal employment opportunity statement?

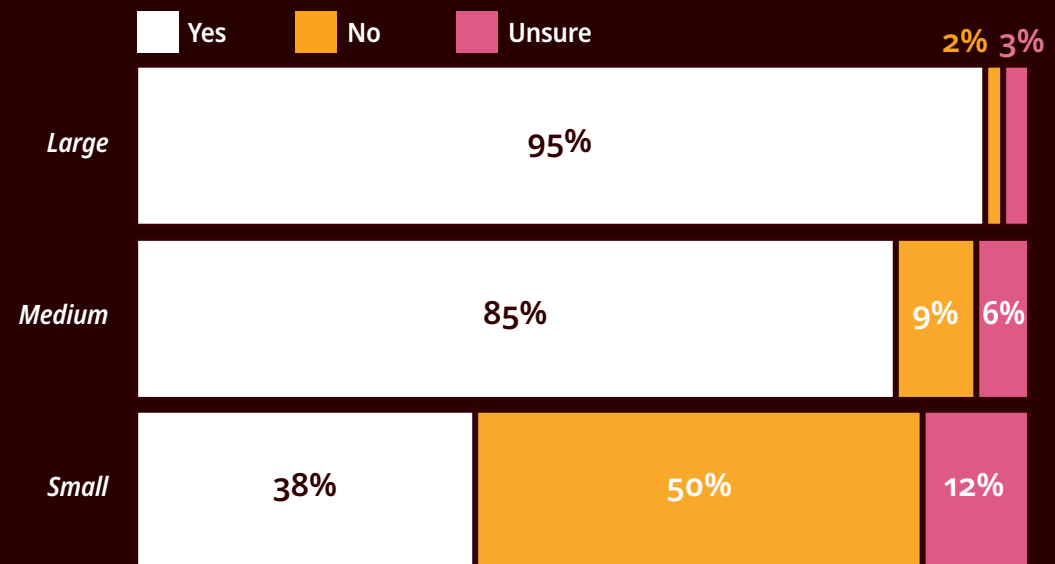


Figure 20: Prevalence of Equal Employment Opportunity Statements at Alberta Digital Economy Companies, by Company Size

Source: ICTC Diversity & Inclusion Survey, 2021.

EEO statements are neither time or cost-intensive to develop. The way an EEO statement is framed, and the degree of detail provided in it is ultimately up to the employer. Yet, as a standard practice, EEOs have shown to have positive impacts on attracting a more diverse talent pool.⁸⁴

⁸³ “Diversity and Inclusion at Microsoft,” Microsoft, <https://careers.microsoft.com/us/en/legalpolicies>

⁸⁴ “Study: Understanding How Diversity and Inclusion Statements Perform,” TapRecruit, <https://datapeople.io/article/understanding-how-diversity-statements-perform/>

The Benefits and Drawbacks of Disclosure

There is much research available associated with the benefits of allowing employment candidates the opportunity to disclose a disability. The benefits of this include allowing the employer to make reasonable accommodations and improve the workplace climate for individuals with disabilities.⁸⁵ Ultimately, existing research frames disclosure as the first step in creating a more accommodating environment that can best enable people with disabilities to succeed. As a result, providing the opportunity to disclose a disability in the workplace has become somewhat of a common practice.

Several larger technology companies in Alberta have areas on their careers page related to disclosure and accessibility. Some have accessibility request forms asking the candidate to state the accommodation needed and offer a few examples of common requests, such as having documents read during the interview, using a specific preferred technology during the interview, or having a sign language interpreter present. Although some smaller technology companies have similar wordings, it is less common. This reflects the results in the employer survey conducted in this study. While the majority of medium and large employers provide candidates with the opportunity to disclose a disability and request accommodation, less than half of small employers do so.

Candidates have the ability to disclose a disability and request accommodation

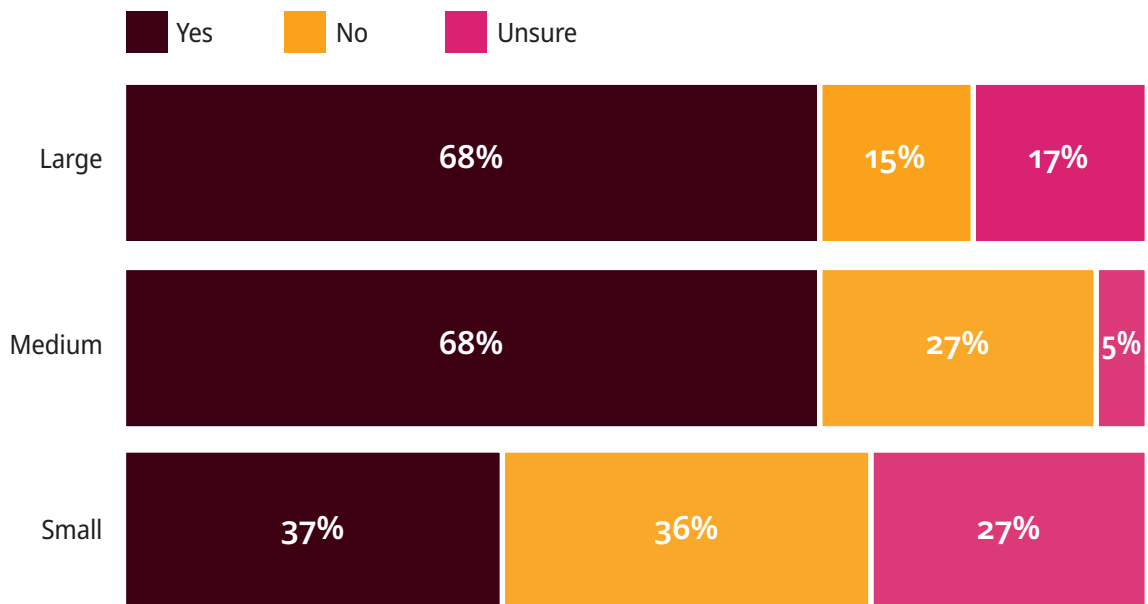


Figure 21: Ability to Disclose a Disability and Request Accommodation During the Hiring Process at Alberta Digital Economy Companies, by Company Size

Source: ICTC Diversity & Inclusion Survey, 2021.

⁸⁵ Sarah von Schrader, et. al., "Perspectives on Disability Disclosure: The Importance of Employer Practices and Workplace Climate," *Employee Responsibilities and Rights Journal*, Volume 26, July 20, 2013, <https://doi.org/10.1007/s10672-013-9227-9>

Some interviewees noted that disclosure and accommodation statements, although well meaning, may be counterproductive. For some people, it may provide a sense of belonging or acceptance, but for others it can have the opposite effect. The Alberta Human Rights Commission makes it clear that employers have the duty to accommodate, but there are numerous reasons why people with disabilities may not necessarily request accommodation, even though they may need it. Research has shown that in some cases, requests for accommodation turned into discrimination, bullying, and maltreatment.⁸⁶ In other cases, requests for accommodation were found correlated with lowered suitability ratings assigned to candidates with disabilities, particularly when the disability disclosed was cognitive or mental health related.⁸⁷ Opportunities for disclosure and the request for accommodations may have been framed with the intent of levelling the playing field for people with disabilities, but they are not without their challenges and unintended consequences. As stated by an advisory committee member in this study, *“There’s a lot of research out there that says [disclosure] can lead to poorer outcomes for candidates because candidates end up disclosing and then the bias stops them from getting in.”*

Finding the Right Fit: Hiring People with Disabilities in Tech

The rates of education attainment between Albertans with and without disabilities are similar. For example, 46% of Albertans with disabilities identify high school as their highest level of educational attainment, compared to 38% of Albertans without disabilities. At the postsecondary level, the difference is even less material. About 51% of Albertans with disabilities have some form of postsecondary education (apprenticeship or trade certificate, college diploma, university degree), compared to 58% of Albertans without disabilities. Albertans without disabilities are more likely to have a university degree than those with disabilities, but rates of completion for college diplomas are similar, and Albertans with disabilities are more likely to possess an apprenticeship or trades certificate.

Although these rates are comparable, educational attainment is ultimately only one consideration for employers seeking skilled talent in the digital economy. Skills—both “hard” and “soft”—experience, continuous training, and other factors all play a role in identifying a candidate as a “good fit.”

⁸⁶ Julia M. Kensbock et. al., “Is There a Downside of Job Accommodations? An Employee Perspective on Individual Change Processes,” *Frontiers in Psychology*, Volume 8, September 2017, doi: 10.3389/fpsyg.2017.01536

⁸⁷ John Hazer, “Effects of Seeking Accommodation and Disability on Preemployment Evaluations,” *Journal of Applied Psychology*, Volume 30, Issue 6, July 2006, DOI: 10.1111/j.1559-1816.2000.tb02517.x

The Link Between Education and Skills

In an interconnected world where technology is at the forefront of disruption, an emerging school of thought posits that skills,⁸⁸ not education, will form the foundation of the future labour market.⁸⁹ Likewise, employers are increasingly seeking talent with a blend of technical skills and core “soft skills,” like flexibility and active listening.⁹⁰ As a result, alternative education pathways, including micro-credentials or other forms of short duration training, are becoming recognized as viable means of skill development.⁹¹

Yet, research indicates that even as alternate education pathways are becoming more commonplace, they are not necessarily, and perhaps never will be, a replacement to traditional higher education.⁹² This sentiment was shared among the employers surveyed in this study. Although non-traditional forms of education were viewed positively, they were seen as an “add on” to complement more formal education such as college diplomas or university degrees (rather than a replacement). Nearly half of employers surveyed asserted that micro-credentials or other forms of short duration training (including bootcamps) were not considered unless the candidate already possessed a college diploma or university degree. Smaller companies were more likely to consider these viable methods of training and skill development, the preference for formal education pathways persists among Alberta digital economy employers. Although currently seen as “add ons”, the growing prominence of alternate forms of education can expand beliefs about how skills and competencies are developed and bring prominence to the reality of continuous skill development.

“I had an individual with highly functioning autism, and he’s really good with computers, but he did not have the background or the schooling for it. Depending on the disability, I don’t know

⁸⁸ “Skills passport,” ESCO, https://ec.europa.eu/esco/portal/escopedia/Skills_passport

⁸⁹ Ravi Kumar S., Steve George, “Why skills – not degrees- will shape the future of work,” World Economic Forum, September 21, 2020, <https://www.weforum.org/agenda/2020/09/reckoning-for-skills/>

⁹⁰ Ryan Holmes, “Do You Have The Most In-Demand Job Skill of 2021? – TECH AND WORK Newsletter #8,” LinkedIn, November 6, 2020, <https://www.linkedin.com/pulse/do-you-have-most-in-demand-job-skill-2021-tech-work-8-ryan-holmes/>

⁹¹ “Benefits and Costs of MOOC-Based Alternative Credentials: 2018-2019 Results from End-of-Program Surveys,” Teachers College of Columbia University, November 2019, https://8606adb0-7829-4e6c-a502-3e181c6f3720.filesusr.com/ugd/cc7beb_a74e1be71afb4e72bb7f44adaf-03d9eb.pdf

⁹² Kuh, “Why Skills Training Can’t Replace Higher Education,” Harvard Business Review, October 9, 2019, <https://hbr.org/2019/10/why-skills-training-cant-replace-higher-education>

if education can be waived or if there's a different way of assessing because some individuals who have high-functioning autism might not be good at school, like doing exams, but [will have] good practical skills. They're able to do the work at hand but are not able to provide evidence of their knowledge."

— Workforce Enabler, Employment Agency for People with Disabilities

Expectation of Learning and Continuous Skill Development

With the gradual disaggregation of skills and formal education, the expectation of continuous skilling also grows. Over the last decade or so, the importance of lifelong learning or continuous skill development has become popular discourse. Once seen as a characteristic that sets candidates apart, increasingly employers view continuous learning as a "must-have"⁹³—particularly as digitization and automation become a key feature of the overall economy, career trajectories become more dynamic and less predictable, and specific skills perhaps become subject to a "best before" date. UpWork CEO surmises that most skills have a half-life of approximately five years.⁹⁴ This is not to say that skills learned today will not be valuable in five years time, but instead their value might shift and, in essence, lessen. COVID-19 is a clear, although unfortunate, catalyst of the upskilling and re-skilling revolution. As highlighted by McKinsey & Company in a 2020 report on the pandemic and the importance of continuous skill development, "Companies can't be resilient if their workforces aren't."⁹⁵

Employers surveyed in this study underscored the importance of continual skill development. Irrespective of company size, the majority of employers agreed that they expected workers to continue pursuing education and training after they

⁹³ Marjan Laal, Peyman Salamati, "Lifelong learning; why do we need it?" *Procedia Journal of Social and Behavioral Sciences*, Volume 31, 2012, <https://doi.org/10.1016/j.sbspro.2011.12.073>

⁹⁴ Stephane Kasriel, "Skill, re-skill and re-skill again. How to keep up with the future of work," *World Economic Forum*, July 21, 2017, <https://www.weforum.org/agenda/2017/07/skill-reskill-prepare-for-future-of-work/>

⁹⁵ Sapana Agrawal et. al., "Reskilling in the age of COVID: There's no better time than the present," *McKinsey & Company*, October 12, 2020, <https://www.mckinsey.com/business-functions/organization/our-insights/the-organization-blog/reskilling-in-the-age-of-covid-there-s-no-better-time-than-the-present>

were hired. In other words, employers expected candidates to come equipped with formal education (such as a college diploma or university degree) but also engage in short duration training or micro-credentialing to continually build upon that base. Both formal and informal methods of training were seen as relevant at different points in the employment journey.

It is expected that employees pursue continuous skilling after they are hired

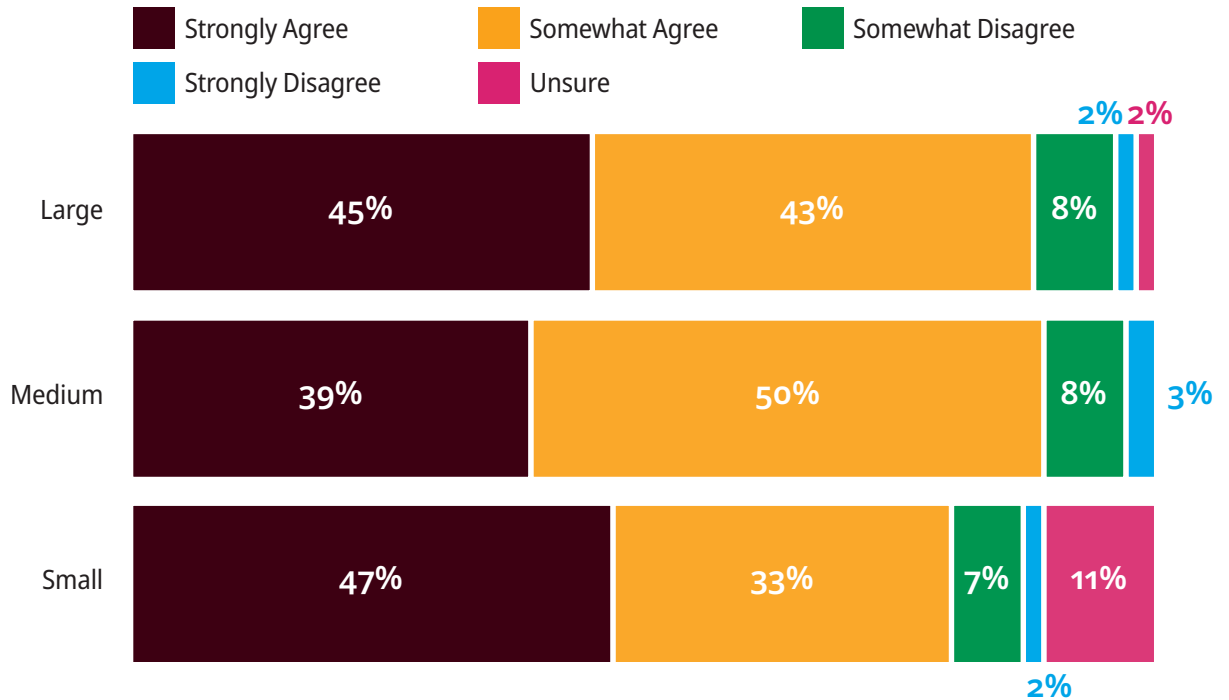


Figure 22: Perceptions on Continuous Skill Development at Alberta Digital Economy Companies, by Company Size
Source: ICTC Diversity & Inclusion Survey, 2021.

Understanding Experience

A recent article by Monster.ca identifies the following five roles as the “best jobs for people with disabilities”: accountant, market research analyst, physician assistant, software engineer, and customer service representative.⁹⁶ The article does not provide a clear rationale for why these roles are a “good fit” for people with disabilities, demonstrating a generalized assumption of certain characteristics shared by people with disabilities. In reality, disabilities can manifest in different forms, levels of severity, and degrees of permanence. The experience of one person with a disability may drastically differ from another. Broad assumptions about ability are detrimental to the success in the labour market.

⁹⁶ “Best jobs for people with disabilities,” Monster.ca, <https://www.monster.ca/career-advice/article/best-jobs-disabilities>

In this study, more than half of the employers surveyed said they had not encountered candidates with disabilities that had the right skills and experience for the roles they needed to fill. Although it is not clear which roles these were or why this assessment was made, assumptions about ability, and thereby skills and relevant experience, may play a role. Research has found that in some cases, hiring managers may have preconceived assumptions about the skills people with disabilities possess. Although nearly a decade old now, a 2012 study by well-known psychologist Susan Fiske identifies persistent stereotypes about people with disabilities. One of the most obstructive is the perception that people with disabilities have “high warmth” (“friendly, good-natured”) but “low competence” [unskilled].⁹⁷

Our organization has not encountered candidates with a disability with the right skills and experience

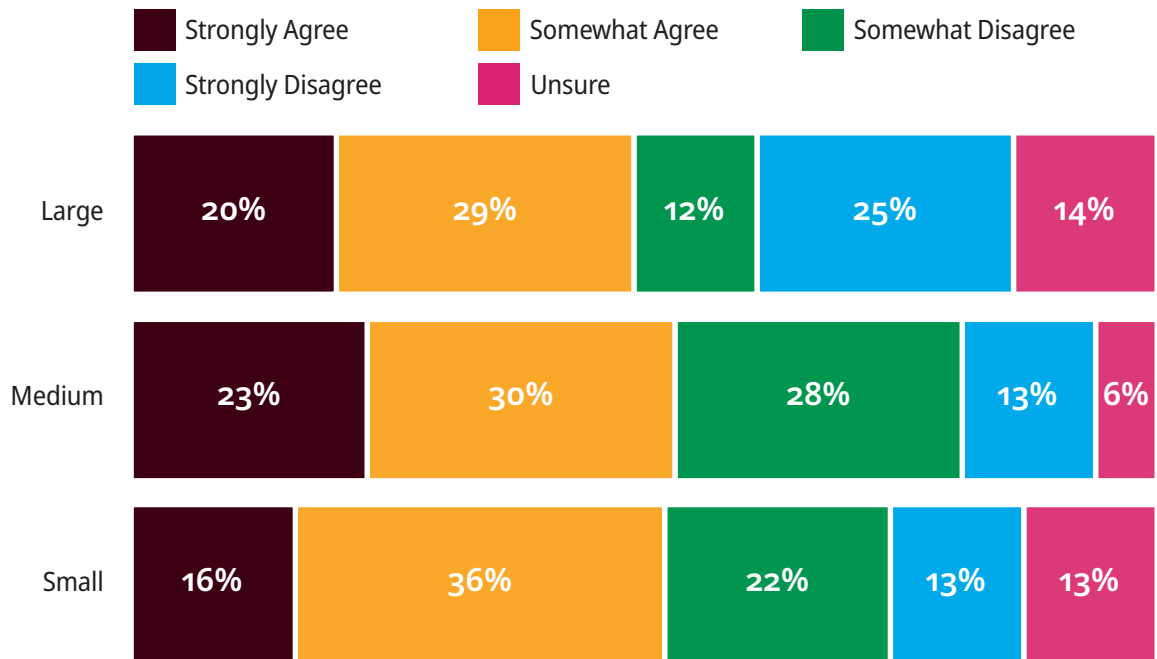


Figure 23: Perceptions of “Good Fit” Candidates with Disabilities at Alberta Digital Economy Companies, by Company Size

Source: ICTC Diversity & Inclusion Survey, 2021.

A recent Canadian study identified three main barriers to employment of people with disabilities: employers’ knowledge, attitudes or management practices; a late start in the traditional workplace among people with disabilities; and stigma.⁹⁸

⁹⁷ Susan T. Fiske, “Warmth and Competence: Stereotype Content Issues for Clinicians and Researchers,” US National Library of Medicine, 2012.

⁹⁸ Akram Khayat-zadeh-Mahani, “Prioritizing barriers and solutions to improve employment for persons with developmental disabilities,” Disability and Rehabilitation, Volume 42, Issue 19, March 11, 2019, <https://doi.org/10.1080/09638288.2019.1570356>

That is, misconceptions or myths pertaining to the skills or abilities of people with disabilities led employers to misunderstand an individual's capacity to work. A "late start" in the workplace presents as a barrier to finding opportunities for meaningful employment. And stigma is the result of employers' lack of knowledge and understanding of developmental disabilities as well as fear of the unknown. Interviewees in this study echoed these sentiments, noting their limited experience with people with disabilities is largely due to these barriers.

"Late Start" to Work

People with disabilities face varied challenges when attempting to enter the workforce. Assumptions about their ability or skill level certainly play a role and can create negative labour market outcomes. For example, recent research completed by the Canadian Human Rights Commission found that 30% of Canadians with disabilities report that their disabilities make it difficult to obtain work.⁹⁹ In Manitoba, Ontario, and Alberta, this figure reaches 40%.¹⁰⁰ The report states that a disability¹⁰¹ also makes it difficult to keep a job. As a result, people with disabilities are more likely to switch jobs frequently. In Alberta, nearly 33% of people with disabilities noted difficulty maintaining work.¹⁰²

Interviewees in this study echo the notion of challenging labour market entry for people with disabilities. Moreover, many argued that people with disabilities tend to have less straightforward career paths and often experience a later start to work altogether. Recent research identifying top barriers to labour market entry for people with disabilities found this late start is one of the biggest. The challenge was particularly pronounced for people with developmental disabilities, who tended to have later access to vocational training, job coaching and other employment were deemed necessary to bridge the gap.¹⁰³

Some of these supports, as interviewees highlight, include mentoring and job shadowing, volunteering, and wage-subsidy-based vocational training. Interviewees note that these are proven methods to enable people with disabilities to gain valuable work experience and—if they are willing—take on new and more challenging roles in the future.

⁹⁹ "Roadblocks on the career path: Challenges faced by persons with disabilities in employment: Monitoring Canada's Implementation of the UN Convention of the Rights of Persons with Disabilities," Canadian Human Rights Commission.

¹⁰⁰ *Ibid.*

¹⁰¹ Although the study does not directly articulate this, variance is assumed depending on type and severity of disability.

¹⁰² *Ibid.*

¹⁰³ *Ibid.*

“We’re providing six-month paid internship opportunities to our clients in various industries. If the employer is willing to take someone on and work with us to provide them with a valuable opportunity, we’re hoping it will turn into a full-time position after the six months. We’ve partnered with close to 10 employers in the province right now, and it’s working out quite well.”

— Employment Program Lead, Employment Agency
for People with Disabilities

Potentially because of factors like a late start and assumptions and misunderstanding of ability, a notable portion of employers surveyed in this study believe that people with disabilities were less likely to advance in their careers at their organization. Nearly half of medium sized companies believe this to some degree. Small companies tended to have a more open attitude to career progression for people with disabilities, with fewer than one quarter of companies believing that their career progression would be limited.

In my organization, people with disabilities are less likely to advance in their career

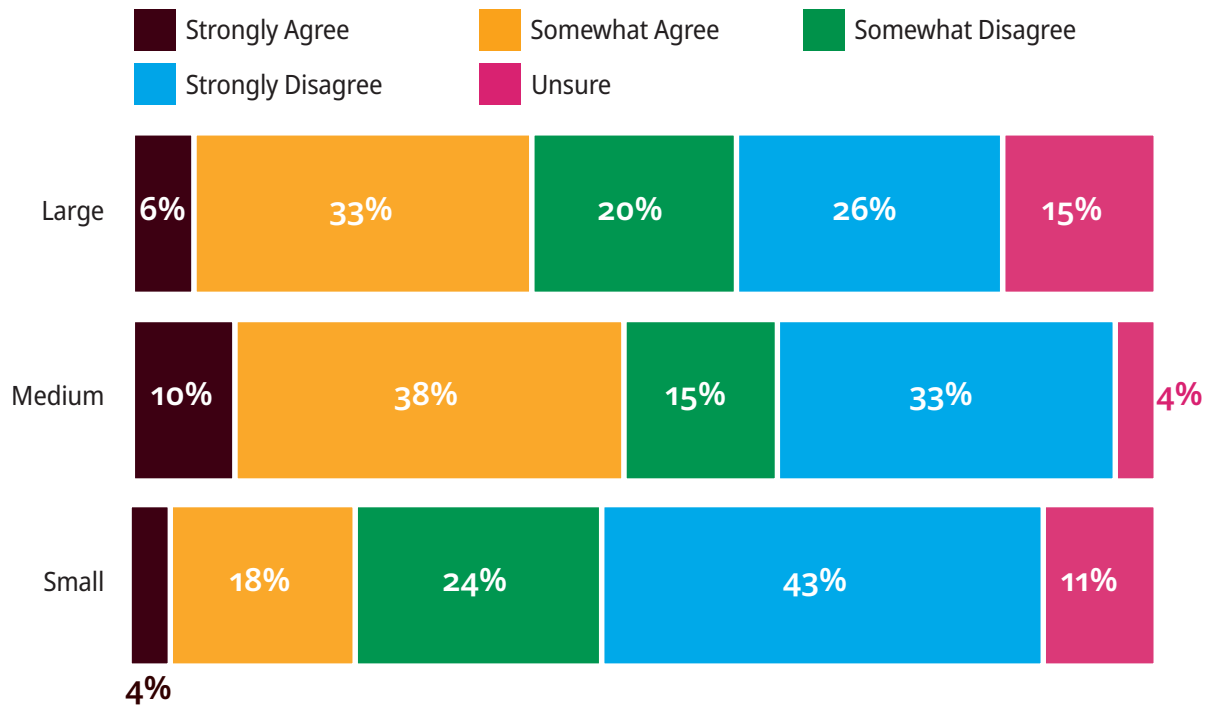


Figure 24: Perceptions on Opportunities for Career Progression for People with Disabilities at Alberta Digital Economy Companies, by Company Size

Source: ICTC Diversity & Inclusion Survey, 2021.

Important to note, however, is the possibility that not all people—with disabilities or otherwise—are interested in “progressing” in their career (in the traditional sense). Career progression, or “climbing the ranks,” is often associated with taking on more responsibility, a different title, and presumably, a higher salary. Research finds that salary, salary growth, status, and promotions are the most commonly used indicators of objective career success, largely because they are easily measured.¹⁰⁴ However, these are not objectives that everyone has, nor universal methods for measuring career success. Other factors increasingly considered—although more difficult to measure—include interpersonal success, life success, and overall career satisfaction.¹⁰⁵ People with disabilities are diverse, with different needs, goals, and motivations. While some may want to “climb the ranks” in a traditional sense, others may feel comfortable and content staying in the same role and doing work that they are confident and comfortable with.

¹⁰⁴ Andrea E. Abele, Daniel Spurk, Judith Volmer, “The construct of career success: measurement issues and an empirical example,” *Journal for Labour Market Research*, Volume 43, Supplement 3, July 7, 2020, <https://doi.org/10.1007/s12651-010-0034-6>

¹⁰⁵ Kristen Shockley, “Development of a new scale to measure subjective career success: A mixed-methods study,” *Journal of Organizational Behavior*, August 2015, DOI: 10.1002/job.2046

“I think the idea of advancing in their career is one that is appealing to a certain type of thinker. I think for lots of people with diverse thinking styles, advancing in the career is not necessarily something they want. There are many, many people with different disabilities who are happy and content to work in the same position for years, and that is an idea of success. I think that sometimes we have limited ideas about what success looks like.”

— Consultant, Autism Workforce Development Organization

Policy Built on Inclusivity and Accessibility

Shaping new and better policy requires a clear understanding of mission, vision, and values. From there, organizations can craft goals and begin to shape the policies that will enable their achievement. At the same time, crafting goals is inherently tied to understanding current operations and their gaps. A key finding of this research is that many organizations in Alberta’s digital economy struggle to shape effective policy pertaining to diversity and inclusion. Although many factors contribute to this, two central themes that emerge are the lack of understanding of current gaps in diversity and inclusion, and lack of knowledge in where or how to access resources and tools to fill these gaps.

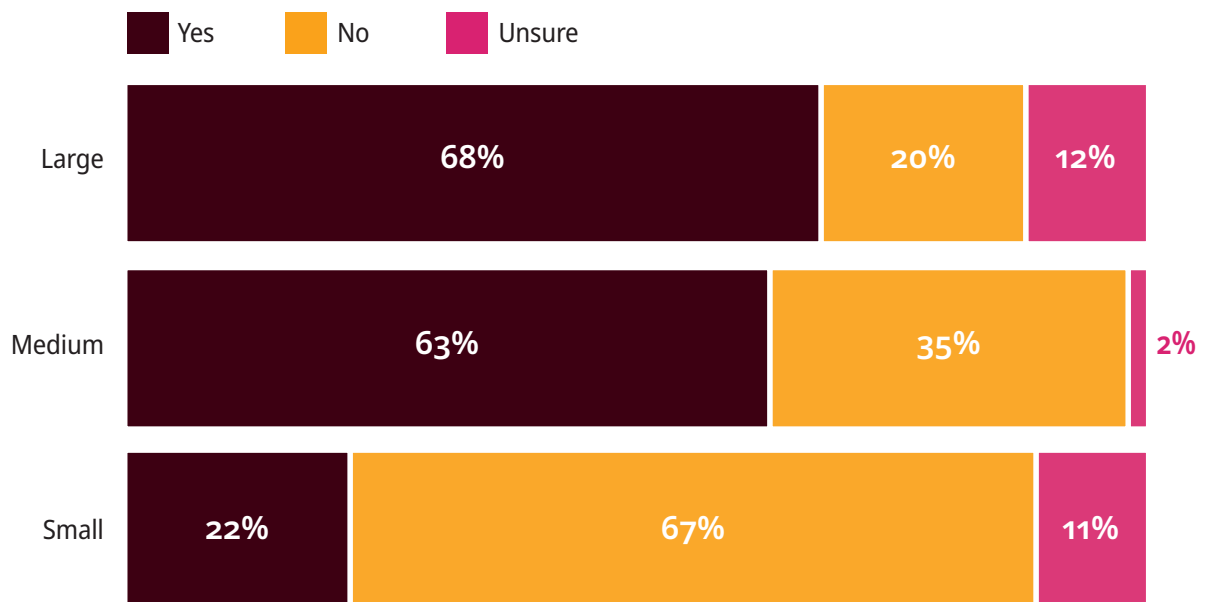
Acknowledging Gaps

According to research by Glassdoor, candidates increasingly consider factors outside of compensation when considering employment with an organization. Meaningfulness of work, vision and mission of the organization, and an organization's commitment to diversity and inclusion increasingly score highly. Glassdoor's *2020 Diversity & Inclusion Workplace Survey* found that three-quarters of job seekers report a diverse workforce as an important factor when evaluating companies and job offers. Another one-third note that they would not even apply to a job at an organization without a diverse workforce.¹⁰⁶ Transparency and commitment to diversity, inclusion, and accessibility is quickly becoming a business imperative for companies across the economy. It is a competitive advantage and a central driver in attracting skilled talent, irrespective of ability.

Policy Gaps

Many organizations still lack diversity and inclusion policies, despite a growing awareness of the issues. The combination of COVID-19 and social justice protests around the world during 2020 put diversity and inclusion centre stage, but these developments have not found their way into general HR policies and practices.¹⁰⁷ In this study, less than two-thirds of large and medium sized companies and only about one-quarter of small companies noted having specific policies related to diversity, inclusion, and accessibility.

Does your organization have specific policies about diversity, inclusion, accessibility?



¹⁰⁶ "Diversity & Inclusion Workplace Survey," Glassdoor, September 30, 2020.

¹⁰⁷ Geri Stengel, "Black Lives Matter Protests Moves Corporate D&I Initiatives Centre Stage," Forbes, June 17, 2020, <https://www.forbes.com/sites/gerienstengel/2020/06/17/black-lives-matter-protests-moves-corporate-di-initiatives-into-the-spotlight/>

Figure 25: Presence of Policies Related to Diversity, Inclusion, Accessibility at Alberta Digital Economy Companies, by Company Size

Source: ICTC Diversity & Inclusion Survey, 2021.

Although small companies are less likely to have the corporate or financial resources to develop such policies from scratch, interviewees said this is not a challenge unique to them. Interviewees recounted working for large companies that, despite plentiful financial resources, still lacked cohesive and comprehensive diversity, inclusion, and accessibility policies or even an informal understanding of what an inclusive workplace should or can look like.

“I’ve seen seasoned HR professionals who don’t know how to make a more inclusive workplace. They don’t know what tools and strategies are available to them. It’s actually pretty universal.”

— Executive, Disability Employment Association

Another critical component of diversity and inclusion strategies and policies is sustainability. Inherent in sustainability is flexibility to change and adapt to shifting circumstances or needs. According to a recent Gartner study surveying over 1,700 senior HR leaders, the most successful diversity and inclusion initiatives are ones that are sustainable and adopted by the whole organization. A sustainable policy must also be measurable over time, embedded into existing practices,¹⁰⁸ and adaptable. Once again, the payoff for such policies extends beyond a more inclusive and happier workforce; sustainable diversity and inclusion policies allow companies to access a broader pool of skilled talent, and they create material changes in productivity and retention. Gartner finds that organizations with sustainable diversity and inclusion strategies tend to see a 6% increase in on-the-job effort, a 5% increase in retention, and a 3% increase in individual employee performance.¹⁰⁹

¹⁰⁸ Mary Baker, “Gartner Says Diversity and Inclusion Are the No.1 Talent Management Priority for CEOs; Most D&I Initiatives Ineffective,” *Garner*, October 30, 2019, <https://www.gartner.com/en/newsroom/press-releases/2019-10-30-gartner-says-diversity-and-inclusion-are-the-no-1-ta>

¹⁰⁹ *Ibid.*

Throughout this study, several interviewees from employment agencies and workforce development agencies that serve people with disabilities said that employers across all sectors were often unclear about their responsibilities when hiring people with disabilities. As a result, many had a general fear of engaging them due to potential litigation issues. This fear was compounded by many employers not having a clear understanding of what their legal obligations are, let alone other responsibilities. This challenge is most acutely felt among small companies.

“I’ve heard it from employers that there is a fear or concern that they could be viewed as infringing on issues of human rights, or concerns about advocates going after them. [This is especially the case] when letting someone with a disability go. They don’t want to get painted as that type of employer...many generally feel ill equipped to deal with the challenges related to employing someone with a disability.”

— Director, Social Care Agency

I have a solid understanding of my legal obligations when hiring someone with a disability

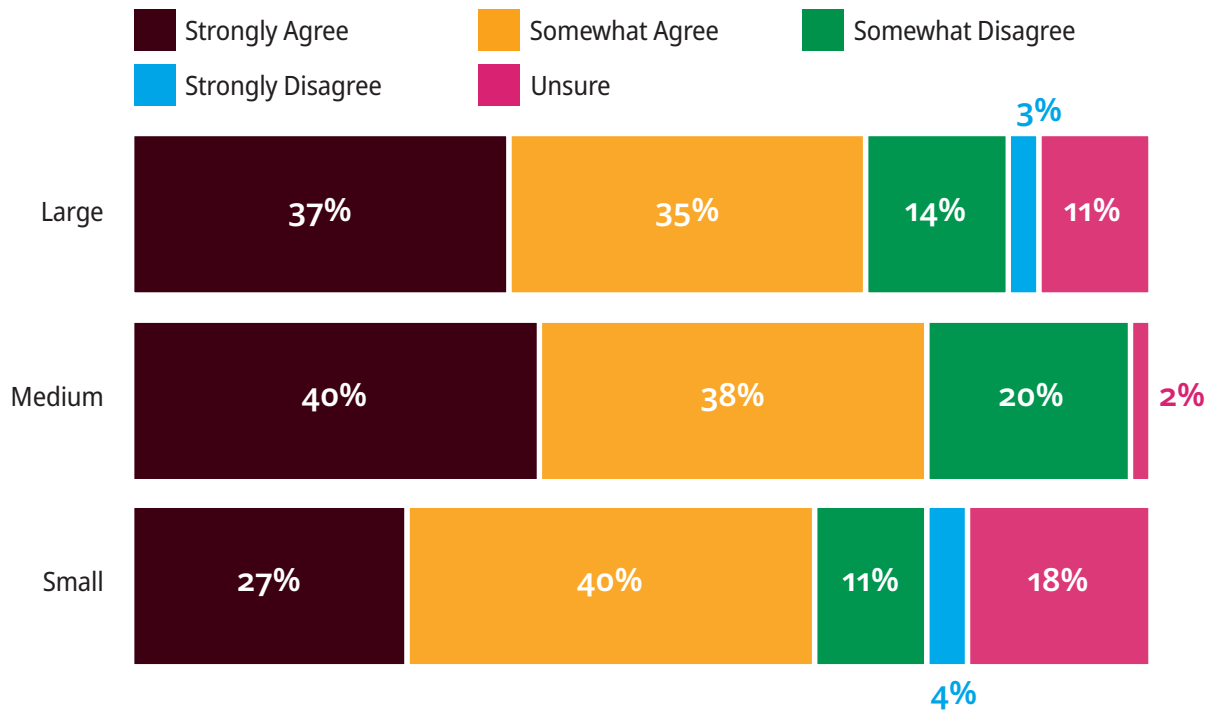


Figure 26: Alberta Digital Economy Companies' Understanding of Legal Obligations When Hiring People with Disabilities, by Company Size

Source: ICTC Diversity & Inclusion Survey, 2021.

According to employers surveyed in this study, 67% of small companies feel that they have a reasonably clear understanding of what their legal obligations are when hiring someone with a disability, although less than one-third of those employers said they have a strong understanding of these obligations. This lack of clarity can produce negative employment outcomes for people with disabilities: employers who are confused or unsure of their responsibilities are likely to become risk-averse, and possibly avoid employing people with disabilities altogether. Research completed in 2011 for the Journal of Occupational Rehabilitation found that unequivocally one of the biggest barriers to hiring people with disabilities is employer fear of legal liability.¹¹⁰

¹¹⁰ H. Stephen Kayne et. al, "Why Don't Employers Hire and Retain Workers with Disabilities?" *Journal of Occupational Rehabilitation* 21 (4), March 13, 2011, <https://doi.org/10.1007/s10926-011-9302-8>

Familiarity with Legislation and Conventions

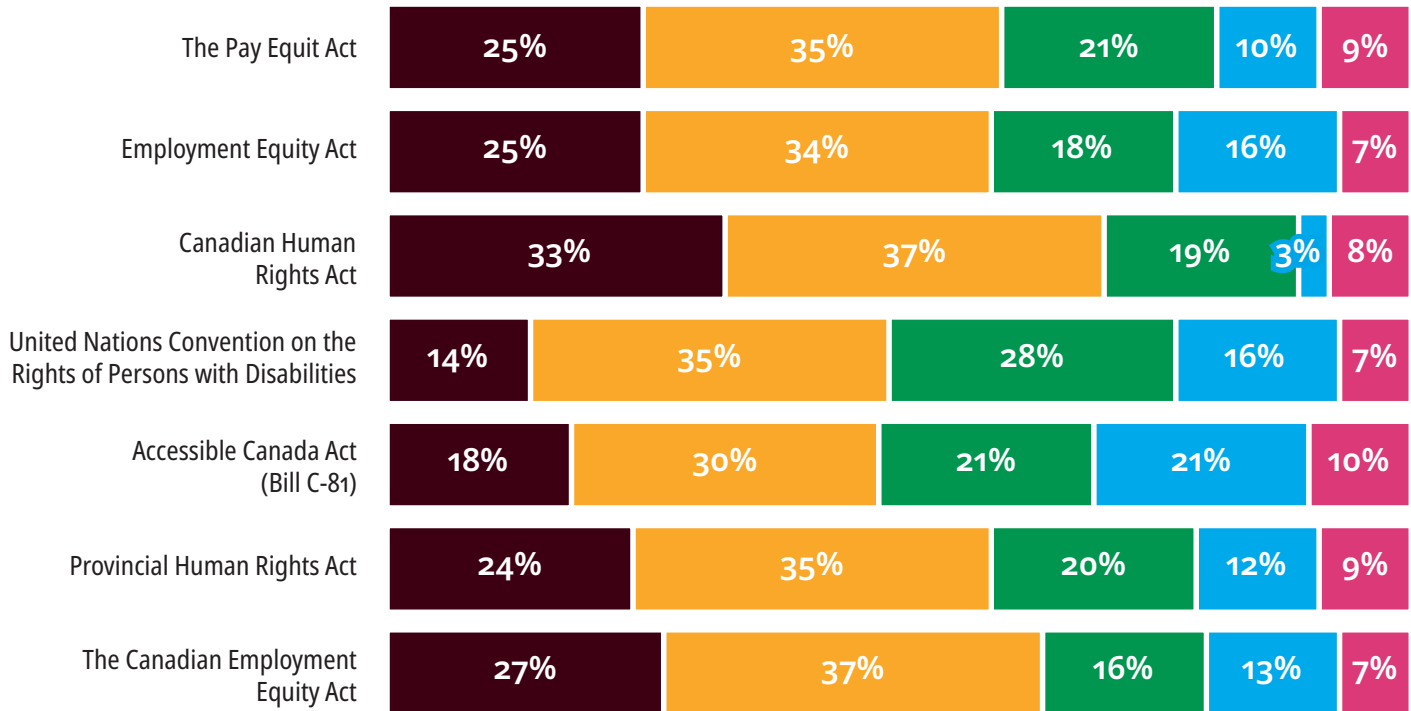
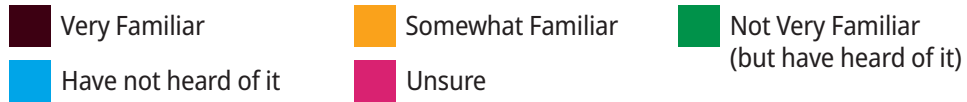


Figure 27: Alberta Digital Economy Companies' Familiarity with Relevant Legislation and Legal Conventions
Source: ICTC Diversity & Inclusion Survey, 2021.

Moving Forward: Actioning Diversity, Inclusivity and Accessibility in the Workplace

Making a Commitment to Accessibility and Inclusion

Hiring targets have long been disputed as an effective method of enhancing diversity and inclusion at organizations. Some believe that setting targets—or quotas—is ultimately damaging to both employees and employer by potentially matching people with roles based on other criteria than their ability to do the job. Others believe that setting targets is the only way to actually “move the needle” and overcome underrepresentation of various groups—people with disabilities, women, newcomers, and visible minorities in the workforce.¹¹¹

¹¹¹ “Quotas and Targets: How do they affect diversity progress?” CIPD, 2015.

Very few employers surveyed (roughly 4%) have hiring targets for people with disabilities. Those that have hiring targets are mostly focussed on hiring women and recent newcomers.

Despite the lack of concrete targets, most employers expressed a desire to engage more people with disabilities. Approximately three-quarters of medium and large companies said they would like to hire more people with disabilities than they currently do. Nearly 60% of small employers share this intention. Converting this aspiration into actionable and measurable commitments—which may include working directly with organizations that support people with disabilities or even setting hiring targets—is critical to success.

Our organization would like to hire more people with a disability than we currently do

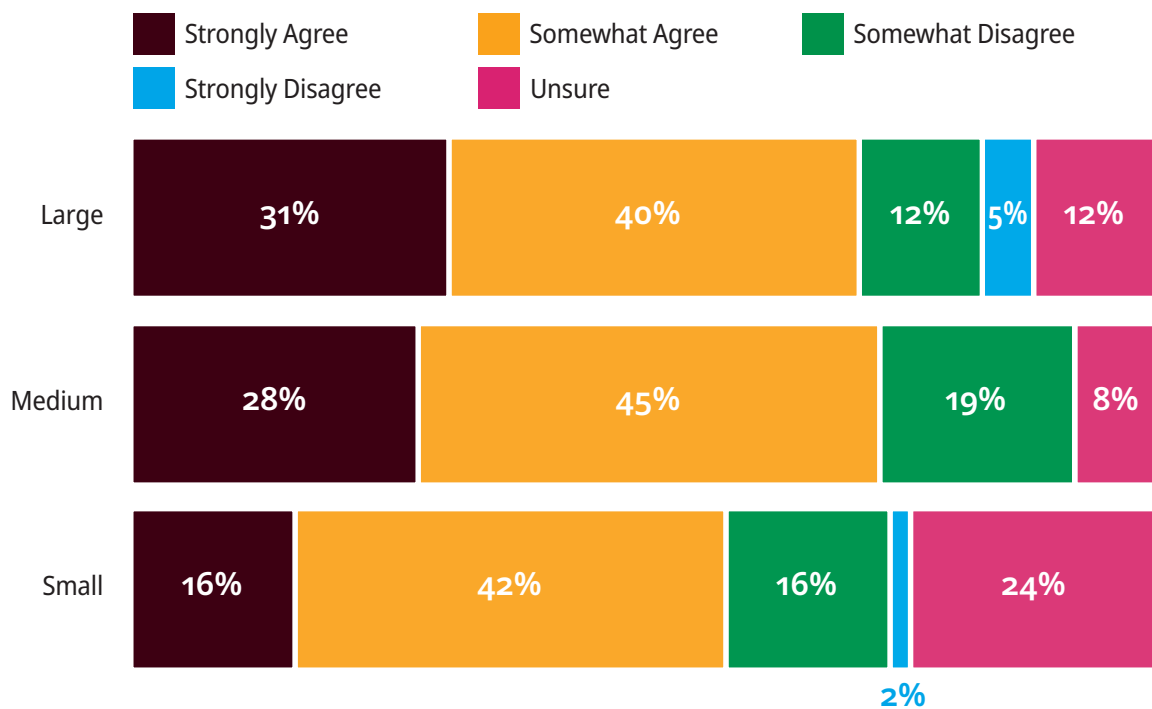


Figure 28: Desire to Hire More People with Disabilities at Alberta Digital Economy Companies, by Company Size
Source: ICTC Diversity & Inclusion Survey, 2021.

https://www.cipd.co.uk/Images/quotas-and-targets_june-2015-how-affect-diversity-progress_tcm18-10824.pdf

The Unique Opportunity of Remote Work

The COVID-19-inspired rise of remote work has caused many organizations to rethink policies related to how and when work is completed and the nature of work itself. Although the extent to which remote work becomes a mainstay post-pandemic is yet unknown, some companies in the digital economy have already committed to going digital by default.¹¹² Others believe the return to work will be based on a hybrid system,¹¹³ and while remote work has its challenges, it has spearheaded flexibility in where work can be done and where workers can live.¹¹⁴

The most frequently cited hurdle to remote work is the blurred delineation between work and home. A recent survey of over 2,000 remote workers in the US found that more than half of the sample felt “more stressed”¹¹⁵ as a result of working from home. A survey by Telus International of 1,000 US remote workers during the fall of 2020 found that four out of five workers find it hard to “shut off” in the evenings, and another 45% feel that their health has declined while working from home.¹¹⁶

Of course, remote work is not a perfect solution, and undoubtedly issues will surface as it evolves. However, the rise of remote work and its consequences—both good and bad—has caused many organizations to rethink diversity and inclusion policies. Half of employers surveyed in this study agreed that remote work has impacted their diversity and inclusion policies, and nearly three-quarters of medium sized companies believe this to be the case.

Remote work has impacted our organization’s diversity, equity, and inclusion policies

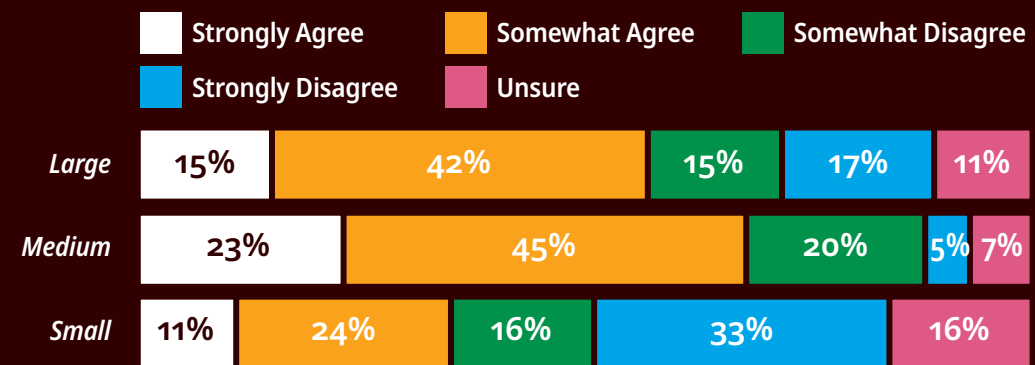


Figure 29: Impact of Remote Work on Diversity and Inclusion Policies at Alberta Digital Economy Companies, by Company Size

Source: ICTC Diversity & Inclusion Survey, 2021.

¹¹² Geoff Zochodne, “Digital by default: Shopify is letting employees work from home permanently,” *Financial Post*, May 21, 2020, <https://financialpost.com/technology/shopify-is-joining-twitter-in-permanent-work-from-home>

¹¹³ Christine Ro, “Why the future of work might be hybrid,” *BBC News*, August 30, 2020, <https://www.bbc.com/worklife/article/20200824-why-the-future-of-work-might-be-hybrid>

¹¹⁴ Danny Chrichton, “Work from Home is dead, long live Work From Anywhere,” *Tech Crunch*, May 18, 2020, <https://techcrunch.com/2020/05/18/work-from-home-is-dead-long-live-work-from-anywhere/>

¹¹⁵ “Share of employees that feel more stressed working from home during the coronavirus outbreak in the United States as of June 2020,” *Statista*, July 2020, <https://www.statista.com/statistics/1140789/working-from-home-impact-stress-us/>

¹¹⁶ Charles Westfall, “Mental Health and Remote Work: Survey Reveals 80% of Workers Would Quit Their Jobs For This,” *Forbes*, October 8, 2020, <https://www.forbes.com/sites/chriswestfall/2020/10/08/mental-health-leadership-survey-reveals-80-of-remote-workers-would-quit-their-jobs-for-this/>

Despite its challenges and growing pains, remote work has long been held as a key accommodation that can enable more people with disabilities to participate in the labour force. Particularly for people with mobility challenges, commuting to work can be insurmountable barrier. If the mobility challenge is mild, commuting may add some additional stress to the workday; but if it is severe, it may preclude them from applying. For many people with disabilities, remote work provides flexibility, removes unnecessary barriers, and allows people to leverage their existing home office setup (which may include accessible technology) so that they can work most effectively and contribute to the best of their ability.¹¹⁷

Employers surveyed in this study largely agreed that remote work had a positive impact on their ability and openness to hiring people with disabilities. The outlier here is small companies: a higher number of small companies believed that remote work bore no impact on their ability to hire people with disabilities than those that did. A possible explanation of this finding is that small companies already had flexible work policies prior to the pandemic, and the rise of remote work had little impact on their operations.

Does remote work better enable your organization to hire people with disabilities?

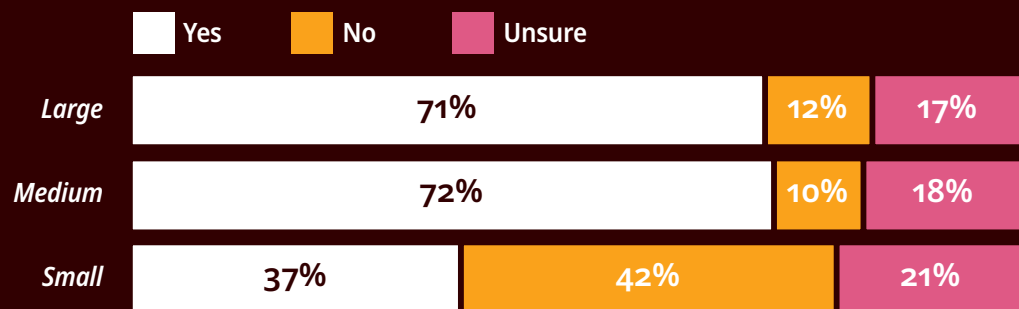


Figure 29: Impact of Remote Work on Hiring of People with Disabilities at Alberta Digital Economy Companies, by Company Size

Source: ICTC Diversity & Inclusion Survey, 2021.

Remote work has also reinforced the notion of accommodation—or in this case, adaptation. For example, despite the added flexibility, remote work has proven to be challenging during the pandemic, especially for workers that have to balance work with childcare (when schools were shut down). Willis Towers Watson surveyed 553 US employers with at least 1,000 employees and found that many organizations planned to accommodate working parents who may be struggling with work and childcare responsibilities. Another 30% of participating employers said that they would add back-up childcare access to their policies.¹¹⁸ This is just one example of how the need for accommodation is universal. In many cases, accommodations made for a specific group will have positive impacts on the entire organization.

¹¹⁷ Marcy Klipfel, "How The New Normal Of Remote Work Evens The Playing Field For Workers With Disabilities," *Forbes*, December 28, 2020, <https://www.forbes.com/sites/forbeshumanresourcescouncil/2021/12/28/how-the-new-normal-of-remote-work-evens-the-playing-field-for-workers-with-disabilities/?sh=3a0b26222a36>

¹¹⁸ *Ibid.*

Employer Support: Information and Tools in High Demand

In this study, nearly 20 workforce development organizations, non-profits, and consulting agencies were interviewed. Their knowledge and experience were critical to understanding employer perceptions, challenges, and opportunities pertaining to the engagement of people with disabilities in the overall Alberta economy, including the digital economy. These organizations play an essential function in providing necessary support to people with disabilities while shining a light on existing hurdles across numerous fronts.

Recruitment and search support was a clear need identified by employers surveyed in this study, alongside training on diversity, inclusion, and accessibility. These were followed by access to information and resources. Interviewees echoed the importance of the latter, suggesting many employers are unsure of what their responsibilities are with respect to hiring people with disabilities, and in some cases they are not sure of where to look to find the information and resources to fill the gap.

Employers surveyed in this study identified the following information and resources most needed in order to improve inclusivity and accessibility at their companies: information or research about the benefits of an inclusive and accessible workforce; information on how to create inclusive and accessible HR policies; and information on how to engage and hire people with disabilities.

Understanding this need for information and resources, ICTC created an Employer Toolkit (see Appendix III). It leverages information gathered during this study and validated by the project advisory committee. The toolkit was used in workshops with employers and job seekers in Calgary and Edmonton. The Employer Toolkit represents only one step toward filling the information gap.

Supports Needed by Employers to Improve Inclusivity & Accessibility

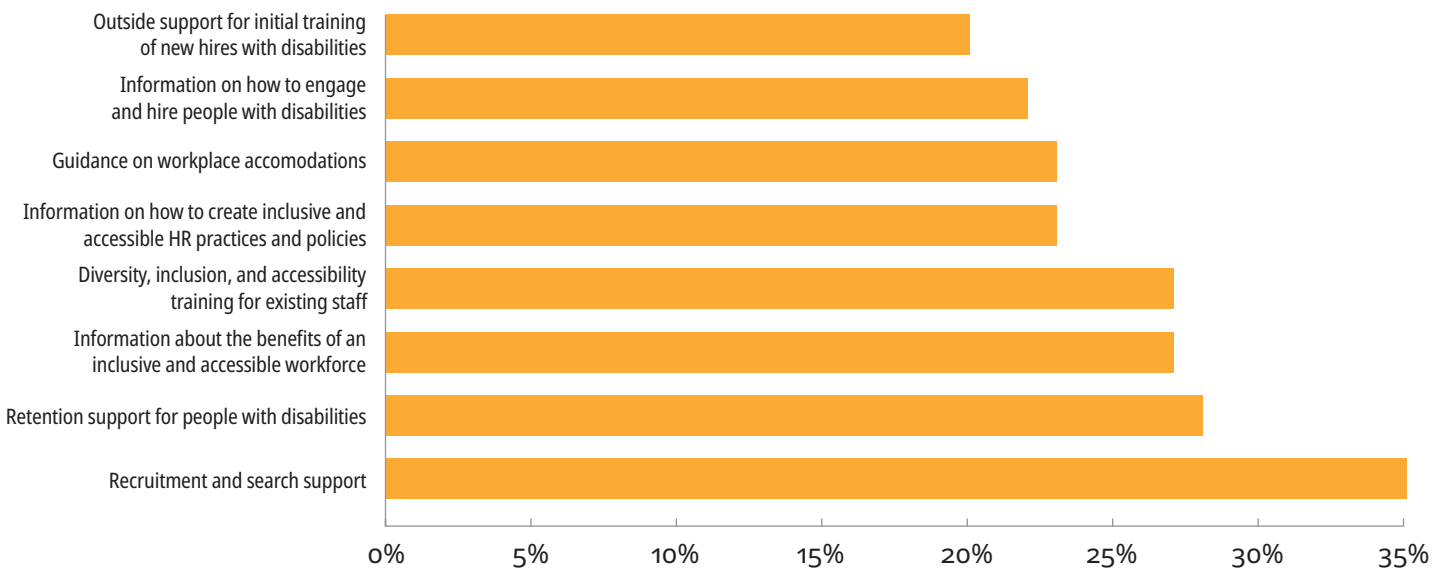


Figure 30: Supports Needed by Employers at Digital Economy Companies to Improve Diversity, Inclusion and Accessibility at their Companies

Source: ICTC Diversity & Inclusion Survey, 2021.

Basis for Future Collaboration: Understanding and Leveraging Employer Motivators

The onus for developing inclusive and accessible workplaces lies mostly with employers. They are the ones that set policies, create employment opportunities, and ultimately support economic prosperity and growth. However, on their own, employers cannot affect lasting change. Collaboration between employers, government, and organizations that support people with disabilities is also important to supporting long-term progress and measurable outcomes. A first step in this journey is understanding employer needs and motivators: that is, which variables and potential outcomes form the basis of that collaboration.

According to the employers surveyed in this study, one of the most consistent drivers of creating a more inclusive, diverse and accessible workforce is the ability to attract and access a wider pool of skilled talent. Even under a scenario where overall economic growth is stalled in Alberta until 2022, Alberta digital economy employers will need thousands of skilled workers to fill critical roles. Moreover, if digital technology continues to act as a core driver of recovery, talent demand will further scale.

Another consistent motivator is an improved reputation within the community, followed by a general desire to support an inclusive workforce. By working with employers, government and organizations that support people with disabilities can ensure that future initiatives and policies paving pathways to employment for people with disabilities in Alberta's digital economy are co-created and designed to generate mutually-beneficial outcomes.

Motivators for a More Inclusive, Diverse, and Accessible Workforce

- General desire to support an inclusive workforce
- Being seen as a leader in the tech space
- Improved organizational reputation within the community
- Enforcement of existing accessibility legislation
- Access to a wider skilled talent pool

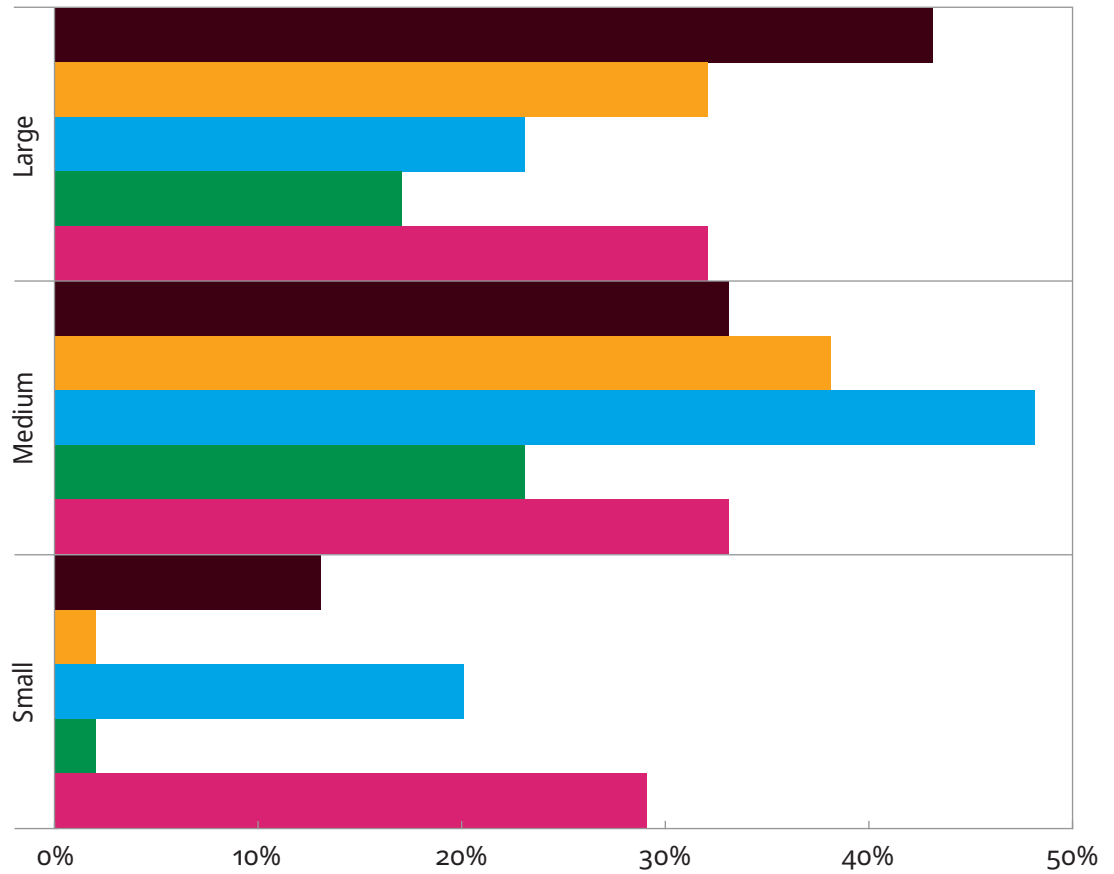


Figure 31: Top Motivators for Building an Inclusive, Diverse, and Accessible Workforce at Alberta Digital Economy Companies, by Company Size

Source: ICTC Diversity & Inclusion Survey, 2021.

Conclusion

Despite years of economic challenges in Alberta, further exasperated by the impact of COVID-19, the province's digital economy has proved resilient—and in fact is growing. During the first year of the pandemic in 2020, Alberta's digital economy managed to add thousands of jobs, making it a bastion of economic prosperity and a cornerstone for a post-pandemic recovery.

At the same time, the demand for talent in Alberta's digital economy continues outstrip available supply. A lack of digital talent is considered a substantial barrier to continued growth of the industry. To maintain positive momentum, Alberta's digital economy needs to tap all its available talent supply streams, which includes people with disabilities.

However, many employers currently lack understanding of their responsibilities when engaging with or seeking to hire people with disabilities. In some cases, this prevents them from accessing this wider talent pool which, in many cases, has the right education and skills needed by digital employers.

Workplace cultures are adjusting, but employers also need support to build specific diversity, inclusion, and accessibility policies and practices across their organizations. In fact, the Alberta's employers consulted for this report are ready to address these challenges by addressing specific diversity and inclusion policies, practices, accommodations, and training.

Meanwhile, the shift to remote work during the pandemic has also opened an opportunity to engage more people with disabilities. Remote work has created the awareness that special circumstances require accommodations, which can extend to people with disabilities.

Many employer accommodations for people with disabilities are, in fact, minor in scope and cost, however, employers need information, resources, and tools to assist them on this hiring journey. Improved collaboration between industry, support organizations for workers with disabilities, and the public sector can be leveraged to create a repository of timely, accurate, and validated resources for all Alberta digital economy employers. This was articulated by this project's advisory committee as a support mechanism that can help employers gain critical knowledge to improve accessibility and inclusivity in their hiring practices and overall work culture.

Other mechanisms for success may be financial in nature. For example, economic incentives like wage subsidies to hire people with disabilities were articulated by interviewees as successful. They can be key for businesses—namely small businesses—to engage and retain people with disabilities. The broader challenge of developing policies, training programs, and effective methods of community outreach, are ultimately the responsibility of each individual company. However, prioritizing avenues for collaboration between industry, non-profits and workforce development organizations that support people with disabilities, are undoubtedly key to their success.

Understanding the challenges and opportunities on both sides of the disabilities employment equation is the first step in building actionable and sustainable strategies for a stronger Alberta workforce and economy. Leveraging this information to create actionable strategies and initiatives is key.

Appendix

I. Research Methodology

This report was developed using a combination of primary and secondary research. This includes key informant interviews, an employer survey, two workshops, a project advisory committee, a literature review, and analysis of relevant secondary data sets.

Primary Research

Primary research was critical to the success of this project due to the lack of timely and validated secondary research and reports available on the employment of people with disabilities. When analyzed from the perspective of employment of people with disabilities in the digital economy, accurate resources are further limited, and when cross-referenced with the Canadian or Albertan context, they are nearly inexistent. As a result, four different methods of primary research were utilized to shape this report and ensure an appropriate level of validity: key informant interviews, an employer survey, workshops, and a project advisory committee.

Key Informant Interviews

A total of 25 interviews were completed during the life of this project. Interviews were semi-structured, lasting approximately one hour. Interviewees were from three main stakeholder groups: 1) workforce development organizations or non-profits that support people with disabilities in their employment journey; 2) industry, notably companies whose core activities are technology based; 3) post-secondary institutions that offer training for top digital economy roles. Of the 25 interviews completed, 17 (or 68%) were with representatives from the first stakeholder group, four (or 16%) were with representatives from the second, and another four (16%) were with representatives from post-secondary institutions. Only industry representatives that were identified as employer champions via the literature review and discussions with workforce development agencies were selected for interviews. Industry (digital economy companies) more broadly were represented via the employer survey.

Employer Survey

Two employer surveys were completed in this project. The first was a survey developed and deployed by ICTC via its network of employers and advisory committee members who distributed it. The survey was deployed in 2019 and sent out several times over the period of six months. Despite extensive outreach, a

very low number of responses was received (roughly 35), making the survey data high quality but unusable due to low sample size. As a result, ICTC contracted a vendor to deploy a national diversity, inclusion, and accessibility survey, with a guaranteed sample of 150 digital economy employers from Alberta. Timing for this survey turned out to be optimal, as it was deployed in late 2020, allowing ICTC to obtain insights related to the recruitment and hiring of people with disabilities as well as the overall impact of the COVID-19 pandemic. Data collection for the survey was completed in February 2021 and analyzed the month following. A total of 150 employers in Alberta's digital economy responded to the survey, with a fair representation across company size. Of the 150 respondents, 45 (30%) were from small companies, employing 1-49 workers; 40 (roughly 27%) were from medium-sized companies, employing 50-299 workers, and 65 (43%) were from large companies, employing 300+ workers. Digital economy companies were also represented across numerous subsectors. The largest segment were core technology companies (producing software or hardware). This was followed by companies with specific digital applications related to finance, engineering, and other professional services (e.g., legal, education, transportation, etc.)

Workshops

During this project, ICTC hosted two workshops for employers, one in Edmonton, and another in Calgary. The purpose of these workshops was to engage employers and jobseekers with disabilities in these two cities with the results of this research. Specifically, ICTC conducted these workshops using its Employer Toolkit (see Appendix III), which was developed based on findings in this study and validated by ICTC's project advisory committee. The workshops focused on the following core themes within the context of people with disabilities: recruiting, interviewing, onboarding, workplace communication, and accommodations.

Although both workshops were originally intended to take place in person, due to the COVID-19 pandemic, they were both held online. The Edmonton workshop took place on November 12, 2020 and had 26 attendees from a mix of workforce development organizations, job seekers, and industry. The Calgary workshop followed shortly afterward, on November 26, 2020, and had 30 attendees, largely from industry.

Advisory Committee

Lastly, this project was guided and informed by a robust project advisory committee. The committee consisted of 30 representatives from industry, workforce development organizations, non-profits, academic institutions, and the public sector. The role of the advisory committee was to validate research findings, provide feedback and additional insights on key topics or themes, suggest relevant data, literature or other resources, and ensure that ICTC's research findings and results are relevant, timely, and accurate. The advisory committee convened four times throughout the course of this study.

Advisory committee meeting 1

In this inaugural meeting, held in June 2019, the advisory committee was brought together to get to know one another, understand the overall goals and purpose of the research, validate methodology, and receive some background information pertaining to secondary data analysis and a literature review. Advisory committee members were also asked to suggest organizations and individuals that would prove valuable to participate in the study as a key informant or additional member of the committee.

Advisory committee meeting 2

The second meeting of the advisory committee, taking place in October 2019, focused on preliminary findings from half of the key informant interviews completed, and the validation of ICTC's "personal instruction manual." The manual was a tool developed by ICTC to be used by employers to understand and leverage the preferred communication style of all employees, including people with disabilities. The manual was pilot tested by ICTC, with members of its research and policy team.

Advisory committee meeting 3

The third meeting of the advisory committee was held in October 2020. The goal of his meeting was to offer an overview of all key informant interviews and main themes as well as results from the first attempt at an employer survey. In this meeting, ICTC solicited feedback on interview themes and a suggested shift in methodology for the survey. Given the small sample in the first deployed survey, ICTC suggested deploying a larger second survey (the one that received 150 responses) via a vendor so as to produce high-quality data from a larger and more relevant sample. The advisory committee approved this suggestion, and ICTC engaged a survey vendor to begin questionnaire development and sampling, shortly thereafter.

Advisory committee meeting 4

The final meeting of the advisory committee took place in March 2021 and was held with the goal of showcasing results from the employer survey and soliciting feedback on the answers. Notably, ICTC asked several specific questions, attempting to understand the reasons behind some of the survey responses. These questions included: the impact of COVID-19 on people with disabilities, the role of "tech culture" as a potential barrier to employment of people with disabilities, and employer perceptions on skills, training and education for key roles. Seeking a diversity of opinions and feedback, and accounting for the reality that some advisory committee members feel more comfortable sharing feedback via other mediums (besides speaking), ICTC leveraged Google Jamboard (a digital whiteboard) to facilitate this discussion. Examples of feedback received on key whiteboards are found below. All feedback was collected anonymously.

How do you think COVID-19 has impacted employment opportunities for PwD in the Alberta digital economy?

Digital Literacy however is not “accessible” and may impact job opportunities

It has increased some of what I've seen in terms of mental health challenges

For some has provided opportunity for easier accommodation working from home and flexing hours. Skype interviews for some have worked better.

It has increased feelings of isolation—mental health is a big concern. Need to balance flexible work with ways to keep connected.

In our organization, we have seen those with low literacy and low essential skills (regardless of disability) impacted negatively across all our programs.

For folks who have digital literacy skills and have access to tech(\$), it may have increased remote employment opportunities

I would like to 'hope' that the opportunity to work remotely (for local and national opportunities—borderless) has opened up opportunities for some.

Covid has effected employment opportunities for everyone in Alberta—this will have a spin off effect for all job seekers...

Increased access for free online training during COVID (i.e. InfoSys and Coursera)

Likely stating the obvious, but I think it has opened up the ability to work remotely and take into consideration flexible work. I know it's transformed how we work at my organization.

i.e. the case of the individual with autism that experiences anxiety in the workplace.

I think overall it has the potential to be positive. With more remote working options, it has the ability to open up roles to people that might not be as effective in a typical office space.

In the IT sector, I'm thinking maybe it has helped make it easier? Specifically in IT, companies have had to adopt WFH and flexible schedules—when they were capable of this work enviro. the whole time...

For folks who have digital literacy skills and have access to tech(\$), it may have increased remote employment opportunities

I do think that those who have Psychological conditions are struggling.

Do we think this will disproportionately impact PwD? Has anyone seen this transpire already?

now they've sort of been forced to do it and wow... found out it doesn't really impact productivity!! (With the right frameworks and tools in place).

I can only comment on general employment sectors—Generally PWD have been left behind

Self Advocates have been pushing for Remote Work options for a long time and met with resistance. Covid has in a way “normalized” remote work and so the labor market is bound to change

Board 1: Feedback on the Impact of COVID-19 on People with Disabilities

Is “tech culture” a barrier to employment for PWD?

I think tech culture puts a lot of emphasis on crunch times and working long hours to get things done. That could be an issue for sure.

I don't know that there is anything specific to tech culture that would in itself be a barrier. The specific cultures within an organization would be a bigger factor.

Tech culture may prove to be a barrier for some people, but not for pwd in general. a lot of people fit under the umbrella of pwd

As discussed earlier—it depends on the role within the company and the individuals wanting to fill or not fill that role

Based on the example given Tech culture would be a barrier when it relates to long hours however tech culture can be the most flexible and offer remote work and perhaps work share opportunities etc

Not sure I'd say it's a barrier, but definitely gives us more to think about. Companies need to make their practices as accessible as possible, including remote work, training and communication.

PWD will have different challenges with those areas.

In my experience “Tech Culture” is focused on being agile and adaptive... so I don't think tech culture itself is a barrier.

But I think it will depend on the individual company and the leadership style that is influencing specific cultural norms.

I don't think it is a barrier, but more of an opportunity. I think companies need to make sure that there engagement practices are inclusive and frequent to ensure everyone is feeling part of the culture

For some yes and for others no. Depends on the skillset of the individual and the type of employment desired

For some yes and for others no. Depends on the skillset of the individual and the type of employment desired

NO Sector/business is “barrier less” for PWD from the get go just because of how attitudes and biases are systemic. However the need to transform and practice EDI is emergent.

People who have their own assistive tech can also use it easier from home, that has been some feedback we have received.

Tech culture can provide more opportunities for flexible working hours and/or accommodations. I do agree it depends on role and company.

Businesses that have the courage to transform have triggered cascading impact on other businesses. I don't see why the tech sector cannot also go through the changes needed

Board 2: Feedback on “Tech Culture” as a Barrier to Employment for People with Disabilities

Roughly half of digital economy employers surveyed note that they have not encountered PwD with the right training, skills and experience for various roles. Why do you think this is?

This may be around perception. If the candidate has a 'marketable skill' the employer may not view that individual as having a disability

There is a difficulty as they may be barriers in the hiring process

Lack of awareness of abilities of talent available through the different service providers

Because the available Digital Literacy and Fluency training is not accessible and is very "neurotypical oriented". As well, the value system when evaluation "skills/training" is not diverse enough.

Invisible disability and people not disclosing could impact this.

Perhaps lack of confidence in the application process so PwD are not applying?

Employers in the tech sector are mentioning that they can't find people for their sector in general. a lack of tech specific education is missing for the population in general—so this would also occur with PwD.

Lack of outreach, lack of awareness of available pools of talent

2 things—1. Openess to explore diverse talents for specific roles. 2. How they are sourcing potential candidates and not tapping into Talent Pools where those skills might exist with PwD.

Maybe unaware that candidates have a disability (in reference to invisible disabilities)..... so they are encountering them.

The hiring process may have barriers as well screening out people

These employers are not reaching out disabilty training hubs to recruit for exsising positions.

Thought that the hiring process will be lengthy going through an agency

Maybe lack of flexibility in training screens qualified individuals out

Tech work is largely outsourced. Hard to compare with educational levels of folks where this work is being outsourced

Board 3: Feedback on Employer Perceptions of Skills, Training, and Experience Regarding People with Disabilities

Secondary Research

Secondary research consisted of a review of literature on topics relevant to the employment of people with disabilities, including an analysis of the Statistics Canada Canadian Survey on Disability (2017). With respect to the latter, the survey was analyzed in its entirety for relevant demographic and labour market information and combined with custom tables from the Statistics Canada Labour Force Survey (LFS). This combination was done to extract data on the representation of people with disabilities in Canada and Alberta in key digital economy occupations and subsectors. The custom tables were compiled by Statistics Canada for ICTC.

The literature review included an analysis of various factors related to the employment of people with disabilities generally, and where research was available, in the digital economy. This included research and data from following sources: Gartner, Glassdoor, Forbes, Statista, Journal of Occupational Rehabilitation, Journal of Organizational Behavior, Journal of Disability and Rehabilitation, Canadian Human Rights Commission, US National Library of Medicine, McKinsey & Company, World Economic Forum, Journal of Social and Behavioral Sciences, Harvard Business Review, Journal of Applied Psychology, Academy Journal of Educational Development, Journal of Human Resource Management, International Journal of Science and Research, SHRM, and Statistics Canada.

II. Limitations of Research

As with all research, limitations exist. In this study, limitations are noted primarily with respect to lack of available literature and data on persons with disabilities in the labour market, both overall and within the context of the digital economy. Although some literature is available on this topic internationally, very little is available in the Canadian context, let alone Alberta. ICTC leveraged the latest available data on the representation of people with disabilities in Alberta and crossed it with labour market data from the Labour Force Survey for the digital economy. Although as accurate and holistic picture of employment as possible, the Canadian Survey on Disability is now four years old, from 2017.

Other limitations exist regarding the employer survey, and the representation of people with disabilities themselves in this study. Although the second employer survey received a good sample, many of the questions were not open ended. In this survey, many questions were administered to identify key practices, barriers, and perceptions. The survey consisted of over 60 questions, most commonly framed according to a Likert scale, multiple-choice, or checkboxes. Because of the sheer volume of questions and need to consider survey drop-off, few open-ended questions were introduced. What this means is that in most cases, the reasons

for why respondents answered in the way they did is unknown. When it comes to the representation of people with disabilities themselves in this study, ICTC had originally planned to distribute a survey to be answered by people with disabilities in Alberta. This survey was developed and piloted in Calgary but received a very low response rate (<20). Moreover, very few of the respondents in this survey were actually working or seeking work in the digital economy. As a result, the survey was deemed not usable, and ICTC relied on workforce development organizations and non-profits to share the perspective of people with disabilities where possible. Lastly, ICTC was hoping to engage more people with disabilities at the workshops. The original targets for the workshops, when they were planned as in-person workshops, were 20–50 employers or other relevant organizations and 20–50 jobseekers. Unfortunately, both workshops were nearly entirely comprised of industry and other relevant community organizations, but few jobseekers with disabilities. It is possible that had these events taken place in person, ICTC would have been more successful in attracting a higher volume of jobseekers.

III. Employer Toolkit

Complementing this study, and especially the workshops, ICTC developed an Employer Toolkit with information and resources for employers to help them create more inclusive and accessible hiring practices and engage more people with disabilities. The toolkit is available online on ICTC’s website and is free for all employers to leverage. The toolkit focuses on the following areas: removing barriers in the recruitment process, inclusive and accessible interviewing techniques and practices, inclusive and accessible onboarding, workplace communication, and workplace accommodations.