Impact Analysis:

Advancing Women in the Digital Economy

by Implementing Actionable Solutions with Canadian Organizations

ICTC CTIC

Research by

ICTC CTIC

Information and Communications Technology Council

Conseil des technologies de l'information et des communications

Women and Gender Equality Canada

Femmes et Égalité des genres Canada

This project is funded by Women and Gender Equality Canada (WAGE).

PREFACE:

The Information and Communications Technology Council (ICTC) is a not-for-profit, national centre of expertise for strengthening Canada's digital advantage in a global economy. Through trusted research, practical policy advice, and creative capacity-building programs, ICTC fosters globally competitive Canadian industries enabled by innovative and diverse digital talent. In partnership with an expansive network of industry leaders, academic partners, and policymakers from across Canada, ICTC has empowered a robust and inclusive digital economy for over 30 years.

TO CITE THIS REPORT:

Allison Clark, and Maryna Ivus. *Impact Analysis: Advancing Women in the Digital Economy by Implementing Actionable Solutions with Canadian Organizations*. Information and Communications Technology Council (ICTC). April 2024. Ottawa, Canada.

Researched and written by Allison Clark (Research and Policy Analyst) and Maryna Ivus (Manager of Economics), with generous support from the ICTC Research & Policy team.

DISCLAIMER:

The opinions and interpretations in this publication are those of the authors and do not necessarily reflect those of the Government of Canada.

Table of Contents

Glossary of Key Terms

DIGITAL ECONOMY: Both digital occupations and digital industries, comprised of tech workers (in all sectors) and (all) workers in the tech sector.[1]

PEOPLE OF MARGINALIZED GENDERS: People who experience marginalization due to their genders. This includes transgender women, cisgender women, transgender men, non-binary people, among many other marginalized gender identities.

UNCONSCIOUS BIAS: Refers to the stereotypes and prejudices that individuals hold about others, often without realizing it.

WOMEN IN TECH: A colloquial term used to describe women working in the digital economy. Women in tech are, therefore, inclusive of women working in digital occupations and digital industries and comprise women tech workers (in all sectors) and (all) women workers in the tech sector.

WOMAN: A person who identifies as a woman, including cis and trans women.

1 Alexandra Cutean, Rosina Hamoni, Ryan MacLaughlin and Zhenzhen Ye, "Canada's Growth Currency: Digital Talent Outlook 2023," 2023, Information and Communications Technology Council, https://ictc-ctic.ca/articles/overview-canadas-growth-currency.

List of Abbreviations

EDI Equity, diversity, and inclusion

ERG Employee resource groups

HR Human resources

ICT Information and communication technology

ICTC Information and Communications Technology Council

KPIs Key performance indicators

SOPs Standard operating procedures

STEM Science, technology, engineering, and math

Executive Summary

Advancing women in Canada's digital economy is both a moral and economic imperative. While many recognize this imperative, only very few have worked on the ground to address systemic challenges that hinder women's career advancement opportunities in the digital economy. As a result, women remain underrepresented across the digital economy, especially in senior leadership roles.

Published in 2023, the ICTC report "*Empowering Women in the Digital Economy: Addressing Tech's Untapped Potential*" examines the state of gender diversity in the digital economy, outlines systemic barriers women face as they climb the corporate ladder, and highlights strategies and policy recommendations to help increase gender diversity in leadership roles.[2] This report laid the foundation for the toolkit "*Gender Equity Toolkit for Individual Leaders, Organizations, and Ecosystem Players*." This toolkit provides detailed and practical action items, strategies, considerations, resources, and stakeholder responsibilities to help advance women in Canada's digital economy.

To ensure action items in the employer toolkit were realistic and feasible, ICTC launched its *Feminist Response Program*, which engaged directly with a select number of organizations across Canada to beta-test action items. The outcomes of these collaborations are presented in this report through three case studies:

1 **Case Study 1: Addressing Unconscious Bias in Task Distribution and Promotional Processes** details efforts made by a Canadian non-profit operating in the digital economy to reduce unconscious biases. The case study showcases an organization's journey from having no guidelines related to promotion processes, adopting a new HR management system, formalizing 360-degree performance reviews, and building standardized criteria for promotions. This case study exemplifies the importance of formalizing processes to ensure that promotional decisions are not affected by unconscious gender bias.

2 Allison Clark, Justin Ratcliffe, Mansharn Sangha (Toor), "Empowering Women in the Digital Economy: Addressing Tech's Untapped Potential," Information and Communications Technology Council (ICTC), June 2023, https://ictc-ctic.ca/reports/empowering-women-in-the-digital-economy.

2

Case Study 2: Addressing Gender Stereotypes through Awareness Campaigns shows how an incubator accelerator in Manitoba led a social media campaign, panel discussion, and networking session to elevate successful women tech entrepreneurs and ultimately address gender stereotypes regarding women in tech leadership. The campaign had far-reaching impacts, inspiring the next generation of technology leaders.

3

Case Study 3: Raising Awareness for Unconscious Gender Bias discusses how women in a technology company are disproportionately impacted by unconscious biases and provides actionable solutions to curtail those biases. The case study also describes how conflicting organizational priorities can adversely affect the success and implementation of EDI initiatives.

In all, these case studies showcase the successful implementation of action items from ICTC's gender equity toolkit and the far-reaching positive impacts that implementing such action items can have on advancing women in tech, alongside the improvements to the financial "bottom line" of participating companies. The case studies also provide lessons learned and future recommendations, which can be taken into consideration by other organizations as they work to advance women in the digital economy.

Introduction

Today, gender equity is recognized as both a moral imperative and a critical driver of business success, serving as a catalyst for sustained economic growth. Despite proven economic and strategic advantages associated with gender diversity, women remain underrepresented in Canada's digital economy. While women represent nearly half (48%) of the Canadian workforce, data from 2023 reveals that they comprise only 34.8% of individuals employed in Canada's digital economy.[3] Furthermore, women tend to be largely represented in entry- to mid-level roles and less so in management and senior levels. This disparity is particularly pronounced in tech leadership roles. Across the general economy, women hold 37% of management positions, and this figure drops to 30% for executive and senior management roles.[4] Within the ICT (tech) sector specifically, the percentage of women in executive and senior management roles is just 9%.[5]

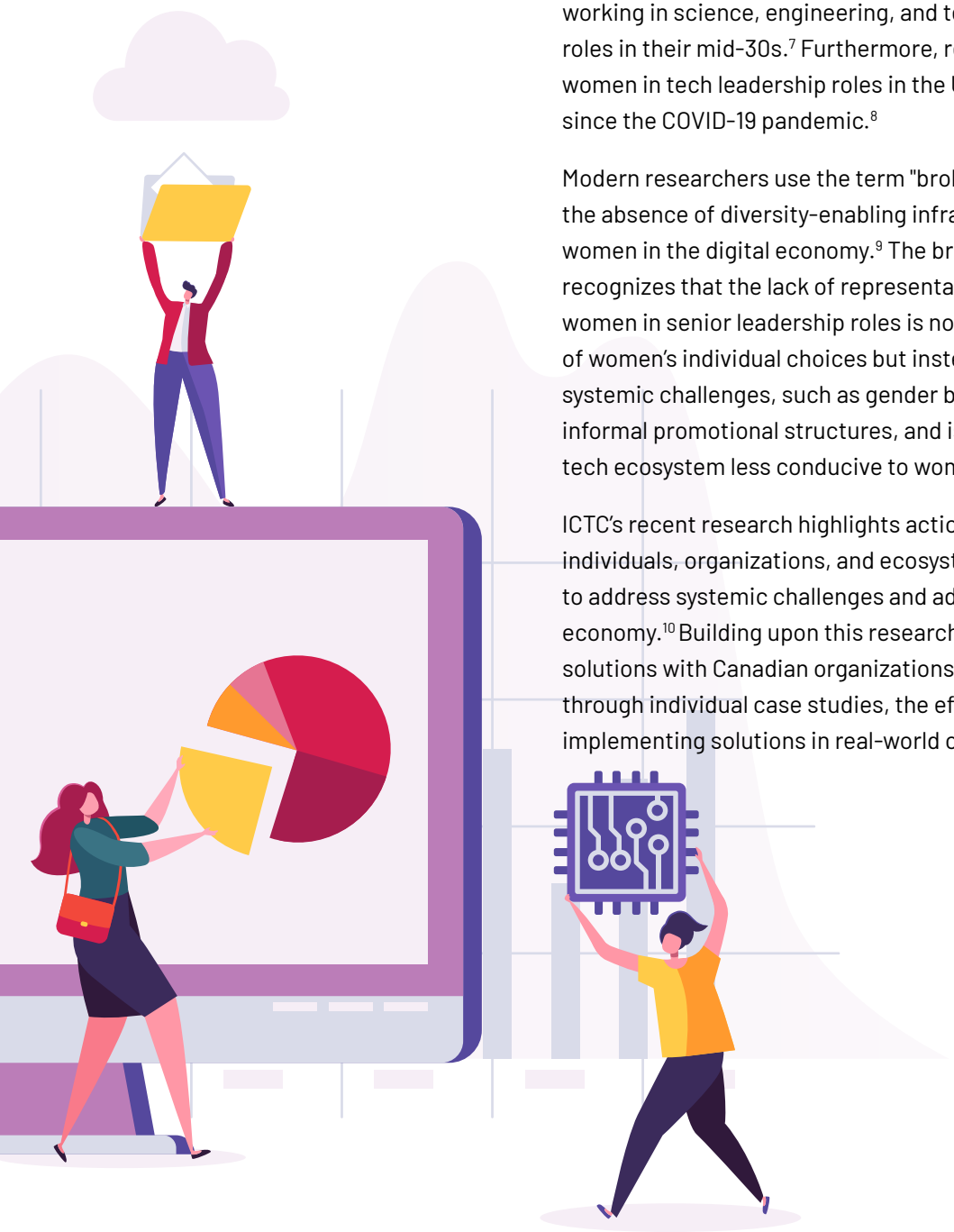
Prior research suggest that women may leave the technology sector mid-career, contributing to the lack of women in senior-level and leadership-level roles. According to a Statistics Canada study, between 2006-2016, 13.7% of women STEM graduates left the STEM workforce, compared to 8.3% of men.[6] In the United States (U.S.), the "grand exodus" of women in tech, appears to be quite significant. A study by the Harvard

3 ICTC calculations, Statistics Canada, monthly LFS data. 2023.

4 ICTC calculations, Statistics Canada, monthly LFS data. 2023.

5 ICTC calculations, Statistics Canada, monthly LFS data. 2023.

6 Kristyn Frank, " A Gender Analysis of the Occupational Pathways of STEM Graduates in Canada," Statistics Canada, Sept 2019, https://www150.statcan.gc.ca/n1/pub/11f0019m/11f0019m2019017-eng.htm.



Business Review found that 52% of highly qualified women working in science, engineering, and technology (SET) left their roles in their mid-30s.[7] Furthermore, recent data suggests that women in tech leadership roles in the U.S. had declined by 5% since the COVID-19 pandemic.[8]

Modern researchers use the term "broken scaffolding" to describe the absence of diversity-enabling infrastructure to support women in the digital economy.[9] The broken scaffolding notion recognizes that the lack of representation of women in tech and of women in senior leadership roles is not always the consequence of women's individual choices but instead is often caused by systemic challenges, such as gender bias, gender stereotypes, informal promotional structures, and isolation, which make the tech ecosystem less conducive to women's success.

ICTC's recent research highlights actionable solutions that individuals, organizations, and ecosystem-level players can take to address systemic challenges and advance women in the digital economy.[10] Building upon this research, ICTC has tested actionable solutions with Canadian organizations. This report showcases, through individual case studies, the efficacy and impact of implementing solutions in real-world organizational settings.

7 Sylvia Ann Hewlett, Carolyn Buck Luce, Lisa J. Servon, Laura Sherbin, Peggy Shiller, Eytan Sosnovich, and Karen Sumberg, "The Athena Factor: Reversing the Brain Drain in Science, Engineering, and Technology," Harvard Business Review, 2008, https://store.hbr.org/product/the-athena-factor-reversing-the-brain-drain-inscience-engineering-and-technology/10094.

8 Mikaela Cohen, "Female leadership in tech is falling," Technology Executive Council, CNBC, Mar 22 2023, https://www.cnbc.com/2023/03/22/female-leadership-in-tech-is-falling.html.

9 Allison Clark, Justin Ratcliffe, Mansharn Sangha (Toor), "Empowering Women in the Digital Economy: Addressing Tech's Untapped Potential," Information and Communications Technology Council (ICTC), June 2023, https://ictc-ctic.ca/reports/empowering-women-in-the-digital-economy.

10 Allison Clark, Justin Ratcliffe, Mansharn Sangha (Toor), "Empowering Women in the Digital Economy: Addressing Tech's Untapped Potential," Information and Communications Technology Council (ICTC), June 2023, https://ictc-ctic.ca/reports/empowering-women-in-the-digital-economy.

CASE STUDY 1

Addressing Unconscious Bias in Task Distribution and Promotional Processes

Gender bias in performance reviews, promotional processes, and task distribution is identified in ICTC's previous gender equity research as a systemic barrier that impedes women's career advancement in the digital economy.[11] Women in this space make references to gender bias and unfair hiring practices as hurdles to their professional progress. While these biases may exist for varying reasons, they can proliferate when organizational policies and procedures lack proper enforcement, implementation, or standardization. Left unaddressed, gender biases can foster an exclusionary working atmosphere or culture, which hinders progress toward true workplace diversity.

To address the challenge of unconscious gender bias, organizations can leverage a variety of training, resources, and standardized procedures. For example, unconscious bias training is an increasingly common tool that employers use to fill gaps in this space—in fact, it is not uncommon for organizations to hire equity, diversity, and inclusion (EDI) professionals to lead webinars or training modules on unconscious bias.[12] While training can add value, organizations can take more preventive measures to address unconscious bias, including a thorough audit of unconscious bias across the organization and building data-driven performance reviews and promotional structures.

To test solutions aimed at mitigating unconscious bias, ICTC partnered with a non-profit organization to implement key actions. Feeling that unconscious bias was prevalent in their workplace, the organization committed to hosting unconscious bias training, with special attention to bias in hiring, promotions, and task distribution. The non-profit planned to audit and standardize promotional structures to ensure promotions were being awarded fairly. The organization will remain anonymous throughout this case study.

11 Allison Clark, Justin Ratcliffe, Mansharn Sangha (Toor), "Empowering Women in the Digital Economy: Addressing Tech's Untapped Potential," Information and Communications Technology Council (ICTC), June 2023, https://ictc-ctic.ca/reports/empowering-women-in-the-digital-economy.

12 Nabila Kazmi, "Diversity, Equity and Inclusion within STEM in Canada: A Literature Review," University of Victoria, 2022, https://www.uvic.ca/coop/_assets/docs/partnerships-dei-lit-review.pdf

Organizational Audit of Unconscious Bias

Prior to selecting unconscious bias training and making changes to promotional policies or procedures, ICTC worked with the organization to conduct an audit of unconscious gender bias. This was done through an employee satisfaction survey (n=99) and a focus group with middle managers (n=22). Sixty-seven percent of survey respondents identified as women, 25% identified as men, 7% preferred not to disclose, and 0% identified as other (e.g., non-binary). ICTC did not ask middle managers to disclose their gender during the focus group.

During the middle manager focus group, the consensus was that the organization lacked a formal process for employee promotions. Several managers engaged in this focus group outright said they felt that there was "no clear communication around how promotional decisions are made." Other attendees expressed a belief that while some individuals (particularly senior leadership) had insight into how promotional decisions are made, others were left out of these conversations. Meanwhile, some highlighted limited transparency about when someone would be considered "ready" for a promotion or how promotions fit into the budgetary landscape. As one manager put it, "From what I understand, there is no room for promotion at the organization. It doesn't seem to be in the budget."

Citing limited standardization around promotional processes, participants felt that it is easy for bias or, at times, "favouritism" to affect promotional decisions. Managers shared (anonymously through a Google JamBoard) a belief that bias contributed to greater instances of promotion among men versus women. Others also suggested the possibility of a gender pay gap in the organization and perceived instances of bias in the distribution of tasks. While it is impossible to corroborate the validity of these statements without extensive investigation into organizational practices, including holistic and potentially confidential information behind promotional decisions (which may or may not be shared with middle managers), the generally shared perception of bias signals a workplace culture gap.

ICTC's employee satisfaction survey further highlighted this gap. A quarter or more of the surveyed employees believed that unconscious gender bias is present in hiring decisions, task distribution, and promotional processes.

DO YOU PERCEIVE UNCONSCIOUS GENDER BIAS TO BE PRESENT IN THE FOLLOWING PROCESSES?

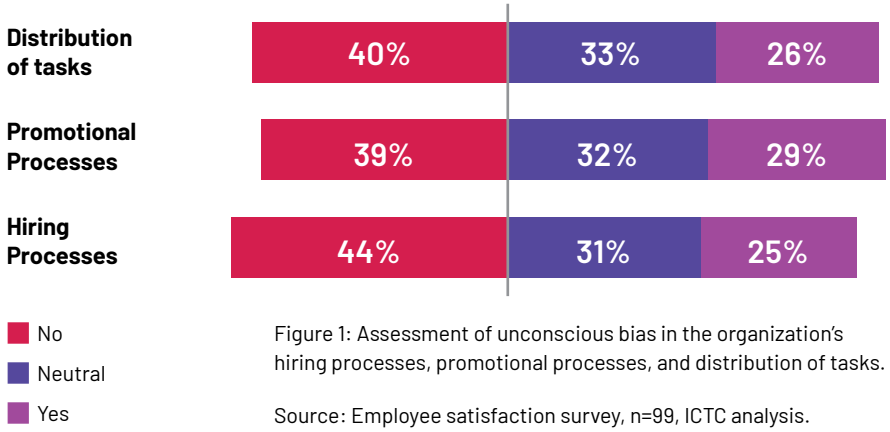


Figure 1: Assessment of unconscious bias in the organization's hiring processes, promotional processes, and distribution of tasks.

Source: Employee satisfaction survey, n=99, ICTC analysis.

Employees were subsequently asked a series of questions related to unconscious gender bias across the organization (Figure 1). While most (60%) respondents believed that their supervisor is supportive and committed to equity, diversity, and inclusion, over one-fourth believed that they were not treated fairly by their manager. Another 15% noted experiencing gender discrimination in the workplace (generally), and 13% selected experiencing gender discrimination in task assignment.

PLEASE LET US KNOW YOUR LEVEL OF AGREEMENT WITH THE FOLLOWING STATEMENTS:

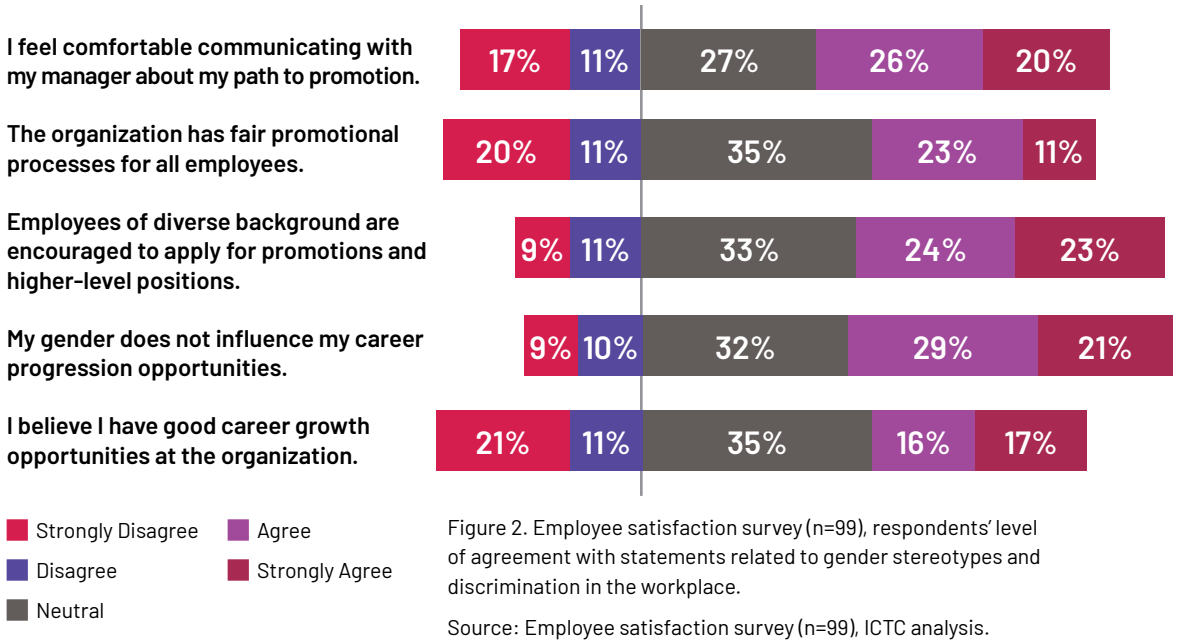


Figure 2. Employee satisfaction survey (n=99), respondents' level of agreement with statements related to gender stereotypes and discrimination in the workplace.

Source: Employee satisfaction survey (n=99), ICTC analysis.

Feedback received from the middle manager focus group and employee satisfaction survey suggests a workplace culture gap. While ICTC cannot confirm or deny the challenges noted, employee perception hints at gaps in areas like standardized processes, transparency, and the communication of decisions. Six key recommendations were presented to the organization to overcome the challenges described by employees:

1. Improve transparency in key aspects of decision-making, namely when it comes to promotional opportunities, promotional processes, and employee expectations.
2. Develop regular and institutionalized feedback and evaluation processes.
3. Develop and share clear criteria for promotions and employee career pathways.
4. Provide opportunities for mentorship, training, and professional development.
5. Engage in organizational gender bias training, including training on recognizing and addressing microaggressions.
6. Focus on trust-building across the organization, including creating opportunities for interpersonal connections and "natural collisions" across departments.

Removing Bias Through Training and Standardized Promotional Processes

Addressing gender biases through cultural and process-driven transformation takes time, patience, and buy-in from senior leaders.[13] Recognizing this, ICTC worked with the organization to take the first steps in addressing biases and building more equitable career advancement pathways for all employees. The organization focused on delivering unconscious bias training and developing and implementing standardized promotional processes.

For unconscious bias training, ICTC prepared an interactive online workshop, during which an EDI specialist guided employees through different types of biases, examples of how biases arise in the workplace, and strategies to manage and mitigate biases when they occur. In total, 56 employees (about one-quarter of the organization) attended the training. Attendees of this training spanned most levels of seniority, including junior through senior level staff and managers.

Upon completion of the unconscious bias training, participants were asked to complete a post-workshop survey to share their feedback. Of the employees who answered the survey (10), six said that the webinar increased their understanding of unconscious gender bias and how it manifests in the workplace, and seven said that the webinar was beneficial in addressing their concerns about unconscious bias at the organization. When asked about their biggest takeaway from the webinar, most mentioned self-awareness of their own unconscious biases and their impacts. Another respondent stated that the workshop reiterated the importance of checking in with peers and colleagues to ensure that biases are not hindering inclusivity in the organization.

13 Maryna Ivus and Maya Watson, "Gender Equity in Canada's Tech Ecosystem: Attracting, Retaining, and Supporting Entry- and Mid-Level Talent," Information and Communications Technology Council (ICTC), May 2022, https://ictc-ctic.ca/reports/gender-equity-in-canadas-tech-ecosystem#report.

While raising awareness of unconscious bias through training is important, standardizing promotional processes can be helpful in establishing guardrails that prevent bias from affecting promotional decisions. To standardize promotional processes, the organization adopted a new HR management system, which allows HR to track performance management in a more standardized manner. Simultaneously, the organization established a standard operating procedure for performance reviews and promotional processes. Today, the organization's promotional processes include:

- A 360 review, including anonymous peer feedback and manager reviews of each employee. The organization plans to complete 360s twice per year.
- Greater transparency on criteria for a promotion, including expectations and associated KPIs. Criteria are both quantitative and qualitative in nature. Examples include skill level (junior, intermediate, senior), tenure, work ethic, teamwork, etc.
- Open communication to the entire organization about opportunities for lateral and horizontal mobility (each job opportunity will be posted and advertised internally).

The organization's HR team received approval from senior leadership to carry out the above action items, and HR drafted a standard operating procedure (SOP) for promotional processes, which will be posted on their HR management system and readily available to all staff. HR will then train managers and employees on the new procedure, followed by launching annual reviews using the new process. Further, the organization plans to develop a new SOP for hiring processes, which includes a blind evaluation and a more diverse hiring committee.

Lessons Learned and Future Plans

The organization's HR team understands that there is still more work to do to address unconscious biases in promotions and task distributions. Part of this work includes a recognition that for changes to be material and lasting, senior leadership buy-in is key. As such, the organization has invited ICTC to present anonymous and aggregated findings from the employee satisfaction survey and the manager focus group to the organization's senior leadership team. The goal of this presentation is to showcase employee sentiment about unconscious bias, encourage introspection, and help inform future changes that will create a more equitable and inclusive workplace.

CASE STUDY 2

Addressing Gender Stereotypes Through Awareness Campaigns

Gender stereotypes about leadership and STEM during early career decision-making years were identified in ICTC's previous research as a systemic barrier to career advancement faced by women in the digital economy.[14] These stereotypes may include assumptions or false narratives that women cannot excel in STEM fields.[15] For example, research on organizational intragroup dynamics suggests that leadership traits characterized as "masculine," such as assertiveness and control, may be valued over leadership traits characterized as "feminine," such as emotional maturity, compassion, and care.[16] When this happens, women tend to be adversely impacted.

A recent article by Ekaterina Netchaeva suggests that gender stereotypes can be especially harmful to young women who are in early career decision-making stages.[17] This article points to a critical period before or during post-secondary education, where women may internalize gender stereotypes and self-select out of leadership roles.[18] Taking this information into consideration, ICTC proposes that interventions aimed at breaking down gender stereotypes may be most meaningful when directed at young women in the early career decision-making stages.

14 Allison Clark, Justin Ratcliffe, Mansharn Sangha (Toor), "Empowering Women in the Digital Economy: Addressing Tech's Untapped Potential," Information and Communications Technology Council (ICTC), June 2023, https://ictc-ctic.ca/reports/empowering-women-in-the-digital-economy.

15 Sanjana Vig, "Women in STEM: 5 challenges to overcome & achieve success," Mediafeed.org, December 11, 2021, https://mediafeed.org/women-in-stem-5-challenges-to-overcome-achieve-success/.

16 Caitlin Stamarski and Leanna Son Hing, "Gender inequalities in the workplace: the effects of organizational structures, processes, practices, and decision makers' sexism," Frontiers in Psychology, 2015, https://doi.org/10.3389/fpsyg.2015.01400.; Milan Miric, Pai-Ling Yin, and Daniel Fehder, "Population-Level Evidence of the Gender Gap in Technology Entrepreneurship," Strategy Science, 2022, https://doi.org/10.1287/stsc.2022.0170.

17 Ekaterina Netchaeva, "Women are still less likely to aspire to leadership in business, despite decades of gender initiatives – we need to find out why," The Conversation, 2022, https://theconversation.com/women-are-still-less-likely-to-aspire-to-leadership-in-business-despite-decades-of-gender-initiatives-we-need-to-find-out-why-185796.

18 Ibid.

Moreover, these actions are best taken by ecosystem-level players, such as industry associations, incubators, and accelerators. In its recent report on career advancement for women in tech, ICTC recommended that these players address gender stereotypes by elevating successful women in tech through awareness campaigns and success stories. When directed at young women who are making critical decisions regarding their career pathways, the technology ecosystem can help reduce the impact of gender stereotypes.

To test this recommendation, ICTC partnered with **North Forge Technology Exchange**, a non-profit incubator accelerator based in Winnipeg, Manitoba.[19] North Forge specializes in supporting entrepreneurs who lead technology-enabled, science-based, and advanced manufacturing startups. Since 2020, North Forge has worked with more than 350 companies that have created over 1,900 new jobs. Through their Women in Innovation Lab, North Forge offers resources such as mentorship, investment opportunities, leadership training, financial literacy skills, and more to women entrepreneurs. By providing a safe and supportive environment for women entrepreneurs to thrive, North Forge has contributed to the growth and development of several women entrepreneurs in technology-related fields.

Given their unique position as an ecosystem leader in the technology sector, North Forge felt that it could have a meaningful impact on combatting gender stereotypes through an awareness campaign. ICTC, therefore, worked collaboratively with North Forge to develop a campaign that raised awareness about successful women entrepreneurs in Manitoba's technology ecosystem.

19 "Helping companies develop faster, cheaper and successfully," North Forge Technology Exchange, 2024, https://northforge.ca/.

Raising Awareness About Successful Women Entrepreneurs in Manitoba

In January 2024, North Forge launched the awareness campaign titled, The Intersection of Tech and Entrepreneurship: Highlighting Successful Women Founders. This awareness campaign was two-fold, including a social media campaign and an in-person panel discussion. The panel discussion brought together post-secondary students and individuals early in their careers to learn about career pathways in technology and entrepreneurship directly from successful women founders.

HIGHLIGHTING SUCCESSFUL WOMEN ENTREPRENEURS: A SOCIAL MEDIA CAMPAIGN

The social media campaign highlighted successful Manitoba women entrepreneurs, some of whom had gone through North Forge's accelerator program. Social media posts included a brief overview of each woman founder, the mission of their company, and a short audio clip of the women providing advice and/or experiences for others who may be interested in pursuing a pathway in tech entrepreneurship.

One social media post highlighted Carly Shuler, the co-founder and CEO of Hoot Reading, a technology platform connecting kids with qualified classroom teachers for 1:1 high-impact literacy tutoring, reading intervention, and educational assessments and reporting.[20] As detailed in North Forge's social media posts, Carly's biggest piece of advice to young women was to always ask questions: "I don't believe you're ever going to look stupid for asking a question. And I don't believe we can tackle hard problems until we deeply understand them."[21]

20 "Changing children's lives through literacy," Hoot Reading, 2023, https://www.hootreading.com/.

21 North Forge Technology Exchange, LinkedIn, January 2024, https://www.linkedin.com/posts/northforge-manitoba_carly-shuler-is-the-co-founder-and-ceo-of-activity-7157840957709721600-yQNo?utm_source=share&utm_medium=member_desktop

The next founder highlighted by North Forge's social media campaign was Carine Bado, founder and CEO of My Little Tribe Community, a technology platform that matches parents with childcare services and caregivers to facilitate a smooth and community-driven caregiving experience.[22] Carine is a single mother and an immigrant from the Ivory Coast who felt there was a need for a platform to support parents in balancing work, personal duties, and caregiving. Carine advised young women to stay focused on their companies, their goals, and their missions. She recommended that young entrepreneurs, especially women, should not compare their success to the success of others but remain committed to their work and "run the race at their own pace."[23]

The third and final founder highlighted in North Forge's social media campaign was Catherine Metrycki, founder and CEO of Callia Flowers, a tech-enabled startup that distributes flowers across Canada—also known by some for its appearance on the Canadian television show Dragons Den. In the short interview North Forge had with Catherine, she shared insights on how to better support mothers in advancing their careers, especially in tech entrepreneurship. Catherine explains that many women have caregiving responsibilities and that "[women] need to find better options…to be able to have care for children that may or may not be tagging along with them." Catherine goes on to express that the technology ecosystem should create "networking opportunities and conference spaces where women who need to have a baby with them can bring the baby."[24]

North Forge highlighted each of these successful women entrepreneurs on LinkedIn, Facebook, and Instagram. The LinkedIn social media campaign (including all three posts) received 3,178 impressions and 1,686 views. On Facebook, the social media campaign received 473 impressions and 435 reaches. On Instagram, the social media campaign received 17,833 impressions and 16,497 reaches. Altogether, the social media campaign was highly successful in promoting and raising awareness for successful women entrepreneurs in Manitoba.

22 "Care through play and education for your child," My Little Tribe, 2024, https://mylittletribe.ca/home.

23 North Forge Technology Exchange, LinkedIn, January 2024, https://www.linkedin.com/posts/northforge-manitoba_carine-b-is-the-founder-and-ceo-of-my-little-activity-7155293998629175296-CQfe?utm_source=share&utm_medium=member_desktop.

24 North Forge Technology Exchange, LinkedIn, 2024, https://www.linkedin.com/posts/northforge-manitoba_northforge-wilab-womeninbusiness-activity-7150547168951451648-ajQD?utm_source=share&utm_medium=member_desktop.

INSPIRING THE NEXT GENERATION OF TECH LEADERS: A PANEL DISCUSSION AND NETWORKING SESSION

Building on the momentum and traction of their successful social media campaign, North Forge partnered with ICTC to host a panel discussion and networking session focused on inspiring the next generation of technology leaders. The panel discussion was hosted on January 31, 2024, at North Forge's headquarters in Winnipeg, Manitoba. Panelists included Carly Shuler, Carine Bado, and Catherine Metrycki (the same successful founders highlighted in North Forge's social media campaign). The panel discussion was moderated by Joelle Foster, North Forge's President and CEO, a successful woman leader herself.

Leveraging their relationships with the University of Manitoba and local school boards, North Forge invited a broad spectrum of students at the high school and post-secondary levels. These audiences were targeted to raise awareness about successful women entrepreneurs among young women in their early career decision-making stages (who are most often adversely affected by gender stereotypes related to leadership).[25] The event was also promoted to other audiences beyond high school and post-secondary and was shared with North Forge's professional networks on LinkedIn. In total, 70 individuals attended the event. The audience included a mix of post-secondary students, recent graduates of post-secondary programs, and women business owners who came ready to learn.

25 Ekaterina Netchaeva, "Women are still less likely to aspire to leadership in business, despite decades of gender initiatives – we need to find out why," The Conversation, 2022, https://theconversation.com/women-are-still-less-likely-to-aspire-to-leadership-in-business-despite-decades-of-gender-initiatives-we-need-to-find-out-why-185796.

The event kicked off with a short presentation by ICTC, explaining key findings from the recent study *Empowering Women in the Digital Economy, Addressing Tech's Untapped Potential*.[26] This was followed by Whitey Moir, Program and Communications Director at North Forge, who shared opening remarks before kicking off the panel discussion. During the panel, each participant shared their journey to success, including their unique experiences, challenges, and triumphs. The discussion also touched on the impact each woman, along with their business, has had through their innovative ideas and tech-enabled solutions. The event concluded with a networking event, allowing aspiring tech entrepreneurs to build meaningful relationships with successful women entrepreneurs, along with North Forge's incubator accelerator team.

> **"Our goal today is to let all of you know, no matter where you are in your career, you belong in tech and in the entrepreneurial ecosystem."**
> – Whitney Moir, Program and Communications Director

A key takeaway from the event was that a technical background is not required to start a technology company. Carine Bado detailed her career experience, from financial analyst to consultant to entrepreneur, explaining that she did not realize that her company was part of the technology ecosystem at first. Catherine Metrycki, similarly, shared that her entrepreneurial journey began by merging her marketing background and her passion for flowers into a company. Catherine explained, "I realized quickly that what I was trying to do, which was [creating a] phenomenal customer experience in flowers, I couldn't do without tech." She went on to describe how her flower business had turned into a tech and logistics company in recent years.

Joelle Foster, President and CEO of North Forge, concluded by noting that many of their founders do not come from a technical or computer science background: "I would say that 85% of our founders do not have a tech background." These and other key takeaways from the panel discussions were covered by news reporter Gabrielle Piché in her article "Entrepreneur talk promotes women in tech," published in the Winnipeg Free Press.[27]

26 Allison Clark, Justin Ratcliffe, Mansharn Sangha (Toor), "Empowering Women in the Digital Economy: Addressing Tech's Untapped Potential," Information and Communications Technology Council (ICTC), June 2023, https://ictc-ctic.ca/reports/empowering-women-in-the-digital-economy.

27 Gabrielle Piché, "Entrepreneur talk promotes women in tech," February 2, 2024, https://www.winnipegfreepress.com/business/2024/02/02/entrepreneur-talk-promotes-women-in-tech.

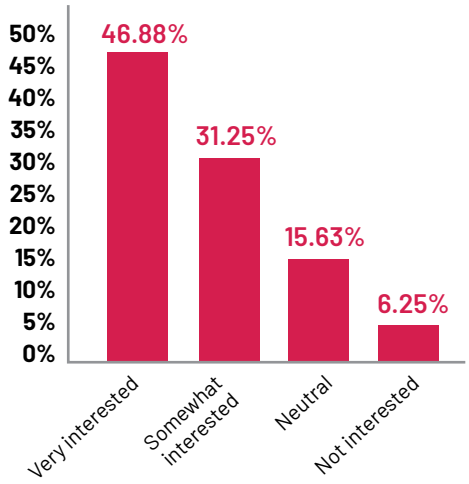
MEASURING IMPACT: A SURVEY WITH PANEL ATTENDEES

Following the panel discussion hosted at North Forge, attendees were asked to complete a short survey about their experience. This survey was prepared by ICTC to quantify whether the panel discussion had a meaningful impact on how attendees perceived tech entrepreneurship and whether the discussion influenced their interest in pursuing tech entrepreneurship in the future.

Approximately half of the panel attendees completed this survey (n=32). Of these respondents, 16% were currently attending college or university, while 84% had already graduated from college or university. Most attendees of the panel discussion identified as women (81%), fewer identified as men (19%), and none identified as non-binary.

Survey respondents were asked whether they had any interest in entrepreneurship before attending the panel discussion and were subsequently asked whether they felt differently about pursuing an entrepreneurial career pathway following the panel discussion (see Figure 3). Most survey respondents were either very interested (47%) or somewhat interested (31%) in entrepreneurship before the panel discussion. In general, the panel discussion positively influenced attendees' perceptions of entrepreneurship: 34% of respondents said they were more likely, and 44% said they were somewhat more likely to pursue an entrepreneurial career path following the panel discussion.

A BEFORE ATTENDING THIS PANEL DISCUSSION, DID YOU HAVE ANY INTEREST IN ENTREPRENEURSHIP?



B FOLLOWING THIS PANEL DISCUSSION, ARE YOU MORE OR LESS LIKELY TO PURSUE AN ENTREPRENEURIAL CAREER PATHWAY?

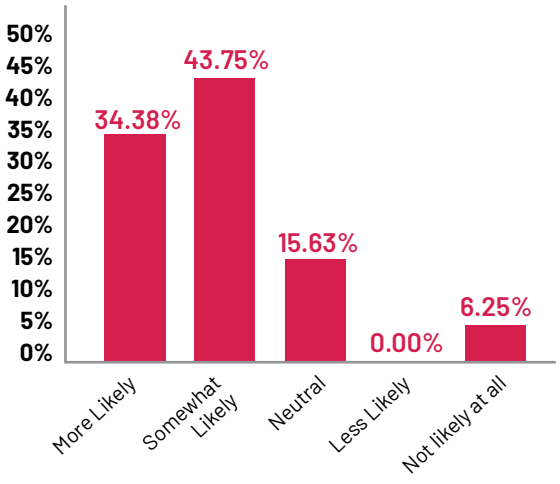
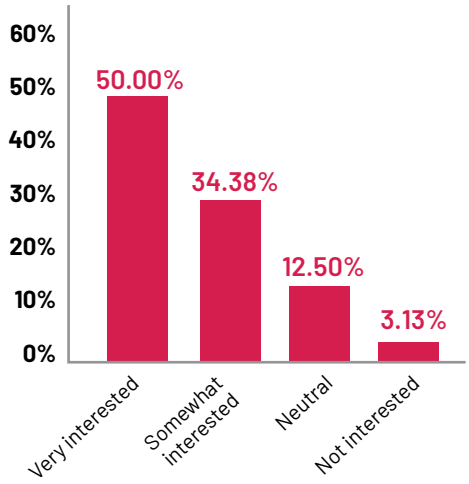


Figure 3: Interest of survey respondents in pursuing a career in entrepreneurship before the panel discussion (A) versus the likelihood of pursuing an entrepreneurial career after the panel discussion (B).

Source: Panel attendees survey (n=32), ICTC analysis.

Similarly, survey respondents were asked if they had an interest in pursuing a technology-related career before attending the panel discussion versus after the panel discussion (see Figure 4). Again, most survey respondents were interested in pursuing a tech career prior to attending the event: 50% stated they were "very interested," and 34% stated they were "somewhat interested." The panel discussion further amplified this interest: nearly half of the survey respondents said they were "more likely" to pursue a career in the technology sector following the event.

A BEFORE ATTENDING THIS PANEL DISCUSSION, DID YOU HAVE ANY INTEREST IN PURSUING A CAREER IN THE TECHNOLOGY SECTOR?



B FOLLOWING THIS PANEL DISCUSSION, ARE YOU MORE OR LESS LIKELY TO PURSUE A CAREER IN THE TECHNOLOGY SECTOR?

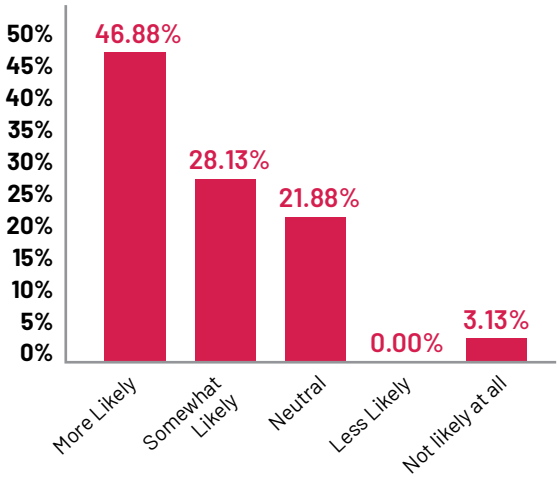


Figure 4: Interest of survey respondents in pursuing a career in entrepreneurship before the panel discussion (A) versus the likelihood of pursuing an entrepreneurial career after the panel discussion (B).

Source: Panel attendees survey (n=32), ICTC analysis.

Through an open-ended question, ICTC asked respondents to share their biggest takeaway from the panel discussion. The most common answers were "just do it" or "just start," implying that taking the first step is important and that entrepreneurs should not fear failure and should take action toward their goals or dreams. Others noted that their key takeaway was that many resources and programs are available to support early-stage technology companies. As one survey respondent said, "Supports are important. If you don't know how to do it, find someone to help!"

> **"Just get something out there. Overcome analysis paralysis. Just do it. Take imperfect action."**
> – Key Takeaway, Panel Discussion Attendee

Lessons Learned and Future Recommendations

ICTC and North Forge Technology Exchange debriefed on the successes, shortcomings, and overall lessons learned throughout the process of developing and leading an awareness campaign. Grace Gyolai (Program Coordinator at North Forge and organizer of the social media campaign, panel discussion, and networking event) regarded the experience as "very rewarding." Grace explained that organizing the awareness campaign was relatively straightforward due to their vast network and internal resources, such as their venue and supportive staff. Grace also noted that the panel discussion event was perhaps the most impactful part of the awareness campaign: "People were really happy. They learned a lot and left feeling inspired."

However, North Forge noted that they struggled to get high school students to the event. Despite sending invitations to students at nearby high schools, none attended in the end. Grace explained that "perhaps the event didn't resonate with people that young—some people attend our events with networking in mind. This is not as appealing to high schoolers." Yet, gender stereotypes about science, technology, engineering, and mathematics (STEM), as well as stereotypes about leadership, can impact the educational pathways and career pathways young women choose to take. The impacts of these stereotypes can manifest in post-secondary, high school, or even earlier. As such, it is important to engage younger generations in future awareness campaigns about women in tech entrepreneurship. Upon reflection, North Forge noted that in order to successfully engage high school students in the future, it may be necessary to host an event at a school, taking the awareness campaign directly to them.

In all, the awareness campaign achieved its goals and contributed positively to the overall participation of women in the Manitoba tech ecosystem. Similar organizations (i.e., technology accelerators and industry organizations) may consider hosting comparable awareness campaigns to ensure that successful women entrepreneurs in their areas are championed and leveraged to inspire the next generation of entrepreneurs and women in tech. While just one piece of a larger puzzle, such campaigns can have an impact on breaking down systemically enforced gender stereotypes about women in tech leadership and enable more women to flourish in tech.

CASE STUDY 3

Raising Awareness for Unconscious Gender Bias

As discussed in Case Study 1, gender bias in promotions, performance reviews, and role assignments has been identified as a systemic barrier facing women in Canada's digital economy.[28] Women in tech have reported perceptions of bias in hiring practices, promotions, and task allocations, which together can act as hurdles to their professional progress.

Despite the progress that has been made toward gender equity in Canada, women in tech still report being affected by such biases.[29] Although eliminating bias altogether is a long journey, there are strategies that can be taken by all organizations to mitigate it. A crucial first step is ensuring employees are aware of these biases. Equity, diversity, and inclusion (EDI) practices emphasize the importance of unconscious bias training, and many practitioners in this space advocate making this training mandatory for all employees, especially all managers.[30] However, not all businesses provide such training, and when it is, it is not mandatory. According to a survey by the Society for Human Resource Management (SHRM), only 30% of businesses offer unconscious bias training.[31] Additionally, a study by HR Research reveals that only 40% of companies provide some form of EDI training to all employees.[32]

28 Allison Clark, Justin Ratcliffe, Mansharn Sangha (Toor), "Empowering Women in the Digital Economy: Addressing Tech's Untapped Potential," Information and Communications Technology Council (ICTC), June 2023, https://ictc-ctic.ca/reports/empowering-women-in-the-digital-economy.

29 Ibid.

30 "Creating an Equitable, Diverse and Inclusive Research Environment: A Best Practices Guide for Recruitment, Hiring and Retention," Canada Research Chairs, accessed March 18, 2024, https://www.chairs-chaires.gc.ca/program-programme/equity-equite/best_practices-pratiques_examplaires-eng.aspx

31 "The Journey to Equity And Inclusion," SHRM, August 3, 2020, https://www.shrm.org/topics-tools/news/shrm-research-finds-need-awareness-understanding-racial-inequality.

32 "The Future of Diversity, Equity and Inclusion 2022," HR Research, 2022, https://www.affirmity.com/wp-content/uploads/2022/03/Affirmity_the_Future_of_DEI_2022_Research_Report_hrdotcom.pdf.

3

Effectively addressing unconscious biases in talent management processes requires a strategic approach and interventions at the organizational level. While HR departments develop broad organizational policies, it is the responsibility of leadership teams and people managers to ensure consistent implementation within their respective teams.[33] Given the reported prevalence of unconscious gender bias in the digital economy, ICTC set out to test the impact of unconscious bias training at a Canadian technology company. This company will remain anonymous.

33 Allison Clark, Maryna Ivus, "Gender Equity Toolkit for Individual Leaders, Organizations, and Ecosystem Players," Information and Communications Technology Council (ICTC), 2024.

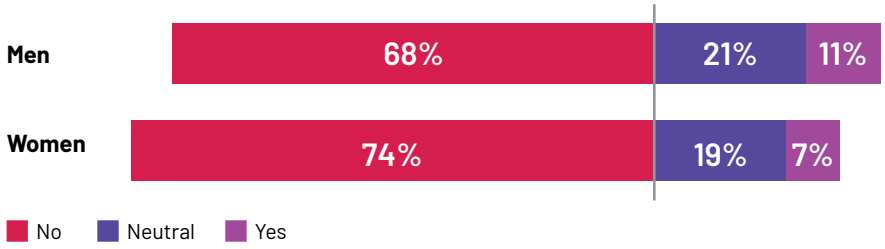
Assessing Organizational Biases: An Employee Survey

To gain insight into employees' perceptions of gender bias within the organization and its impact on workplace diversity, ICTC conducted a survey (n=69) with employees from various departments and levels within the organization. Over half of the respondents identified as men (59%), and 41% identified as women.

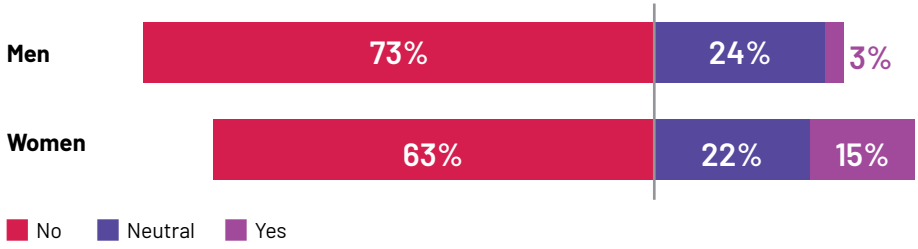
Most respondents (88%) were already familiar with the concept of unconscious gender bias and its implications on workplace diversity and inclusivity. A significant percentage expressed interest in deepening their understanding of the issue. Specifically, 56% of women respondents and 50% of men respondents indicated a desire to learn more about unconscious bias, primarily in order to enhance their awareness and develop strategies to mitigate its impact. Notably, 97% of respondents believed that other employees within their organization would similarly benefit from such training.

Survey results indicate that men and women in the company perceive and potentially experience unconscious gender bias in hiring, promotional processes, and task distribution differently (Figure 5). Fifteen percent of women perceived unconscious gender bias as a barrier to promotion, compared to 3% of men. Meanwhile, 15% of women saw unconscious bias as playing a role in the distribution of tasks (e.g., women may be given more administrative tasks or may take on more emotional labour). Interestingly, men were more likely than women to believe that unconscious gender bias played a role in hiring.

DO YOU PERCEIVE UNCONSCIOUS GENDER BIAS TO AFFECT HIRING PROCESSES?



DO YOU PERCEIVE UNCONSCIOUS GENDER BIAS AS A BARRIER TO AFFECT PROMOTIONAL DECISIONS?



DO YOU PERCEIVE UNCONSCIOUS GENDER BIAS TO AFFECT THE DISTRIBUTION OF TASKS?

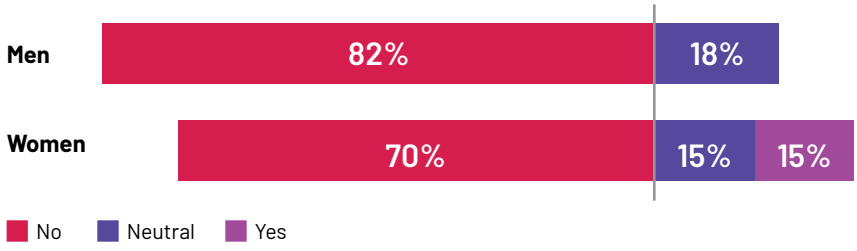


Figure 5: Employees' perception of unconscious gender bias effects.

Source: Employee survey (n=69), ICTC analysis.

Unconscious biases and stereotypes, though often unintentional, can significantly impact promotion structures. Studies indicate that women in the tech industry are four times more likely than their male counterparts to perceive gender bias as a barrier to advancement.[34] When employees were asked about the potential impact of gender bias on their career trajectory, 11% of women respondents believed that their gender plays a role in career progression. Similarly, 12% of women respondents expressed doubt about the fairness of promotions, and 19% reported experiencing gender discrimination in the workplace themselves (see Figure 6).

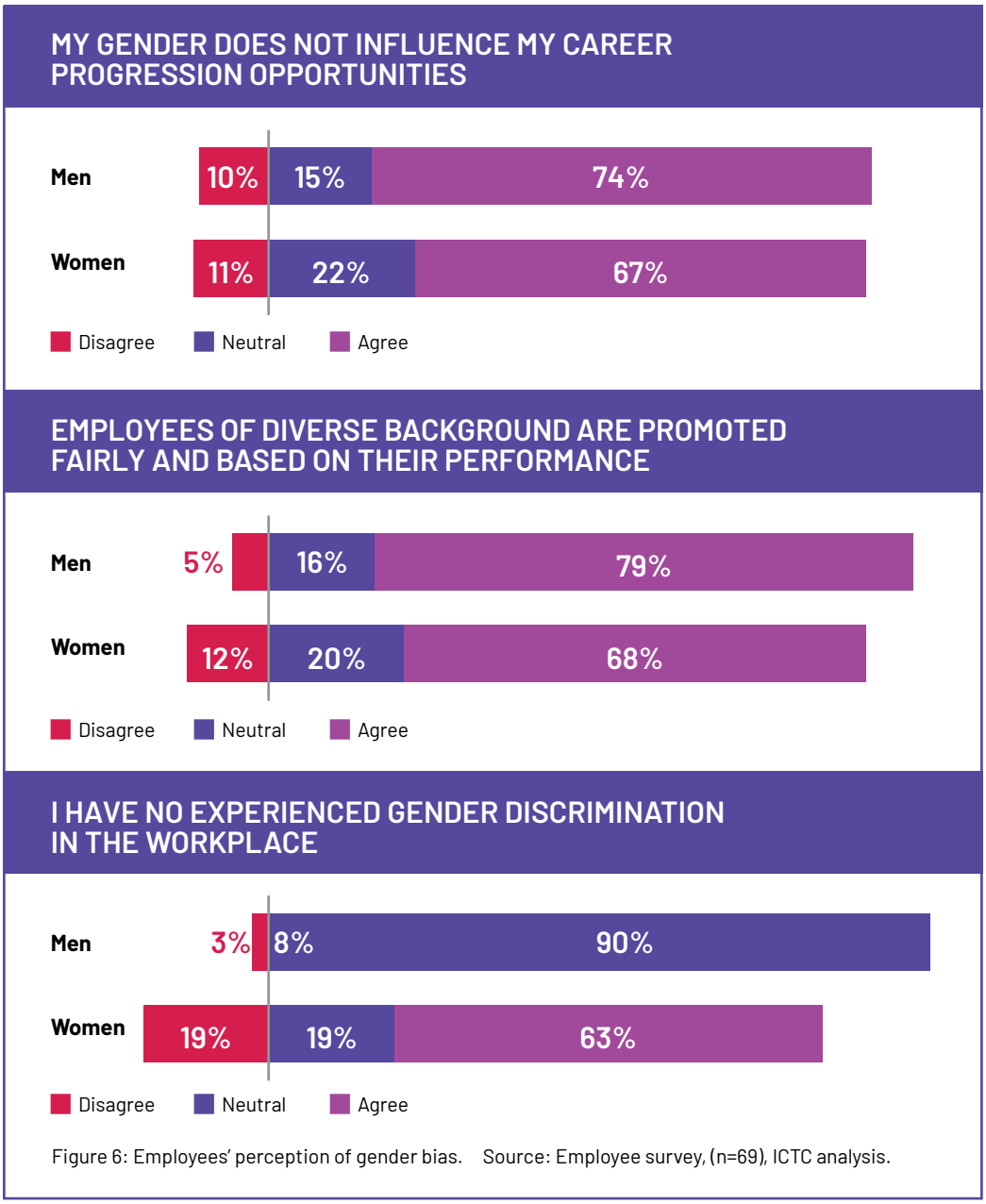


Figure 6: Employees' perception of gender bias. Source: Employee survey, (n=69), ICTC analysis.

34 Joan C. Williams, Denise Lewin Loyd, Mikayla Boginsky, and Frances Armas-Edwards, "How One Company Worked to Root Out Bias from Performance Reviews," Harvard Business Review, 2021 https://hbr.org/2021/04/how-one-company-worked-to-root-out-bias-from-performance-reviews.

Efforts to Implement Unconscious Bias Training

When asked how the company preferred to learn about and address unconscious bias, most expressed a general interest in interactive webinars, online training, and personal implicit bias tests.

As such, ICTC compiled a list of resources, recommendations, best practices, and key strategies to assist HR and the executive teams in addressing unconscious gender biases. Resources included podcasts on unconscious bias, free and paid speakers who could lead a training session on unconscious bias, links to unconscious bias testing (such as Implicit Association Tests [IATs]), recommendations for trusted EDI consultants, and how-to guides and articles to aid in understanding the various types of unconscious bias, their manifestations in the workplace, and strategies to address them. ICTC also recommended that the organization establish an Employee Resource Group (ERG) tasked with providing underrepresented employees, including women, a chance to discuss challenges and experiences and collaborate on initiatives that foster diversity and inclusion. Of these recommendations and resources, the company opted to implement the following:

- Encouraging all employees to complete Implicit Association Tests (IATs).
- Encouraging all employees to access a free webinar on Unconscious Bias and Microaggression from LinkedIn Learning.
- Implementing mandatory unconscious bias training for all employees.
- Establishing an Employee Resource Group (ERG).

While the company's HR team was committed to addressing unconscious biases, the organization underwent structural changes during the course of this pilot, which created unforeseen implementation challenges. Despite the above recommendations not being implemented in the end, the general willingness and desire to close the gap on unconscious bias showcases positive momentum across the employee base, which may be built upon in future.

Conclusion

The Feminist Response Program is a valuable initiative aimed at enhancing women's representation in leadership roles in the digital economy. This program has played a vital role in helping employers identify the systemic barriers that women encounter in leadership positions and access the tools they need to make lasting and positive change. It tested actionable solutions at both the organizational and ecosystem levels to address and mitigate these challenges and further guide employers in implementing strategies and measuring outcomes.

The three case studies featured in the report serve as examples of the value of cross-stakeholder collaboration and leveraging evidence-based research to drive impactful results. They provide real-life examples that other companies may wish to emulate and look to for insights into the practical application of best practices.