



Canada in an interconnected, evolving global society

Insights and opportunities for knowledge mobilization
and future research

NOVEMBER 2018



Social Sciences and Humanities
Research Council of Canada

Conseil de recherches en
sciences humaines du Canada

Canada

Table of Contents

- [Executive summary](#)
- [Introduction](#)
- [Knowledge synthesis: project overviews](#)
 - [Trust, democracy and civic participation in today's digital world](#)
 - [Conflict, populism and migration: Navigating changing global trends](#)
 - [Local and global realities of labour, employment and trade](#)
 - [Climate change and natural resource development: Indigenous and global framings](#)
 - [Shaping a global future through technologies and social innovation](#)
 - [Gender, inclusion and belonging in diverse societies](#)
 - [Generations and spaces: Demographic changes, shifting realities and resilience](#)
- [Conclusion: Guiding inclusivity in a globalized world](#)
- [Notes](#)

Executive summary

The 21st century is a landscape in which many traditional borders have dissolved. The evolution in information and communications has led to greater integration of ideas and experiences across economic, social, educational and political lines.

The world's roughly 7.6 billion inhabitants are seeing constant change in how they live, work and play. Rapid societal shifts are at play: countries are transitioning to a postcarbon economy, and rethinking sociocultural lines, and global migration is continuing to increase diversity in cities and some rural and remote communities.

Topics within these complex issues were explored under two future challenge areas identified in SSHRC's [Imagining Canada's Future](#) initiative: "[What might the implications of global peak population be for Canada?](#)" and "[What knowledge will Canada need to thrive in an interconnected, evolving global landscape?](#)"

In 2017, SSHRC invited social sciences and humanities researchers from across Canada to address these questions through an open call for proposals, with a focus on identifying key strengths and gaps in current knowledge related to globalization and population issues. This report draws on the findings of the resulting 30 knowledge synthesis reports, and insights from researchers, graduate students and cross-sectoral leaders who, in 2017 and 2018, participated in SSHRC's dialogues related to these future challenge areas.

The findings are highlighted under the following seven themes:

- [Trust, democracy and civic participation in today's digital world](#)
- [Conflict, populism and migration: navigating changing global trends](#)
- [Local and global realities of labour, employment and trade](#)
- [Climate change and natural resource development: Indigenous and global framings](#)
- [Shaping a global future through technologies and social innovation](#)
- [Gender, inclusion and belonging in diverse societies](#)
- [Generations and spaces: demographic changes, shifting realities and resilience](#)

The report identifies several critical, emerging issues, and key knowledge gaps and strengths that may guide research agendas, practices and policies. With such broad topic areas, the insights presented do not seek to cover all critical societal issues related to living in a globalized world. They also do not represent the views or policies of SSHRC or the Government of Canada. Nevertheless, they demonstrate how humanities and social science scholars, in collaboration with other sectors, are providing, and can continue to provide, critical insights on and solutions to some of Canada and the world's most pressing challenges today, and tomorrow.

Following are a few of the key messages resonating across the thematic findings:

- To improve newcomer integration in Canada, decision-makers need to pay greater attention to the lived experiences of immigrants and refugees, including of diverse identities—before, during and after their arrival.
- In today's economy, it is essential to ensure equity and inclusion in education, and create sustainable employment opportunities.
- Digital media platforms and technologies pose growing threats to security and democracy; understanding emotions, trust and ethical considerations is central to finding solutions.
- Dominant narratives and assumptions can impact policy-making and innovation, but using participatory and community-level approaches can help in addressing these biases.
- Increasing understanding of Indigenous knowledge and cultures can improve multilevel and multisectoral decision-making in a postcarbon world.
- Given that Canada's populations are not homogeneous, policy-making and innovation would benefit from greater disaggregation of data, and from longitudinal studies that take more account of dimensions like ethnicity, culture, generation and sexual orientation.
- To develop solutions and inform decision-making related to complex global issues, such as the rise of populism, policy-makers need access to collaborative, interdisciplinary, intersectional viewpoints.
- Canada's geopolitical context provides some security from various rising political, climate and security phenomena, but it is not immune to these threats.

SSHRC invites researchers and stakeholders from all sectors to examine these, as well as other, social science and humanities insights, and to continue exploring what Canada and its diverse populations need in order to thrive in a globalized society.

Introduction

The global context is rapidly changing. The world has made significant progress towards reducing poverty, improving individual well-being, and fostering peace and security. Nevertheless, significant economic, social, environmental and security challenges persist, and have important implications for all of society.

In some countries, active citizen engagement and new technologies are contributing to ensuring institutions are more open and democratic. In others, they have exposed profound distrust between people and governments, sometimes negatively affecting human security, human rights and dignity.

Rapid scientific and technological advances, such as mobile phones and, increasingly, artificial intelligence (AI) and robotics, have enabled millions of people to lead healthier, more productive lives. These same developments, however, are also contributing to disruptions in social cohesion and people's livelihoods.

Meanwhile, the world's population continues to increase, although at a slower pace. Population distributions are shifting along with the growing number of youth and older adults, movement and displacement of people, and evolving social values. And, the economic aspects of globalization—including free trade and open economies, and transitions towards a postcarbon world—are dominating political agendas worldwide. These and other phenomena, such as rapid urbanization, climate change, social inequity, and economic inequalities and uncertainty, are testing the ability of communities, governments at all levels, and international institutions to mitigate and respond effectively to challenges.

Drawing on the findings of the knowledge synthesis projects funded, as well as insights from graduate students and cross-sectoral leaders, this report addresses two questions: **"What might the implications of global peak population be for Canada?"** and **"What knowledge will Canada need to thrive in an interconnected, evolving global landscape?"**

SSHRC-funded research related to the socio-economic aspects of globalization and peak population, 2008-17

- **\$388 million** awarded
- **11%** of overall research funding
- **5,300** new grants and scholarships

SSHRC 2016-20 STRATEGIC OBJECTIVES



The six future challenge areas are:

1. What new ways of learning, particularly in higher education, will Canadians need to thrive in an evolving society and labour market?

2. What effects will the quest for energy and natural resources have on our society and our position on the world stage?

3. How are the experiences and aspirations of Aboriginal Peoples in Canada essential to building a successful shared future?

4. What might the implications of global peak population be for Canada?

5. How can emerging technologies be leveraged to benefit Canadians?

6. What knowledge will Canada need to thrive in an interconnected, evolving global landscape?

To generate insights on issues related to the two future challenge areas, SSHRC launched a **Knowledge Synthesis Grants funding opportunity** in November 2016. A central goal of the funding opportunity was to mobilize research knowledge on promising policies and practices in the academic, private, not-for-profit and public policy sectors. Goals of the knowledge syntheses included assessing the overall quality of existing research, and identifying knowledge strengths and gaps. The following table provides examples of the strengths and gaps identified in the resulting final knowledge synthesis reports:

Knowledge Synthesis Grants: Selected knowledge strengths and gaps

Knowledge strengths:

- Civic education, the most tested type of educational interventions to increase electoral participation, has led to promising results.
- Key determinants for coming to, returning to and staying in rural communities include strong attachments to place and family, and a sense of belonging.
- Studies on urban resilience at the local level provide significant guidance for programs and practices to be successful.
- The changing nature and experiences of workers in platform-based “gig” employment is well-documented in public documents and reports outside of academic literature.
- Emerging results demonstrate the therapeutic potential of online memorial sites.

- Media studies have made significant contributions to understanding how populism has thrived with social media.

Emerging research:

- Theory and practices of social innovation, particularly social finance
- Studies and data that break down widely held assumptions of millennials having the fastest rising levels of debt
- The use of intersectionality theory to consider diverse disciplinary perspectives of the lived realities of LGBTQ2+ migrants
- Canada and other countries' renewed engagement in the North Atlantic Treaty Organization (NATO), and responses to new hybrid warfare threats

Where further research is needed:

- The concept of trust in older adults' relationships with intelligent assistive technology
- Canadian sectors facing unequal immigration policy barriers to attract foreign-trained migrants
- The application of social innovation to advance certain social goals, including peacebuilding and human rights, equity and inclusion, and migration
- The impact of digital interference technologies, such as hacking, on norms of trust and civility, and participation in democratic processes
- Socio-economic demand factors and implications of broadband adoption in rural communities
- Provisions for the protection of Indigenous traditional knowledge in free-trade agreements
- Long-term outcomes and the sustainability of employment equity initiatives in a postcarbon economy
- Domestic violence experiences and perceptions in immigrant populations outside of the Greater Toronto Area, and beyond South Asian communities
- Indirect, international climate change effects on Canada
- Canadian experiences of supporting refugee students in the education system, to inform and establish educational policy
- Resiliency tools used in other countries to fend off negative effects of populism

A range of activities complemented the Knowledge Synthesis Grants funding opportunity. SSHRC convened a knowledge-sharing workshop in May 2017, in partnership with Global Affairs Canada, where representatives from government, industry, academic and not-for-profit sectors discussed project proposals and critical research needs across the country. In November 2017, researchers shared insights from the findings of the 30 synthesis projects at

the Imagining Canada's Future forum. Discussions with sector leaders during the forum highlighted cross-cutting insights and future research guiding Canada's international role as a culturally and socially diverse society.

"We don't always necessarily need more data; we need to frame and contextualize what we know, and take an extra step beyond policy recommendations."²

"The syntheses have drawn an array of results. Sectors around the table are willing to work together to tackle issues through research and data ... this is a key way to making our country better."³

Research solutions to meet Canada's international policy challenges

In 2017, SSHRC collaborated with Global Affairs Canada to launch a second [International Policy Ideas Challenge](#). The challenge invited graduate students and emerging researchers to submit policy briefs with ideas for addressing Canadian foreign policy, international trade and international development priorities. The 10 [finalists](#) announced in May 2017 received an award to expand their research to include policy recommendations. They then presented their findings to key stakeholders at Global Affairs.



2017 INTERNATIONAL POLICY IDEAS COMPETITION

The knowledge synthesis project leaders have since published findings, including in a number of op-eds in national newspapers, as well as through interactive videos and podcasts, as shared in this report.

In 2015, SSHRC invited the Canadian Association for Graduate Studies (CAGS) to organize a national dialogue on the future challenges areas identified by SSHRC; over 300 graduate students at 28 universities participated. The global landscape challenge area evoked rich discussion among graduate students in three provinces—Quebec, Newfoundland and Ontario. Students underscored, among other points, the need to engage global issues at the local level, with a focus on marginalized peoples, and the need to better understand how knowledge is being processed in a postdigital age. [**CAGS and the host universities**](#) prepared reports documenting participants' views.

In May 2015, funded by CAGS and SSHRC, graduate students from Ryerson University and York University shared diverse insights on what it means to them to thrive in an interconnected, evolving global landscape. They made the following video report:



[View video on YouTube](#)

The research and perspectives explored in this report reflect the insights of researchers and stakeholders who participated in the **Imagining Canada's Future** initiative. They do not represent the views or policies of SSHRC or the Government of Canada.

The final synthesis reports themselves provide wide-ranging accounts of the findings, as well as the knowledge strengths and gaps identified, to help guide future work and decision-making.

To find out more about the ways in which humanities and social science researchers are contributing their knowledge, talent and expertise to advance Canada's quality of life and the prosperity of its future, visit **www.sshrc-crsh.gc.ca/imagining**.

Knowledge synthesis: Project overviews

The following knowledge synthesis projects are presented in alphabetical order by principal investigator's surname. Overviews include researchers' names and affiliations, and, where available, a link to the full report.

Understanding religious radicalization and terrorism to support community well-being

Sami Aoun, Mohamed Ourya and Sylvana Al Baba Douaihy, Université de Sherbrooke

The rise of ideological radicalization and terrorism due to political and religious extremism has impacts throughout the world. For Canada to be able to prosper in the 21st century, with its diaspora communities, and for its citizens to live in harmony, it is vital to understand how discussions around radicalization happen, and how terrorism comes about. Analysis of factors leading to conflicts in the Middle East and the Arab and Islamic world will lead to preventive strategies to defend Canada's liberal, secular society. [**Full report**](#) (in French)

Global green employment: Promising gender equity policies and practices

Bipasha Baruah, Western University

While the creation of green jobs is serving to lower countries' carbon footprints worldwide, women remain remarkably underrepresented in these new sectors. Global manufacturing, construction and transportation sectors reveal promising, but largely reactive, policies and programs that cannot change persisting social hierarchies on their own. Targeted measures and monitoring are needed to improve access and retention of female workers in the new, green economy. [**Full report**](#)

Removing the barriers that prevent newcomers from practicing regulated professions in Canada

Jean-Luc Bédard, Université TÉLUQ

Regulated professions play a central role in the economic and political activity of contemporary societies. However, foreign-trained professionals wanting to practice a regulated career in their destination country face significant challenges to integration. This is why a number of countries, including Canada, have refocused policies at various levels to support efforts to integrate. Results show that improving collaboration between the services and institutions involved is crucial for integrating foreign trained professionals. [**Full report**](#) (in French)

Millennials and indebtedness: Demographic change and financial literacy

Stephanie Ben-Ishai, York University

Popular media commentaries often portray millennials—those born between about 1980 and 2000—as a generation struggling financially. However, these commentaries are largely rooted in anecdotes rather than fact. These inconclusive narratives pose considerable danger, as they cloud policy-makers' and researchers' ability to see the real consequences of increasing debt loads. They also hinder a generation's ability—critical to our country's economic health, stability and future potential—to combat these challenges.

[**Full report**](#)

Safeguarding democracies: The politics of emotion in the “post-truth” media landscape

Megan Boler, University of Toronto

In a “post-truth” media landscape, the manipulation of public opinion is posing a genuine threat to democracy. There is an urgent need to theorize our understanding of emotions in order to make sense of the connections between digital media, prejudice and politics. Combining feminist studies of emotion with both digital communications and “affect” studies provides a framework to better understand this critical relationship. [**Full report**](#)

Aging in place with technology: Safeguarding older adults’ adoption of intelligent assistive devices

Richard Booth, Western University; and Josephine McMurray, Wilfrid Laurier University

Intelligent assistive technologies are becoming more commonplace to help older adults live independently and comfortably in their own homes and communities. Understanding how older adults build trust with these new technologies—interactions that influence behaviour and decision-making—is recognized as critical to examine; however, as yet, this is rarely looked at in literature. Further work will uncover ways to help ensure these technologies are successfully adopted and used. [**Full report**](#)

Global and local framings of Indigenous partnerships in Canada’s renewable energy and forest sectors

Ryan Bullock and Melanie Zurba, The University of Winnipeg

Although bioenergy—energy derived from living organisms—presents environmental and economic advantages, its growing use can be a point of contention among local Indigenous communities, government and industry. Understanding how different groups envision partnerships between local communities and industry is crucial for creating effective policies and initiatives, and furthering Indigenous involvement in renewable energy development. [**Full report**](#)

Social innovation shaping Canada's future

Wendy Cukier, Ryerson University; and Suzanne Gagnon, McGill University

Governments around the world are increasingly working with private and nongovernmental organizations to tackle complex societal problems. Understanding social innovation concepts, stakeholders and processes is critical for Canada to thrive in an interconnected and evolving global landscape. A growing and rich body of research provides valuable insights to support diverse players driving Canada's leadership in social innovation. [Full report](#)

Canada in a climate-disrupted world

Simon Dalby, Wilfrid Laurier University

Countries around the globe are more integrated than ever. As such, no country can successfully adapt to climate change without considering its relationship with the wider global community. Canada's approach to climate change has been primarily inward-looking. More research is needed on the international dimensions of climate change, and how impacts and policy changes elsewhere—whether for mitigation or adaptation—may affect us going forward. [Full report](#)

Closing the Aboriginal education gap

Raywat Deonandan, University of Ottawa

Education plays a crucial role in improving the prosperity and well-being of Indigenous populations in today's global economy. Often overlooked is the real economic impact. By one analysis, closing the Indigenous educational gap—and as a result the labour market outcomes gap—could result in gains of \$500 billion by 2026. Both short- and long-term strategies are needed to attract, retain and ensure the success of Indigenous postsecondary learners. [Full report](#)

Inclusive teaching approaches and practices in Canadian nursing programs

Frédéric Douville, Université Laval

Over the past decade, the number of students with disabilities has increased steadily, and various inclusive teaching and evaluation strategies have been developed. This is especially the case in nursing. Despite methodological limitations, assessing the effectiveness of these strategies has helped identify a large number of inclusive approaches and interventions that have helped decrease marginalization for students with disabilities, and, thereby, helped ensure these students are more independent, motivated, and involved in the learning process. [Full report](#)

Finding a place in the world: Understanding youth outmigration from shrinking rural communities

Karen Foster and Hannah Main, Dalhousie University

The negative impacts of youth outmigration are often cited as a central issue of struggling rural communities; however, a review of Canadian and international research has found that youth outmigration itself cannot be the direct target for policy intervention. A better understanding of the complex factors that motivate young people to stay or leave, and return or stay away, is critical to guiding policy development. [**Full report**](#)

Educating young Canadians about digital citizenship in a globalized world

Viktor Freiman, Manon LeBlanc and Michel Léger, Université de Moncton

The rapidly and ever-evolving nature of the Internet and digital technologies has given rise to a generation of young Canadians who are increasingly active on social media. But, are these young people prepared to deal with the cyberbullying, fraud, racism and extremism that exist online? There is a clear need to develop innovative policies, teaching approaches, and programs of study that enable the development of active, responsible young digital citizens. [**Full report**](#) (in French)

Towards an understanding of worker experiences in the global gig economy

Denise Gastaldo and Uttam Bajwa, University of Toronto

In spite of the growing importance of the gig economy—and widespread media coverage of platform businesses like Uber and TaskRabbit—there is very little known about gig workers’ motivations, characteristics and experiences. Gig work could present opportunities for flexibility and extra income, but the work is precarious and presents unique challenges for workers. Research is needed to better understand the effects of the gig economy on work and workers, and to identify appropriate approaches to protect the well-being of gig workers. [**Full report**](#)

The global race for STEM talent: Recruiting and retaining the best and brightest for innovation and growth

Martin Geiger, Amanda Bergmann, Nora Chahine, Bridget Healy, Fidan Karimli and Andrada Mihai, Carleton University

As the need for workers skilled in science, technology, engineering and mathematics (STEM) intensifies, Canada continues to face significant barriers in its migration systems. This hinders Canada’s ability to attract and retain global talent. To remain competitive and innovative, Canada must continue to learn from global competitors and modify existing immigration pathways, to respond to political, social and economic changes and needs. [**Full report**](#)

Integrating Indigenous goals and concerns into the progressive trade agenda

Patricia Goff, Wilfrid Laurier University

The renegotiation of the North American Free Trade Agreement has brought trade to the top of the political agenda. Central to this conversation in Canada are Indigenous peoples, who are directly affected by trade agreements but have rarely participated in their negotiation. It is critical to integrate First Nations, Métis and Inuit interests into Canada's progressive trade agenda. This is also a significant gateway to reconciliation. [**Full report**](#)

Beyond infrastructure: Strategies to support broadband adoption and benefits in rural Canada

Lars Hallström, Kevin Jones, Robert McMahon and Michael McNally, University of Alberta

The Government of Canada has traditionally adopted an "if you build it, they will come" approach to broadband for rural communities. Assumptions under this economic model neglect issues of affordability, education and skills, and even certain populations' desire for broadband. The slowly growing body of research can help provide greater understanding of the demand side of broadband, and support more sustainable decision-making in Canada's rural communities. [**Full report**](#)

Russia and new patterns of conflict: Rethinking NATO deterrence, defense and diplomacy, and implications for Canada

Nicole J. Jackson, Simon Fraser University

Russia's annexation of Crimea in 2014 forced Canada's key security alliance, the North Atlantic Treaty Organization (NATO), to respond before a comprehensive strategy was put in place. There is a persisting lack of evidence-based information on the root causes of Russia's discontent, and uncertainty about its intentions and actions. These unknowns raise questions about how Canada's responses in diplomacy, military, information and cyber security may improve—or fuel—conflict in the region. [**Full report**](#)

Virtual graveyards: Tracing race, gender and belonging in cyberspace

Yasmin Jiwani, Bipasha Sultana and Sarah Christina Ganzon, Concordia University

Cyber cemeteries and online memorials have bourgeoned, giving virtual social space to commemorate the lives of loved ones. Documented therapeutic benefits of these "thanatechnologies" show they can alleviate the economic, social and psychological impacts of loss and grief. If well-regulated and more accessible—particularly to underrepresented racialized groups—and with greater protections against online data mining, these assets can both help heal and capture the histories and contributions of peoples' lives in Canada. [**Full report**](#)

LGBTQ2+ migrants living in Canada, and their rights

Edward Ou Jin Lee and Annie Pullen Sansfaçon, Université de Montréal; and Trish Hafford-Letchfield, Middlesex University

Interconnected factors of war, dictatorship, persecution, environmental disaster and human trafficking continue to influence and increase forced migration around the globe. Canada has recently implemented changes to its human rights legislation related to sexual and gender identity and expression-based refugee claims. However, LGBTQ2+ migrants with precarious status—such as refugees, temporary workers, students and undocumented people—still encounter complex intersectional forms of violence. Guided by a growing body of literature, policy-makers must continue to address these challenges.

[**Full report**](#)

Protecting Canadian whistleblowers in a connected world

Florian Martin-Bariteau and Véronique Newman, University of Ottawa

Whistleblowers have contributed to the evolution of modern democratic societies by exposing scandals and corruption. Safeguarding these individuals is essential to ensuring open, equitable and secure societies. The Canadian legal system's whistleblowing protections are full of gaps, and confusing at best. There is a need for both critical reflection and change, to ensure Canada's legal framework adequately supports these protections. [**Full report**](#)

Navigating the threat of rising global populism

Bessma Momani, University of Waterloo

In recent years, the world has witnessed a wave of populist movements gaining increasing electoral success. While Canada often celebrates the strengths of its healthy multicultural makeup, we cannot ignore the sweeping threats these movements pose, or be complacent about escaping this phenomenon. Understanding the origins and interplay of economic and cultural drivers that give rise to modern day populists is critical to safeguarding democracy, both at home and around the globe. [**Full report**](#)

Addressing domestic violence in post-migration gender relations: A prerequisite for sustainable, resilient immigrant communities

Philomina Okeke-Ihejirika, University of Alberta

Recent immigrants to industrialized nations like Canada are at high risk of domestic violence, which threatens their ability to transition and integrate into society. Scholars, policy-makers and service providers must become more sensitive to victims' diverse cultural, sexual and socio-economic situations, while recognizing cultures of origin or previous life conditions. They must also address the challenges families face while transitioning into a new society. [**Full report**](#)

Interventions to promote political representation and electoral participation in the OECD: Are they effective?

Mathieu Ouimet, Université Laval

Electoral participation and effective political representation are essential to strong and healthy democracies. Over the years, political institutions in countries that are members of the Organisation for Economic Co-operation and Development (OECD) have had difficulties adapting to the diversity of their electors. While studies suggest legislative interventions can increase the number of women in political leadership roles, and civic education courses may help increase voter turnout among young people, results have been inconclusive. More research is also needed on other marginalized groups and diverse electoral systems.

- [**Full report**](#) on interventions to increase voter turnout; and
 - [**Full report**](#) on interventions to increase political representation.
-

Big data analytics: Accelerating innovation and value creation

Ajax Persaud and Sandra Schillo, University of Ottawa

The optimism about the potential for the analysis of big data to accelerate innovation and competitiveness in organizations has been widely justified. However, the transition from having data to creating value in organizations is not automatic. While overcoming technical challenges is important, embedding data-driven decision-making cultures across all levels of organizations is essential to reap the benefits of big data. [**Full report**](#)

Supporting refugee students in Canada: Building on what we've learned over the past 20 years

Snežana Ratković, Dragana Kovačević and Neelofar Ahmed, Brock University; Courtney Brewer, Western University; Claire Ellis, Emerging Scholars and Practitioners on Migration Issues Network; and Janelle Baptiste-Brady, University of Toronto

Between January 2015 and July 2017, over 84,000 refugees resettled to Canada. Of these, 43 per cent were school-aged youth. The current system is ill-equipped to support youth as they transition to Canadian classrooms and combat sociopsychological challenges. Recognizing that education can be a healing process for refugee and war-affected children, a greater study and collaboration across provinces is needed to address the gap in literature and policy on successful strategies and pedagogies. [**Full report**](#)

Environmental leadership for Canada: Indigenous lessons on mixing oil pipelines and water

Geo Takach, Royal Roads University

Canada has prioritized reconciliation with Indigenous peoples just as debates over the ecological impacts of extractive industries are coming to the forefront. Insights on interweaving Indigenous ways of knowing and western knowledge systems suggest there

is opportunity for policy-makers to position Canada as a global leader in the sustainable management of natural resources. [Full report](#)

Implementing urban resilience: Pinpointing enablers, impediments and trade-offs

Marie-Christine Therrien, École nationale d'administration publique

A magnitude of changes is needed to the approaches for implementing urban resilience at a variety of different levels. How can theories of urban resilience be put into practice to achieve best results that address the growing number of natural and man-made disasters with ever-increasing financial consequences? A review of enabling strategies, impeding factors and trade-offs provides a resource for decision-makers to solve “resilience puzzles” specific to their contexts. [Full report](#)

Computational creativity: A cross-disciplinary endeavour

Douglas Van Nort, York University

The rapidly increasing use of AI to model, simulate or replicate human creativity is posing one of the most challenging problems, as well as opportunities, within the larger field of AI. Canada has taken leadership in the field of computational creativity, addressing the social, ethical and political implications of this human-led innovation. Interdisciplinarity within this field is critical to better understand the diversity of individuals shaping AI research, and the potential biases they can embed in technology. [Full report](#)

Digital threats to democratic elections

Mark Warren, Maxwell Cameron and Chris Tenove, The University of British Columbia

It is not new for foreign actors to use digital communication technologies to interfere in democratic processes such as elections and referendums. But, it is a growing, serious concern. To minimize threats, countries need to address a range of vulnerabilities, such as their citizens’ level of digital literacy, and outdated electoral regulations. More research is needed to address important gaps in knowledge on the impact of these digital interferences on citizens and institutions, and on measures to safeguard democracy. [Full report](#)

For more insights on these or other research topics, see [SSHRC's awards search engine](#) to identify and connect with other SSHRC-funded researchers.

Thematic insights on Canada in an evolving, global landscape

Seven cross-cutting themes reflect the wide range of topics that the 30 Knowledge Synthesis Grant projects address related to Canada in an evolving, global landscape. Each section includes a selection of insights and an assessment of the state of knowledge related to the theme.

The insights presented reflect some of the key research findings to help enhance understanding of the issues at hand, and may strengthen related policies and practices. The state of knowledge—including knowledge strengths and research gaps—describes the quality and quantity of research and data currently available, and can suggest areas for future research.

Please see the related knowledge synthesis final reports for more information.



[Trust, democracy and civic participation in today's digital world](#)

[Conflict, populism and migration: Navigating changing global trends](#)

[Local and global realities of labour, employment and trade](#)



[Climate change and natural resource development: Indigenous and global framings](#)

[Shaping a global future through technologies and social innovation](#)

[Gender, inclusion and belonging in diverse societies](#)



**Generations and
spaces: Demographic
changes, shifting
realities and resilience**

Theme Trust, democracy and civic participation in today's digital world



Over the past decade, the rapid spread of online news and social media has transformed how people the world over connect to each other and process information and ideas. New platforms have increased access to, and the speed at which we can obtain, information, and have provided new ways to initiate action on societal issues.

There is growing concern about the adverse impacts of digital media on our most important democratic values. The onslaught of “fake news” that misinforms—or, in some cases, reinforces existing, at times extreme, beliefs—is being helped by key techniques, such as hacking, data leaks, trolling and microtargeted messaging campaigns,

used by both domestic and foreign actors. These techniques bypass traditional media and journalism, and are not subject to wider debate. They are being used to erode trust in democratic institutions and electoral processes, and manipulate particular segments of the population and their political actions. In this context, violations of privacy and security are a growing threat.

There are many social science and humanities vantage points from which to study both the impacts of today’s “post-truth” media and political landscape, and the countermeasures or solutions to address these problems. The funded knowledge syntheses cover examples that underline such insights.

In response, Canadians can focus efforts on teaching young people digital citizenship in a global context, to more safely and effectively manoeuvre digital information and to increase their resilience to misinformation. Further, targeted state policies and legislation can help regulate and support structural changes to social media platforms that discourage interfering with democracy.

Meanwhile, understanding the ethical, cultural and legal frameworks related to civic participation—including whistleblowing and the inclusion of marginalized populations in elections and politics—is critical to our understanding of the dynamics of today’s digital age.

Finally, theoretical studies are essential for understanding how emotions impact human actions and behaviour through digital media.

Insights:

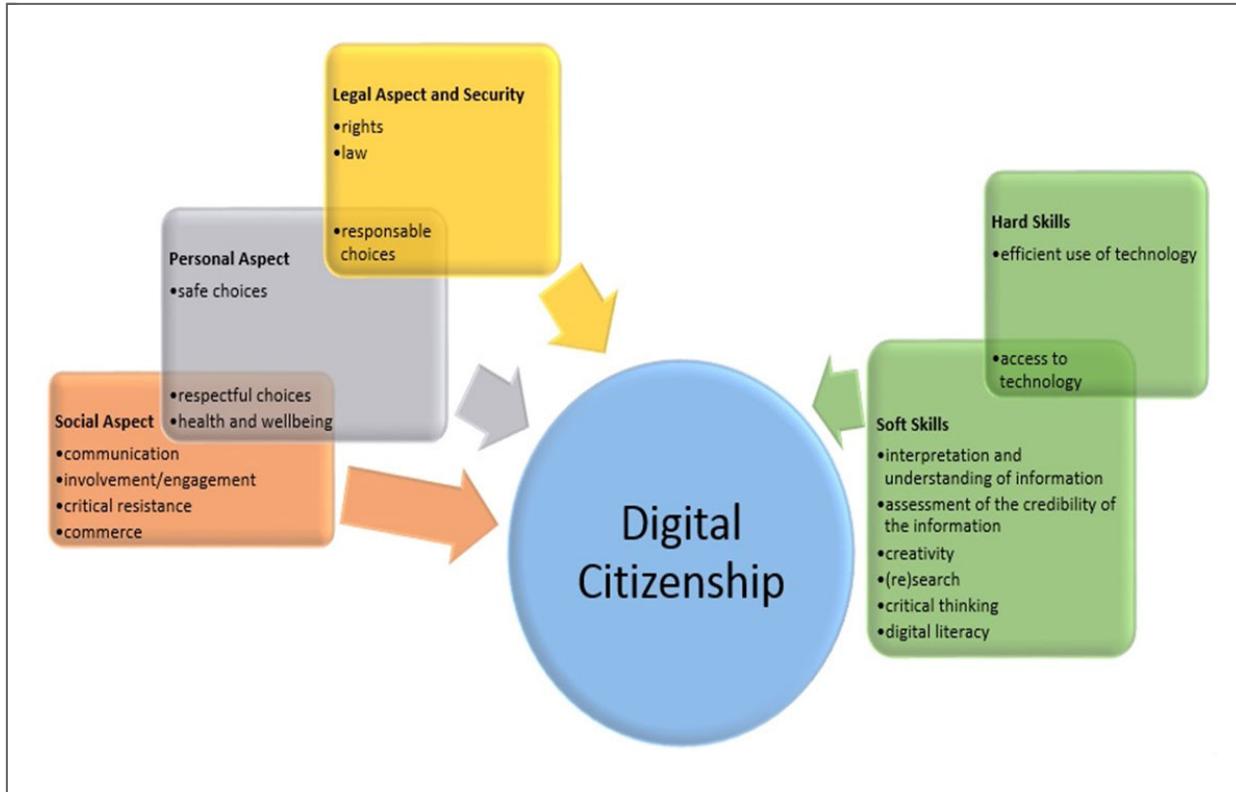
- **Digital propaganda, activism and hate speech on social media platforms will likely remain key global concerns over the next decades.** These fundamental issues involve democratic principles, freedom of speech and equality. To inform critical debates, more research is needed on divisive societal issues and movements, political

mobilization, emotion, and digitally mediated communications. This research will help position Canada as a leader in responding to extremism and threats to its democracy and diverse populations.

- **Increased physical and digital connections are framing new ways young people perceive citizenship.** Nation-state territories have traditionally defined people politically, socially and culturally. In the context of global citizenship and young people, balancing a sense of national belonging with a global, interdependent, interconnected world will be important. Research points to education systems as playing an important role in negotiating and teaching these dual concepts as part of global citizenship training.
- **Digital strategies are essential to equip young Canadians to use technology responsibly, effectively and safely.** A number of cities, countries and international organizations are developing digital strategies to help adolescents not only access information safely, but critically assess the credibility of sources. More and more education systems are explicitly integrating strategic objectives into their curriculums and teaching, with the help of teacher training. In Canada, strategies at both provincial and national levels would help advance “digital citizenship”—a key part of what it means to be a “global citizen.”

“The results reflected are alarming. They show 75 per cent of students have difficulty evaluating the credibility of a website. Specifically, 69 per cent of young people in the study cited were unable to establish whether the author was an expert (and why or why not). Moreover, 79 per cent of students could not clearly identify the author’s point of view, and had no idea whether this point of view affected the content of the site.”⁴

A framework for digital citizenship⁵



- **Hacking by foreign actors can disproportionately affect participation in elections.** Foreign states, social movements and corporations have been shown to use trolling—uncivil, threatening and disruptive online behaviours—to interfere in elections. This leads voters to question the integrity of their electoral process. Such approaches are not new, but digital communication technologies are introducing new techniques with increased scale, speed and range. These include using intimidation and harassment. They often target women and ethnic, racial, religious or gender minority groups. Further research is needed on the effects of this kind of interference in electoral processes.
- **Institutional interventions are effective for increasing the number of women in political roles.** A particularly effective tool, for instance, includes legislating political parties to alternate between men and women as political candidates. However, decision-makers should consider that such findings are only supported in proportional electoral systems. Further studies are needed to go beyond assessing the effectiveness of quotas and review electoral rules, financial incentives, and majority electoral systems.
- **To address “disinformation” campaigns, it is crucial that social media corporations become more accountable and provide incentives.** Studies show that social media companies have been slow to respond to electoral and criminal law

violations during recent elections. Some scholars are urging greater transparency, and that companies experiment with platforms offering protection from trolling. Such initiatives would encourage users to be more open to listening to others and to find agreement where possible. Research also provides valuable evidence about the relative success of specific state policies and measures, and incentives to support change at the corporate level.

"Social media platforms need to change their design and policies to address the ways in which they create vulnerabilities for democracy. New forms of government regulation may be necessary to incentivize platforms to make these changes. In doing so, it needs to be recognized that different platforms have different uses and user bases."⁶

- **It has been globally recognized that the protection of whistleblowers is essential for ensuring open and democratic societies; yet, Canada's legal framework lags behind on these protections.** A number of reports from international organizations reveal that Canada's regulatory and legal frameworks lack clarity and scope in their protections, particularly for the private sector. The European Union and the United States, for example, recently adopted legislation for the uniform protection of whistleblowers across sectors and states, while recent trade agreements provide provisions on trade secrets and whistleblowers.

"... protections offered to whistleblowers in Canada represent a patchwork of legal protection with many issues. There is no clear or coherent definition of a whistleblower or of whistleblowing in Canada, thereby resulting in conceptual confusion about the very definition of a whistleblower and its distinction from leakers or informants, for instance."⁷

The digital attack on democracy

According to Knowledge Synthesis Grant co-applicant Chris Tenove, in "The digital attack on democracy," Policy Options, January 18, 2018, Institute for Research on Public Policy, there are five key sources of vulnerability to digital interference:

- deficits in people's digital literacy and data protection;
- shortcomings in the design and policies of social media platforms;
- high levels of polarization in political cultures and media systems;
- inadequate electoral regulation, given today's digital realities; and
- gaps in international laws and practices for stopping cyberattacks and information operations, and for holding perpetrators responsible.

- **There are opportunities for governments in Canada to increase digital protection for whistleblowers.** Findings suggest public institutions have significant technical and digital literacy gaps when it comes to disclosing information related to whistleblowing. The best way to protect whistleblowers is to maintain their anonymity. Yet, few governmental entities in Canada take anonymity into account or take advantage of free and open source disclosure platform technologies. These technologies have been taken up by most media organizations.

State of knowledge:

- **How are digital communication technologies affecting elections?**

Researchers, policy-makers and citizens are now paying great attention to the threats digital communication technologies pose to democracy. While there is extensive knowledge about the techniques that both foreign and domestic actors use, little research exists on the impacts on levels of trust and respect, or on participation and decision-making in democratic processes. Such questions are challenging to tackle, given rapidly evolving technological, social, legal and political contexts.

"Our initial scoping review in May 2017 revealed very little peer-reviewed material on electoral interference via hacking, social media propaganda, and other cyber techniques."⁸

- **Looking to inter- and cross-disciplinary studies on emotions and applying "affect theory" are central for addressing social and technological threats to democracy.**

Traditionally studied within the humanities, "affect theory" explains the intensity with which something is experienced.⁹ It can be used to examine how social media messages are framed for political impact. To better understand the complex relationships between feeling, perception and action in today's "posttruth" media landscape, social sciences studies on emotions need to bridge with fields in the humanities to improve consistency in how affect theory is used, and to combine disciplinary perspectives. Combining feminist critical studies of emotion with both digital communications and "affect" scholarship offers a unique way to advance dialogue on growing issues of populism, hate speech and racism.

"While social media companies and political operatives show profound understanding of the relationship between emotions and technology for their political and economic goals, social science and humanities scholarship has not kept pace with these profound changes to the affective infrastructure of the public sphere."¹⁰

- **Studies on interventions in OECD countries to increase the number of marginalized peoples in political roles are scarce.**

The vast majority of research on electoral interventions that seek to increase diversity in elected political positions focuses on women. Only one study in a targeted literature review identified another marginalized population: young people. New research is needed on increasing the representation of Indigenous peoples, low-income populations

and ethnic or racial minorities in influential leadership roles.

- **Is education the best path towards increasing voter turnout among young people?** The vast majority of educational interventions that seek to increase voter turnout, and that have been assessed in scholarly reviews, are specific to civic education courses. Most of these interventions showed positive and statistically significant results, particularly among students close to becoming registered electors. Nevertheless, few studies have evaluated the impacts of new teaching methods, such as active and experiential learning. Studies on educational interventions to increase voter turnout should also look beyond students, to focus on marginalized populations.
- **The study of algorithms is a growing area of inquiry in the social sciences and humanities.** The growing power and sophistication of computational algorithms to sift through large amounts of data, is increasingly influencing people's lives. In particular, their application is defining the spaces for, and boundaries of, how information is shared, and establishing how people connect as "networked citizens." Studies of their complex use are moving out of computer science and human-computer interactions studies, into social science and humanities disciplines.
- **More research is needed on the organizational cultures of ethics around whistleblowing.** The need to improve internal procedures and the use of safeguarding technology has been demonstrated. But, strong internal cultures and ethical behaviours—in both public and private sectors—are also necessary to ensure safe disclosure for whistleblowers, and to diminish the risks of retaliation. Scholars should investigate sectoral cultures across Canada, to better understand and improve ethical behaviour, and to promote increased whistleblowing.

Theme Conflict, populism and migration: Navigating changing global trends



In recent years, major shifts happening alongside globalization have had profound socio-cultural and ideological impacts in democracies across the globe. Rising levels of migration are creating more diverse communities. Global levels of poverty have decreased. And, many report that quality of life is at an all-time high. But, within this picture are also increasing inequity, and the serious implications and continual uncertainty around large-scale geopolitical issues, including safety, security and well-being.

Identifying existing levels of knowledge and expertise, as well as gaps in research, talent and policy, supports dialogue on how Canada can contribute to critical issues, both domestically and abroad.

Although traditionally sheltered by our geography and close economic relationship with the United States, Canada is not immune to the impacts of these global, interdependent issues. Scholars and policy-makers alike are examining Canada's role in global relations, and how and where to leverage our strengths to safeguard domestic and international peace and security. A selection of the funded knowledge synthesis projects looked at the forces behind some of these geo- and socio-political trends. They provide insights on what lies behind them, and ways to better understand and address them.

Syntheses include, for example, insights into the importance of grasping the diverse economic, social, political, cultural and institutional factors that influence the rise of populist movements. Such research enables decision-makers to better understand how, where and why movements like these occur, and to assess the risk of insurgencies at home.

Whether to support the integration of school-aged refugee students in Canada, or to increase expert advice on Canada's involvement with NATO, education is raised throughout the syntheses as a critical tool in addressing global conflict and migration challenges.

Insights:

THE GLOBE AND MAIL



From Trump to Erdogan, beware the populist prescription

Trump's Warsaw speech was no exception to populist rhetoric. These words set the stage for a dangerous future if unchallenged.

Op-ed by Bessma Momani

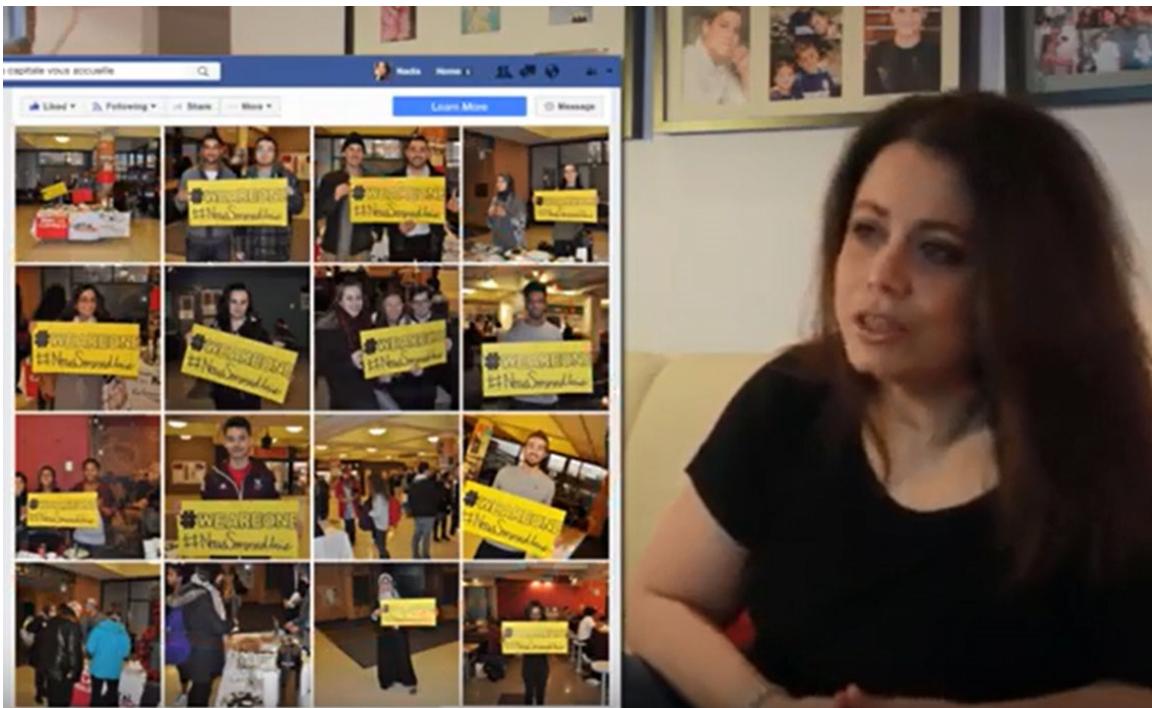
July 9, 2017

- **The interplay of economic and cultural factors has influenced the rise of populism.** Discussions on recent populist phenomena in democratic societies tend to focus on one or the other influences: economic or cultural. Commonly cited drivers of populism—including backlash against globalization, economic insecurity, cultural anxieties and fears, and influxes of migrants—are interdependent, however. They can also be considered alongside multiple other issues, including automation; increased demand for highly skilled labour; rising inequality; and increasing mistrust of governments, media and intellectual elites. The use of online media has also played a dominant role in appeals to populists.
- **Structural power shifts in the West have encouraged the rise of populism.** Research underscores that the decentralization of power away from national governments in western countries—to the courts, industry and international organizations—is allowing populist movement to flourish. Globalization's effects, meanwhile, are increasingly changing perceptions about authority and, under the guise of populism, citizens are demanding power be returned to "the people." Some evidence suggests states that maintain stronger institutions beyond government may be more resistant to such movements taking hold.
- **While populism in liberal democracies has largely been associated with right-wing parties, populist rhetoric is emerging across the political spectrum.** A social media analysis shows that right-wing populists tend to critique the media or cultural elite, whereas left-wing populists tend to attack the economic elite; both focus their dialogue on the concept of "othering" and both do so in the name of "the people." Independent of the ideology, populists tend to specifically target "opinion-formers" in media and academia, and provide alternative views. Right-wing populism, however, raises concerns, as it may evolve into racist, homophobic, sexist and/or other

discriminatory discourse that has the potential to undermine human rights in modern democracies.

"What makes populism threatening to democracy is the 'othering' of opposition movements that are meant to compete in the polity under a democracy. This undermines the traditional political process, and the political debate that forms the bedrock of democratic government."¹¹

- **Is Canada sheltered from populist movements?** Research on recent populist victories in the United Kingdom and United States point to disenfranchised populations holding romanticized views of having been part of an economic superpower, a status achieved mainly through the manufacturing sector. Some argue that populations in Canada and Australia, having never attained such stature, are less susceptible to populism. Within Canada, there is also more widespread agreement that immigration is needed to support our economy. Nevertheless, we are not immunized against populism and cannot ignore the threat of such movements.
- **Understanding the risk of terrorism in pluralistic countries like Canada involves understanding intersections with religious or political radicalism in diaspora communities.** Ideals within Canada's multicultural and Quebec's intercultural models promote conceptual differences of identity, but shared notions of equality and plural communities. A knowledge synthesis focused on the Middle East and the threat of terrorism in Canadian societies underlined the importance of understanding how global factors and events are playing out locally. Research and policy can benefit from situating diaspora communities within domestic societal models in terms of their diverse socio-cultural, ideological and pluri-ethnic dimensions.



2017 SSHRC Storyteller finalist Nadia Naffi, of Concordia University, is looking at social media use and influence to study how Canadian youth see their role in the integration and inclusion of Syrian refugees. ([Acfas presentation](#), French only)

- **Canadian schools are shifting their focus from resettlement of refugee students to student well-being.** Refugee children continue to face sociopsychological challenges in schools on their arrival. In response to the inflow of refugees in recent years in Canada, education systems are requiring more holistic and multisector approaches to support refugee children. Refugee and immigrant teachers play a critical role as cultural mediators or brokers. To become agents of change, teachers—as well as resettlement officers and policy-makers—need professional training to improve their cross-cultural competencies, social justice focus and transformative leadership skills.

"Caring teachers must link their teaching to the lived experiences of refugee students. Students and teachers are partners in the teaching-learning experience. These strategies are crucial for nation-building and citizenship education in Canada."¹²

- **Following the recent aggressions in the Ukraine, academics are divided on Canada's diplomatic relations with Russia.** Some leading thinkers oppose dialogue with Russia, while others advocate seeking common ground. A vocal minority is also questioning Canada's participation in a unified NATO strategy. Greater understanding of the conflict's complexity is needed to address questions about Canada's involvement with Russia, including tangible benefits and the possibility of further eroding trust and threatening future co-operation with Russia.

State of knowledge:

- **Definitions of populism are evolving to more effectively conceptualize it, and to help identify populist rhetoric, beyond just establishing what is allowed under freedom of speech.** Policy-makers around the world, including in Canada, are challenged by limited knowledge on how to address rising surges in populism. While drivers of populism may be country-specific, and most case studies are Eurocentric, a body of literature is being developed on the Trump campaign and administration. Media studies scholars, political scientists in comparative politics, and political philosophers are making important contributions to these discussions. Broader perspectives are needed from international relations to better understand how populist leaders and movements learn from one another across borders.

"A sign of a strong society in times of great upheaval, such as the populist insurgencies of today, is a community's resiliency.... A gap in the literature is detailing some of the resiliency tools that have worked in other countries to fend off the negative effects of populism. These are all still to be explored and much work needs to be done."¹³

Research on Syrian resettlement



In 2016, [SSHRC partnered with Immigration, Refugees and Citizenship Canada](#) to fund targeted research on pressing, policy-relevant research on the arrival, resettlement and integration of the Syrian refugee population.

- **A cross-Canada review demonstrates a gap in educational policy for refugee students' integration into Canadian schools.** Some provincial ministries, such as in Ontario and Newfoundland, have policy documents related to refugee students, while others have none at all. Overall, education policies have limited coverage about issues facing refugees and war-affected students. Policies also do not distinguish between immigrants and refugees, or recognize diversity of ethnic groups. That they also often rely on knowledge sources from outside Canada, particularly Australia, further signals a knowledge gap on the Canadian experience on this topic. Longitudinal studies are needed on refugee students and their families as part of distinct legal and ethnic groups.

"Researchers' engagement with refugee students' education, integration, and well-being must be proactive, rather than reactive Such proactive engagement would generate timely knowledge and sustainable practices, enhancing teaching and learning in the Canadian diverse classroom."¹⁴



Knowledge synthesis findings: Belonging and well-being of refugee students in Canada

[View video on YouTube](#)



Knowledge synthesis findings: Academic success of refugee students in Canada

[View video on YouTube](#)

FINDINGS: GAPS IN LITERATURE AND POLICY

- Limited research studies focusing on refugee student education and the strategies teachers, policy makers, and the communities utilize to smoothen the refugee student transition to Canadian schools (23 studies in the last 20 years)
- Limited inter-provincial curriculum and policy dialogue and consultation
- Limited Canadian sources informing Canadian educational policy
- Limited knowledge about transnational research and collaboration



14

Knowledge synthesis findings: In the Classroom and Beyond: Supporting Refugee Students (Cities of Migration webinar)

[View webinar](#)

- **How are decisions made about Canada's engagement and long-term objectives in Russia?** Where there is a clear gap in knowledge and debate on Canada's long-term objectives in the region, there is also little knowledge on how decisions are being made on important threats to Canada. Studies on other government policy decision-making processes and influencing factors—such as the effect of Canada being a middle-power country, and the role of public opinion and diaspora communities—would help guide policy on Canada's role in or alongside NATO and NORAD.
- **Wanted: Russian experts.** After the fall of the Berlin wall, there were significant declines in enrolment in Russian and Eurasian studies and language. Today, there is a lack of expertise on almost all aspects of NATO and Canada's responses to Russia, including on the rise in hybrid warfare.¹⁵ Greater in-depth expertise is needed to accurately assess Russian perspectives and intentions. There is a need

for dedicated university programs to support research and train emerging scholars on foreign and defence policy, and to increase cross-sectoral research collaboration.

"Few academics writing on NATO or Canadian foreign policy have the in-depth expertise needed to accurately evaluate Russia's perspectives and specific intentions. One result is an academic and policy gap whereby neither group systematically addresses the root causes of Russia's discontent and actions, or how Canada or NATO's actions may actually fuel or exacerbate them."¹⁶

Theme Local and global realities of labour, employment and trade



The continuing move towards trade liberalization, in the middle of emerging protectionism, is coupled with the revolution in information and communications. The combination is reshaping economic opportunities for people and businesses, across borders, and has led to significant shifts in the workforce and in how labour markets are organized. More than ever, Canada needs a highly educated, skilled and entrepreneurial human resources base to compete in the global, knowledge-based economy.

Increasingly mobile global populations are powering more efficient and digitized production systems and services—not to mention, robots.¹⁷ At the same time, the idea of a

career path of permanent, full-time work with few job changes is being disrupted in many countries, replaced with flexible, part-time contract work, mainly offered through online platform industries. Some people assert the idealistic side of the “sharing,” “collaborative” or “creative” economy. Others focus on the potentially precarious “gig” or “work-on-demand” economy, even characterizing such workers as the “precariat.”¹⁸ Regardless, in 2016, nearly 10 per cent of people aged 18 and over in Canada were participating in this new economy, as either users or workers.¹⁹ Figures like these are expected to only rise in the coming decade.

A great and long-standing challenge is balancing competitive market forces that want increased profit margins and reduced costs, with sustainable, healthy communities. Ensuring such communities involves reducing financial instability, poverty and growing inequality. A number of knowledge synthesis projects touched on critical topics related to the new global economic landscape. Findings suggest a number of reforms are needed for policies, practices and regulations that currently act as barriers to employment and workforce well-being.

These studies consider how culture and diversity affect a range of topics. The studies look at, for example: how complex regulatory requirements guarding immigrants’ entry into regulated professions in Canada are creating a considerable loss of human capital for Canada; what little is known to date about the new wave of “gig” work; and, how broad societal biases are influencing gender equity in the new green economy.

Barriers to higher education, which then block access to employment, are still a significant challenge to Indigenous learners. Insights provided from the synopses also touch on how trade agreements can be used to improve protections and rights of traditional knowledge, as well as other critical interests that are both central to the well-being of Indigenous peoples and critical for reconciliation.

Researchers have connected a Canada-wide cross-section of social, political and economic impacts related to these issues. The challenges and opportunities presented underline a great need for collaboration across institutions and sectors. In some cases, the evidence is already there, supporting calls to action on issues critical to considering how Canada values equity and social justice for its own workers, as well as workers worldwide.

Insights:

- **The regulation of professions in Canada is a “labyrinth” for newcomers, and is impeding societal and economic gains for the country.** Evidence across a variety of social science disciplines recognizes Canada as having exceptionally complex internal legal and political structures that regulate professions. As a result, admission to Canada based on professional competencies does not guarantee admission to a regulated professional job market on arrival. Better and more integrated information, as well as more institutional collaboration—which is currently facilitated best in Ontario, British Columbia and Saskatchewan—is urgently needed to improve conditions and pathways for new and prospective immigrants to integrate into their professions, and for potential employers to consider hiring them.
- **Innovations to support the employment and integration of foreign professionals are slowly emerging in Canada.** As an example, Manitoba is adopting alternative qualification permits to support foreign-trained engineers' access to the job market. Internships and bridging programs allowing professionals to bypass training levels they have already achieved also show great promise. Political, financial and logistical challenges, such as limited access to specialized equipment, lack of availability of professors, and delays for internship programs—particularly in the health sector—limit the ability to support foreign professionals.
- **Recent findings on the economic benefits of gender equity in employment can inspire firms to hire women.** Research findings show that advancing gender balance in male-dominated professions contributes to improving working conditions for both men and women. The findings show positive effects on well-being, work culture and productivity. Studies have also shown there are better economic returns for firms with higher numbers of women on their boards. This could motivate companies to hire women in more senior, leadership positions.

“... initiatives that raise awareness among women as well as men about the benefits of greater equity and about women’s equal entitlements to employment in all fields are as crucial as policy reforms and state or corporate actions that protect women’s interests and facilitate their agency.”
[20](#)

- **Unions and other worker groups currently play a significant role in supporting women's employment in “green” industries.** Union apprenticeship programs have both higher recruitment and completion rates among female workers. These organizations play a particularly important role in low-income countries, by ensuring benefits and compliance with workplace standards. However, their future role in the low-carbon economy is uncertain, as new ways of mobilizing workers may emerge. Being historically male-dominated adds further challenges for these organizations, and some may require additional institutional reform to stay relevant. Their evolution and its impacts are important to study in this sector.
- **Encouraging Indigenous students to pursue careers in business, engineering and science may help decrease the socio-economic divide.** A systematic review has found a lack of career guidance can prevent Indigenous peoples from having access to opportunities to thrive in fields like business, engineering and science. Cultural unfamiliarity, fear of exclusion, and social integration issues create further barriers. Policies ensuring a welcoming environment for learners and providing financial assistance are critical for reducing the barriers Indigenous learners face in higher education.
- **Greater protections for Indigenous traditional knowledge in Canada’s progressive trade agenda can help address economic, spiritual and cultural losses for Indigenous peoples.** Indigenous peoples’ rights to maintain, control, protect and develop their cultural heritage and knowledge are supported in domestic policies, and have increasingly been supported in international initiatives over the last 20 years. Yet, in trade agreements, they are usually folded into commercial intellectual property mechanisms that do not correspond to their holistic and collective nature or the oral transmission of Indigenous traditional knowledge. Negotiations should work towards better expression and protection of these rights in trade agreements.

“Indigenous peoples have a unique and complex relationship with international trade, both as active participants in markets and as rights-holders and stewards of territories and cultural practices that can be negatively affected by trade rules.”²¹

- **The stunting of skills development is a key concern with the “gigification” of the labour market.** A large number of workers entering “gig” work—precarious, short-term, one-off contracts mediated by digital platform businesses—are often young, white, male and still in the early stages of their

careers. Nevertheless, older, racialized and female workers are moving into this space as well. Although this work provides opportunities and flexibility, the workers have less access to professional development, training and challenging work. This can potentially lead to decreased quality of the Canadian workforce.

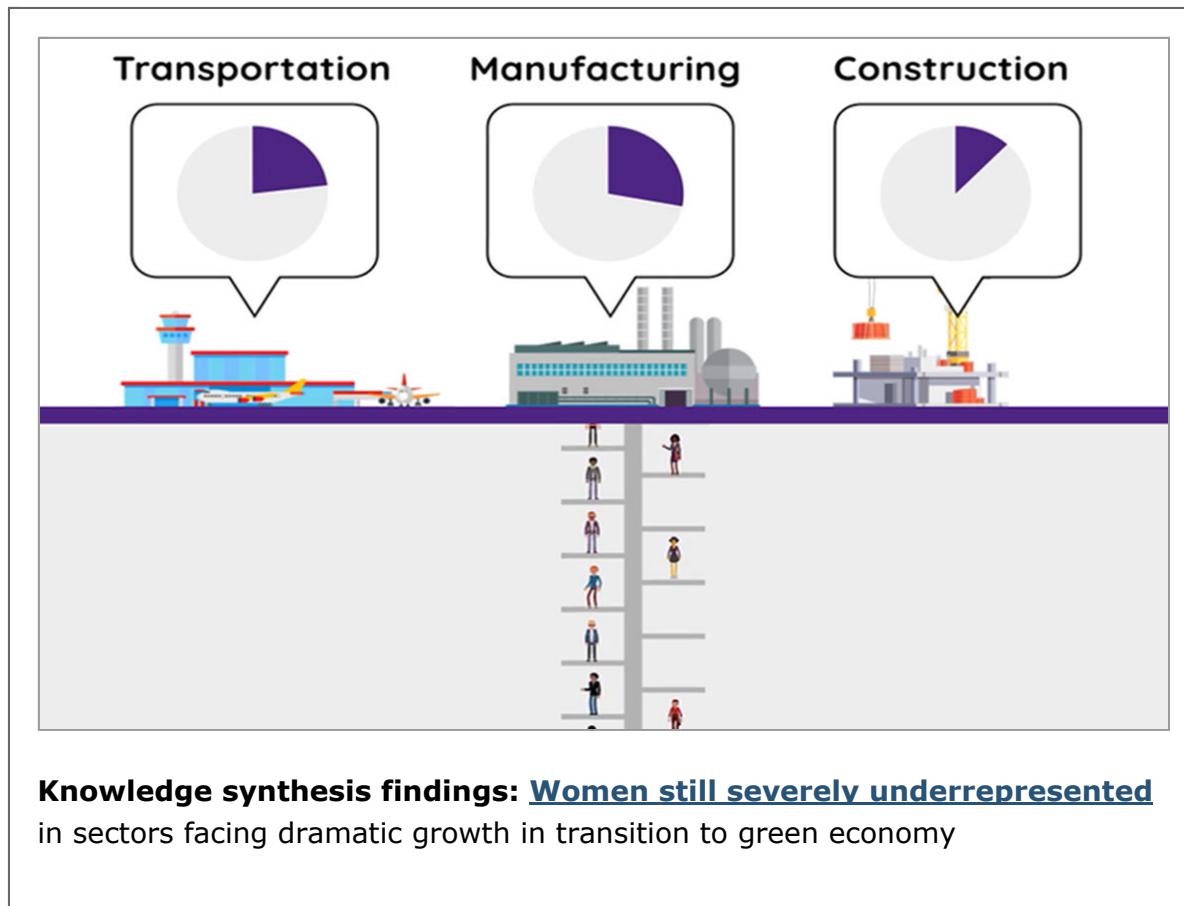
"The complexity, newness, and scale of the gig economy create a number of challenges that have wide-reaching implications for Canadian institutions and decision-makers tasked with the responsibility of protecting the health, well-being, and integrity of Canadian workers."²²

- **Policy solutions are ready to improve the vulnerable conditions of “gig” workers.** Workers in the platform-based “gig” workforce are subject to a number of vulnerabilities, including a culture of surveillance, lack of benefits and training, and occupational health risks. Policy solutions proposed within the literature include reclassifying gig workers as dependent contractors, and establishing portable benefits systems, based on a model pioneered in Denmark. Others suggest creating platform co-operatives to promote fair pay and shared resources on issues related to training, health care and work conditions.

State of knowledge:

- **Significant evidence supports the call to simplify professional registration systems processes.** For well over a decade, research studies have underlined the need to harmonize the process for recognizing competencies of foreign-trained professionals. The barriers that exist in immigration authorities’ guidelines have also been well identified. For example, the differences in regulations on the mobility of professionals across Canadian provinces and territories, while at a smaller scale compared to that of the European Union, still pose significant challenges for new immigrants. To advance harmonization, the disconnected sector stakeholders involved must be brought together in working on professional registration systems processes.
- **Although employment in the “green” economy is a growing topic of research and policy engagement, promoting gender equity in these jobs is rarely a topic of conversation.** While there are a number of promising programs and practices to improve women’s participation in these jobs, there are significant gaps in knowledge about their success or long-term sustainability. Primary research is needed on the initiatives’ effectiveness before good practices can be recommended and possibly replicated in Canada and around the globe, or areas for

improvement can be identified.



- **Specific and better data is needed on women's employment in "green" or low-carbon transportation, construction and manufacturing.** Most data and information on these sectors is general, and not specific to low-carbon jobs or even to employment. For example, there is scholarly and practitioner literature on women's access to transportation, but very little on women's employment in this sector. In manufacturing, most of the literature related to women's employment focuses on the garment industry. Better sex-disaggregated data is needed across all industries.
- **Greater, ongoing engagement of Indigenous peoples is needed in scholarly debates on trade.** A number of trade agreement issues are of direct and critical concern to Indigenous peoples. These include investor-state dispute settlements; protections for traditional knowledge; and the duty to consult and obtain free, prior and informed consent. Scholars active in trade debates—including economists, political scientists and legal scholars—tend not to critically engage with research by and with Indigenous peoples. Greater engagement, and enhanced collaboration across disciplines, would help broaden understanding of how progressive trade

agendas could address the interests of Indigenous peoples.

- **Research on the “gig” economy is geographically disproportionate, with a lack of country-specific knowledge.** Research on short-term, platform-based “gig” work is disproportionately represented, with the majority of information being about the United States. Some work focuses on the European Union and United Kingdom, but there is particularly limited research on the Canadian context. And, only one article and one report in a synthesis review made comparisons with the Global South. The global and geographic dynamics within the gig economy are worth further exploration.
- **There are differing strengths among peer reviewed and “grey” literature on the evolving “gig” economy.** Legal perspectives, as well as the intersection of technology and organizational management, dominate peer reviewed literature on the growing “gig” labour force. Research cited in social science and communications journals engages directly with workers, bringing out some of the new and unforeseen challenges to workers. Nevertheless, the “grey” literature produced by government, civil society, industry and nongovernmental or other organizations has been deemed more responsive to the changing nature of the platform-based gig economy, and the experiences of its workers. These reports are supported with a stronger empirical base, using large-scale surveys to provide insights on the size, scope and demographic features of labour.

Climate change and natural resource development: Theme Indigenous and global framings



Rising global temperatures and extreme weather conditions are posing threats on a global-scale. The atmosphere is warming, with 2017 global temperatures registering the year as one of the hottest in history. Alongside the critical work and data needed to predict and explain trends in greenhouse gas levels, and resulting changes to Earth's vast natural resources and biodiversity, comes the need to examine the human dimensions of these changes. The impacts of climate change are resonating throughout the global landscape, increasing economic, health, political and social risk to populations across the globe.

Experts are addressing adaptation and mitigation approaches to help government, organizations and citizens rethink the management and use of energy, water and food sources. Adaptation policies pose significant challenges for government at all levels, and are affected by domestic and global actors' willingness to act.

Knowledge syntheses on related topics reveal much uncertainty about the costs and benefits of moving to a low-to-zero-carbon economy—including for long-standing Canadian industries, as well as Indigenous peoples, whose rights and livelihoods are intimately tied to the land and resources across the country.

Varying levels of research have been done on costs and benefits to industry-specific sectors, including agriculture, transportation and mining. In other areas, however, there are signs of policies needing further analysis, including Canada's foreign policy and international assistance in response to the increasing need for humanitarian relief to deal with natural disasters stemming from climate change.

Important work remains to be done on a number of fronts to understand the real implications and impacts of climate change in a postcarbon world. There is also a clear need to look both within and beyond Canada's borders. Particularly at the domestic level, there are key theoretical research perspectives available that incorporate Indigenous knowledge and worldviews, and support more effective and inclusive decision-making. Researchers indicate that such new ways of seeing and knowing are at Canada's disposal to help increase collaboration and to position the country as a leader on the world-stage in climate change mitigation, environmental protection, and sustainable natural resource management.

"The countries of the world are more integrated than ever before in history; adaptation to climate change must also become integrated. Although the impacts of climate change will vary around the world, the degree of global integration that exists today means that local impacts may have nonlocal, globalized ramifications. No country can hope to adapt successfully on its own, without considering its relationship to the wider community of nations."²³

Insights:



Findings resulting from SSHRC's Knowledge Synthesis Grants competition on collaborative and sustainable energy and natural resource development in Canada are [**available on SSHRC's website**](#).

- **While there is no consensus about the net impact climate change will have on Canada's resource-based economy, research highlights opportunities available in a postfossil world to offset losses in Canada's hydrocarbon industries.** Low-carbon goods and services markets could grow to anywhere from \$36-to-\$60 billion by 2050, up from \$7.9 billion in 2010. Opportunities exist, for example, in food production and export, as global warming extends the growing season. Canada's traditional metals mining sector could also greatly benefit from renewable energy sector growth, as Canada possesses 14 of the 19 most common metals required for solar photovoltaics. Canada faces challenges in taking full advantage of these opportunities, however, due to labour shortages and global competition in green innovation efforts from Europe, the United States, Japan, South Korea and China.

- **Among all climate change areas and issues under discussion, Canada’s sovereignty in the Arctic and the risks of security conflict are of particular concern for Canadians.** The costs and benefits of the Arctic ice melt are still very unclear. A melted northern passage could benefit Canada through resource extraction and taxation of shipping lanes; but, such revenues may be outvalued by domestic or international carbon pricing agreements. There are also human rights and legal concerns, including an increasing potential for transnational lawsuits to be filed against large-scale greenhouse gas producers to compensate for climate change impacts on Inuit livelihoods. Many subject experts are calling for an expanded government role and presence on these issues.
- **Findings point to climate change implications for Canada’s future foreign aid and humanitarian relief policies.** Canada is supporting a number of global climate change adaptation initiatives, helping meet the country’s national and international climate goals. Financial needs for humanitarian relief are projected to increase by up to 1,600 per cent over the next 20 years, largely due to the effects of climate change.²⁴ Climate change is also projected to reduce average incomes globally by about 23 per cent by 2100. These changes are anticipated to be very uneven, however, with some of the richest countries actually experiencing gains.²⁵
- **Collaboration with Indigenous community stakeholders can enhance equity in resource decision-making, but this is not guaranteed.** Collaboration can create structural changes that modify dynamics and provide more equal participation by different actors in decision-making on energy and natural resource issues. Changes may include shifting the conventional roles of industry, government and Indigenous communities in such processes. Findings suggest both “relational” (interpersonal and informal relationships) and “affective” (emotional) interactions are important in building meaningful and long-term collaboration. Several authors and communities call for peaceful co-existence under a two-row wampum approach to collaboration. This approach involves a common interpretation of treaties by distinct groups that do not disempower the other.
- **Breaking down the divisions between Indigenous and Western knowledge systems can help lead to better decision-making on Canada’s natural resources.** Scholarly research challenges the beliefs that Indigenous knowledge systems—often described as “local knowledge”—are subjective, while Western knowledge systems—described as “technical knowledge”—are objective. However, technical knowledge relies on disputable assumptions, and can indeed be subjective, while local knowledge can include objective elements. Knowledge collection can also overlap both domains. By reframing and reducing contrasting perceptions of these knowledge systems, and advocating for using multiple types and domains of knowledge, unequal power relationships can be reduced to make decision-making

processes more inclusive and efficient.

"If the goal is to apply both systems of knowledge in combination and fairly, then it is important not to fall back on the practice of evaluating Indigenous knowledge solely by settler standards. Also, we must recognize that the apparent immeasurability of results from applying Indigenous knowledge may be rooted in different worldviews, manifested in different theoretical and methodological approaches to making sense of the world."²⁶

- **"Social framing" offers a new way of understanding Indigenous involvement in bioenergy resource development and governance.** Social framing theory is often used in public policy and organizational research to examine different and shifting viewpoints held by actors around complex natural resource policy issues and solutions. Its use can help multistakeholder decision-making processes where trust and collaboration are crucial. Within a growing body of literature on framing theory and analysis, a small number of scholars are focusing on understanding environmental resource industries and other actors' perceptions.

"Still, much more effort is spent devising technologies and products than is spent building relationships, common lexicon and protocols, and decision-making procedures and processes There is much work to be done in the human dimensions of energy and forestry, which likewise might be considered the social innovation side of bioenergy partnerships involving Indigenous representatives and their partners. Like technological innovation, social innovations require experimentation, failure and perseverance. Examples of current community-led partnerships emphasize that such activities are precursory and ongoing activities that are essential to upholding local control, building respect, and support."²⁷

State of knowledge:

- **There are still knowledge gaps on the effect that climate change's transnational impacts will have on social, economic and environmental factors in Canada.** Countries like the Netherlands and the United Kingdom are conducting international assessments on the indirect impacts of climate change occurring outside their borders. These assessments consider the exposure and sensitivity to climate change of the countries with which they have a relationship. The goal is to determine potential economic, biophysical, migration or security impacts on them, or their assets, worldwide. Analyses of globally driven effects on

Canada of a warming climate do exist, but are minimal and have limited focus on the international factors. A more comprehensive and accurate understanding of risks and costs could help Canada be more prepared for climate change.

"...without a research agenda devoted to understanding all of our international connections, their exposure to climate change, as well as policy adaptations elsewhere that could affect Canada, it is impossible to assess the balance of potential opportunities and threats that the international dimension of climate change poses."²⁸

- **Significant debate remains over the economic effects of scaling back fossil fuel industries in Canada.** One estimate of the global "carbon bubble"—the estimated valuation of companies dependent of fossil fuel-based production—is US\$20 trillion. While there is widespread concern about the bubble, conclusions appearing in the literature on its impact on Canada's financial institutions and industries are highly speculative. More evidence is needed, as the current conclusions are based on oil price projections, as well as on the development of technologies to capture carbon dioxide emissions, and of other solar geoengineering projects that could extend the trajectory of the oil sands.
- **Climate change mitigation risks and opportunities for the Canadian automotive industry have not been adequately explored.** There is a growing amount of research on how climate change will directly impact the transportation sector. However, the impacts for Canada are largely unknown, given a lack of Canadian, industry-specific research and consideration of global factors. For example, it remains unknown how rapid advances in battery development in other countries could affect this industry in Canada, or what the impacts may be on the petroleum industry. Decision-makers need to consider the implications of the radical shifts toward renewables to meet mitigation targets; and how climate, energy and transportation policies could impact the speed of implementation in Canada.
- **There are gaps in knowledge on bioenergy development challenges and opportunities in Indigenous communities in Canada, and barriers to filling these.** The interplay of different global and local, as well as Indigenous and non-Indigenous framings of governance in bioenergy partnerships, is still not fully understood. Gaps include those in research on governance, and in analysis of policies across provincial and territorial resources sectors. With currently only 12 biomass energy projects in Canada involving Indigenous communities—10 of them in British Columbia—lessons from these projects, which were derived by and with communities, could provide some transferrable lessons.



Knowledge synthesis findings: Indigenous bioenergy partnerships in Canada

- **There is opportunity to expand how we evaluate integrated Indigenous and Western knowledge systems.** A significant focus of evaluations of integrated knowledge, or “two-eyed seeing,” as defined by some Indigenous communities, has largely concerned the credibility of Indigenous knowledge, through the eyes of settler science. Some recent initiatives acknowledge the need for a broader set of criteria to assess knowledge, and greater recognition that some results from applying Indigenous knowledge cannot be measured, as they are rooted in different worldviews. Such an expanded approach would help redress power imbalances in key decision-making on natural resource development.

Shaping a global future through technologies and social innovation



Technological advances are changing the way we think, live, play and work. Breakthroughs are continuing in automation and AI, and there is a growing volume of, and advancements in, sensor data, the Internet of Things and associated analytics. The advances present significant opportunities for industry and governments alike to build resilience and reap tremendous benefits for Canadians. Governments and industry worldwide are also looking at innovation processes and applications with social purpose and benefit. Collaborative, intersectoral social innovation initiatives are being explored to address complex societal issues, and to support the equitability and sustainability of societies.

Acknowledging the multifaceted—and, at times, adverse—implications of technology advancements, the knowledge synthesis projects addressed several intersecting factors in, and benefits of, innovation. Key across all topics covered is the growing importance of addressing innovation collaboratively across sectors, as well as across and within research disciplines. The attraction and development of talent is essential for innovation, and needs to be discussed. But, short-term labour needs also have to be balanced with long-term human capital investments. A number of the insights highlight how, to support innovation goals, we can better measure the impacts of initiatives, and ensure societal topics are given appropriate attention by governments and scholars alike.

Gaining competitive advantages and increasing prosperity requires moving beyond the technical aspects of innovation to critical inquiry on the social, cultural, economic, ethical and political dimensions that influence human behaviour and decision-making. Further to the 2017 [**Innovation for a Better Canada**](#) innovation and skills plan, such insights can inform policy-makers and industry stakeholders on the complex societal factors affecting Canada's prosperity today and tomorrow.

Insights:

- **Organizations that have obtained value from big data initiatives²⁹ have embedded data-driven decision-making cultures.** The full potential of advanced data analytics to generate insights for decision-making is not being realized. A key challenge in getting value from investments in big data is developing an organization-wide, data-driven decision-making culture, particularly at the senior executive level, in firms, governments and not-for-profit organizations. Evidence also points to a need for combined technical, managerial and analytical skillsets.

"It seems that the path from big data to 'big impact' is not well understood and that, while big data analytics can create value, the assumption that it automatically leads to value needs closer examination."³⁰

- **An increasing number of organizations are using machine-to-machine data.**

This big data analytics approach aims to improve services and launch new products and processes by drawing data from embedded sensors. Sensor and other machine-to-machine data are being applied in the social sector, including for smart cities, smart health, smart aging, and smart grids projects. These applications are being studied in ongoing research projects. Local governments and health-care providers are also widely using sensor data. This area of analytics is set to grow exponentially along with the Internet of Things.

- **Close cross-sectoral collaboration is essential for governments to develop big data tools, technologies and talent.** Canada and other countries around the world are launching big data initiatives to increase their competitiveness and security, and to achieve social goals such as public health, better service delivery, and more efficient and open government—often under the leadership of a chief information officer. Increasing access to government data can also support the development of companies and entrepreneurs. However, governments face a number of challenges in opening up their data to the public, including privacy and security concerns, and a lack of big data analytic skills, knowledge and capabilities.

"The capacity to accumulate, process, and utilize vast amounts of data will become a new landmark of a country's strength and competitiveness."³¹

- **Lack of information on the backgrounds and experiences of AI developers, practitioners and evaluators remains an ethical concern.** Through "computational creativity," a mix of machine- and human-led programming is being used to train machines to create appealing content that gives the impression of being human-created. Studies on computer-generated literature, however, appear to reinforce traditional, Western perspectives of narrative structure, purpose and effect. This example underlines the importance of disclosing the diversity and specific backgrounds of individuals shaping AI, with respect to gender, class, ethnicity, training and ability.

SSHRC's former Community-University Research Alliances program

This program provided over \$90.9 million to 107 projects between 2006 and 2011 to advance knowledge, tools and methods on intervention, action research, program delivery and policy development in Canada and low- and middle-income countries. Initiatives like these are now funded through SSHRC's Connection program.



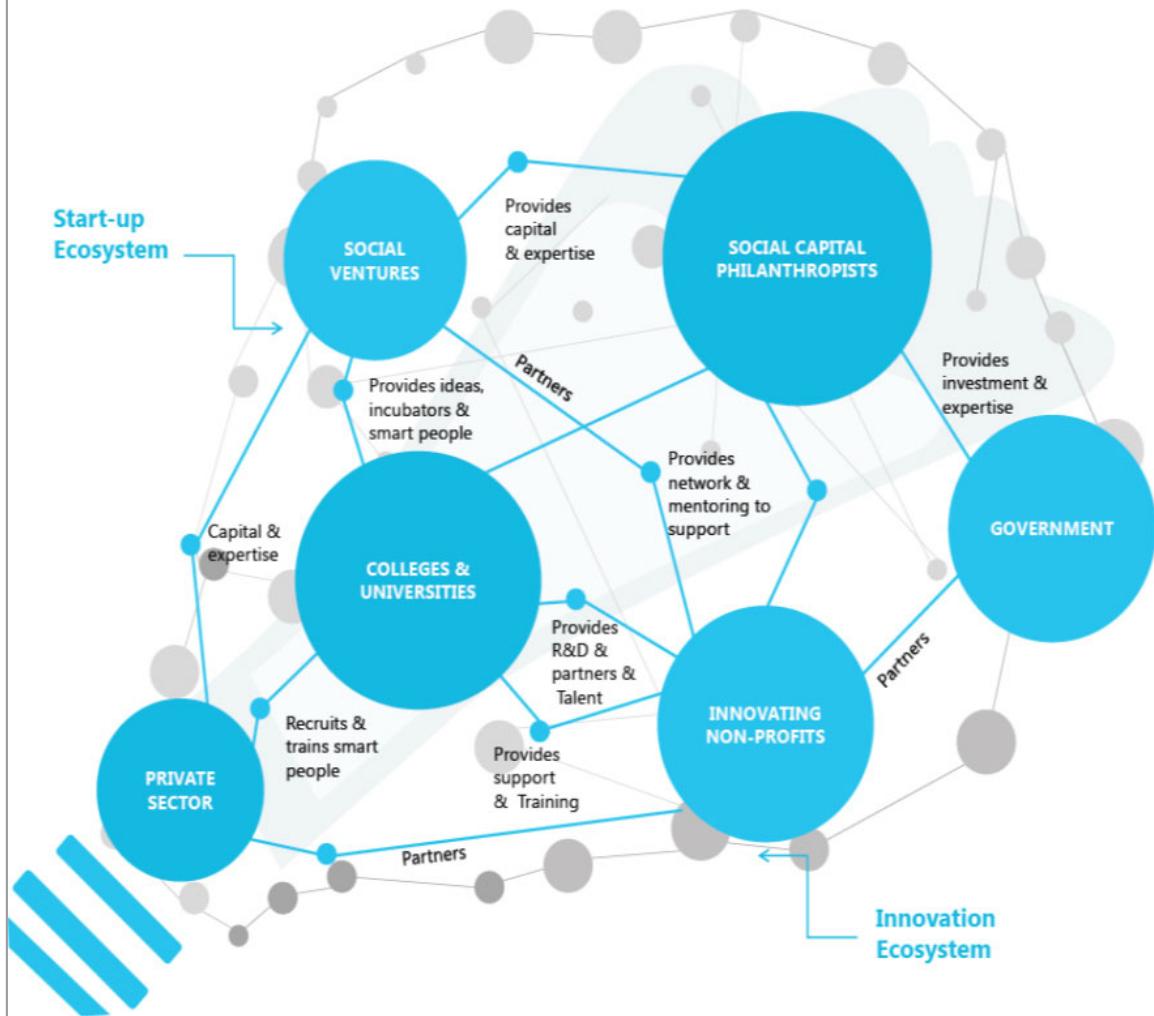
- **Canadian postsecondary institutions have embraced a leading role in social innovation.** This is particularly true in their recent focus on experiential and work-integrated learning, and on entrepreneurship more broadly. The idea of universities being central players in innovation ecosystems is not new, but has generally been seen in terms of technological innovation and economic development. Institutions that already have a social mission are more likely to take part in such initiatives.
- **What social, economic and political factors impact STEM talent migration?** Foreign-trained, high-skilled workers—in particular, STEM professionals—face a number of pay and employment challenges in their destination countries. The research literature attributes these to a lack of recognition of foreign credentials, “deskilling” resulting from advances in technology, language barriers, and a lack of professional networks. However, other factors—including the ability to quickly obtain permits, the political climate, anticipated lifestyle, and work-life balance—can strongly influence whether STEM migrants choose and remain in Canada or other destination countries. Their resulting choices impact labour market and innovation systems.
- **A critical challenge to recruiting STEM professionals to Canada is the growing disconnect between federal and provincial migration policies and programs.** Over the last two decades, Canada has increased priorities at the national level to build talent over the long term. This has often hindered provinces' abilities to quickly attract talent for short-term innovation. There is also growing conflict between federal and provincial programs and tools that have different goals for the types of candidates they attract. At the same time, both streams may end up competing for the same candidates and, as a result, restrict the entry of a wider pool of qualified, foreign-based talent. Greater co-ordination is needed.

- **Canada's social innovation ecosystem is still a work in progress.** Government players are increasingly interested in social innovation, and international organizations have embedded social innovation language and goals into their strategies. While supports and initiatives are increasing, policies and funding at provincial and federal levels are still lacking in fields like health, the environment and public safety. Clearer links are needed between social innovation strategies and implementation. Initiatives also need more visibility within policy areas and institutions.

"Applying these [social innovation] frameworks to the Canadian system suggests that the elements of an innovation ecosystem are there—government policies, emerging social financing, postsecondary institutions with ideas, talent and facilities, incubators, private sector partners and funders, entrepreneurial-minded non-governmental organizations and social enterprises. However, there remains considerable fragmentation, as well as gaps between theory and practice, or strategy and implementation, which appear to mean that the whole is less than the sum of the parts."³²

A proposed model for a social innovation ecosystem³³

BUILDING THE SOCIAL INNOVATION ECOSYSTEM



State of knowledge:

- **Literature on big data analytics has a glaring focus on technical issues.** The scholarly literature on big data analytics—still an emerging research area—focuses largely on such issues as infrastructure tools, technologies, platforms, services and processes. There is little coverage of management, organization and business aspects. The number of articles on this topic in business and management studies has been on the rise in recent years, but more work is needed on the social dimensions of big data analytics, including how organizations must change to adapt

to and benefit from the technological innovations.

"...in light of earlier findings that the real value of big data analytics lies not in the data itself but in the insights generated and the managerial actions taken, greater attention needs to be devoted to understanding the soft skills and managerial talents needed to reap the benefits of big data analytics investments."³⁴

- **Canada has established an important presence in “computational creativity.”** Computation creativity explores the theory and practice behind creating programs or computers capable of human-level creativity. Canada’s strength in the area of computational creativity in music is grounded in the number of interdisciplinary researchers integrating art with the development of science and technology. There is room to magnify this strength across a greater number of researchers, and to further support this work across and within departments, including in departments that already have art/science/technology as their interdisciplinary mandate.
- **Although Canada is often seen as a leader in managed economic migration, we lack data and analyses on recruitment strategies and programs intended to support skill-based migration.** More knowledge is needed about what the most successful and effective pathways are for STEM migrants to come to Canada, and on the options through which they can best succeed. Comparative studies on countries competing with Canada for talent migration would be very useful, as would identifying sectors that face unequal immigration policy barriers.

"Scholars have yet to examine STEM migration in Canada, and there is a need for a detailed, fact-based assessment of the success and outcomes of Canada’s recruitment and retention of STEM migrant talent against global competitors."³⁵

Deep listening: Computational creativity at play

One example of computational creativity is KSG recipient and Canada Research Chair in Digital Performance at York University **Douglas Van Nort**'s [blending of acoustic/electronic sound sources and machine agents](#) to develop new forms of artistic expression and explore how we sense, process and interact with performing arts in a postdigital age.



- **Debates continue about best practices for measuring the impacts of social innovation initiatives.** While criticized for its mainly economic perspective, social return on investment approaches are still the most popular among practitioners and certain funders for measuring the effects of social innovation initiatives. Recent efforts have been made to propose alternative development-based evaluation strategies. However, debate on issues of measurement and accountability is ongoing, and there is still a gap in the research on questions of impact, particularly

at the larger systems level.

- **Cross-sectoral partnerships are fundamental to social innovation and should be studied more.** There is general agreement that collaboration across sectors is fundamental to driving and scaling up social innovation. The ways these networks communicate and share knowledge and practices are increasingly based on new technologies. These networks, however, are neglected in studies. Filling important research gaps would lead to identifying successful strategies that enable meaningful collaborations, and measuring their effects.

"Ultimately, a better understanding of SI [social innovation] as it relates to cross-sectoral partnerships will support the life cycle of collaborations, processes, and knowledge sharing across sectors, and expand the capacity of Canadians to use SI to challenge intractable problems and compete on the global stage."³⁶

- **There are thematic imbalances in social innovation literature.** Social finance and new applications of technology are top topics in recent social innovation literature. There is also considerable emphasis on using institutional theory and "competing logics" to discuss the tension between social and economic goals of social innovation. Some social goals—including those related to poverty alleviation, education, the environment and health—are taken up more than others. For example, peace-building and human rights, equity and inclusion, and migration studies have gathered very little attention among scholars.

Theme Gender, inclusion and belonging in diverse societies



Canada is among the top nations whose societies are unprecedentedly diverse. The latest Census, in 2016, reconfirmed that one-fifth of all Canadians were born elsewhere. In Canada's largest city, Toronto, more than half of the population was born outside the country. These results were largely fostered through progressive immigration policies over the past four decades. Canada has accentuated "diversity" as a national strength, and as a strategy toward peace and prosperity. In tandem, attention on the rights of marginalized peoples has been heightened. In addition to its national priority of advancing reconciliation efforts with Indigenous peoples, Canada also issued a national apology for historical discrimination

against sexual minorities in 2017.

But, fostering belonging and inclusiveness is far from easy. Canadians continue to navigate the complexities facing racialized and marginalized communities. A significant number of knowledge synthesis projects explored issues of diversity. A few, in particular, addressed issues and theories of rights and belonging for marginalized peoples in Canada. These projects looked at the use of inclusive teaching to support students with disabilities in undergraduate professional health programs; gendered and cultural approaches to sexual abuse in new immigrant families; the experiences of LGBTQ2+ migrants from the Global South; and elderly racialized peoples' access to online memorial sites.

Projects highlight the importance of recognizing cultural and gender biases at work in research and policy, and the need for more participatory and community-level approaches. Scholars, practitioners and policy-makers are encouraged to seek better understanding of the complex contexts immigrants often face before, during and after their arrival in Canada. Gaps in policy-related research show there is a need for more diverse, intersectional analysis, and evaluation of the corresponding critical societal issues. Intersectional analysis recognizes multiple identities as sources of oppression and privilege, such as gender, race, religion, mental or physical disability.

"Canada is doing exceptionally well in terms of integration of immigrants, and understanding that is important going forward. However, we need to also understand the nature of key risks and public perceptions of diversity. These include cultural anxiety and job insecurity, and are triggered by global events. Research has a huge mandate, a huge role to play on these issues."³⁷

Insights:

- **Through diverse, inclusive teaching, undergraduate nursing programs are successfully training university students with special needs for professions.** Among 56 studies describing inclusive strategies and interventions, the most common approaches include training workshops, small-group work, role-playing, videos clips, training tutorials, stress management, and tutor or peer mentoring. Evaluations of students' reactions to the interventions showed increased overall satisfaction with the undergraduate program, as well as increased confidence in their competencies and clinical skills. Students also showed higher levels of retention and successful completion of professional admission exams.

"These research results will also inform education policies so as to encourage a greater number of students to succeed in their university programs, limit discrimination against people with disabilities, and, ultimately, support their participation in an inclusive, diverse society."³⁸

- **Cultural biases around immigrant women's experiences and the origins of domestic violence are imbedded in policies and support services.** Recent immigrants to Canada come from diverse societies across Africa, Asia and the Middle East. They experience domestic violence in very different ways. Greater attention needs to be given to the challenges of starting a new life in Canada, and the effects of domestic violence on pursuing economic stability. The immigrant experiences of both women and men, before, during, and after migration, need to be considered.

"The established literature tends to explain or attribute domestic violence to the cultures and life conditions that immigrants bring with them to Canada. Less emphasis is placed on the challenges immigrants face in transitioning and integrating into Canadian society, such as access to employment and social services, difficulties with language, and shifts in norms surrounding gender relations."³⁹

- **Approaches to addressing domestic violence in immigrant communities could benefit from expanded, cultural ways of knowing.** The existing literature on domestic violence in immigrant communities suggests that the dominant, Western-centric "rescue and prosecute" strategy can be ineffective and lead to adverse consequences. Through more active community engagement, scholars, policy-makers and service providers can explore and integrate a diversity of cultural ways of knowing to develop more effective ways of dealing with domestic violence early on, and to

provide culturally competent services.

"African immigrants often have the same conception of the value of land as many Indigenous peoples: that it is priceless. When immigrants arrive, they can benefit from learning and connecting with First Nations peoples who can have much in common."⁴⁰

- **Paying greater attention to the realities of vulnerable LGBTQ2+ people in the Global South can improve migrant claimant categories and processes in Canada.** Studies confirm that the lived realities of LGBTQ2+ people are often situated in geographic and political contexts. They are shaped by policies and ways of thinking, such as colonialism, as well as by circumstances like civil war or religious extremism. LGBTQ2+ people in the Global South—particularly those facing multiple, intersecting forms of discrimination related to income, HIV status or disability, for example—often face complex, violent contexts. Greater understanding is needed on these contexts, and on their impacts on LGBTQ2+ refugee claim processes and postmigration experiences.
- **While Canadian-developed guidelines on sexual orientation and gender identity and expression are the result of innovative, evidence-based, democratic policy-making, gaps still remain.** The recent implementation of sexual orientation and gender identify and expression guidelines in Immigration Review Board of Canada decision-making resonated positively, and is seen as an example that could be replicated in other countries. Nevertheless, restrictions on temporary resident visas, for example, still pose significant barriers in Canada's in-land refugee claim process. Knowledge and policy gaps remain, especially about LGBTQ2+ migrants with precarious status.
- **The use of virtual graveyards to grieve the loss of loved ones is increasing on a global scale.** "Thanatechnologies," or online memorial sites, can be traced back to the mid-1990s. Today, there are close to 100 such virtual cemeteries. Studies confirm that they provide therapeutic relief from grief—namely, in strengthening relationships among those still alive, and allowing a space to express grief over time. The sites can be particularly beneficial to those grieving stigmatized forms of death, such as suicide, stillborn births, and certain illnesses such as HIV/AIDS, and the loss of pets.
- **Marginalized and disenfranchised populations face barriers to accessing online memorial platforms.** Online memorializing can decrease economic, social and psychological costs and impacts that may accompany loss and grief. A number of online sites are free, providing support for vulnerable, low-income populations to

grieve and memorialize their loved ones. Nonetheless, members of racial minority communities, for example, are minimally represented in these virtual graveyards in Canada. With grief and remembrance rituals more and more dependent on digital platforms, greater education programs on these online spaces is needed in palliative care units, funeral homes and community organizations. Such programs could address barriers to digital literacy and access. More studies are needed to explore the gendered and racialized dimensions of the use of online memorial platforms.

State of knowledge:

- **Although overall conclusions can be drawn, gaps in evaluation limit the ability to determine the impacts and effectiveness of various inclusive teaching and learning interventions for students with disabilities.** Gaps in methodology, ill-defined samples, and missing details on either the interventions or their evaluations, create variations and limit the possibility for meta-analyses. Future education research should use rigorous methodological approaches to better understand the impacts of interventions that seek to improve training programs for students with disabilities.
- **Research on domestic violence amongst immigrants in Canada could benefit from greater diversity.** A vast majority of the research on new immigrants in Canada focuses on South Asians, particularly in big cities and mainly in the Greater Toronto Area. There is a particular lack of focus on African immigrants, one of Canada's fastest-growing immigrant populations. In-depth original, as well as longitudinal, research on other recent regional immigrants in other Canadian cities and rural areas at a disadvantage in accessing services needs more attention. The economic costs of domestic violence in this context should also be explored.

"Based on the findings of the reviewed studies, it is, indeed, immensely important to be familiar with and to be aware of the differences that exist among immigrant women's perceptions of and experiences with domestic violence in Canada. Only then does it become clear why immigrant women developed such diverse and distinct responses to and strategies of coping with domestic violence.⁴¹

- **Studies on men and domestic violence among immigrant populations would provide crucial insights to support families.** Very little research documents the perspectives and experiences of men and domestic violence within

the Canadian context. In Canada, there is a perception of supporting women as victims of male abusers. Immigrant women are more vulnerable to becoming victims of abuse, but immigrant men may have also experienced domestic violence. A knowledge synthesis on this topic did not find a single study focusing solely on abused immigrant men. The perspectives of men as critical agents of change in addressing domestic violence as family and community members and leaders should also be explored.

- **A knowledge gap persists on domestic violence beyond the world of heterosexual couples.** Existing literature on sexual violence focuses on the experiences of women as heterosexual partners, even though it can occur in uneven power relations in any type of relationship. The experiences and perceptions of men and queer individuals' on domestic violence, as well as their responses to violence, are largely ignored in current studies. More knowledge is needed to adequately support people experiencing violence in same-sex partnerships.
- **Intersectionality is a favoured theory in the growing North American literature on LGBTQ2+ refugees.** Since 2014, a wider variety of critical theories in feminist, sexuality, Indigenous, migration, refugee and ethnic studies have been applied in studying refugees and the refugee claimant process. While the majority of studies use qualitative approaches, a research strength particular to Canadian scholars is the use of community-based and participatory research methodologies. Nevertheless, legal scholars continue to produce the majority of publications, mainly applying case study methodology to assess the Canadian refugee law protections available in sexual orientation-based refugee claims. Intersectional research, which recognizes the unique identities and experiences of individuals through different disciplinary lenses, has helped unpack the diverse identities and statuses that shape LGBTQ2+ migrants within and outside this process.

"More local and intersectional analysis is needed on these important, global issues. They would be made more robust through Gender-Based Analysis Plus (GBA+)." ⁴²

- **More extensive research is needed on the impacts virtual cemeteries have on mourning processes.** Most of the literature on online memorials focuses on the Facebook platform and the "continuing bond" theory, which focuses on their allowing bonds with deceased loves ones to endure. Virtual cemeteries have existed for over 20 years, yet there is still limited examination of patterns and dynamics of expression, or of dynamics between users and the online graveyards in terms of what is, or has become, socially or culturally acceptable. Racial and class differences are also not accounted for in most of the studies on online

memorials.

THE CONVERSATION

Virtual graveyards: Algorithms of death and the cost of immortality

July 12, 2017 7.28pm EDT

Author [Yasmin Jiwani](#)

Professor of Communication Studies, Concordia University

Generations and spaces: Demographic changes, shifting realities and resilience



Increased movement among talent and labour, and increasing trade and investments across borders, are shifting local and global power relations. Cities and communities are increasingly taking on global issues, such as climate change, migration and security, in practical ways. Demographics and location—in terms of age and whether we reside in urban, rural or remote areas—impact how people experience complex change. There is also the risk that benefits and impacts of globalization will continue to spread unequally, particularly among marginalized peoples.

These issues were explored in a number of the funded knowledge synthesis projects. These examined how the effects of large-scale global change are playing out in Canada across generations and locations. Syntheses looked, for example, at the diverse societal implications of the rural outmigration of young people, as well as the financial independence of Canada's future generations. Older generations face critical, and yet to be explored, impacts from intelligent assistive technologies. The syntheses call for more holistic or systems-based approaches to programming and policy-making in Canada's remote, rural and urban communities. Insights discuss, for example, approaches to increasing broadband adoption in rural and remote areas and, in turn, ways to improve the development and implementation of urban resilience programs.

A common message across these synthesis findings is the importance—and risks—of assumptions or popular narratives. Recognizing populations as heterogeneous across Canada's diverse landscape and peoples is important. The need for context-specific policy-making that moves beyond economic models and considers concepts of identity, trust and belonging is key for ensuring the impacts and benefits of globalization result in more equitable and sustainable outcomes across society.

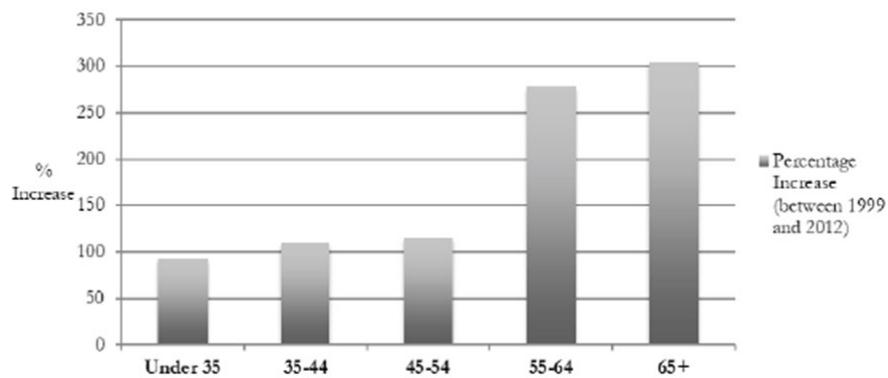
Insights:

- **There are opportunities for evidence to lead the way in discussions about millennial indebtedness.** Millennials are facing more debt than ever before, but so are others. Compared to other age groups, millennials' debt loads are not actually increasing the most rapidly. Improved employment data with clearer age ranges in surveys may help in overcoming misleading popular media narratives. This will help lead to policy and practice solutions that address the real impacts of the increasing debt loads that some in the future generation face.

"The significant knowledge gaps, as well as the power of these narratives that dominate media narratives, is a substantial cause for concern. It is possible that these narratives and wide knowledge gaps cloud policy-makers' and researchers' ability to see the true consequences of increasing [millennial] debt loads and the ability to combat these challenges."⁴³

The myth of the doomed millennials

Percentage increase of total debt, 1999 to 2012, by age group



SOURCE: Statistics Canada, *Survey of Financial Security 2012* (public use microdata), Statistics Canada (producer), using ODESI (producer) [Statistics Canada, Table 205]⁴⁴.

- **"Trust" is essential to older adults' adoption and use of intelligent assistive devices.** Developers of intelligent technology remain largely more focused on the design and functionality of innovations, instead of on more sociotechnical perspectives like trust. Trust, however, is recognized as a critical factor for older users; researchers interested in this can focus on further understanding how older adults "calibrate" their trust with AI assistive devices, and how using such devices may create new and unintended relationships between devices and users. Ethical and privacy implications also require significant and immediate attention.
- **Rural youth out-migration is not intrinsically bad, but population retention policies would benefit from a focus on return migrants.** In Canada, return migration accounts for 31 per cent of in-migration to rural communities. Out-migrants who return to their communities bring back skills and technologies, as well as valuable

new worldviews and experiences. Policies that seek to stem migration in any direction may actually curb or stifle social change and diversity in rural and remote communities. However, by developing “supports to leave” and “supports to stay”—by, for example, involving young people in community decision-making—policy-makers can shift their efforts to return migrants.

- **Economic opportunities matter, though they are not the exclusive driver of migration.** Beyond global contexts of extreme poverty, rural out-migration is driven by more than purely economic factors. While migration may often be associated with income gains, better pay is a rarely stated motivation. People, instead, emphasize job quality and meaningful work. Like their urban and older adult counterparts, young people from rural areas move because of a complex mix of subjective reasons, goals and biographical factors, in addition to structural and economic reasons.

“This appears to put policy-makers in a conundrum: to do something about youth outmigration or let it happen? But this is a mischaracterization of the problem. Instead, if policy-makers and communities see youth outmigration as a symptom of larger social issues... rather than a problem in itself, they can focus efforts on making communities more ‘attractive’... instead of making young people more immobile.”⁴⁵

- **Progressive broadband intervention models in rural communities can look beyond economic ends.** Focusing on the economic advantages—employment, training, communications and investment—of adopting broadband, and on ways of deploying it, has led to complex related socio-economic needs being overlooked. Economic- and deployment-focused approaches have been shown to create industry dependencies that reinforce existing vulnerabilities in rural communities and, in some cases, perpetuate boom-bust cycles.
- **Communicating research findings to urban resilience practitioners influences resilience outcomes.** A significant number of research papers dedicated to resilience are prescriptive, with a particular moral outlook and directive conclusions. This approach has proven detrimental to outcomes around resilience, as it leads practitioners to not look at other alternatives or weigh priorities and trade-offs when making complex, context-specific decisions.

State of knowledge:

- **The implications millennials' debt has on their boomer parents need to be studied.** People in higher age brackets than millennials are increasingly suffering debt. Those aged 55 to 64 saw a 300 per cent increase in credit card debt between 1999 and 2012. More research is needed to get a more accurate picture of elder debt, bearing in mind the effects that millennials' employment and debt have on the generation on which they rely.
- **There is a lack of consensus about the relationship between financial literacy and debt.** Some research supports that there is a correlation between low financial literacy and higher levels of debt, while other research does not find this. Some studies recognize the complexity of other variables, including household income and home ownership, as well as sociodemographic factors. Canadian millennials are the first recipients of targeted financial literacy education programs, but no significant shifts in financial literacy are apparent to date. A gap in comparative longitudinal data is a key challenge in defining the state of financial literacy, and to addressing the debate.
- **Since older adult populations are heterogeneous, understanding their individual characteristics is vital in influencing the research design and product development of intelligent assistive technologies.** Nearly all current studies in this area, however, lack such differentiation. Scholars and developers should go beyond convenience sampling to take deeper, participatory approaches and critically reflect on targeted needs in heterogeneous older adult populations. This could lead to more relevant and user-friendly innovations.
- **Literature on broadband adoption in rural areas is dominated by a focus on supply-oriented policies.** Under the long-standing assumption and emphasis on demand, the literature—through the lens of education, skills and funding—predominantly focuses on cost-sharing or other incentives to increase uptake of broadband adoption in rural areas. Both research and policy-making can benefit to better consider the socio-economic and broader implications driving demand. Research tells us that one's prior experience, knowledge of potential benefits, age and income all significantly affect whether a person will use broadband technologies and services.

"...what emerges is a body of knowledge that is not only heavily focused upon infrastructure and economic development, but also significantly lacking in identifying, assessing or promoting the implications of broadband programming and adoption to the other, equally important, pillars that support rural community development, resilience and sustainability."⁴⁶

- **Consideration of trade-offs is largely absent from literature on urban resilience.** Much of the literature on urban resilience discusses enabling factors. There is a growing, but still greater need, to examine the effects that resilience programming in one area might have in other areas. There are opportunities for resilience studies to more concretely address trade-offs, as well as constraints such as political obstacles, beyond generalities.

"The focus on trade-offs can be a rich source of insights for urban resilience practitioners; it helps expose the consequences of certain actions, and allows decision-makers to realistically engage with the competing interests at play."⁴⁷

Synthesis supports launch of intersectoral incubator

CITÉ-ID
LIVING
LAB



The [Cité-ID Living Lab in Urban Resilience Governance](#) was launched in February 2018. Led by knowledge synthesis grant holder Marie-Christine Therrien at the École nationale d'administration publique, the collaborative initiative brings together actors from across Canada working on evidence-based approaches and innovative practices in urban resilience—from city managers to private enterprises, not-for profit organizations, citizens and academic researchers.

- **Literature on urban resilience would benefit from a greater focus on governance and institutional factors.** To support resilience, many research reports call for multiscale, multilevel, multistakeholder approaches. Studies emphasize the need for horizontal collaboration across municipal offices and civil society, which are increasingly dealing with the effects of global issues like climate change. These approaches would imply transformative changes to governance. Very few scholars have provided insights into the actual institutional capacities and mechanisms needed to make these approaches a reality.
-

Conclusion:

"This is such a wonderful country, made great by its people, its landscapes and habitats, its towns and cities of such diversity Canada is a constantly evolving work-in-progress, one based upon the notion that diverse people can live and work together to build an ever more inclusive, innovative, fair and just society."—The Right Honourable David Johnston, Former Governor General of Canada⁴⁸

Social sciences and humanities research is advancing critical work on multifaceted, complex risks and opportunities facing societies in today's evolving, globalized world. Understanding and devising innovative solutions for global-scale challenges requires blending different ways of seeing and knowing. It also requires understanding Canada's diverse societies and issues, and being willing to collaborate with and learn from others.

While the knowledge syntheses and discussions highlighted in this report address only a fraction of the issues and their societal implications, they bring to light several critical, emerging human, cultural and social perspectives. These ideas can guide practices, policies and research agendas going forward. Synthesizing research knowledge on such diverse and important issues helps foster deeper understanding of what they mean for Canadians today and tomorrow. It also defines areas in which Canada can play a vital leadership role.

SSHRC invites all stakeholders and researchers to participate in our ongoing dialogue on all the future challenge areas identified through the Imagining Canada's Future initiative. Through partnerships and innovative collaborative efforts, we can leverage new and promising opportunities for research, training and knowledge mobilization. Together, we can build a better tomorrow for all Canadians.

"Canada's diversity is our calling card, and immigration is the key to our success."⁴⁹

Research for a better tomorrow.

SSHRC'S Imagining Canada's Future initiative enhances the contributions social sciences and humanities make in addressing complex societal challenges facing Canadians over the coming decades.

About SSHRC

The Social Sciences and Humanities Research Council (SSHRC) is a funding agency of the Government of Canada. Through research grants, fellowships and scholarships, we support research that provides key insights on the social, cultural, environmental and economic challenges and opportunities of our ever-changing world.

Footnotes

- 1** Foresight aims to explore plausible futures scenarios, and forces that are shaping them, and to identify challenges and opportunities that may emerge. For more information, see Policy Horizons Canada. [Module 1: Introduction to Foresight](#). Ottawa: Her Majesty the Queen in Right of Canada, 2016, 1.
- 2** Martin Roy, deputy director, Foresight, Foreign Policy Research, Global Affairs Canada, comment from the May 18, 2017, Imagining Canada's Future workshop.
- 3** Darren Gilmour, executive director, The Royal Society of Canada, at the November 16, 2017, Imagining Canada's Future fall forum.
- 4** Freiman, Viktor, et al. Educating young Canadians about digital citizenship in a globalized world. SSHRC Knowledge Synthesis Grant Final Report, 2018. 13. Freiman. Educating young Canadians, 10.
- 5** Freiman. Educating young Canadians, 10.
- 6** Kreiss, Lawrence, and McGregor. In Their Own Words: Political Practitioner Accounts of Candidates, Audiences, Affordances, Genres, and Timing in Strategic Social Media Use. *Political Communication*, 2017, 1–24. Warren, Mark, et al. Digital threats to democratic elections. SSHRC Knowledge Synthesis Grant Final Report, 2018, 4332.
- 7** Martin-Bariteau, Florian and Véronique Newman. Protecting Canadian whistleblowers in a connected world. SSHRC Knowledge Synthesis Grant Final Report, 2018, 4.
- 8** Warren, Digital threats, 7.

- 9 Papacharissi, Zizi. Affective Publics: Sentiment, Technology, and Politics. Oxford Studies in Digital Politics. New York: Oxford University Press, 2014,135. Cited in Boler, Megan and Elizabeth Davis. Safeguarding democracies: The politics of emotion in the “post-truth” media landscape. SSHRC Knowledge Synthesis Grant Final Report, 2018, 19.
- 10 Boler, Megan and Elizabeth Davis. Safeguarding democracies: The politics of emotion in the “post-truth” media landscape. SSHRC Knowledge Synthesis Grant Final Report, 2018, 5.
- 11 Momani, Bessma. Navigating the threat of rising global populism. SSHRC Knowledge Synthesis Grant Final Report, 2018, 2.
- 12 Ratković, Snežana, et al. Supporting refugee students in Canada: Building on what we've learned over the past 20 years. Knowledge Synthesis Grant Final Report, 2018, 18.
- 13 Momani, Synthesizing Knowledge, 22.
- 14 Ratković, Supporting refugee students, 21.
- 15 Hybrid warfare includes the use of both conventional and nonconventional or nonviolent warfare tactics, such as information warfare, cyber attacks and nationalist identities, to cause disorder within a state. See Jackson, Nicole J. Russia and new patterns of conflict: Rethinking NATO deterrence, defense and diplomacy, and implications for Canada. Knowledge Synthesis Grant Final Report, 2018, 26.
- 16 Jackson, Russia and new patterns, 5-6.
- 17 A study by the Brookfield Institute estimates that nearly 42 per cent of the Canadian labour force is at high risk of being affected by automation in the next one to two decades. Forty-two per cent of the tasks that Canadians are currently paid to do can be automated using existing technology. Lamb, Creig. [**The Talented Mr. Robot: The impact of automation on Canada's workforce**](#). Toronto: Brookfield Institute for Innovation + Entrepreneurship, June 2016.
- 18 Kenney, Martin and John Zysman. “The Rise of the Platform Economy,” Issues in Science and Technology, Spring 2016, XXXII:3. Cited in Gastaldo, Denise and Uttam Bajwa. Towards an understanding of worker experiences in the global gig economy. Knowledge Synthesis Grant Final Report, 2018, 6.
- 19 Statistics Canada, 2017. Cited in Gastaldo, Towards an understanding, 5.
- 20 Baruah, Bipasha. Global green employment: Promising gender equity policies and practices. Knowledge Synthesis Grant Final Report, 2018, 34.
- 21 Goff, Patricia. Integrating Indigenous goals and concerns into the progressive trade agenda. Knowledge Synthesis Grant Final Report, 2018, 5.
- 22 Gastaldo, Towards an understanding, 11.

- 23** Dalby, Simon. Canada in a climate-disrupted world. Knowledge Synthesis Grant Final Report, 2018, ii.
- 24** Webster, M. et al. "The Humanitarian Response Costs of Climate Change." Environmental Hazards, 2009, 8:2. Cited in Dalby, Canada, 13.
- 25** Burke, M. et al. "Global non-linear effect of temperature on economic production." Nature, 2015, 527. Cited in Dalby, Canada, 13.
- 26** Takach, Geo. Environmental leadership for Canada: Indigenous lessons on mixing oil pipelines and water. Knowledge Synthesis Grant Final Report, 2018, 19.
- 27** Bullock, Ryan and Melanie Zurba. Global and local framings of Indigenous partnerships in Canada's renewable energy and forest sectors. Knowledge Synthesis Grant Final Report, October 2017, 3.
- 28** Dalby, Canada, 2.
- 29** Key factors determining the ability to harness big data analytics value include the: prerequisites for successful deployment of big data analytics; mix of knowledge, skills and capabilities for careers in big data analytics; application of big data analytics for creativity, innovation and value creation; challenges in harnessing value from big data initiatives; and role of government policies in advancing big data analytics in the economy. Persaud, Ajax and Sandra Schillo. Big data analytics: Accelerating innovation and value creation. Knowledge Synthesis Grant Final Report, October 2017, 3-4.
- 30** Persaud, Big data analytics, 8.
- 31** Persaud, Big data analytics, 5.
- 32** Cukier, Wendy, and Suzanne Gagnon. Social innovation shaping Canada's future. Knowledge Synthesis Grant Final Report, 2017, 3.
- 33** Cukier, Social innovation, 21.
- 34** Persaud, Big data analytics, 16.
- 35** Geiger, Martin et al. The global race for STEM talent: Recruiting and retaining the best and brightest for innovation and growth. Knowledge Synthesis Grant Final Report, October 2017, 9.
- 36** Cukier, Social innovation, 12.
- 37** Comment from Umit Kiziltan, participant, May 18, 2017, Imagining Canada's Future workshop.
- 38** Douville, Frédéric. Inclusive teaching approaches and practices in Canadian nursing programs. Knowledge Synthesis Grant Final Report, 2018, 9.

- 39 Okeke-Ihejirika, Philomina. Addressing domestic violence in post-migration gender relations: A prerequisite for sustainable, resilient immigrant communities. Knowledge Synthesis Grant Final Report, 2018, iii.
- 40 Comment from Philomina Okeke-Ihejirika, participant, May 18, 2017, Imagining Canada's Future workshop.
- 41 Okeke-Ihejirika, Addressing domestic violence, 12.
- 42 Jane Stinson, Canadian Research Institute for the Advancement of Women, comment from the May 18, 2017, Imagining Canada's Future workshop.
- 43 Ben-Ishai, Stephanie. Millennials and indebtedness: Demographic change and financial literacy. Knowledge Synthesis Grant Final Report, 2018, 22.
- 44 Ben-Ishai, Stephanie, and Tanner Stanley. "Millenials in crisis: Myth-busting millennial debt narratives," Osgoode Hall Law Journal, Summer 2017, 54: 4, 1,062.
- 45 Foster, Karen and Hannah Main. Finding a place in the world: Understanding youth outmigration from shrinking rural communities. Knowledge Synthesis Grant Final Report, 2018, 30.
- 46 Hallstrom, Lars et al. Beyond infrastructure: Strategies to support broadband adoption and benefits in rural Canada. Knowledge Synthesis Grant Final Report, 2017, 24.
- 47 Therrien, Marie-Christine. Implementing urban resilience: Pinpointing enablers, impediments and trade-offs. Knowledge Synthesis Grant Final Report, 2018, 24.
- 48 **"Farewell Message to Canadians by Governor General David Johnston."** Ottawa: Office of the Secretary to the Governor General, September 29, 2017.
- 49 Bessma Momani, senior fellow, Centre for International Governance "Diversity dividend: Canada's global advantage," Big Thinking on The Hill, Ottawa, September 21, 2017.