

#### Written By

Justin Nakao

#### **Edited & Designed by:**

Dael Vasquez, Anjelica Ramsewack, Ayushi Das @engagefdn () in

general@engagefdn.com

https://www.engagefdn.com/

# INTRODUCTION

Building upon the insights gleaned from the U.S. Executive Order (EO) 14110 in Chapter 1, this chapter turns its focus to Canada. As we probe the intricacies of Canada's approach to AI regulation and development, we pose essential questions: How can Canada leverage the best practices embedded in the U.S. EO? What facets of AI policy does Canada need to implement or refine for strategic advantage? [1] Situating our analysis within the framework of Canada's **Artificial Intelligence and Data Act (AIDA)**,[2] we navigate through geopolitical considerations, civil rights, economic competition, human capital, and government integration. By drawing connections to the U.S. policy landscape, we aim to provide a holistic understanding of how nations shape their AI trajectories and what lessons Canada can derive from its southern neighbour.

How can Canada leverage the best practices embedded in the U.S. EO?

What facets of AI policy does Canada need to implement or refine for strategic advantage?

# CANADA'S AI POLICY LANDSCAPE

The U.S. is a powerful regulatory state in the international system, often viewed as a leader in global policy-making. As a neighbour and close ally of the U.S., Canada can benefit by implementing the best aspects of the U.S. AI policy while also seeking to make necessary improvements.

As of January 2024, Canada's AI policy is predominantly shaped by the Artificial Intelligence and Data Act (AIDA). This Act aims:

a) To regulate international and interprovincial trade and commerce in artificial intelligence systems by establishing common requirements, applicable across Canada, for the design, development and use of those systems; and

b) To prohibit certain conduct in relation to artificial intelligence systems that may result in serious harm to individuals or harm to their interests.

It is a framework which establishes Canada's first steps in AI policy and regulatory systems and lays a foundation upon which AI policy can develop. The Act is primarily concerned with protection and regulation, including enforcement and prosecution, rather than developing the country's AI sector. Notwithstanding this focus, AIDA does extend policy considerations toward industry and human capital innovation, and to account for the harms which may result from expanding AI innovation.





AIDA is designed to protect individuals and communities from the adverse impacts associated with high impact AI systems, and to support the responsible development and adoption of AI across the Canadian economy. It aligns with the EU's draft AI Act by taking a risk-based approach and would be supported by industry standards developed over the coming years

It is important to note that AIDA does not apply to government institutions under the purview of the Privacy Act. Additionally, it does not apply to products, services or activities that fall under the direction or control of the Minister of National Defense, the Director of the Canadian Security Intelligence Service, the Chief of the Communications Security Establishment, or any other person who is responsible for a federal or provincial department or agency and who is prescribed by regulation. Lastly, Canada aims to extend legislative frameworks on consumer protection, human rights, and criminal law to apply to AI, including: "The Canada Consumer Product Safety Act; The Food and Drugs Act; The Motor Vehicle Safety Act; The Bank Act; The Canadian Human Rights Act and provincial human rights laws; and The Criminal Code" (2).

Complementing Canada's AI policy, *the Pan-Canadian Artificial Intelligence Strategy focuses on* "*driv[ing] the adoption of artificial intelligence across Canada's economy and society. The Strategy aims to bridge the gaps in Canada's world-class talent and research capacity with programs to enable commercialization and adoption to help ensure that Canadian ideas and knowledge are mobilised and commercialised here at home*" (3)[1]. Overall Canada's AI policy is in its infancy while that of the U.S. further along. As such, the current state of development creates ample room for Canada to learn from its southern counterpart and shape its own AI policy.



# **GEOPOLITICS AND AI**

Canada's policy for the use of AI in national security by the Department of National Defense has yet to be released as of the time of writing (February 7, 2024). Current **Defence Minister Bill Blair has said that the strategy will recognize the potential of AI in the Canadian military.**[1] This potential value includes its use in future development and procedures of the Canadian Armed Forces, improved interoperability with key allies through new measures, while promising the responsible expansion of AI in the military sphere. On the side of foreign policy, Canada has yet to make AI a prominent position in its foreign policy although it has participated in joint-statements and early treaty negotiations. These include participation in treaty negotiations on artificial intelligence at the Council of Europe and the Joint Statement on Artificial Intelligence and Human Rights by the Freedom Online Coalition, a group of 32 countries (4).(5).



## CIVIL RIGHTS, EQUALITY AND PRIVACY AND AI

Civil rights, equality and privacy is an area where Canada stands as a peer relative to the U.S. in AI policy. AIDA is designed to build upon human rights law ensuring that "high-impact" systems would be subject to measures that identify, assess, and mitigate risks of harm or biassed output before an AI system is deployed and the subject to following the principles laid out in AIDA. Such systems include the following factors:



Evidence of risks of harm to health and safety, or a risk of adverse impact on human rights, based on both the intended purpose and potential unintended consequences

2

The severity of potential harms



The nature of harms or adverse impacts that have already taken place



The scale of use



The extent to which for practical or legal reasons it is not reasonably possible to optout from that system;



Imbalances of economic or social circumstances, or age of impacted persons; and



The degree to which the risks are adequately regulated under another law



AIDA also aims to address various types of harm that AI poses to individuals including **physical harm**, **psychological harm**, **damage to property**, **or economic loss to an individual**. [2] Additionally it aims to address the threat posed by AI-biased output such as discrimination, for example the role of race or gender as indicators for credit worthiness.

In comparison to AIDA, section 7 of the Executive Order (EO) comprises three subsections addressing civil rights, while sections 8 and 9 specifically address privacy rights. These sections in the EO present more detailed proposals regarding the role of AI compared to Canada. However, it is essential to note that this doesn't imply a substantial lag on Canada's part in this domain as AIDA's main strength is protecting citizens from discrimination related to AI, privacy violations, and other inequities produced by AI. [3]



## ECONOMIC COMPETITION, PROTECTION, AND INNOVATION AND AI

Canada's stance on AI-related competition is chiefly influenced by the **Pan-Canadian Artificial Intelligence Strategy (PCAIS)**[1] . This strategy primarily centres around financing for organisations but lacks the comprehensive planning and detailed proposals observed in the Executive Order (EO). As of now, Canada's AI policy does not prominently address AI-related competition or innovation, but it does provide significant economic protections for consumers. Examining the economic landscape within the second phase of the **PCAIS, characterised by its** *three pillars,* **reveals a policy primarily characterised by funding for various organisations**. However, it does not match the level of strategic planning and detailed proposals evident in the EO.

Delving into the contents of PCAIS, its first pillar focuses on Commercialization, allocating **substantial funding of up to \$20 million** each to the National Artificial Intelligence Institutes of Amii in Edmonton, Mila in Montreal, and the Vector Institute in Toronto. These institutes play a pivotal role in translating AI research into commercial applications and enhancing businesses' capacity to embrace these innovative technologies (3).

Additionally, the **PCAIS allocates \$125 million** in funding towards Canada's Global Innovation Clusters, encompassing Digital Technology, Protein Industries Canada, Next Generation Manufacturing Canada, Scale AI, and Canada's Ocean Supercluster. This funding is strategically directed at fortifying Canada's innovation landscape by encouraging the adoption of homegrown AI technologies among businesses in key industries, as well as public and non-profit entities (3).



# ΙΙ

The second pillar of PCAIS, underscores Canada's commitment to advancing the development and adoption of AI and AI-related standards by supporting planning initiatives with a **\$8.6** million funding allocation over 5 years.

# III

Transitioning to the 3rd pillar, this aspect accentuates areas where we observe disparities compared to the U.S. AI policy, particularly in the realm of AI talent. With an **investment of \$208 million** over the next decade, this pillar aims to attract, retain, and nurture academic research talent, fostering the growth of research and academic training centers at Amii, Mila, and the Vector Institute. Moreover, CIFAR is set to revitalize its advanced research, training, and knowledge mobilization programs, complemented by the establishment of dedicated computing capacity for AI researchers across Canada, involving **an investment of \$40 million** over the next 5 years (3).

While these policies and investments may appear commendable, they fall short in comparison to the U.S., particularly in their support for business investment and training beyond the realm of academia. This deficiency results in challenges related to recruiting and retaining AI talent within Canada. Canada's innovation landscape is constrained by a reliance on organic business growth and adoption, heavily leaning on academic circles. Notably, there is an absence of comprehensive planning to bolster Canadian businesses, irrespective of their size, to competitively navigate the AI landscape. This gap raises concerns about the potential for monopolization, drawing parallels to the challenges witnessed in Canada's telecommunications sector. Furthermore, there is a notable lack of provisions to safeguard intellectual property concerning AI, a gap that the U.S., through sections 5.1 to 5.3, actively addresses.



In the realm of consumer protection, Canada presents its relative strength. The foundation for consumer protection is laid upon the shoulders of existing regulators and a proposed **Consumer Privacy Protection Act, introduced as part of Bill C-27**[1], aimed at modernizing the legal landscape in the context of the digital economy. This initiative is complemented by The **Personal Information Protection and Electronic Documents Act**, [2] which establishes guidelines on how businesses can ethically utilise personal information. Canada's commitment to consumer protection extends further, with regulatory frameworks such as Health Canada issuing guidelines on machine learning for medical devices. This approach mirrors the U.S. strategic plan for the deployment and use of AI and AI-enabled technologies in the health and human services sector.

Under AIDA, Canada's consumer protection policy introduces new criminal offenses, addressing activities related to AI. These offenses specifically zero in on individuals who possess awareness or benefit from the harm caused by their actions. The three offenses encapsulate knowingly acquiring or using unlawfully obtained personal information for the purpose of designing, developing, using, or making available an AI system. This includes instances where personal information obtained from a data breach is knowingly utilized to train an AI system. Furthermore, the legislation addresses the act of making an AI system available for use, holding individuals accountable if they are aware or recklessly disregard the likelihood of causing serious harm or substantial property damage. The third offense pertains to making an AI system available with the intent to defraud the public and cause substantial economic loss to an individual, leading to criminal consequences in the event that such harm materializes (2).

### **UNLAWFUL PERSONAL INFORMATION**



## **ITS ILLEGAL!**



### HUMAN CAPITAL AND AI

In the realm of human capital, Canada trails behind the United States in its approach to AI policy. As outlined in the preceding section, Canada's investment and policy initiatives for human capital primarily revolve around academic research talent and the sustenance of research centers. However, a notable gap exists as Canada lacks specific AI policies targeting the attraction of foreign talent and the training of individuals in AI-related fields, such as data scientists and semiconductor labor.

By contrast, U.S. AI policy pertaining to human capital is strategically crafted to attract and train AI talent along with related technology labor. The U.S. endeavors to facilitate talent attraction by streamlining visa processing times for noncitizens seeking employment in AI and related technologies. Additionally, there is a proposed rulemaking to establish new criteria for designating countries and skills on the Department of State's Exchange Visitor Skills List, allowing critical AI skills to be employed by foreign residents for a period of two years in the United States ( $\underline{6}$ ). This approach extends to actively seeking talent from international academia, research institutions, and the private sector.

Moreover, unlike Canada, the U.S. boasts nationwide initiatives such as the two 3-month AI Tech Sprint competitions, offering participants access to technical assistance, mentorship, expert feedback, potential contract opportunities, and various programming resources (<u>6</u>). Beyond talent recruitment and training, the U.S. has implemented policies geared towards safeguarding workers from the potential adverse effects of AI, an aspect where Canada currently lacks strategies for addressing displaced labour.[1]





## **GOVERNMENT INTERGRATION AND AI**

The integration of AI into government workflows is a domain where, despite lagging in talent recruitment, Canada aims to make strides. The government's objective is clear – to equip them with a comprehensive understanding of legal, ethical, and operational issues, including considerations of privacy and security, fostering a responsible adoption of AI systems (7). However, the current plans for training federal or provincial workers in AI remains constrained. A potential avenue for improvement lies in adopting the U.S.' approach, where there is a strategic focus on attracting and training AI talent for the federal government.

In the U.S., a comprehensive plan is in place to identify and disseminate best practices across agencies for hiring, retaining, and training AI talent. This initiative extends to supporting AI-related professionals like data scientists and ensuring the recruitment of personnel essential for formulating the AI hiring strategy, particularly in critical priority areas. The U.S. further aims to enhance the availability and utilization of AI training programs, catering to employees, managers, and leaders in fields like policy, governance, and law <u>(6)</u>. Notably, the EO outlines coordinated efforts across government bureaucracy to oversee AI, ensuring policy and legal compliance, establishing guidelines for federal worker AI usage, and fostering uniform adoption of AI products and services. This comprehensive strategy is a valuable lesson that Canada could learn from in advancing the integration of AI within governmental structures.[1] graph, AIDA vs EO



### CONCLUSION

In conclusion, Canada's AI policy, primarily shaped by AIDA, lays the foundation for AI regulation and development. AIDA prioritizes protection and regulation, focusing on enforcement and prosecution. Despite its emphasis on safeguarding against harms associated with high-impact AI systems, AIDA extends considerations toward industry and human capital innovation. However, Canada's AI policy is still in its infancy compared to the more advanced U.S. landscape, offering ample room for learning and growth.

In **civil rights**, **equality**, **and privacy**,[1] Canada stands as a peer to the U.S., with AIDA designed to build upon human rights law. AIDA ensures that high-impact AI systems undergo rigorous risk assessment before deployment, addressing potential harms and biases. The U.S. EO presents more detailed proposals in these areas, but this does not suggest a substantial lag on Canada's part.

**Economic competition, protection, and innovation**[2] form a significant aspect where Canada's approach, led by the PCAIS, lacks the detailed planning observed in the U.S. EO. While PCAIS provides considerable funding for organizations, it falls short in strategic planning and comprehensive proposals. Canada's current AI policy focuses on economic protections for consumers, but there is room for improvement in terms of fostering innovation and competition.

In terms of **human capital**,[3] Canada lags behind the U.S. in its AI policy, focusing primarily on academic research talent. The U.S. actively attracts and trains AI talent, streamlining visa processes, engaging in nationwide initiatives, and addressing workforce protections. Canada could benefit from adopting similar strategies to enhance its AI-related human capital.

Overall, there are multiple lessons that Canada can draw from the U.S. experience. As both nations navigate the complexities of AI, collaboration and shared insights can contribute to the development of robust, responsible, and innovative AI policies on the global stage.[4]



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