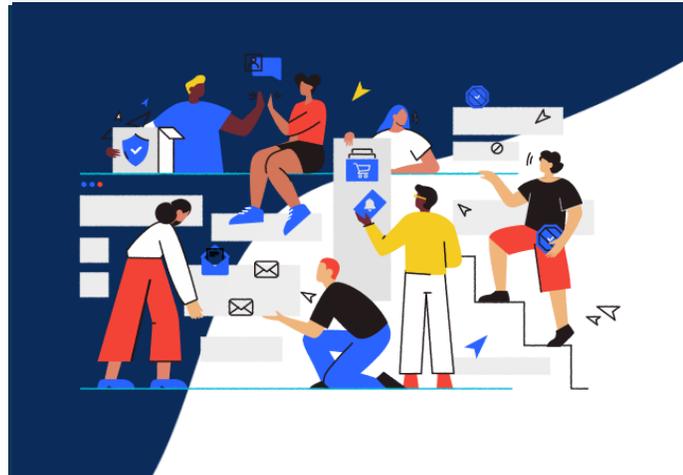


Data Literacy in Public Sector

- Importance of Data Literacy in Public Sector
- Data Literacy: Key Challenges and Opportunities
- Role of Stakeholders in Promoting Data Literacy
- Measures for Enhancing Data Literacy
- The Future of Data Literacy in Public Sector: Action Plan



JOINT COUNCILS' EXECUTIVE MONTHLY REPORT

Developed by the Research Committee

July 2023

1. Importance of Data Literacy in Public Sector

Data literacy, which is the capacity to extract valuable insights from data, is becoming indispensable in the public sector. It underpins informed decision-making, bolsters transparency, and encourages accountability. The significance of data literacy is growing as public sector organizations are accumulating vast amounts of data from diverse sources, including social media, AI-generated data, and more.

As the digital transformation intensifies, the public sector must evolve to manage and utilize this multifaceted data effectively. By fostering data literacy, public employees can enhance operational efficiency, formulate superior policies, and deliver improved public services. In this era of data abundance, data literacy cultivates a culture of evidence-based decision-making.

Data literacy in the public sector is also vital for ensuring ethical and responsible data use. Given the sensitive nature of much public data and the increasing complexity of data sources, understanding data privacy laws and ethical data handling practices is crucial. This knowledge can help prevent breaches and sustain public trust.

Public data, especially when it includes diverse sources like social media and AI-generated data, can be a potent resource for innovation and progress, but only if it is used correctly. Data literacy can encourage the development of data-driven solutions to societal challenges. For example, analyzing public health data alongside social media trends can enable proactive responses to epidemics.

By embracing data literacy, the public sector can communicate more effectively with citizens. By making data from various sources understandable and accessible, citizens can be better informed about government actions. This, in turn, can enhance civic engagement and democratic processes.

Data literacy in the public sector can lead to more collaborative and innovative working cultures. By leveraging data from diverse sources, teams can collaborate more effectively, brainstorm solutions based on factual evidence, and foster a culture of continuous learning and improvement.

Sources:

Bonikowska, Aneta, Claudia Sanmartin, and Marc Frenette. Data literacy: What it is and how to measure it in the public service. Statistics Canada, Analytical Studies Branch, 2019.

Why Is This Report Important?

As public entities digitalize their operations, the role of data literacy is expanding rapidly. This report is crucial as it highlights the importance of data literacy, a still overlooked aspect in many public entities. It serves as a wake-up call for public organizations to invest in building this competency.

Secondly, this report identifies challenges, opportunities, and specific measures to enhance data literacy.

It provides concrete, actionable steps for organizations striving to improve their data literacy. This information can significantly help organizations in shaping their data literacy strategies.

Lastly, this report provides a comprehensive view of data literacy from a public sector perspective. By providing insights into future developments, it can support the public sector's long-term strategic planning for data literacy.

This makes it a valuable tool for policy makers, public administrators, and other stakeholders.

What is Covered in this Executive Report?

This report includes the following:

- Importance of Data Literacy in Public Sector
- Data Literacy: Key Challenges and Opportunities
- Role of Stakeholders in Promoting Data Literacy
- Measures for Enhancing Data Literacy
- The Future of Data Literacy in Public Sector: Action Plan

2. Data Literacy: Key Challenges and Opportunities

Data literacy in the public sector presents several challenges. Firstly, the sheer volume and complexity of public sector data can be overwhelming. It requires significant investment in data infrastructure and skills to handle this data effectively.

Secondly, the rapid pace of technological change poses another challenge. As new tools and techniques emerge, public sector workers must continuously update their data skills. This demands ongoing training and development programs. Consider the relevant data literacy factors on the image on the right side of this page.

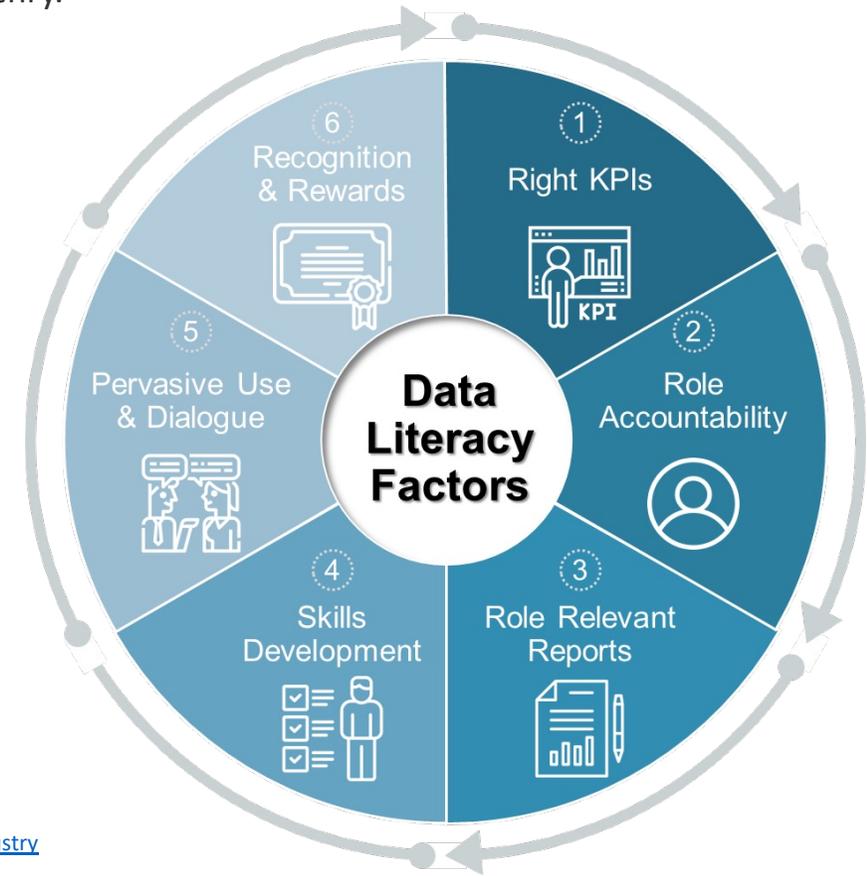
Thirdly, the public sector faces the challenge of ensuring data privacy and security. This includes not only technical safeguards but also educating employees about responsible data practices. It's crucial that public organizations foster a culture of privacy and security awareness.

However, despite these challenges, there are significant opportunities. Data literacy can transform the public sector's decision-making processes. By leveraging data, organizations can make more informed and efficient decisions. Additionally, improved data literacy can lead to better public services. With the right data skills, public employees can analyze service performance, identify bottlenecks, and implement improvements. This can lead to more effective and responsive public services.

Furthermore, data literacy can boost public engagement. By making data accessible and understandable, public organizations can better communicate with citizens. This can enhance transparency, trust, and participation in public affairs.

Data literacy has the great potential to foster more effective collaboration. With the right data skills, teams within and across public organizations can work together more efficiently. Data can provide a common language and basis for collaboration, leading to more effective problem-solving and innovation.

Lastly, data literacy can enable the public sector to better anticipate and respond to societal challenges. By analyzing trends and patterns in public data, organizations can predict future developments and plan accordingly. This can improve the resilience and adaptability of public services, enhancing their value to the citizenry.



3. Role of Stakeholders in Promoting Data Literacy

A broad spectrum of stakeholders holds the key to fostering a culture of data literacy within the public sector. Their collective engagement and commitment in facilitating education, policy advocacy, resource provision, and public discourse are essential in driving forward this important agenda.

Government Agencies

- Government agencies are at the forefront of this endeavor, bearing the responsibility to promote inter-agency collaboration that can facilitate the sharing of best practices and harmonize data literacy standards. As the primary bodies handling public data, these agencies should lead by example, investing substantially in data literacy training for their staff.
- These agencies should encourage the use of data in policy-making and decision-making processes, thereby underlining the practical importance of data literacy. Regular review and revision of their data literacy strategies is also critical for workforce enhancement.



Educational Institutions

- Educational institutions play a critical role in equipping future public sector workers with essential data skills. By integrating data literacy into their curricula at various levels - from primary education to tertiary and professional training - they can ensure a steady pipeline of data-literate graduates entering the public sector.
- They can extend their reach to current public sector employees by offering continuing education courses, workshops, and seminars aimed at enhancing data literacy skills. Collaborating with government agencies and industry experts to develop these programs can ensure they are practically relevant.



Organizational Challenges

- Tech companies can leverage their expertise to support the public sector's data literacy journey by providing user-friendly tools and platforms that make data analysis and visualization accessible to non-technical users. Such tools can democratize data usage within public organizations, empowering all employees to make data-driven decisions.
- They can also provide essential training and customer support to help public sector organizations effectively utilize these tools, simplifying complex data concepts and processes. Collaborating with public sector bodies in the development of these tools can ensure they are tailored to the specific needs and contexts of public organizations.



Resource Challenges

- Civil society organizations can drive public discourse on data literacy, advocating for transparency and evidence-based decision-making in public affairs. These organizations can also support data literacy in the public sector by initiating community-level projects such as open data hackathons, public seminars, and training programs that promote data literacy among the public and stimulate innovative uses of public data.
- Civil society organizations can also hold the government accountable for its data practices, pushing for more transparent data handling, and fostering public dialogue on data privacy and ethics.



4. Measures for Enhancing Data Literacy

Establishing a comprehensive framework for enhancing data literacy in the public sector necessitates a multi-faceted approach, encompassing targeted capacity-building initiatives, effective policy implementation, technological integration, fostering a data-driven culture, stakeholder collaboration, and continual monitoring and evaluation.



Develop and execute comprehensive data literacy training programs for public sector employees. Such programs need to provide a solid foundation of basic data concepts, demonstrate advanced data analysis techniques, and promote ethical data handling practices. By taking an inclusive approach that caters to all skill levels, these programs can ensure that every employee, regardless of their current expertise, can contribute to a data-driven public sector.



Design and implement robust policies that advocate for responsible data use. These policies should outline data privacy regulations, establish clear data management protocols, and promote accountability and transparency in data practices. Regular reviews and updates to these policies are essential to align them with evolving legal frameworks and emerging best practices.



Invest in state-of-the-art data infrastructure forms. This includes implementing robust data management systems, integrating powerful data analytics tools, and ensuring secure data storage and transmission. A well-designed and scalable data infrastructure enables efficient data access, analysis, and utilization across the public sector.



Foster a data-driven culture within public organizations. This involves creating an environment that encourages data exploration, experimentation, and collaboration. Leaders should champion data-driven decision-making, recognize and reward data literacy skills, and facilitate knowledge sharing and learning opportunities to embed data literacy as a core competency within the organization.



Have active engagement with stakeholders to promote data literacy. This includes partnering with educational institutions to integrate data literacy into curricula, engaging with industry experts and technology providers to access resources and expertise, and collaborating with civil society organizations to raise awareness and advocate for data transparency and ethical data use.



Regularly review and update data literacy initiatives: This involves establishing key performance indicators (KPIs) to assess the effectiveness of training programs, tracking the adoption and utilization of data tools and technologies, and collecting feedback from employees and stakeholders. Regular assessments allow for iterative improvements and ensure that data literacy initiatives remain relevant and impactful.

5. The Future of Data Literacy in Public Sector: Action Plan



Collaboration and partnerships between public sector entities, educational institutions, and industry stakeholders are essential for building a sustainable future for data literacy in the public sector. By fostering collaborative platforms and networks, the public sector can tap into the expertise and resources of educational institutions and industry stakeholders, ensuring a holistic approach to data literacy.



Emphasizing a culture of continuous learning and professional development is crucial for equipping public sector employees with the skills and knowledge necessary for effective data use. Emphasizing a culture of continuous learning and professional development is crucial for equipping public sector employees with the skills and knowledge necessary for effective data use.



Prioritizing ethical data practices is paramount to building trust, protecting privacy, and ensuring responsible data use within the public sector. Establishing clear guidelines and policies for data privacy, security, and governance promotes transparency and accountability in data handling processes.



Strong leadership and strategic vision are instrumental in driving the adoption and integration of data literacy across the public sector. Public sector leaders should champion data literacy as a strategic imperative, emphasizing its importance in decision-making processes and driving organizational performance.



Raising awareness about the significance of data literacy and its impact on public sector effectiveness is crucial for fostering a data-literate culture. Conducting awareness campaigns, seminars, and workshops targeted at public sector employees and stakeholders can educate and engage them in understanding the benefits and applications of data literacy.



For Further Reading

- D'Ignazio, Catherine, and Rahul Bhargava. "Approaches to building big data literacy." Bloomberg data for good exchange (2015).
- Mandinach, Ellen B., Brennan M. Parton, Edith S. Gummer, and Rachel Anderson. "Ethical and appropriate data use requires data literacy." Phi Delta Kappan 96, no. 5 (2015): 25-28.
- Hart, Nick, Adita Karkera, and Valerie Logan. "Data Literacy for the Public Sector: Lessons from Early Pioneers in the US."
- Ridsdale, Chantel, James Rothwell, Hossam Ali-Hassan, Michael Bliemel, Dean Irvine, Daniel Kelley, Stan Matwin, Michael Smit, and Bradley Wuetherick. "Data Literacy: A Multidisciplinary Synthesis of the Literature." In Nineteenth SAP Academic Conference Americas. 2016.
- Khan, Hammad R., Jeonghyun Kim, and Hsia-Ching Chang. "Toward an Understanding of Data Literacy." iConference 2018 Proceedings (2018).
- Price, Carrie, Joyce Garczynski, and Suzanna Yaukey. "Bit by Byte: Building Best Practices in Data Literacy." (2022).

Other noteworthy articles:

- Mund, Shiri. "Defining and Measuring Data Literacy for the 21 st Century." PhD diss., New York University, 2022.
- Mandinach, Ellen B., and Edith S. Gummer. "Navigating the Landscape of Data Literacy: It IS Complex." WestEd (2012).

Research Repository

Access the Citizen First [Research Repository](#).

Recent entries on the research repository:

[Data-Driven Decision Making in Government](#)

This report includes the following:

- Data Collection and Management for Effective Decision Making
- Leveraging Data Analytics and AI in Public Policy
- Challenges and Risks in Data-Driven Government Decision Making
- Strategies for Implementation



Trends in the Daily Newsletter

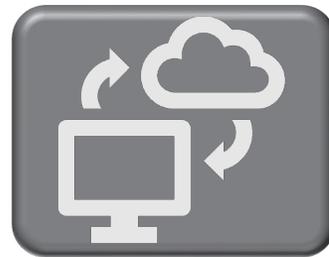


With artificial intelligence becoming a more prominent tool within the public service, including for internal uses like recruitment, the federal government has expanded its regulations around the use of the technology. Benoit Deshaies, director of data and artificial intelligence (AI) for [the Office of the Chief Data Officer of Canada](#), said the government had been working towards extending the scope of its Directive on Automated Decision-Making, with the document officially amended on April 25.

That document outlines rules for the use of AI by the government. The update includes specifics for internal-use cases impacting employees.

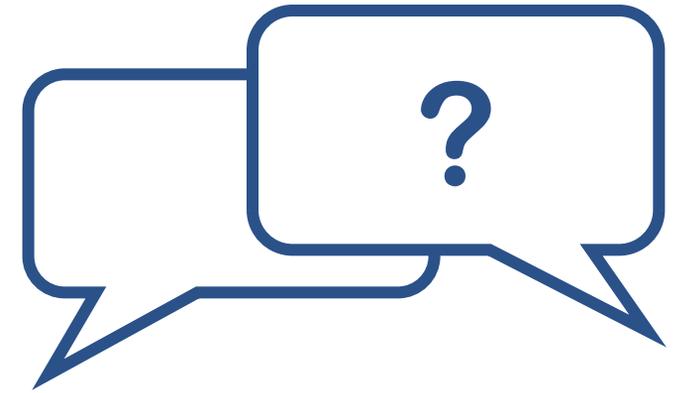


The [Province](#) takes another step improving access to government programs and services for Indigenous Peoples and racialized communities, with the release of 12 priorities for anti-racism research. Seven research priorities were put forward by the provincial Anti-Racism Data Committee. Indigenous Peoples recommended three research priorities and two priorities that set out how the Province should approach this research. “Systemic racism and other forms of discrimination have shaped the delivery of government programs and services for generations,” said Lisa Beare, Minister of Citizens’ Services.



After unveiling a new design for its passports on May 10, the Government of Canada has now announced that Canadians eligible for simplified passport renewals will be able to complete this process online starting in the fall.

In an [announcement](#) from Immigration, Refugees and Citizenship Canada (IRCC) the same day as the passport redesign reveal, Minister Sean Fraser revealed that eligible Canadians will be able to upload necessary documents and photos online to a secure government website as part of this new process. IRCC hopes that the online processes it plans to introduce later this year will make passports quicker and easier to process.



We would love to hear from you!

Do you know someone who may be interested in the Joint Councils Executive Report? Please share a copy of this report. If you are not already a subscriber, you can now subscribe to receive the [Executive Report](#) by signing up. Send your questions to info@iccs-isac.org.

Follow:  