Digital Policy Hub — Working Paper

Applying a Tech Lens to the Right to Information: Part 2

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About the Hub

The Digital Policy Hub at CIGI is a collaborative space for emerging scholars and innovative thinkers from the social, natural and applied sciences. It provides opportunities for undergraduate and graduate students and post-doctoral and visiting fellows to share and develop research on the rapid evolution and governance of transformative technologies. The Hub is founded on transdisciplinary approaches that seek to increase understanding of the socio-economic and technological impacts of digitalization and improve the quality and relevance of related research. Core research areas include data, economy and society; artificial intelligence; outer space; digitalization, security and democracy; and the environment and natural resources.

The Digital Policy Hub working papers are the product of research related to the Hub's identified themes prepared by participants during their fellowship.

About CIGI

The Centre for International Governance Innovation (CIGI) is an independent, non-partisan think tank whose peer-reviewed research and trusted analysis influence policy makers to innovate. Our global network of multidisciplinary researchers and strategic partnerships provide policy solutions for the digital era with one goal: to improve people's lives everywhere. Headquartered in Waterloo, Canada, CIGI has received support from the Government of Canada, the Government of Ontario and founder Jim Balsillie.

Partners

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Key Points

- An updated interpretation of the right to information should focus less on transparency and access, and more on the role of the state in promoting a diverse and inclusive public sphere that is conducive to human rights and human development. This public sphere is both physical as well as virtual and is significantly demarcated by technology.

- Accessibility most certainly continues to be an important dimension of the right to information but should not be seen as the only one. The right to information is comprised of eight dimensions — accessibility, availability, quality, stability, ethics, cultural appropriateness, agency and usability — that together provide individuals with information sovereignty.

- Information sovereignty exists when people are part of a healthy and culturally appropriate information ecosystem, in which quality and diverse information is available, accessible and stable and it is collected, stored, managed and disseminated with ethics, meeting peoples' information needs and preferences for an open, inclusive and plural public sphere.

- Information sovereignty is a concept that seeks to empower individuals and communities in a volatile, ever-changing digital context, so that they can access and apply meaningful information in decision making concerning their rights and critical information needs with agency and autonomy.

- Information sovereignty in relation to Indigenous peoples and their specific rights illustrates the importance of attending to the different dimensions of the right to information.

A New Conceptual Framework: From Access to Information to Information Sovereignty

The current interpretation of the right to information as a human right[1] urgently needs updating. The impact of digital technologies on the concept of information and on the role of the state indicates critical areas[2] where this updating must take place. An updated interpretation of the right to information should focus less on transparency and access,[3] and more on the role of the state in promoting a diverse and inclusive public sphere that is conducive to human rights and human development.[4] This public sphere is physical as well as virtual and is significantly demarcated by technology. The role

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1 This two-part series explores the current interpretation of the right to information in international human rights law, pointing out its deficiencies and proposing an updated conceptual framework. This paper should not be read in isolation, since it builds on the analysis presented in Part 1.

2 For a detailed account of each of these areas, see Part 1 of this series.

3 Currently, under international human rights law, the right to information has been interpreted as referring to access to public information through proactive transparency measures carried out by public authorities and through the adoption of specific processes through which people can request information held by the state.

4 For a more detailed description of the current interpretation of the right to information in human rights law, see Part 1 of this series.

of the state in relation to the right to information today should refer mainly to the management of information ecosystems and the protection of the infosphere.[5]

If the right to information is to be understood as an evolving and enabling right, that means that simply providing access to information held by the state is not enough — a novel and more complex conceptual framework is required. Recognizing such complexity, this novel framework should apply a systems approach,[6] moving away from the linear thinking so common in human rights practice and theory (Birk and Suntinger 2019).

Accessibility most certainly continues to be a central dimension of the right to information but should not be seen as the only one. The right to information is composed of eight dimensions that together provide individuals with information sovereignty.

- **Availability:** Availability refers to the requirement of sufficient information available for people for their daily consumption so that they are able to make decisions about their rights and entitlements. This requires strong and well-developed passive and proactive transparency schemes. It also requires an information ecosystem in which information can flow freely from different sources.

- **Accessibility:** Information provided has to be user friendly — easy to find, retrieve and understand. Language is key to information accessibility, but so is its provision in formats and via different means of communication and information technology that are reachable to all. In the digital age, accessibility is closely linked to connectivity, digital inclusion and information literacy.

- **Quality:** Information provided must fulfill minimum quality standards — it has to be complete, timely, updated and integral. This requires accuracy, consistency and reliability of the information content, process and system. Different levels of quality will apply to different actors within the information ecosystem, and quality is intrinsically related to the ethical dimension described below.

- **Stability:** People need to be able to rely on a flow of accessible information that is stable, meaning that information disruptions should be avoided and, in some cases, forbidden. This refers to the requirement of non-regressive implementation, but also the prohibition of manipulation of the infosphere, such as the erasing, transfer, duplication and destruction of information; censorship; and internet shutdowns.

- **Ethics:** How information and data is retrieved, treated and published requires strict guarantees and safeguards to secure people's rights, in particular the right to privacy and personal data protection and non-discrimination.

- **Cultural appropriateness:** Since information is cultural, it is important to consider the context in which it is made available and understand the information needs of users.

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5   The infosphere refers to an environment populated by informational entities, called inforgs (or informational organisms). The infosphere extends beyond cyberspace, as it includes both offline and analogue information (Floridi 2014).

6   For Moritz Birk and Walter Suntinger (2019), the following are characteristics of a systemic perspective applied to human rights practice: looking at the big picture; integrating multiple perspectives; seeing connections, not events; looking at the bottom of the iceberg; looking at patterns; looking at systemic failures, not persons; looking at resources, not just deficits; recognizing the limits of interventions and looking for entry points; and including ongoing reflection and self-reflection.

- **Agency:** People should have sovereignty over their own information and be able to meaningfully participate in the management of information systems and information of relevant public interest.

- **Usability:** Information must be trusted and validated before it will inspire action. Information must resonate with people's needs and interests in order to foster agency and action.

Information sovereignty[7] exists when people are part of a healthy and culturally appropriate information ecosystem, in which quality and diverse information is available, accessible and stable, and it is collected, stored, managed and disseminated with ethics, meeting people's information needs and preferences for an open, inclusive and plural public sphere.

The word "sovereignty" is used here not to denote centralized power over a given territory, but to refer to individuals and communities at the centre of information ecosystems. This terminology borrows from different uses and builds on the following grounds:

- that we currently live in an ongoing fight for digital sovereignty;[8]

- that human beings should have their cognitive sovereignty upheld in the infosphere;[9] and

- that the call for information sovereignty is a political claim for individuals and communities' agency and autonomy in the infosphere.[10]

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7   The concept of information sovereignty is inspired by the concepts of food security and food sovereignty and their relation to the right to adequate food and nutrition. The United Nations Special Rapporteur on the right to food has described this as: "The right to have regular, permanent and free access, either directly or by means of financial purchases, to quantitatively and qualitatively adequate and sufficient food corresponding to the cultural traditions of the people to which the consumer belongs, and which ensures a physical and mental, individual and collective, fulfilling and dignified life free of fear." See Commission on Human Rights, *Report by the Special Rapporteur on the right to food, Mr. Jean Ziegler, submitted in accordance with Commission on Human Rights resolution 2001/25*, UNESCOR, 2002, UN Doc E/CN.4/2002/58.

8   According to Luciano Floridi (2020), the fight for digital sovereignty entails the control of data, software, standards and protocols, processes, hardware, services and infrastructures. This fight involves diverse stakeholders and can be exemplified by clashes between states; states and supranational institutions; and states and big tech companies. For Floridi, however, "control comes in degrees and above all can be both pooled and transferred. This is crucial since we shall see that the ultimate form of control is individual sovereignty, understood as self-ownership, especially over one's own body, choices, and data" (2020, 371).

9   As Lee Bygrave (2022) writes, "the notion of cognitive sovereignty…denotes a human being's ability and entitlement to comprehend with a reasonable degree of accuracy their environs and their place therein, particularly the implications these hold for their exercise of choice" (2022 173).

10   Rüdiger Graf and Heidi Tworek (2022) point out that "historically, sovereignty is, first of all, a claim that can be made, challenged, and disputed by politicians, businesspeople, intellectuals, or interest groups" (2022, 4). These historical actors use sovereignty under specific social and political circumstances "in order to negotiate power relations and achieve certain political goals" (ibid.). The strength of the concept lies in the power to define not only geographical boundaries, but also conceptual ones. In this paper, sovereignty is used from a discursive approach, as a rhetorical claim to argue for a change in the understanding of who should be at the centre of decision making in the infosphere.

A Case Study: Information Sovereignty and the Rights of Indigenous Peoples

The right to information as a human right is critical in our digital times and information societies.[11] However, its realization is especially challenging for groups that have been historically marginalized. These groups have faced structural inequalities that have led to a diminished enjoyment of the right to information. Information sovereignty is a systemic approach to the right to information that better allows us to identify the multiple layers of obstacles that impact and reinforce these structural inequalities.[12] In the section below, the concept of information sovereignty is applied to the specific situation of Indigenous Peoples. Each of the eight dimensions previously discussed are brought to light based on the lived experiences of these peoples.

As clarified by Rishabh Kumar Dhir et al. (2020), "Indigenous peoples" is a term that encompasses many different peoples who hold diverse languages, knowledge systems, foundations, traditions and conceptions of the world and are marked by their own social, cultural, economic and political characteristics. According to Dhir et al. (ibid.), it is estimated that there are more than 5,000 Indigenous communities who speak around 4,000 different languages and live in approximately 90 countries. Often, cultures, social institutions and Indigenous ways of life maintain a special relationship with the land and territories that the Indigenous communities have occupied or traditionally used. There is not, however, a unique or universally recognized definition of Indigenous peoples.

Accessibility: Indigenous Digital Inclusion

Indigenous communities are often located in remote areas with sparse and typically small populations. These are normally areas that are not prioritized, at best, or, at worst, are completely ignored by telecommunications companies. Traditional connectivity expansion models, based on large-scale private telecom services, tend to be ineffective because such geographic areas are not sufficiently profitable. In Canada, the figures of this digital exclusion are clear: in Saskatchewan and Manitoba, the number of on-reserve households with access to high-speed internet is just 1.7 percent and two percent, respectively (Canadian Radio-television and Telecommunications Commission [CRTC] 2020). Along with coverage and quality, affordability is also an essential element of internet and mobile connectivity. Together, these three elements determine whether individuals and communities can access critical online information relating to education, work, and medical and government services. When coverage, quality and/or affordability are lacking, this reduces people's access to a means of communication that they can use to document, record and disseminate their world views, traditions and knowledge, as well as their current struggles.

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11 This section seeks to apply the concept of information sovereignty and the dimensions of the right to information to a specific group, providing room for an in-depth analysis of each dimension. Although this article will only cover this specific case study, the author will elsewhere develop additional examples of the concrete application of information sovereignty to other groups, such as women and people with disabilities.

12 As Birk and Suntinger (2019) argue, a systemic approach to human rights looks beyond specific violations and individual perpetrators, suggesting that protecting human rights requires looking at systemic factors, including organizational and cultural issues, in order to identify the conditions that enable violations. It incentives human rights practitioners to investigate the pressures, power dynamics, perceptions and purposes underlying the problem at hand.

Availability: Indigenous Data Gaps

Indigenous Peoples tend to be aggregated or ignored in national statistics systems, leading to critical data gaps in relation to their socio-economic, cultural and political situation. A 2017 study of global census practices concluded that less than half of all countries with an Indigenous population or populations actually recognized them in their census in any capacity (Te Kokiri Kihirini Mullane-Ronaki 2017).[13]

The result is clear: "Lack of accurate data on First Nations policy matters limits transparency, accountability, and the ability of all levels of government to make decisions based on measurable outcomes. In the absence of information, the public's inability to measure or manage government performance on Indigenous matters makes lack of progress even more frustrating" (First Nations Financial Management Board 2022).

Quality: Indigenous Peoples and Colonial Research

Researchers, civil society organizations and governments at all levels have for a long time collected data with limited input, and sometimes without the consent of the nations, communities and individuals they are "studying," thereby reducing Indigenous peoples to passive objects of research. The immediate result is that the needs, priorities and self-conceptions of these groups will be absent from survey and research results, portraying a biased reality of their lived experiences. The indirect result is that any policies built on such results will rarely be effective in addressing Indigenous aspirations (Walter and Carroll 2020).

Frequently, Indigenous policy makers only have at their disposal information collected and classified under methods that do not reflect their principles of self-identification, participation and diversity, which cannot be translated into meaningful outcomes (Te Kokiri Kihirini Mullane-Ronaki 2017). The available information is often unreliable, inaccurate, irrelevant and marked by a long-standing mistrust of data and data systems (Taylor 2022).

Maggie Walter (2016) argues that "Indigenous statistics" reveal an overwhelming focus on disparity, deprivation, disadvantage, dysfunction and difference as defining the dominant portrait of Indigenous peoples.[14]

Stability: Internet Disruptions

The lack of stability in relation to access to relevant information and connectivity can have a severe impact on Indigenous peoples. One example of this is the unfortunately short-lived Affordable Connectivity Program (ACP), which was created in 2021 in the United States (Simon 2024). Participants in federal government "tribal

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13   Oscar Luis Figueroa-Rodríguez (2020) writes that in Mexico, in addition to the data gap, there is a huge comprehension gap between policy makers and Indigenous communities in terms of their differing perspectives and priorities. Figueroa-Rodríguez emphasizes the need for enhanced Indigenous community participation regarding the planning and implementation of public policies.

14   In Colombia, Gustavo Rojas-Páez and Colleen Alena O'Brien (2020) have explored the narratives surrounding Indigenous victimhood in the country's transitional setting, particularly the path toward peace, reconciliation and justice for victims of the internal armed conflict through the implementation of the comprehensive 2016 peace accord between the government and the Revolutionary Armed Forces of Colombia — People's Army. Rojas-Páez and O'Brien (ibid.) provide a critical analysis of historical injuries and their relationship to Indigenous sovereignty and data sovereignty.

specific programs" were explicitly targeted by the ACP (US Federal Communications Commission 2021). Documents indicate that participation among households in tribal areas reached approximately 330,000 subscribers. The program provided low-income households with consistent connectivity: most of these households reported that they had inconsistent or zero connectivity before ACP (US Federal Communications Commission 2024). The program, however, was discontinued in 2024.[15]

The end of the program represented a severe blow, threatening the livelihoods of Indigenous communities as well as their access to information and communications. It also negatively impacted the projects and actions aimed at preserving Indigenous information, data and knowledge. A Mohawk tribal-led internet service provider benefiting from ACP attested that "one of the most incredible things [was] an increase in our ability to build programs and to engage community members in language and cultural preservation" (Fung 2024). For the Navajo, the ACP allowed "a renaissance in our teaching, our learning, our culture, our tradition, our language" (ibid.).

Ethics: Access to Historical Information Held by Colonial States

In reviewing Canada's Access to Information and Privacy Acts (ATIP), Indigenous peoples have argued that these acts and their regulatory and procedural mechanisms are inadequate in upholding their right to redress for historical grievances against the federal government, thereby restricting or even impeding their right to access to justice. Federal institutions hold many records of critical importance to Indigenous peoples. These records can provide the foundation for Indigenous peoples, groups and governing bodies to negotiate with the government, represent citizen concerns, pursue commercial interests and plan for the future of their governments and communities.[16]

In trying to access these documents, however, Indigenous peoples face a series of barriers, including delays in receiving information; records and information that are of poor quality and sometimes unreadable; difficulty dealing with ATIP offices in the context of the specific and time-sensitive needs of Indigenous requesters; inconsistent application of exemptions, leading to gaps in information; and lack of basic access to internet, information technology systems and infrastructure.[17]

In 2022, the National Claims Research Directors and the Union of British Columbia Indian Chiefs (2022) affirmed that "Canada's conflict of interest in managing and assessing claims against itself extends to its control over access to information First Nations legally require in order to resolve their claims."

Cultural Appropriateness: Scientific Information

Lack of knowledge of Indigenous world views, thinking and traditions can also lead to serious challenges related to misinterpretation of research findings by non-Indigenous scholars. Without historical and cultural

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15 See www.fcc.gov/acp.

16 See www.canada.ca/en/treasury-board-secretariat/services/access-information-privacy/modernizing-access-information/the-review-process/indigenous-specific.html.

17 Ibid.

context, data may become meaningless and conclusions questionable;
in the worst cases, this type of analysis may cause serious harm.

One example of this challenge is the ongoing effort related to human genome research. Kim TallBear (2013) explains that the DNA profile is helping to reconfigure the concept of tribe. A proper use of DNA profiling requires understanding of different types of knowledge systems that should be applied simultaneously, because the DNA profile alone should not be taken as a definite marker of Native American identity. Historical and practical understanding of the intricacies of tribal enrolment are needed, and scientific data has to be understood under a broader political framework. Indigenous researchers are better placed to carry out genomic research "in a very particular social and historical context, one that entangles genetic information in a web of known family relations, reservation histories, and tribal and federal-government regulations" (ibid.).

Agency: Indigenous Prior and Informed Consent

The United Nations Declaration on the Rights of Indigenous Peoples[18] stipulates the right to participate in decision making in matters affecting Indigenous rights. Meaningful participation, however, can only take place with access to relevant information.

In the *Saramaka* case,[19] the Inter-American Court of Human Rights clarified that the provision of timely, clear and sufficient information to Indigenous peoples about external interventions that may affect their territory is an essential condition to adequately guarantee the exercise of their right to collective property over their territories. Information should be provided not only regarding the nature and impact of the external interventions, but also on the consultation process that will be carried out and the reasons behind it. This information must also be clear, accessible and truly understandable: its dissemination is carried out in clear language and, where necessary, with the help of a translator or in a language or dialect that allows the members of the Indigenous communities involved to fully understand it. It must also be sufficient, meaning that it is appropriate and complete for the formation of unmanipulated consent regarding the proposed project or activity. And it must be presented sufficiently in advance of any authorization or start of negotiation processes.

Usability: Indigenous Decision and Policy Making

Indigenous peoples are more than mere "stakeholders" in data ecosystems — they have the right to control data about themselves, their lands and their resources. Through the claim to Indigenous data sovereignty (IDS),[20] Indigenous peoples seek the authority to be stewards of this data. This stewardship

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18 *United Nations Declaration on the Rights of Indigenous Peoples*, GA Res 295, UNGAOR, 61st Sess, Supp No 49, UN Doc A/RES/61/295, 46 ILM 1013 (2007).

19 *Saramaka People v Surinam*, (2007), Inter-Am Ct HR (Ser C) No 172. In the 1990s, Suriname granted logging and mining concessions to private companies within the traditional Saramaka people's territory without their consultation or consent. The case was taken to the Inter-American Commission on Human Rights in 2000, where the petitioners argued that, despite the fact that they were not in possession of a title for the territory, they had the right to use and possess it for their cultural, religious and economic activities. In 2006, the case was taken to the Inter-American Court of Human Rights, which ruled in favour of the Saramaka people in 2007.

20 IDS in an important movement today, led by Indigenous peoples. The inclusion of Indigenous peoples as a case study here aims to honour this movement and the agency and advocacy of these peoples in defence of their rights and in exerting leadership in pushing for critical studies in relation to dataism and open data, among others.

role includes not only the authority to collect, access and utilize data, but also the responsibility to protect it and the privacy of their people.

Stephanie Carroll Rainie et al. (2019) clarify that data in this context should be understood as encompassing a wide variety of formats inclusive of digital data and data as knowledge and information. IDS is "linked with Indigenous People's right to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions, as well as their right to maintain, control, protect and develop their intellectual property over these" (Tauli-Corpuz 2016).

In 1998, the First Nations Information Governance Centre created[21] the OCAP®[22] Principles (ownership, control, access and possession),[23] which are an expression of IDS. The practical application of these principles can be seen, for example, in the mobilization of Indigenous knowledge in resource management settings (Keats et al. 2021) and in the research process in health and biomedical contexts.[24] These principles have also been critical in demonstrating how, as many authors have argued (for example, Smith 2016; Russo Carroll et al. 2024), open data in the context of Indigenous peoples can be considered as a double-edged sword.[25]

Conclusion

A new conceptual basis for the right to information proposes that states, under a human rights framework, are obliged to provide information sovereignty. This concept encompasses the complexity of measures needed to promote the realization of the right to information in the digital age. This approach makes it clear that for states to comply with their obligation under international human rights law, solely passing Access to Information Acts is absolutely insufficient. The application of information sovereignty to

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21   OCAP® was established in 1998 during a meeting of the National Steering Committee (NSC) of the First Nations and Inuit Regional Longitudinal Health Survey, a precursor to the First Nations Regional Health Survey. Originally, OCAP® began as "OCA," with the members of the NSC affixing a "P" soon after to acknowledge the importance of First Nations' peoples possessing their own data.

22   OCAP® is a registered trademark of the First Nations Information Governance Centre (FNIGC). For more information, see https://fnigc.ca/ocap-training/.

23   According to FNIGC's website: **Ownership** "refers to the relationship of First Nations to their cultural knowledge, data, and information. This principle states that a community or group owns information collectively in the same way that an individual owns his or her personal information." **Control** "affirms that First Nations, their communities, and representative bodies are within their rights to seek control over all aspects of research and information management processes that impact them. First Nations control of research can include all stages of a particular research project-from start to finish. The principle extends to the control of resources and review processes, the planning process, management of the information and so on." **Access** "refers to the fact that First Nations must have access to information and data about themselves and their communities regardless of where it is held. The principle of access also refers to the right of First Nations' communities and organizations to manage and make decisions regarding access to their collective information. This may be achieved, in practice, through standardized, formal protocols." **Possession** "is the mechanism by which ownership can be asserted and protected"; "while ownership identifies the relationship between a people and their information in principle, possession or stewardship is more concrete: it refers to the physical control of data." (see https://fnigc.ca/ocap-training/).

24   See https://cihr-irsc.gc.ca/e/29134.html.

25   The open data movement builds on a number of assumptions, including some problematic generalizations, as the idea of a single entity representing government, materialized in nation-states; the binary consideration that data is either open or it is not; and the premise that all open data is useful/positive, which fails to consider issues such as biases and relevance. IDS may be seen as at odds with these unnuanced conceptions of open data. However, as Stephanie Russo Carroll et al. clarify (2024), "To enable Indigenous nation building, some Indigenous data needs to be available and open. To ensure that Indigenous Peoples' aspirations and needs are reflected in concert with other development goals, Indigenous Peoples themselves have to be able to govern and steward their data, and to determine when to open and when to close that data."

the particular situation of Indigenous peoples illustrates the importance of attending to the different dimensions of the right to information. Information sovereignty is a concept that seeks to empower individuals and communities in a volatile, ever-changing digital context so that they can access and apply meaningful information in decision making concerning their rights and critical information needs with agency and autonomy.

Recommendations

- **Promote transparency policies, while ensuring informed consent:** Governments must adopt policies that make public information easily accessible to all citizens. This includes providing information in multiple formats, languages and accessible platforms to ensure inclusivity. Organizations collecting data should obtain informed consent from individuals, especially those from marginalized groups, before collecting and using their personal information. Consent should be clear, specific and revocable at any time.

- **Strengthen information and data literacy programs:** Invest in information literacy programs to empower individuals with the skills and knowledge to access, analyze and use information effectively. Increase awareness and education on data rights, privacy and security to empower individuals to make informed decisions about their data. This is particularly important for marginalized groups who may be more vulnerable to data exploitation. These measures can help bridge the digital divide and promote greater participation in decision-making processes.

- **Support community-based information sharing:** Facilitate community-level information-sharing initiatives that prioritize the needs and perspectives of marginalized groups. This can include community radio stations and networks, mobile information centres and other grassroots platforms for information dissemination.

- **Invest in digital infrastructure:** Improve access to digital infrastructure, such as affordable internet connectivity, devices and digital literacy training, in underserved communities to ensure equitable access to information for all.

- **Promote diversity and inclusion in tech and data governance:** Ensure that women, Indigenous peoples and individuals from diverse backgrounds are represented in decision-making processes related to data governance and technology development. This will help address biases and ensure that data rights are protected for all. Indigenous peoples should be able to establish their own data governance schemes.

- **Localizing human-centred research and policy:** Thinking about technology and its impact on people's work and life requires a holistic lens that does not substitute humans with technology, but instead highlights the physical labour behind technology and the emotional, non-material and relational aspects related to people's use of and experiences with technology. Gig workers' experiences and relationships with technology reflect how technology is not a neutral, static object, but a versatile tool that is experienced and used in a variety of ways and therefore requires localized, innovative and micro-level research and analysis.

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About the Author

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