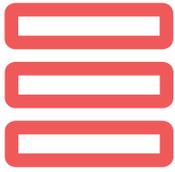


**Innovate
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**Bridging the Divide: Digital Inequity
and the Need for Universal Access**



Bridging the Divide: Digital Inequity and the Need for Universal Access

Written by Jasmeet Sidhu
Student | Master of Public Policy Program
Social Science, McMaster University

All Canadians should have universal access to the digital sphere to connect with others.¹ While many Canadians have the privilege of owning computers and have access to the internet, many do not, an imbalance that is called “the digital divide.” There are significant discrepancies in broadband internet access in numerous rural and isolated places in Canada, and progress has been slow in addressing these gaps. Although typically understood as a gulf that is demarcated across urban-rural divide in Canada, many low-income families in urban areas are also at a disadvantage who lacks the infrastructure and tools to access the internet. This “urban digital divide” is directly linked to poverty and socio-economic exclusion as it leads to unproportionate access to education, jobs, and government services.² This paper will focus on the relationship between this phenomenon and socio-economic disparities, examining how low-income residents in the Greater Toronto Area specifically experience the digital divide.

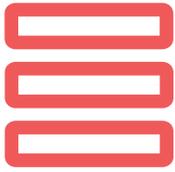
Since technology is a significant contributor to individuals’ lives, those with limited internet connectivity, device capability, and smartphone access are restricted in terms of knowledge, information, resources, and communication tools available to them. Notably, low-income families have less access to digital services. Individuals from a lower social-economic background are unable to purchase computers and pay for stable network connectivity. For instance, in Toronto between 2013 and 2017, only 69% of lower-income households with an income of less than \$32,914 had a computer and internet connectivity at home, compared to 98.5% of higher-income families, according to the Canadian Radio-television and Telecommunication Commission.³ In 2018, nearly half of households with a yearly income of less than \$30,000 lacked access to high-speed internet (2). Cost is a significant factor in why low-income Canadian families do not have a home internet connection (2). Consequently, more than half of Ontarians who do not have access to technology rely on a public library to access the internet.⁴

¹ Government of Canada. “Canada’s Digital Charter: Trust in a Digital World.” Innovation for a better Canada. Innovation, Science and Economic Development Canada, January 12, 2021. https://www.ic.gc.ca/eic/site/062.nsf/eng/h_00108.html.

² Andrey, Sam, M. J. Masoodi, Nisa Malli, and Selasi Dorkenoo. *Mapping Toronto’s Digital Divide*. Brookfield Institute for Innovation+ Entrepreneurship, 2021.

³ Ibid.

⁴ Abdelaal, Nour, and Sam Andrey. “Expanding Public Internet Access Will Keep More Canadians Connected.” First Policy Response, July 8, 2021. <https://policyresponse.ca/expanding-public-internet-access-will-keep-more-canadians-connected/>.



Similarly, smartphone access is also a contributor to the digital divide in Canada, in which 15% and 26% of households with an income less than \$20,000 do not hold a smartphone in Toronto and Canada, respectively.⁵ This contributes to limited accessibility to on-the-go information and immediate access to the internet. This underlying issue also relates to low-income households and access to the computing power of a device. Low-income households disproportionately use mobiles to access the internet: 40% of low-income households subscribe solely to mobile services, in contrast to the 25% of higher-income households.⁶ This data suggests that many low-income households have smartphones, which may increase the difficulty of accessing web-based services compared to using a desktop or laptop.

One potential solution that could enhance internet connectivity is through using cloud-computing platforms. This type of service would allow anyone with a web browser and a connection to the internet to access services on the cloud regardless of the kind of digital devices they use, such as a desktop, laptop, smartphone, or tablet. Using applications on the cloud will allow consumers to share data across businesses and educational institutions, as seen by the educational platforms Blackboard and Desire2Learn. Additionally, logging into a cloud-computing platform provides a value proposition in which it enables greater “access to computing power and application at any time or place as needed without the need to own the infrastructure necessary to produce the service.”⁷ Ultimately, this computing power of the cloud could mitigate the digital divide.

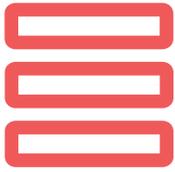
However, for this approach to be adopted, and for cities would make their services with an eye to these challenges, privacy and security concerns must be addressed. There is a risk attached to storing users’ files on the cloud as exposure to unlawful access and security breaches is higher. Cloud-computing providers would need to take various measures to ensure that risk of security breaches is reduced. A key solution is creating a governance model that implements risk management service and instruct on actions to mitigate risk.⁸ This way, a cloud-computing platform would incorporate a governance model that would provide a safe, accountable, and secure cloud, to help bridge the digital divide and build trust within its users, including the urban poor. Overall, a cloud-computing platform could provide equal access to the internet regardless of device capability, therefore promoting values of diversity, equity, and inclusion.

⁵ Andrey, Sam, M. J. Masoodi, Nisa Malli, and Selasi Dorkenoo. *Mapping Toronto’s Digital Divide*. Brookfield Institute for Innovation+ Entrepreneurship, 2021.

⁶ The Canadian Radio-television and Telecommunications Commission. “Communications Monitoring Report 2018.” Government of Canada, 2018. <https://crtc.gc.ca/pubs/cm2018-en.pdf>

⁷ Stanoevska, Katarina, Thomas Wozniak, and Santi Ristol, eds. *Grid and cloud computing: a business perspective on technology and applications*. Springer Science & Business Media, 2009.

⁸ Bryce, Ciarán. “Security governance as a service on the cloud.” *Journal of cloud computing* 8, no. 1 (2019): 1-14.



References

Abdelaal, Nour, and Sam Andrey. "Expanding Public Internet Access Will Keep More Canadians Connected." *First Policy Response*, July 8, 2021. <https://policyresponse.ca/expanding-public-internet-access-will-keep-more-canadians-connected/>. (Accessed on February 10, 2022)

Andrey, Sam, M. J. Masoodi, Nisa Malli, and Selasi Dorkenoo. *Mapping Toronto's Digital Divide*. Brookfield Institute for Innovation+ Entrepreneurship, 2021.

Bryce, Ciarán. "Security governance as a service on the cloud." *Journal of cloud computing* 8, no. 1 (2019): 1-14.

Government of Canada. "Canada's Digital Charter: Trust in a Digital World." Innovation for a better Canada. Innovation, Science and Economic Development Canada, January 12, 2021. https://www.ic.gc.ca/eic/site/062.nsf/eng/h_00108.html. (Accessed on February 10, 2022)

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