Digital Technology Adoption in Remote and Northern Indigenous Communities in Canada

Brian Beaton

Doctoral Candidate, Faculty of Education

University of New Brunswick

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Rural Policy Learning Commons Conference
Guelph, Ontario**

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Recognizing and honouring the unceded traditional territories of the Wolastoq Nation as the place for my doctoral studies work and the Nishnawbe Aski Nation in northern Ontario where our research work is taking place and Six Nation territory where we gather.
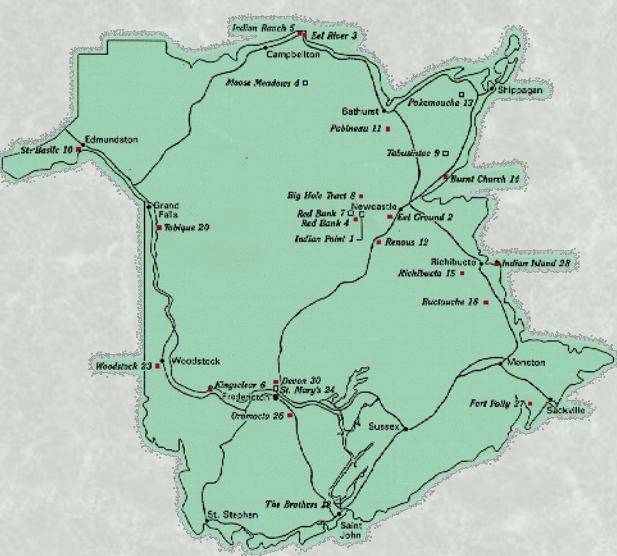
As a settler and ally, I am privileged and honoured to be working with the First Nations Innovation research project, the Keewaytinook Okimakanak First Nations and their First Nations council

Context

- Beaton, B., Perley, D., George, C. & O'Donnell, S. (2016, in press). Engaging Remote Indigenous Communities Using Appropriate Online Research Methods. In In N. Fielding, R. M. Lee & G. Blank (eds.), *The Sage handbook of online research methods - 2nd edition*, Sage. London, UK.

- Beaton, B., McMahon, R., O'Donnell, S., Hudson, H., Whiteduck, T. & Williams, D. (2016). Digital Technology Adoption in Northern and Remote Indigenous Communities. Prepared for Innovation, Science and Economic Development Canada. *First Mile Connectivity Consortium*. March.

- **Theories:** Community informatics (Clement, et al), OCAP (AFN), Decolonization (Battiste, Smith, Tuck, Wilson), Resilient communities (Kirmayer), Desired-based development (Tuck, 2009)

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Report: Digital Technology Adoption in Northern and Remote Indigenous Communities in Canada

Posted on *April 26, 2016* by *brianbeaton*

This report prepared by the FMCC team addresses research on digital technology adoption in remote and northern First Nation and Inuit communities. It summarizes the major elements of our project, including the literature review, identification of primary and secondary data sources, methodologies, strategies and research questions, and recommendations from our research. It includes six comprehensive appendices that are linked to the appropriate report sections and are available online.

Suggested Reference to the report:

Beaton, B., McMahon, R., O'Donnell, S., Hudson, H., Whiteduck, T. & Williams, D. (2016). Digital Technology Adoption in Northern and Remote Indigenous Communities. Prepared for Innovation, Science and Economic Development Canada. First Mile Connectivity Consortium. March.

- Click here for a PDF copy of the report (27 pages): **Digital Technology Adoption in Northern and Remote Indigenous Communities**
- Click here for a PDF copy of Appendix 1 (48 pages): **Literature Review and References**
- Click here for a PDF copy of Appendix 2 (14 pages): **Identification of Primary and Secondary Data Sources**
- Click here for a PDF copy of Appendix 3 (18 pages): **Methodologies, Research Strategies and Research Questions**
- Click here for a PDF copy of Appendix 4 (23 pages): **Online Focus Group in Timiskaming First Nation, Quebec**
- Click here for a PDF copy of Appendix 5 (23 pages): **Key Informant Interviews in Iskut First Nation, B.C.**
- Click here for a PDF copy of Appendix 6 (18 pages): **Community Asset Mapping Tool Poplar Hill First Nation, Ontario**

Search …

LATEST NEWS

FMCC Team Presents at World Forum on Free Media Conference

First Nations in Northern Ontario Innovate with Social Media Tools

FNI team presents research methodologies at U of Alberta

First Nations Innovation research project partners at Canadian Sociological Society Conference at Congress 2016

FNI / FMCC / MWC represented at SSHRC workshop – Leveraging Emerging Technologies for the Benefit of Canadians

RECENT COMMENTS

First Nations Innovation research
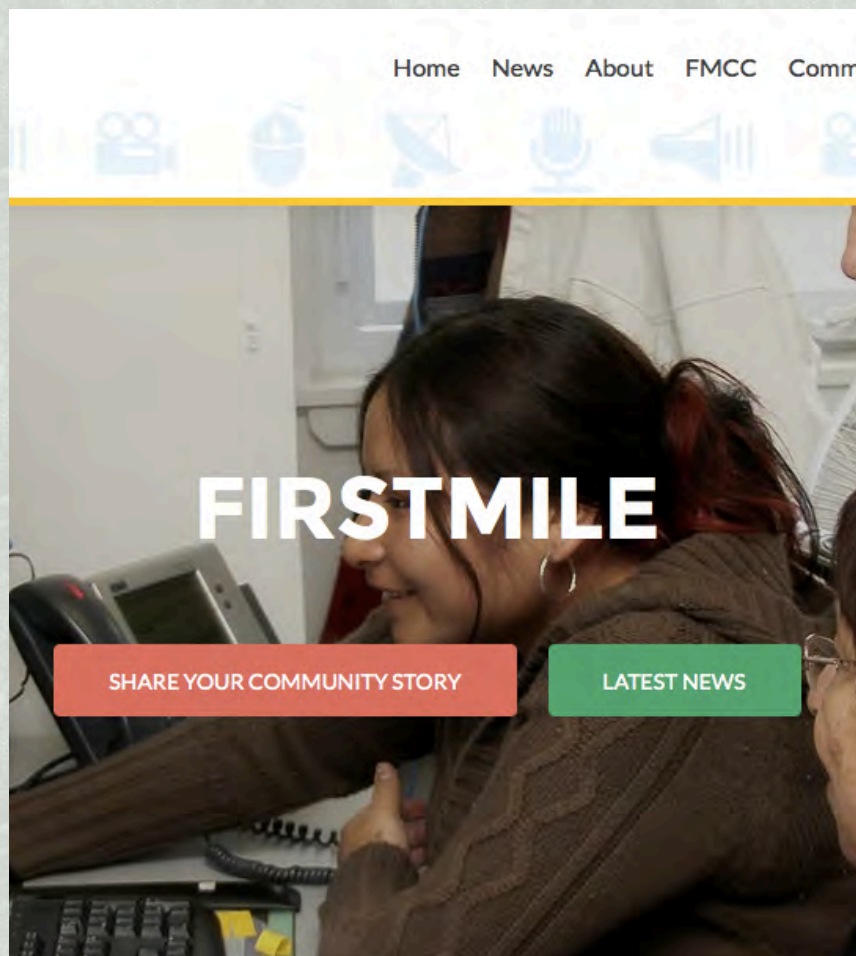
- Ongoing since 2005
- Funded by SSHRC (Social Sciences & Humanities Research Council of Canada)
- In-kind from partners:
  ✧ Keewaytinook Okimakanak (Ontario)
  ✧ First Nations Education Council (Quebec)
  ✧ Mi'kmaw Kina'matnewey (Atlantic)

New model for understanding technology adoption

- Previous model - individual / household adoption – works well in urban environments benefitting telcos but difficult to apply in remote / northern Indigenous communities

- **A new model is required**
  - Judy Whiteduck (2010) e-Community model for digital technology deployment in First Nations

  - McMahon et al. (2014) Indigenous intermediary technology organizations

  - Rhinesmith (2016) networked community adoption model and Dailey, Bryne, Powell, Karaganis & Chung (2010): central role of community organizations in technology adoption in low income communities in US

  - O'Donnell (2001): role of community and voluntary orgs supporting technology adoption in Europe

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Whole community understanding of digital technology adoption

Infrastructure supporting community adoption

Community services and community organizations

Community members and households
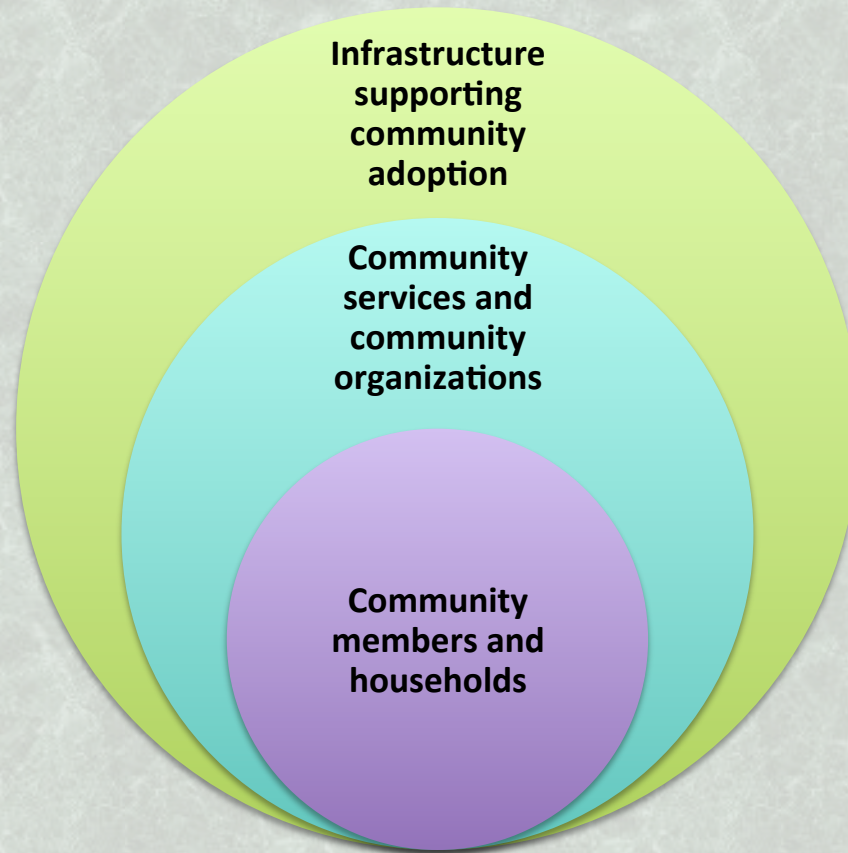
Digital technologies used by and for the whole community

Healthcare, telehealth, and health education	Economic development, business and entrepreneurship	Education and distance education	Indigenous government and governance
Justice, public safety and emergency communications	Community interconnection and interdependency	Digital content about Indigenous culture and identity	Commercial entertainment
Research, data collection, GIS, report generation	Infrastructure maintenance, remote monitoring	Indigenous resurgence, self-determination and activism	Land-based activities and environmental sustainability

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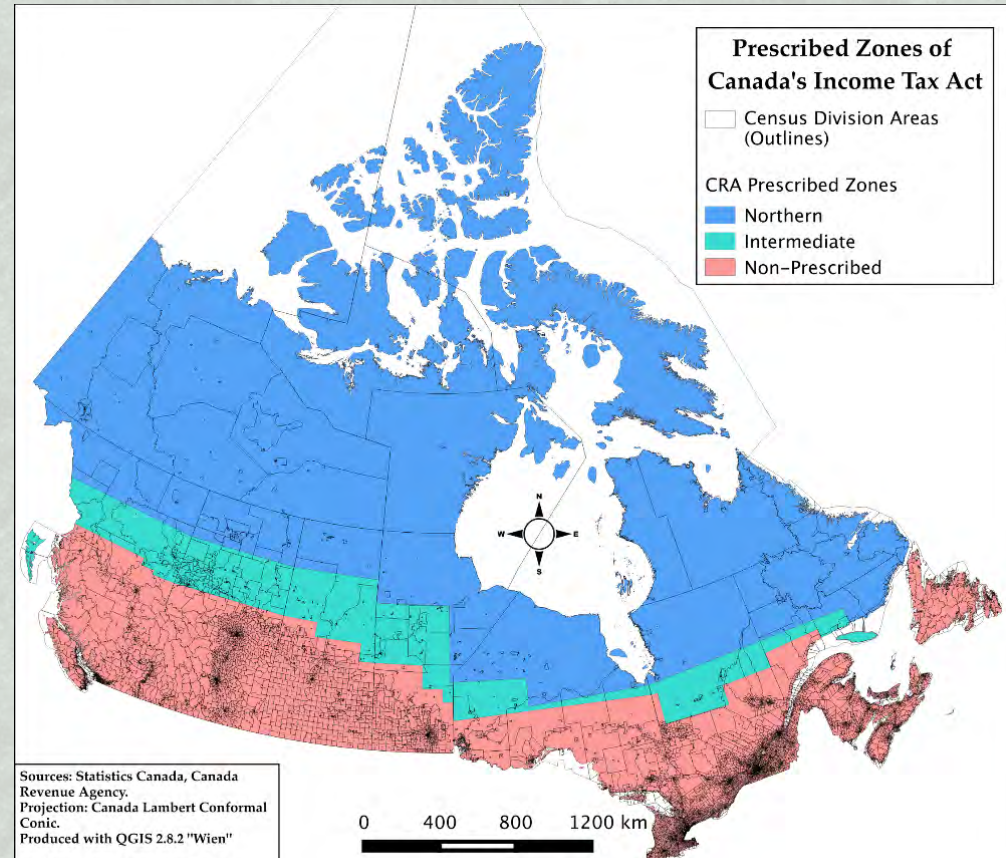
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How Indigenous communities use digital technologies: research

- Indigenous resurgence
- Indigenous culture and identity
- Indigenous government and governance
- Education and distance education
- Healthcare, telehealth, and health education
- Economic development and entrepreneurship
- Land-based activities
- Public safety
- **Social networking**

Identification of Primary and Secondary Data Sources

Data sources associated with:

- community members / household factors

- community-level factors

- infrastructure supporting adoption

Prescribed Zones of Canada's Income Tax Act

Census Division Areas (Outlines)

CRA Prescribed Zones
- Northern
- Intermediate
- Non-Prescribed

Sources: Statistics Canada, Canada Revenue Agency.
Projection: Canada Lambert Conformal Conic.
Produced with QGIS 2.8.2 "Wien"

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Methodologies, Research Strategies and Research Questions

1. Methodologies considered
    - Focus group with video conference
    - Online survey of community members
    - Online leadership survey
    - Questionnaire administered in schools
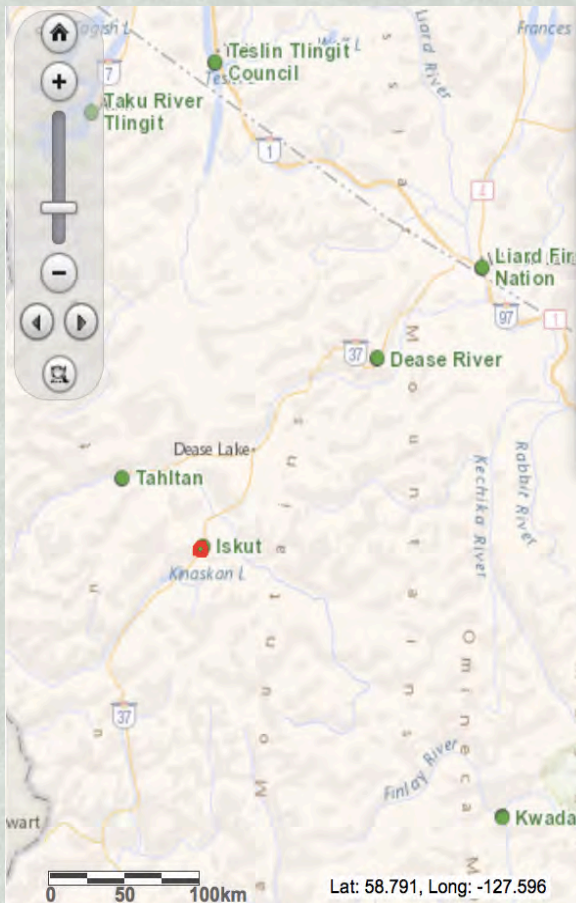
2. Other methodologies to consider for future studies
    - Random sample telephone survey
    - Targeted telephone survey
    - On-site household survey
    - Research questions

Online Focus Group

in Timiskaming First Nation, Quebec

Key Informant Interviews

in Iskut First Nation, B.C.

Community Asset Mapping Tool
in Poplar Hill First Nation, ON
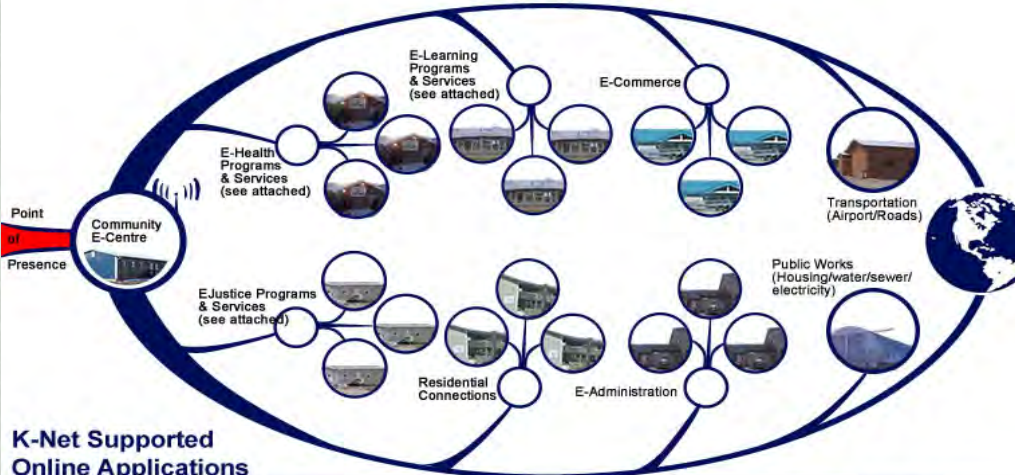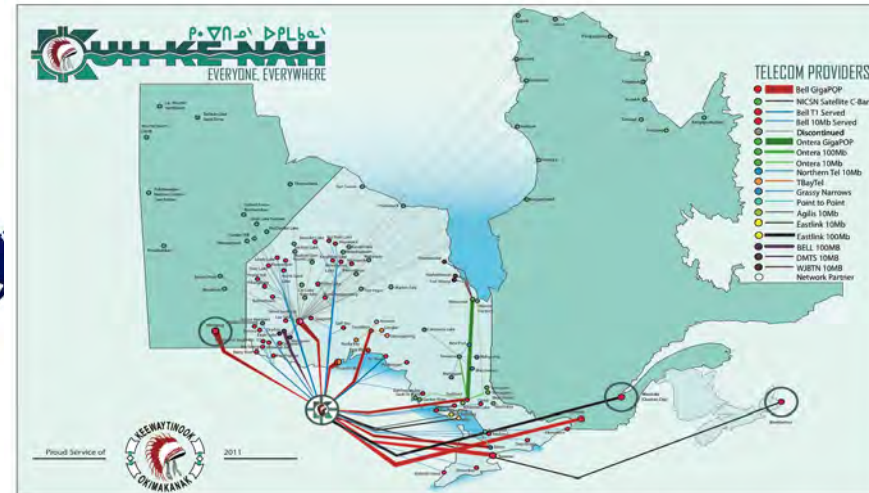
Identified Recommendations

Conducting research on digital technology adoption in remote and northern Indigenous communities:

- More research is needed ..
- Distinguish among Inuit, First Nation, and Métis nations and communities
- Need to work with an Inuit community to include their experience
- Respect and follow the appropriate research ethics and data governance protocols
- Partner with regional Indigenous organizations that can act as intermediaries
- Develop a strong working relationship with each unique Indigenous community
- Online research can be appropriate and cost-effective ..
- Requires an appropriate mix of three methodological approaches: online or virtual research conducted remotely by trained researchers, in-person research with visiting researchers, and capacity-building to train and support local community researchers
- Whole community approach to developing appropriate research instruments and data analysis.

Addressing constraints and barriers to digital technology adoption in these communities:

- Review existing mechanisms for funding digital network infrastructure development in remote and northern regions and assess the resulting costs and benefits to Indigenous communities.
- Support approaches for developing digital infrastructure in northern and remote regions that ensure equity, adaptability, accessibility, affordability and sustainability.
- Support the regional community intermediary organizations that provide technical expertise with the resources required to upgrade, operate and maintain the digital infrastructure in remote and northern Indigenous communities.
- Ensure every Indigenous community has local technical support available.
- Recognize the need for training, skills development and capacity-building in the community, at all levels from residents interested in skills and applications for use at home and work to community technicians.
- Support local and regional efforts to produce digital content in Indigenous languages.

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Research, policy, outreach: First Mile website

- http://firstmile.ca
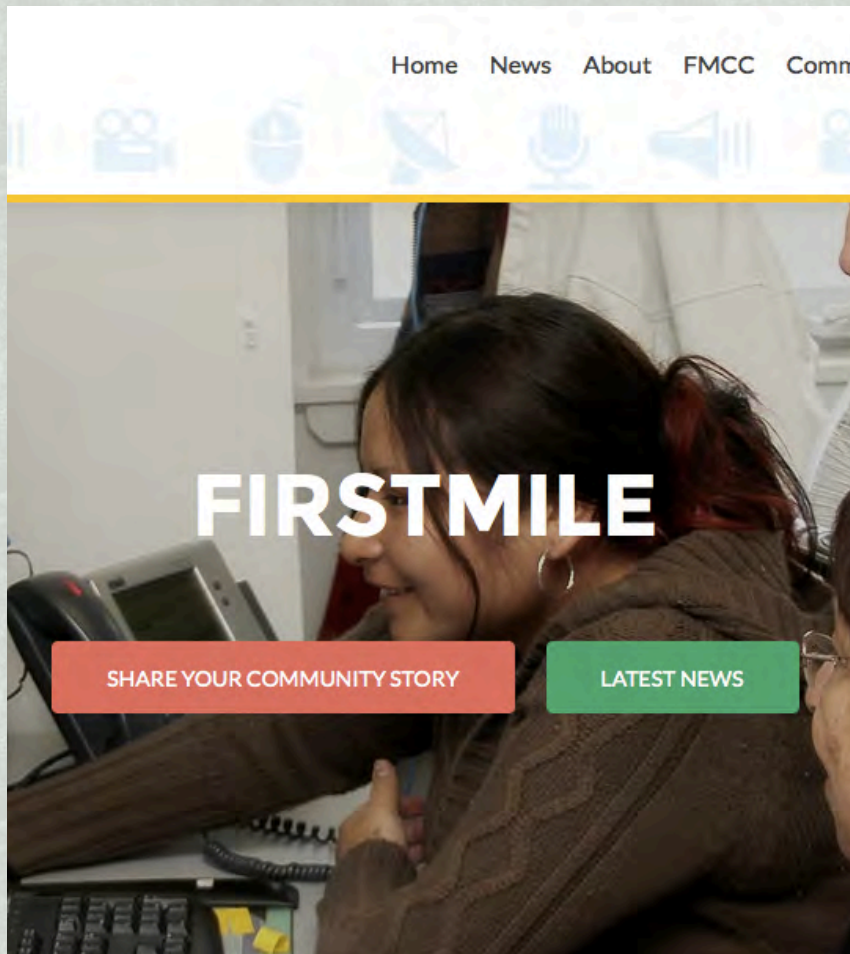
- Research: First Nations Innovation project

- Policy: First Mile Connectivity Consortium

- Outreach: community stories

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