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# A New Narrative: Rural Agency and Culture at the Center

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## Abstract

UPDATED—September 17, 2018. There is a common narrative that is used to describe the rural digital divide that prevents researchers and technologists from problem-solving in a sustainable and long-term manner. Rather than continue in a “cat-and-mouse” paradigm of ICT development for rural that leaves rural communities with unsustainable and irrelevant solutions, it is time for researchers to investigate paradigms of ICT design, development, and deployment that seek to provide sustainable and meaningful technologies for rural communities that center on rural agency and rural cultural values.

## Author Keywords

sovereignty, self-determination, community networks, local networks

## Challenging the Narrative

Rural communities still represent a significant portion of the Internet digital divide and even in developed countries like the U.S., progress on ameliorating broadband disparities have stagnated over the past few years [11]. A common narrative explains the ongoing rural digital divide: *Rural communities find themselves on the wrong end of an ongoing “cat-and-mouse” game of information and communication technology (ICT) capacity. By virtue of their existing infrastructure, “Well-connected” communities (urban and*

*suburban areas with access to ICT infrastructure that performs above average) gain access to innovative networked applications and technologies that require faster, more stable broadband connections. Soon, these innovative ICTs are perceived as societal norms. Meanwhile, rural communities remain steps behind—waiting for access, waiting for faster access, waiting for more reliable access, waiting for tools that conform to rural realities.*

The key issues with this narrative are that (i) it ignores the agency of rural communities (both as a collective and as a collection of individuals) and (ii) it assumes that the end goal for rural communities is infrastructural equality with urban counterparts. These issues are extremely problematic for the CSCW research community. There are some key questions that researchers should be asking in order to be more effective in solving rural digital disparities:

- What do rural communities want from ICTs?
- What barriers prevent or challenge rural communities from fulfilling their own ICT “wants”?
- How can ICTs sustainably help rural communities in overcoming these barriers?

These questions are fundamentally sociotechnical and require integrated teams of social scientists, digital humanities scholars, technologists, and community members to begin figuring out how to provide meaningful and useful answers. In particular, unpacking the third question leads to several corollary questions based on common rural struggles, such as lack of infrastructure and “brain drain [6]”:

*What types of innovative ICTs are needed to empower people in rural communities (which are frequently drained of technical capacity due to lack of economic and educational*

*opportunities) to build and maintain technical capacity? How do we create ICTs that democratize the powers of ICT design and implementation so that the designers, builders, and maintainers of rural ICTs are also the users?*

An excellent example of researchers working to support community agency is the Liberian iLab, a “technological hub” that has enabled a community of practice that supports ongoing technical learning, sharing, and creation within a community through partnership with academics who teach relevant courses on topics such as Beginning and Intermediate Programming, Beginner Programming for Women, Digital Video Production, Physical Computing, and On-line Learning [18]. While these types of partnerships are a step in a positive direction, it would be interesting to investigate whether there was value in extending this model to include ICTs and ICT development platforms that lent themselves to being learnable by non-experts while also being tailored to rural realities and constraints. For example, a mobile app development platform that scaffolded the app development process for non-expert developers and assumed intermittent network connectivity as a default mode of operation.

## **Re-centering the Agenda on Rural Cultures and Communities**

In an attempt to better understand the needs and barriers associated with rural ICTs, it is also worth considering how some of the cultures typically relegated to rural spaces may provide divergent perspectives about ICTs and rurality that lead to new insights that benefit ICT design and utility beyond the rural context. In particular, many Indigenous peoples around the world have been relegated to rural spaces, “pushed to the outermost rim of the ‘range’ of human habitation...[living] at the edge of the dominant culture socially, culturally, and economically...their ways of being (culture)

always eluding mainstream discourse, power, and priorities [5].” Understanding these alternative cultural perspectives on ownership, privacy, informational priorities, purposes of information, and location might provide a means for rethinking not only technologies that “work” for rural, but can also help identify technical mechanisms that might be beneficial to the greater, non-rural society.

Based on the author’s experience and the experiences of others working with Indigenously-operated Internet service providers and examining Indigenous ICT usage in rural contexts, it is clear that a sustainable research-for-rural agenda should involve a cultural focus. There is a need for “ICT for rural” research to be community-centric—not merely re-designing and innovating to fill perceived gaps using urban as a gold standard, but reimagining a gold standard based on rural cultural needs and values. While there are many different cultural groups that occupy rural spaces, the author’s research experiences lead her to focus on how the rural computing research might agenda benefit from centering its goals on the unique needs of Indigenous cultures and communities. In Native American tribal communities in general, there is distinctive value placed on sovereignty and self-governance, cultural resilience and self-representation, cultural community-building, and relationships between people and place. Based on interviews and surveys of rural Native Americans, these values are currently not reflected in mainstream ICT design and ICT ontologies. Critical questions have emerged:

- *How do we include elders, our culture keepers, in the design and usage of ICTs? [1, 9, 12]*
- *How do we ensure data sovereignty without significant expertise in IT management, information and cyber security, and policy? [9, 1, 2]*

- *How do we ensure our youth will remember our language and protocols when they are exposed to a global culture? [12, 7, 8]*
- *How do we control how our culture is represented digitally? [1, 14, 3, 10, 5]*
- *How can we ensure that ICTs are edifying in our relationships with each other and with the land? [8, 7, 12]*
- *How do we ensure that the methodologies used to create and develop ICTs are aligned with our cultural values? [8, 7, 17]*

There are currently very few technical primitives created that begin addressing these problems, but they are important to ensure that ICTs that are developed for rural Indigenous communities are both culturally relevant and edifying. It is important that technical solutions are useful and used. It is also important to note that while incorporation of new technologies into a cultural community will inevitably lead to some cultural changes (“how things are done”), they should be crafted with communities to ensure that these technologies do not disintegrate cultural values (“why things are done”).

## **Conclusion**

The research driving questions that are presented in this paper are fundamentally sociotechnical and require sociotechnical responses and solutions from well-integrated interdisciplinary teams that include researchers, advocates, and rural community members. Critically, by changing the design and development narrative to center on rural cultural values and the development of rural community agency,

we have an opportunity as researchers to engage in decolonizing research, which is important for many of the rural communities that experience pernicious digital divides and/or have been deeply (negatively) impacted by Settler colonialism and colonizing technologies [9, 5, 15, 13, 4, 17]. Moreover, we ensure that ICTs are relevant—potentially addressing relatively high levels of ICT “non-use” in rural areas [16].

### Author Biography

Morgan Vigil-Hayes is an assistant professor in the School of Informatics, Computing, and Cyber Systems at Northern Arizona University. She received her doctorate in computer science at the University of California, Santa Barbara. Her research focuses on characterizing information needs, practices, and challenges of communities and using these insights to design and implement wireless networked systems that seek to enhance information availability and value in a community context. An overarching goal of her research is to empower cultural and geographic communities to have more meaningful interactions with each other.

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