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Published online: 11 Jul 2023.

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Connecting in the Gulf: exploring digital inclusion for Indigenous families on Mornington Island

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ABSTRACT

Digital inclusion research explores the complex inequalities among different societal groups that affect people's ability to fully participate in social, economic, and cultural life. Globally, digital inequalities exist between Indigenous and non-Indigenous people and this paper contributes to a growing body of literature focused on Indigenous digital inclusion in Australia. This paper outlines how a team of Indigenous and non-Indigenous researchers developed an Indigenous research methodology to investigate the digital inclusion challenges, and opportunities, for Aboriginal families living in a remote community on Mornington Island in the Gulf of Carpentaria. This methodology applies principles of decolonisation, through Indigenous yarning and photography, to foreground the voices of Indigenous people in articulating barriers and solutions to low levels of digital inclusion in their community. The findings detail the everyday and novel ways Indigenous families use the internet and digital devices, and how these insights might inform Indigenous-focused policy, practices and programs.

Introduction

Digital inclusion research seeks to explore inequalities in access to and use of digital connections and technologies that affect the ability of individuals and communities to participate socially, economically, and culturally (Ragnedda & Muschert, 2017). With its roots in the 'digital divide', digital inclusion has historically been associated with varying levels of access to internet infrastructure and services (van Deursen & van Dijk, 2019). More recently, as access issues are being addressed, other digital inclusion factors have emerged, such as affordability of connections and devices and digital skills for participation in modern life. The COVID-19 pandemic highlighted and exacerbated the need for all people to have the option to be digitally connected and capable so that they can

access health and social services, connect with friends, find employment, participate in education, and carry out everyday tasks such as banking. In the push to make services digital-by-default, many people around the world feel they are being left behind.[1]

Populations with low levels of digital inclusion tend to experience other forms of social and economic disadvantage. For example, people on low incomes are less digitally included than wealthier people and are also more likely to have lower levels of education, come from a culturally or linguistically diverse background, or live outside metropolitan areas (Helsper, 2021). Several of these factors tend to intersect in Indigenous populations worldwide (Campbell-Meier et al., 2020). In the Australian context, it is well-documented that Aboriginal and Torres Strait Islander peoples are among some of the least digitally included Australians, particularly those living in remote communities (Thomas et al., 2021). Studies undertaken across Canada, the United States of America (USA), and Australia document the interrelated challenges for Indigenous peoples' digital inclusion on both the supply-side (such as availability and cost of internet) and demand-side (such as appropriate digital literacy programs) that are particularly acute for those living remotely where access costs are high and resourcing for programming is limited.

This article builds on these studies to give a nuanced account of digital inclusion in a remote Aboriginal community on Mornington Island which, owing to its distance from mainland Australia, presents specific challenges and opportunities for digital participation. The research is unique in centreing Indigenous methods to explore the digital inclusion of Aboriginal families living in a remote community. The paper is structured as follows. First, we define digital inclusion in the context of the study, before reviewing international and national scholarship on Indigenous digital inclusion. Then the research context and methodology, informed by Indigenous research ethics, principles, practices, and methods, is explained. Thereafter, the study's findings centre around three themes: Choosing prepaid mobile over home-based internet connections; Interplay between digital literacy and sharing culture; and Digitally enabled connections to Country and culture. We conclude the paper with contributions to the literature and suggested pathways forward for policy and practice.

Global Indigenous digital inclusion

Globalisation has put digital technology and connectivity at the centre of contemporary society, and has significant consequences for those who are excluded in areas of employment, education, income, information, and services (Sanders, 2020). It is known that people who have access to digital technologies have higher levels of social capital, engagement, and community connectivity (Williams et al., 2016). Digital inclusion as a concept is predated by the earlier concept of the digital divide. While originally emphasising the disparity between those with and without access to the internet, the digital divide is now understood as a multi-level phenomenon. Leading international scholars in the field (Hargittai, 2021; van Deursen & van Dijk, 2019) have conceived of the digital divide as having three categories: first-order (access to the internet and digital technologies), second-order (digital skills and use of digital technologies), and third-order (social and tangible benefits of digital inclusion). These levels are aligned with the idea that digital inclusion exists on a spectrum involving many interrelated factors. For example, digitally

included people not only have greater access to high-speed connections and substantial amounts of data, but they also have more advanced digital skills to help advance themselves socially and economically. Furthermore, it is widely accepted that digital exclusion intersects with several forms of social and economic disadvantage, such as low levels of education and income, rural and remote living, and having English as a second language (Helsper, 2021). Indigenous people are often disadvantaged across several of these factors and are thus highly digitally excluded in many places around the world.

The international literature has highlighted challenges and opportunities associated with the development, deployment, and adoption of digital technologies for Indigenous peoples and communities. A review of published research about Indigenous digital inclusion (Campbell-Meier et al., 2020) found that research from Australasia, the broad context of the present study, features prominently. Although this literature highlights intersectional digital, social, and economic disadvantage, it also promotes a strengths-based approach to understanding and addressing digital exclusion, recognising that Indigenous peoples adopt and use digital technologies in ways that fit their specific social contexts. As Heeks (2022) notes regarding the Global South, 'an exclusion worldview is no longer sufficient' (p. 688). In alignment with decolonisation scholarship, Moyo (2017) states that.

> Universal access to computers … cannot be viewed simply as the panacea to the digital divide problem. The import of the decolonial and border critique to the digital divide is that it creates possibilities for a new loci of enunciation that recasts access to the Internet within a cultural and linguistic turn empowering to Africa and the Global South. (p. 133)

Accordingly, our study accounts for the opportunities afforded by digital technologies in Indigenous communities as recounted by Indigenous people themselves, framing digital inclusion as means to self-determination and sovereignty.[2]

One of Australia's closest neighbouring countries, Aotearoa New Zealand, is another settler colonial country that has significant digital inequality between Māori and the general population. Campbell-Meier et al. (2020) undertook a literature review of work regarding Indigenous digital inclusion in the Aotearoa context (noting that it has a much smaller geographic area than North American countries and Australia) and observe that, 'there is still a strong focus on providing access to the Internet, and less focus on the development of skills, trust or motivation … deficit language is prevalent in the discussion of the Indigenous experience with digital technologies … ' (p. 310). Nonetheless, Aotearoa has a national digital inclusion plan to address inequities, including for its high Māori that acknowledges 'it is clear that no organisation or sector can solve this challenge on their own' (New Zealand Government, 2020, Work Towards Digitally Included New Zealand is Well Underway section).

Indigenous digital inclusion research focused on colonised countries in the Global North has largely focused on the USA and Canada, often taking a deficit approach to draw attention to needed digital interventions. Hudson and McMahon (2022) report that Indigenous people in the USA, such as Tribal communities in Alaska, have historically faced challenges of limited or no access to broadband, high costs, relatively low revenues, great distances, difficult terrain, and extreme climate. Similarly, rural Indigenous communities in Canada experience both supply-side challenges (i.e., availability and cost) and demand-side challenges (i.e., appropriate digital literacy programmes)

(McMahon, 2020). Furthermore, Fontaine (2017) identifies not only limited infrastructure and connectivity as a key factor of digital exclusion, but also a lack of digital literacy and training. In response, 'Indigenous organisations, including Indigenous [telecommunications] providers, have advocated for policies to extend affordable broadband, and to require consultation by carriers that receive government funding or licenses to serve Indigenous lands' (Hudson & McMahon, 2022, p. 93).

Both the Canadian and the USA governments have invested in infrastructure and programs that enable Indigenous entities to build and administer their own internet services, describing inclusion in these areas as the 'last mile' of development (Hudson & McMahon, 2022). For example, the USA's Federal Communications Commission has an Indian Telecommunications Initiative[3] aimed at assisting Native American and Alaskan Tribes to connect to existing telecommunications infrastructure, and Broadband USA (National Telecommunications and Information Administration) has established the $US980 million Tribal Broadband Connectivity Program[4] for broadband deployment on Tribal lands, as well as for telehealth, distance learning, broadband affordability, and digital inclusion. While these are largely welcome initiatives, they present challenges to Indigenous providers 'to identify broadband programs for which they are eligible, and then to locate and submit all the necessary information in the formats required by funders' (Hudson & McMahon, 2022, p. 175). This evidences insufficient Indigenous-led consultation to design programs that achieve shared objectives to get Tribal lands and people better connected, thereby enabling broader Indigenous digital and civic participation.

Indigenous digital inclusion in Australia

Like their Canadian and American counterparts, the Australian Government and major telecommunications providers have struggled to meaningfully address Indigenous digital inclusion, owing to a combination of the remoteness of Indigenous communities, the costs of installing infrastructure to service a small number of residents, and lack of Indigenous-led initiatives (Rennie et al., 2013; Rennie et al., 2016). While investments in remote digital connectivity infrastructure and capability have increased in recent years (such as through the Regional Connectivity Program[5] and Deadly Digital Communities[6]), the Australian Digital Inclusion Index shows Indigenous people, especially those living in remote communities, continue to experience low levels of digital access, affordability, and digital ability (Thomas et al., 2021). More broadly, recognising that Indigenous Australians experience disadvantage across life spheres as compared to non-Indigenous Australians, the Australian Government has a *National Agreement on Closing the Gap*[7] that includes 19 socio-economic targets aimed at improving life outcomes for Indigenous Australians. Outcome 17 of the Agreement states, 'Aboriginal and Torres Strait Islander people have access to information and services enabling participation in informed decision-making regarding their own lives.' Measurement of this outcome is based on the associated target that 'Aboriginal and Torres Strait Islander people have equal levels of digital inclusion' by 2026 (Australian Government, 2020). Under current circumstances, this target is unlikely to be met given that the digital inclusion gap between Indigenous and other Australians remains a "critical issue" (Thomas et al., 2021, p.4), with many remote Indigenous communities urgently needing better digital access and opportunities (Babacan et al., 2021).

Several studies have sought to illuminate Aboriginal and Torres Strait Islander peoples' experiences of the internet and digital technologies, as well as document opportunities and challenges associated with digital inclusion, though there is relatively little literature in comparison to research focused on other digitally disadvantaged cohorts (e.g., seniors). Most of this work has focused on remote Aboriginal and Torres Strait Islander communities, even though only 17% of all Indigenous Australians live in remote or very remote areas (Australian Government, 2022). Currently, in association with the ADII, the *Mapping the Digital Gap*[8] project is working with remote Indigenous communities over three years to generate a detailed account of the distribution of digital inclusion across Indigenous communities, and track changes in measures of digital inclusion for these communities over time. Early findings have highlighted digital inclusion challenges and opportunities of six remote communities on mainland Australia and in the Torres Strait. Insights pertaining to Erub and Zenadth Kes, which are remote island communities, include unique communications infrastructure challenges owing to hilly terrain, dispersed population across several villages, and extensive use of boats for fishing and inter-island travel, as well as issues more common to remote communities, like low household incomes and limited fixed home phone or internet (Featherstone et al., 2022).

Based on extensive, qualitative fieldwork undertaken in Central Australia, 'Internet on the Outstation' (Rennie et al., 2016) explores how, in the context of home internet, 'the infrastructures of the internet – including the technologies, public policy programs and retail mechanisms – were serving or failing this particular population' (p. 17). Through insights into ownership and values, mobility, uses, skills and training, and gender, the authors show that patterns of internet use are unique to each community and, therefore, methods to address digital inequality need to be targeted and community-led. Emphasising cultural and social aspects of digital adoption, Guenther et al. (2020) document the importance of digital mentors to support transfer of essential digital skills and knowledge to community members. Such interventions can lead to improved Indigenous outcomes for employability skills, essential access to technology, and basic literacy, as well as maintaining language and culture.

Finally, despite the well-intentioned efforts of government agencies and the private sector, and the research community, to address digital inclusion in remote Indigenous communities, controversy has surrounded provision of digital connections and technologies in some instances. One critique is that when telecommunications infrastructure is installed, there is often little planning for how the equipment is to be maintained. Furthermore, remote communities often lack the in-house capability to troubleshoot technical issues, resulting in waiting weeks or even months for outages to be restored (Babacan et al., 2021). Upselling of digital devices and data plans to Indigenous people is also well-documented. In 2020, a national telecommunications provider admitted to unconscionable conduct for selling Indigenous customers 'multiple post-paid mobile contracts which they did not understand and could not afford' and devices (as part of the post-paid mobile phone plans) that were represented as 'free' by sales staff (Australian Competition and Consumer Commission, 2020). Consumer digital literacy (being able to discern between telecommunications products and services) and digital connectivity literacy (being able to set up and use digital connections and devices) are therefore also emerging as key aspects of digital inclusion (Marshall et al., in press).

Methodology

Historical context

Mornington Island is in the Gulf of Carpentaria (Queensland) among the Wellesley Islands, which are collectively the lands and waters of the Lardil, Yangkaal, Kaiadilt and Gangalidda peoples. The Lardil people are the Traditional Owners of Gununa, the only township within the island group, on Mornington Island. In the early 1900s, all islands in the Wellesley Group were declared Aboriginal reserves and the Presbyterian Church established a mission at Gununa. By 1921, the use of dormitories to isolate Aboriginal children from their families was well-established (Queensland Government, 2018). As such, Mornington Island has a long history of forcible and voluntary removals and relocations of Aboriginal peoples. Today, Gununa (see Figures 1 and 2) is a blended community of local Aboriginal peoples, and Indigenous and non-Indigenous people from elsewhere who have moved to the island predominantly for work in the Council, police, school, health, and childcare services. The impact of government assimilation practices has led to intergenerational and post-colonial trauma that has impacted the lives of living Elders who remember these times, their ancestors who have passed, and their living descendants.

Telecommunications context

Like in many remote locations in Australia, Mornington Island residents have relatively limited telecommunications options. While the Australian Government-owned National Broadband Network (NBN) provides the wholesale infrastructure for all Australians to be connected, in remote areas these connections are made through satellite, which is less reliable, has slower speeds, provides less data, and provides less value for money than fixed line and fixed wireless connections in regional and urban areas (Hartsuyker et al., 2021). Consumer and enterprise NBN satellite plans can be purchased through several internet service providers, with Activ8Me as the most popular provider. The Island's only mobile network (4G) is provided by Telstra, Australia's largest national carrier. This
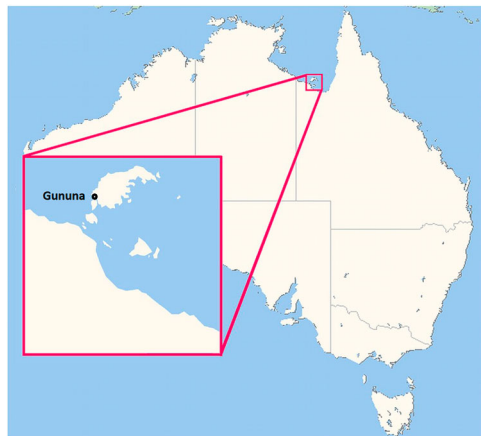

Figure 1. Gununa is the township on Mornington Island, which is situated in the Gulf of Carpentaria in Northern Australia.[13]
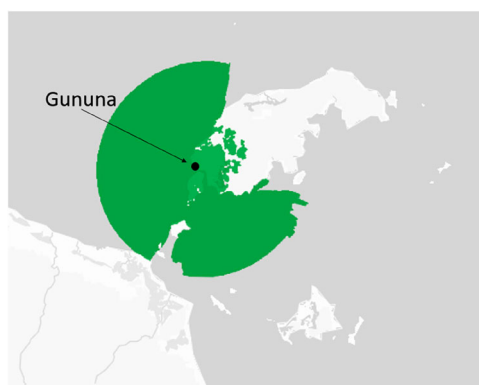
Figure 2. Mobile phone coverage on Mornington Island is concentrated in the township of Gununa.[14]

service is concentrated in the main town of Gununa (see Figure 2) and is prone to congestion and outages, with vulnerability to extreme weather events (e.g. cyclones) (Babacan et al., 2021). There is free NBN community Wi-Fi installed in a central location within Gununa giving an approximate 100 m connectivity radius. There are also outstation phone units: cyclone-proof, solar-powered, satellite-enable phone boxes with a regular landline number attached to them for dialling in and out (some are also Wi-Fi enabled). Importantly, Mornington Island is slated to receive a major upgrade to its Telstra mobile service under the Regional Connect Program[9] (Figures 3 and 4).

Approach

The research was undertaken by a team of Indigenous and non-Indigenous researchers in collaboration with the Mornington Island Council, Elders, and community members. Our approach is situated within the growing body of decolonising methodologies and

Figure 3. Cyclone proof outstation phone approximately 25 km from Gununa township, Mornington Island.

Figure 4. Cyclone proof outstation phone approximately 25 km from Gununa township, Mornington Island.

Indigenous research methods utilised by Indigenous researchers and communities. Specifically, data collection and analysis were informed by Martin and Mirraboopa's (2003) relatedness theory. This involved: operating in ways that encouraged an equal and open relationship, led by the community; understanding that each aspect of community life was part of a larger, connected whole, geographically (everywhere) and temporally (everywhen); and recognising reciprocal relationships with the natural, physical, social, and technological world. This approach promoted holistic understanding of the impact that digital inclusion has on Aboriginal lives, which are centred on connectedness to people, to places, and to various social roles and communities.[10]

Pre-existing relationships held between the research team and Mornington Island residents and council workers led to initial conversations about a possible research project. After this, the third author (an Indigenous researcher) visited the Island to meet with the Mayor, Acting CEO of Mornington Shire Council, and community Elders, and to discuss appropriate project timing and data collection methods. Following this, we devised a flexible, fit-for-purpose, Indigenous-led research plan focused on representing Indigenous voices and stories, and arranged appropriate project logistics. For instance, as Gununa has limited accommodation, and only one community store providing limited food and supplies for everyone on the Island, it was suggested our visits be kept short (no more than a week long). Accordingly, two researchers (one Indigenous, one non-Indigenous) made two, four-day research trips over a six-month period.

Methods

Two data collection methods, yarning and 'show and yarn' photography, were used to centre the voices of Indigenous people. These techniques, described below, were blended in the researchers' interactions with Indigenous family members, and representatives of local service organisations who had regular contact with families. One interview with a Council representative occurred on Zoom. In total, the researchers visited four families

and six organisations, with a total of 14 participants supplemented by *ad hoc* conversations with locals during our visits. All interactions were audio recorded and transcribed using transcription software, and photographs were taken by participants and the researchers on project iPads. We note that our research did not and cannot represent the views of the whole community. Instead, we focused on amplifying the voices of a small number of families.

Yarning (Bessarab & Ng'Andu, 2018; Murrup-Stewart et al., 2022; Terare & Rawsthorne, 2020) worked as a flexible method allowing Indigenous families to describe how they use the internet, the challenges they face in accessing digital and internet services, and the impact this has on their lives. Aboriginal yarning is a 'fluid ongoing process, a moving dialogue interspersed with interjections, interpretations, and additions' (Geia et al., 2013, p. 15). Further, yarning 'can meander all over the place … . Like a conversation … and can be messy and challenging' (Bessarab & Ng'Andu, 2018, p. 37). Yarning enabled the Aboriginal participants to share their knowledge (Martin, 2012; Nakata, 1997; Smith, 1999) and to speak openly about their experiences, thoughts, and ideas in a culturally safe space (Fredericks et al., 2011). The integrity of the yarning process requires responsibility and accountability among stakeholders (Atkinson et al., 2021; Barlo et al., 2021). The researchers therefore adopted several relational practices including allowing Council representatives with existing relationships to introduce us to participants; meeting participants at a place and time that was most convenient for them; sitting outside and often on the ground outside people's houses to show respect of their privacy; and talking through the project in plain language and answering questions before gaining consent and beginning the yarn. The researchers took a similar approach to yarning with representatives from service organisations including the Council, arts and cultural organisations, childcare and family services, and employment services. These yarns gave context to the findings that emerged from families and helped to elaborate on the ways digital devices and data/phone credit are sourced.

The 'show and yarn' participant photography method was inspired by the technology tour method (Kennedy et al., 2020) and photoyarn method (Rogers, 2016, 2017, 2018). This involved family members showing the researchers their digital devices (mostly smartphones and tablets) and describing other devices in their homes such as gaming consoles, laptops, and Wi-Fi dongles. If participants were comfortable, either the researcher or the participant used an iPad to take a photo of the device they were yarning about (see Figures 5 and 6) which led to the 'show and yarn' method. The use of photography among marginalised groups has been shown to give 'voice through photos to people who might not ordinarily have the opportunity to convey their perspectives on important issues' (Necheles et al., 2007, p. 211). There was also an observation component to this method, but this was solely focused on the technology devices, not the home environment or other people or physical items that were seen or heard. These observations included seeing how technology is used to connect to different services, and understanding how different connection types (e.g., mobile, satellite) assist or hinder digital inclusion.

Data were analysed thematically using sensitising concepts from our theoretical underpinnings of relational ontology (identities, interests, connectedness, relatedness), decolonising approaches (sovereignty, self-determination, connection to place), and digital inclusion frameworks (strengths-based, non-deficit, multi-level). This included

Figure 5. Devices shown to researchers during the yarns.

foregrounding Indigenous ways of being, doing, and knowing over Western practices. For example, affordability in digital inclusion research often relates to an individual or household's ability to pay for digital devices and services. On Mornington Island, families spoke of sharing devices and connections among extended family. The tension between these relational practices and individualistic notions of digital inclusion is explored in the findings.

Findings

Choosing prepaid mobile over home-based internet connections

Family members we yarned with were connecting to the internet through a portable device, usually a smartphone but sometimes a tablet or laptop. Most participants were

Figure 6. Devices shown to researchers during the yarns.

connected to a 4G network through a prepaid SIM card, and they would usually buy $30 or $60 top-ups at the local Post Office. The participants often referred to this internet connection as 'Wi-Fi', which was often shared among family members through hotspotting from one mobile device to another, as there was no home-based internet in the homes we visited. Children also used (in at least one instance) their parents' mobile data to play videogames on Xbox and PlayStation after the data on their own devices ran out (if they owned a device). While demand for mobile data was high, it was scarce and costly for families, as recounted by one mother:

> 'Oh Mum, I've run out of credit.' And I say, 'We'll have to wait until I get paid.' So, you hot-spot [the kids] from one, two, three o'clock every day. Yeah, I've got no data because we've got to hotspot for them … (Participant 3)

Such interactions between family members highlight a tension between the collectivist nature of the community and the individualistic structures of mobile devices and accounts. As one participant noted, 'if someone wants to use the internet to do a bank transfer, they'll ask [for a hotspot]'. In line with social protocol, the request is usually granted, often at the practical and financial expense to the device owner who then has to recharge or wait until their next pay day. This is a repetitive cycle, as another participant noted, 'Recharge the recharge and then you run out, then you buy it again and run out'.

Families recounted reasons for remaining with mobile devices and data, even though there were opportunities for home-based NBN satellite connections which, in the longer term, would offer higher quality, cheaper internet, and more data. Given their financial precarity, participants indicated concern over being locked into ongoing contracts. Several people talked about individuals they knew, or had heard of, who signed up to telecommunications contracts and had high bills and poor service in accessing, troubleshooting, and maintaining their connection. Some customers continued to be charged for a service that was not working. Furthermore, if they missed a payment, penalties were applied and debt accumulated. While there are now plans available that allow customers to pay by the month and cancel at any time, the historical lack of trust in telecommunications companies persists, resulting in a widespread preference for prepaid services. Only buying what can be afforded is particularly important when devices and data are being shared among several individuals but often paid for by one person.

Not only are individuals responsible for paying the bills for shared devices and data, but they are also responsible for the upkeep of hardware. This is a further deterrent from investment in satellite connections, which involve a satellite dish, modem, and router, thus requiring greater knowledge and skills to troubleshoot than smartphones. Indeed, many participants said their children know more about how to fix phones and connections than they do. Again, poor experiences with telecommunications providers regarding provision and maintenance of hardware contributed to the decision to be mobile-only, as recounted by a participant:

> Well first, I had Telstra connected to my house and we had the internet … So that was all connected back in I guess, 2015 … No lie, Council done some works over here at a house and they dug up the ground to do the driveways, but I think same time must have done something with the Telstra line. Since then, my internet was just, it was crappy … just

loading, loading, loading. But when I ring Telstra, Telstra would say 'no, everything on our side is all good.' But, in fact it wasn't, because it was just loading, and I keep having that same problem over and over again … . And with Telstra, I tell you what, I had to cancel that whole bundle thingy and tell them to stop because it was crappy. Yeah. It wasn't even worth my money. And [I cancelled it] a month ago. I was paying for it all that time and I just said 'no, stuff it.' (Participant 5)

Overall, the practice of remaining mobile-only relates to the historical and cultural context of the Island. There are structural issues with the way services are provided, billed, and maintained that push residents into higher cost, less reliable options. For example, while all residences on the Island are eligible for NBN Sky Muster satellite, we did not hear about many homes occupied by Aboriginal families that were currently connected in this way. In line with the emergent problems concerning contracts, participants also said that when hardware breaks, there is often no one available to fix it. As one participant noted, 'they've got their [internet service monitoring] machines wherever and they see whatever they see, but they're not experiencing it in the home.' Although NBN and service providers do send technicians to resolve localised interruptions to service, this can take weeks or months. With very limited technical support on the Island to resolve connectivity issues, it is often left to one tech-savvy family member or friend to fix issues (where possible). Moreover, the person whose name the connection is registered to can end up shouldering the financial burden of maintaining payments for a service they can't access. Even though, as will be discussed below, the mobile 4G service is congested and unreliable, families choose this less complex internet connection over alternative options.

Interplay between digital literacy and sharing culture

When visiting families, we heard about sharing as a way of life; when children or other family members ask for things, the natural response is to give loved ones what they need. For example, as noted above, data are often shared freely with young people when they ask for a hotspot. Unfortunately, within Western systems of resource exchange, including telecommunications, banking, and shopping, sharing practices can lead to some people taking advantage of others, which can be distressing for parents and caregivers in families that have little money and resources. Community service personnel recounted that many families do not have systems in place to manage their money, such as budgets, and tend to live day-to-day, which can compound financial pressures. On 'pay day' residents queue in long lines at the Post Office and the Automatic Teller Machine (ATM) at the grocery shop to check their account balance, withdraw money, and send money to family, which can attract a fee. As one participant said, 'So today's the day. We just go and withdraw money from the Post Office. Even I just go check my balance and I just go with my card and just tap it'. While some of these transactions could be carried out for free on a mobile app, many people do not have the knowledge and skills to access accounts in this way. One participant noted, 'Phone apps … And internet banking, it's really hard. It's hard to set it up … Once it's set up, it's okay.' This points to broader digital literacy issues that can intersect with sharing practices in adverse ways. For example, participants recounted stories of children asking to use their parents' or grandparents' debit card, which involves sharing their PIN. Thereafter, the children repeatedly

use the card or share it and the PIN with other family members without permission. As one participant recounted:

> And some family members do feel like you're taking advantage of them at times when they feel like 'Oh, I should share.' And it's the same way with the banking, with the money. They'd feel like they're obligated to share their money instead of paying the bills or buying the food and whatnot. (Participant 4)

Not only does this situation present a complex cultural dilemma to work through, but it is also indicative of people's limited digital financial literacy and understanding of digital privacy and security. Several participants did show interest in learning new digital skills that would help them with everyday tasks. One participant with a daughter in boarding school on the mainland, who used to rely on a family friend, learnt how to access email for communications from the school. She said, 'I had to learn how to email properly, because … the itineraries for Fiona[11] would come to [another mother], for travel and consent. She'd ring me and ask me; do you consent to Fiona's leave?' These digital skills are often passed from the younger to the older generation. As one participant said, 'Yeah, just have our kids teaching us.' Access to computers, Wi-Fi, *ad hoc* digital support, and training sessions are available on the Island through community organisations, providing opportunities for people to become more digitally savvy. However, these facilities didn't seem popular among the participant families who prefer to access the internet at home on their own devices and ask family members for assistance when needed. One participant said, 'I've got Elyna and Felicity to help me out, and of course my children, and I said, "Just don't mind me, just have patience because I'm only learning"', evidencing a cultural gravitation to the home and family. While effective, this upward, intergenerational digital mentoring is precarious, owing to the fluidity of oral Indigenous knowledge transfer. That is, young digitally savvy people may leave the Island to pursue opportunities taking their digital skills with them.

The interplay between digital literacy and sharing culture is further evidenced by the apparent low uptake of the free community Wi-Fi network. This NBN satellite service (Figure 7) was recently installed in one of the most well-trafficked areas of Gununa, next to the only grocery shop on the Island. When we discussed the free Wi-Fi in our yarns, adults said they were unlikely to use it, even if they had run out of mobile credit. While these adults were not forthcoming with explicit reasons for not using the Wi-Fi, they mentioned that the free Wi-Fi was primarily for young people and children when they cannot hotspot from family at home. One participant recounted that when she had home internet connected (now cancelled), it was only when she changed the Wi-Fi password that children were compelled to use free Wi-Fi elsewhere:

> When I had my Telstra one [home internet] … all my nephews and my nieces, they all said, 'oh, can I have the password?' And I said 'okay.' I was nice enough to give my password and the next minute I had every child in this neighbourhood here standing on that side of the road. I'm like … 'What they doing?' … my nephew, I seen him one day, he walked over there and apparently he gave it to one person and one person … I was, 'hey, I'm changing my password.' And that stuffed them all up. I changed the password. But nowadays, they go to the hospital if they want free Wi-Fi and over at the [free Wi-Fi] area – but that's like with the kids that I guess walk the streets and just want free Wi-Fi and whatnot. (Participant 4)

Figure 7. Community Centre with satellite-enabled Wi-Fi on the roof.

This story further demonstrates this participant's progression from an initial decision to give her Wi-Fi password to her nephew, to developing digital literacies around securing her network in response to local children taking advantage. In this way, some local residents are acquiring self-taught digital skills, as well as receiving mentoring from others.

Digitally enabled connections to culture and Country

A final theme that emerged was the impact that limited and sometimes broken mobile phone reception and coverage on Mornington Island is having on connection to culture and Country. A recent major outage of all mobile phone reception that lasted a whole week was brought up in yarns numerous times. The reasons for such outages are not clear to residents, but impacts including inability to withdraw cash from the ATM, inability to check their bank balances, issues with calling for help in emergencies, and a lack of communication with the mainland, were all described as deeply concerning. One Elder recalled:

> When we lose power, coverage and all that … people had to walk, or run to the hospital if it was really bad … . Landline and internet … just gone … . Yeah, the question is why did it take so long? … . We wait and rely on them. But why? The question is why did it take so long? I mean, some people's lives was depending on that communication … . Because some of them live way away. Long way from the hospital. So they had to run. Yeah … . They got to run. Just to get an ambulance. Couldn't ring 000 or nothing. (Participant 1)

Participants also spoke of the power of connecting with friends and family via social media and on the internet when services are working. One participant said she has used Facebook to find and connect with family she had been separated from during the Island's mission period. She said of a male relative who had passed:

> … there were two, his two younger brothers. And then his sister got sent to … Two of his sisters, one to Yarrabah, and one to Hope Vale, and this is how we all are getting connected, through Facebook, they know where they come from. They just want to listen more. And

this how … My mum, she's got the knowledge … On Facebook, they send friend requests and then they tell us who they are and this is how we are getting connected because of this. (Participant 3)

This participant further recounted she had been using Facebook groups to encourage local Aboriginal people to share historical photos and documents of Mornington Island. Being able to do this online allows family and relational networks to be maintained without expensive travel.

As well as unreliable mobile connections in town, participants spoke about the impact of poor mobile coverage across the Island. With coverage being concentrated in the township of Gununa, it does not extend to the many homelands. Some homeland outstations do have satellite-enabled landline phones (some with Wi-Fi), which are used and appreciated by locals. As one participant said, 'It [the landline] comes from handy with my Country,' for example, to call for help if there is a vehicle breakdown. The most common concerns about lack of mobile coverage across the broader Island were about safety, given that Aboriginal people move around and between communities frequently, including to and from Doomadgee on the mainland (over 100 kilometres away), for celebrations and sorry business:

> [If we had proper coverage] they can ring from way out there, they can ring us … All these internet … We've got outstation and there's a lot of venomous snake out there, if anybody get bite from snake or stone fish. You know … in the sea if they go walking on the reef, you know? Especially if we're … out and about, and we've got kids out there. Anything could happen … out on the sea, anything could happen. (Participant 2)

Travelling out of Gununa on roads and on sea to Country and for cultural activities was seen as dangerous for the elderly and those with frail health and was acting as a barrier to these activities. One Elder noted:

> So, when we go out in the bush and if obviously, they're just so mad over phones and social media, they'll go up that houses where the Wi-Fi is and sit around there and go back on Facebook and say, 'This is what I caught today.' (Participant 4)

This Elder further suggested that if the outstations had mobile coverage and data available, more young people would go with family to learn and participate in cultural activities, while being able to connect to the internet on their mobile phones:

> In a sense I think it'll make them happy and have that pride in being out on their own land, catching whatever it is that they get. Whether it's new-born turtle, or crab, fish, and them showing it off and it'll give them that self-pride and happiness …. Yeah. 'This is what I caught.' And they'll show more than one family, and then [on social media like Facebook] you get other people saying, 'Oh, that's too much ... Anymore?' And stuff like that, complimenting them. (Participant 4)

Discussion

This study has illuminated the digital inclusion experiences of Aboriginal people on Mornington Island, using a decolonising lens. Three emergent themes demonstrate relatedness as a core principle of Indigenous ways of being, doing, and knowing. First, participants' choice to access prepaid mobile over home-based internet stems, at least

in part, from their sense of responsibility to their families and themselves to ensure that they remain debt-free from telecommunications companies. Although there are options available to Mornington Island residents that offer greater value for money in the longer term, participants are more concerned with the 'here and now', which is consistent with the relational notion of 'everywhen'. These choices make sense within the specific historical and cultural context, reflecting poor service experiences and untrustworthy behaviour by providers, as was discussed in the literature review. To increase uptake of in-home internet, providers must work to regain trust by, for example, designing products and services that meet the needs of Aboriginal families, such as offering pre-paid in-home satellite internet.

Second, the interplay between digital literacy and sharing culture show that while some Aboriginal people on Mornington Island do lack digital literacies around finance and security, they are keen to learn from others in their own home and family group. This is not surprising, given that Aboriginal knowledge exchange is entrenched in gathering and sharing. These ways of being are somewhat contradicted by the ways free digital access and training are deployed in the community, in public spaces with non-family participants. Future digital inclusion measures could, therefore, include a mesh Wi-Fi network across the community (that does not restrict people to a short radius from a central location) and peer-to-peer digital skills programs, which have been shown to be effective elsewhere, such as in Central Australia. For example, inDigiMOB[12] is a partnership between several Indigenous organisations and Telstra that has delivered digital inclusion and cyber safety awareness in 24 communities in the Northern Territory. The program employs a local network of digital mentors, emphasises peer-to-peer learning, and values experiences and knowledge of Aboriginal and Torres Strait Islander people. In their evaluation of the program, Guenther et al. (2020) observe 'mentoring … (is) a vehicle for digital inclusion, is not simply a process of imparting skills and knowledge. Rather … it is a process for engaging people in digital literacy, and other activities that result in a greater sense of personal empowerment, confidence, and community self-determination/control' (p. 168).

Third, the various digitally enabled connections to Country and culture identified by participants reiterate Indigenous peoples' reciprocal relationships with the natural, physical, social, and technological world. The opportunities that could be afforded by whole-of-Island mobile coverage centre on safety, well-being, cohesion, and storytelling, all of which embody relatedness. The participants share a vision for their community members, old and young, to be able to move freely around Country (on land and sea), being able to seek help when needed or connect with other family members in town or in other communities. This vision could be realised with provision of reliable, affordable mobile voice and data services across the whole of Mornington Island. While the economic cost–benefit for remote infrastructure (e.g., Figure 8) is prohibitive in a Western capitalist frame, scholars have called for a corporate and government social responsibility focus in assessing the viability of telecommunications infrastructure projects that meet the needs of underserved groups in society, including remote Aboriginal and Torres Strait Islander communities (Babacan et al., 2021). The social benefits of improved digital inclusion revealed in this study have the potential to transform lives, now and into the future.

Figure 8. Existing telecommunications infrastructure on Mornington Island.

Conclusion

Global trends that affect our era have been listed as 'scapes' by Appadurai (1990) and include media, finance, ideas, movement, and people and technologies. Given the gravitas of technologies, digital inclusion is significantly important for people who face severe disadvantage. Movement of technologies is global and brings ways of engaging with the world that are entwined with local dimensions. Policy frameworks need to be sensitive to these contexts and ensure culturally appropriate and tailored approaches to their execution. Digital inclusion policies and programs aimed at addressing challenges and bolstering opportunities on Mornington Island (and other remote Indigenous communities) should adopt community-led development, deployment, and maintenance of telecommunications infrastructure, products and services, and collaborative design and delivery of digital skills initiatives. Digital inclusion projects should foreground and accommodate Indigenous peoples' sharing cultures that, in many instances, conflict with current modes of digital service delivery across life spheres. Only genuine co-design and collaboration between governments, telecommunications providers, community organisations, and Indigenous communities will achieve meaningful progress toward closing the digital inclusion gap in Australia. Indigenous-led digital inclusion initiatives are taking place in other parts of the world, including Indigenous-owned telecommunications providers. While the Australian context is not yet mature enough to support similar, structural changes to internet and mobile service provision, immediate steps can and should be taken by existing agencies to better tailor services and programs to the technological, social, and cultural needs and aspirations of Aboriginal and Torres Strait Islander people. Continued research with Aboriginal communities and listening to first-hand stories and lived experiences are essential to closing the digital gap in Australia.

Notes

1. At the time of writing, almost sixty-five percent of the world's populations were internet users, meaning over one-third of people are missing out (Statista, 2023).

2. Digital sovereignty in this context includes Indigenous communities having opportunities to harness the power of digital skills and tools for community self-determined, nation-building purposes. Aboriginal scholar Maggie Walter (Walter & Carroll, 2021) states that sovereignty goes beyond the idea of control of data and technologies, emphasising a need for Indigenous frameworks to collect and/or create data. Digital inclusion, from this perspective, is seen as both a method and a tool for advancing Indigenous sovereignty.
3. https://transition.fcc.gov/indians/itibooklet.pdf
4. https://broadbandusa.ntia.doc.gov/resources/grant-programs/tribal-broadband-connectivity-program
5. https://www.infrastructure.gov.au/media-communications-arts/internet/regional-connectivity-program-including-mobile-black-spot-opportunities
6. https://www.slq.qld.gov.au/about/partnerships-and-collaborations/local-government-and-public-libraries/programs/deadly-digital
7. https://www.closingthegap.gov.au/national-agreement/targets
8. https://www.digitalinclusionindex.org.au/first-nations/
9. https://www.infrastructure.gov.au/media-communications-arts/internet/regional-connectivity-program-including-mobile-black-spot-opportunities
10. The research also adheres to best practice ethics as outlined by the Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS) (2020), and was undertaken with approval from the Queensland University of Technology's Ethics Committee (no. 5411).
11. Pseudonyms used to protect identity.
12. https://indigimob.com.au/
13. Gununa is approximately 1867 km from Queensland's capital city, Brisbane and 456 km (283 mi) from Mount Isa, the nearest major service centre. https://en.wikipedia.org/wiki/Gununa,_Queensland
14. Source: https://www.telstra.com.au/coverage-networks/our-coverage

Acknowledgements

Disclosure statement

Funding

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