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Rural realities

Digital communication challenges for rural Australian local governments

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Abstract

Purpose – This article explores challenges for rural Australian local governments during the transition to high-speed broadband infrastructure. Despite the National Broadband Network’s promised ubiquitous connectivity, significant access discrepancies remain between rural and urban areas.

Design/methodology/approach – Empirical findings are drawn from a full-day workshop on digital connectivity, which included participants from seven rural local governments in New South Wales, Australia. Thematic analysis of the workshop transcript was undertaken to extrapolate recurring nuances of rural digital exclusion.

Findings – Rural communities face inequitable prospects for digital inclusion, and authorities confront dual issues of accommodating connected and unconnected citizens. Many areas have no or poor broadband access, and different digital engagement expectations are held by citizens and local governments. Citizens seek interactive opportunities, but rural authorities often lack the necessary resources to offer advanced participatory practices.

Research limitations/implications – While this research draws from a small sample of government officials, their insights are, nonetheless, heuristically valuable in identifying connectivity issues faced in rural Australia. These issues can guide further research into other regions as well as civic experiences of digital inclusion.

Practical implications – There is a need to reconceive Australia’s current policy approach to broadband. Greater rural digital inclusion may be achieved by focusing on connectivity as a public interest goal, targeting infrastructure developments to suit local contexts and implementing participatory digital government practices.

Originality/value – The actions suggested would help ensure equity of digital inclusion across Australian municipal areas. Without such changes, there is a risk of rural citizens facing further marginalisation through digital exclusion.

Keywords Policy, Digital inclusion, Broadband infrastructure, Connectivity, Digital government, Rural local government

Paper type Research paper

1. Introduction

Advancements in digital infrastructure have gained attention for the transformative changes that ubiquitous, high-speed connectivity offers society. Increased interactivity, mobility, always-on and always-with access to the Internet are redefining political,
social, cultural and economic practices (Farman, 2012). However, these ideas are largely conceptualised around urban spaces, and they presuppose a level of Internet availability and accessibility that is not always present (Leung, 2014). In Australia, infrastructure developments under the National Broadband Network (NBN) promise improved connectivity for all (DBCDE, 2011a). Nevertheless, the time required for such a complex, large-scale project presents challenges for digital practices during the transition to high-speed access.

This article explores the impact of this interim phase of connectivity on rural Australia and local digital government. It draws from the views of representatives from seven rural councils in the State of New South Wales to highlight the significant divides that exist in terms of the access and resources required for digital interaction with citizens. There are considerable municipal areas outside of townships that have no or poor Internet access, and anticipation of NBN developments inhibits upgrades to existing communication infrastructure. Lack of commercial viability in rural areas also hinders broadband progress and, for those residents who are connected, the quality of access lags that of urban centres. While the authorities recognise socio-economic opportunities that digital connectivity offers their communities, their own digital practices are largely restricted to one-way communication due to their limited capacity and resources. They have, however, identified that civic expectations surrounding digital interaction with government are changing due to the proliferation of technologies in everyday life (Jaeger and Bertot, 2010; Wolff and Andrews, 2010). This article suggests that greater digital inclusion may be achieved by reconceiving broadband provision as a public interest goal, targeting infrastructure developments to locales and focusing on the co-development of civic participatory practices alongside digital services.

2. Rural digital inclusion

Improved connectivity offers rural communities opportunities for increased inclusion in the digital economy by overcoming some of the disadvantages associated with distance (Warren, 2007). Broadband provision and targeted digital government practices have been linked with positive social and economic impacts and the development of more resilient rural communities (Hogan and Young, 2013; Wolff and Andrews, 2010). Digital initiatives are rapidly becoming the default means for information provision, transactions and civic engagement; however, significant divides of access and capacity remain persistent in rural areas. These divides result from a range of factors including the socio-economic circumstances of communities and the commercial feasibility of rural infrastructure developments (Dobson et al., 2013; Wolff and Andrews, 2010; Prieger, 2013).

Australian rural connectivity to date has suffered from instability in broadband policy and developmental processes that are largely incompatible with political lifecycles. Rhetoric surrounding equity of broadband access, regardless of geographical location, emerged in Australian policies from the early 1990s (Middleton and Park, 2014). The now redundant “Australian Broadband Guarantee” (initiated in 2007; ended in 2011), for example, aimed to ensure metropolitan-comparable services at a reasonable cost for people in remote areas. Despite such discourses, Australia’s Universal Service Obligation (USO) only applies to landline telephone services where Telstra, as the monopoly incumbent, is the primary provider (Telstra, 2005). The USO does not extend...
to either the Internet or mobile services, even though broadband is increasingly necessary for people to participate in digital society (Goggin, 2014; Leung, 2014).

Announced in 2009, Australia’s NBN seeks to provide ubiquitous high-speed connectivity through fibre-optic, fixed-wireless and satellite technologies, with the rollout of services to be undertaken by the government-owned company, NBN Co. The NBN has faced continued uncertainty, contestation and adaptations, largely resulting from political leadership changes (Middleton and Park, 2014). The NBN plans were designed to address the market failure of investment in broadband infrastructure, as “the market was not going to fix the problems of connectivity” (Rural and Regional Committee, 2014, p. 170). Developments to date have prioritised urban centres as smaller and dispersed populations are less commercially viable (Dobson et al., 2013). Rural areas will predominantly be serviced through fixed-wireless (mobile) and satellite technologies, which offer inferior quality to fibre optics. There is no clearly defined geographical area for fixed-wireless coverage, and the interim satellite service has reached capacity (two new satellites are anticipated for 2016), resulting in users abandoning it as the quality of connections deteriorates due to over-subscription (Middleton and Park, 2014). Moreover, there are no obligations under the NBN to ensure reasonable consumer prices, and anticipated developments have led telecommunications providers to wait for NBN infrastructure to transition customers rather than repair or upgrade existing infrastructure. Rollout delays mean rural citizens face extended periods with no or poor broadband access, and those with access face higher costs (Middleton and Park, 2014).

The NBN is closely tied to the National Digital Economy Strategy (NDES), which offers broad development goals to capitalise on NBN infrastructure and advance Australia’s position in the digital economy (DBCDE, 2011a, 2013). The 2013 update to the NDES included a strong push towards “digital first” services as the primary/preferred means at the Australian federal level (DBCDE, 2013). These digital government services will rely upon the NBN’s speed and bandwidth. However, ubiquitous provision of NBN infrastructure – under the current incarnation of plans – will likely postdate the transition to digital government services, which are scheduled for completion by the end of 2017 (DBCDE, 2013). Notably, the NDES also recognises that local authorities provide vital services to their communities and these governments will drive greater digital engagement (DBCDE, 2011a).

Over half of Australia’s 559 local governments govern small, dispersed rural populations of less than 15,000 people (DBCDE, 2012). These authorities undertake a broader range of community services than metropolitan councils to help ensure social inclusion (Broadband for the Bush Alliance, 2013). As the first point of call for many services, these governments have a duty to ensure equitable and effective access to digital practices. The Federal Government provides assistance to some councils and their communities through the “Digital Local Government” and “Digital Communities” programs. Under these initiatives, public training hubs have been provided in 40 communities in which the NBN has been rolled out and their councils can apply for funding towards the development of digital services (DBCDE, 2011a, 2011b).

While in the midst of these schemes, the digital divide between urban and rural areas remains a persistent policy issue. Uneven development is to be expected during complex large-scale projects, particularly when national policies often favour urban areas (Strover, 2001). It is important to remember, however, that national policies surrounding innovation often only produce incremental changes (Osborne and Brown, 2011). For this
reason, other countries have adopted mid-term remedies to assist rural areas during interim periods of digital transition. For example, mobile broadband is filling important gaps in fixed-line coverage in rural areas of the USA, and funding under its Universal Telecommunications Service has been extended to providers that advance rural mobile broadband connectivity (Prieger, 2013). Walterova and Tveit’s (2012) research into Europe’s digital local agenda demonstrates that localised approaches to digital inclusion effectively reduce the digital divide amongst marginalised groups. Policy frameworks should be strategically translated to account for specific local conditions, including geographical contexts and citizens’ socio-economic circumstances, so that improved infrastructure access and opportunities for digital inclusion can be achieved for disempowered citizens (Walterova and Tveit, 2012). Without such interim approaches, limited connectivity inhibits digital engagement, and rural citizens may be penalised if services are withdrawn from conventional formats in favour of digital means (Warren, 2007; Bélanger and Carter, 2009).

Nevertheless, the proliferation of digital media into everyday life is changing civic expectations surrounding digital interaction with government and creating increasing demand for new forms of local participation (Wolff and Andrews, 2010; Jaeger and Bertot, 2010). Rural authorities face a double-edged sword in relation to digital government initiatives. On one side, limited connectivity impacts the capacity to provide digital practices. On the other, they often possess fewer financial resources and less technological capabilities needed for digital initiatives than urban authorities (Wolff and Andrews, 2010; Dobson et al., 2013). However, local governments – rural and urban alike – are recognising the need to provide interactive spaces for citizens, with social networking sites the most popular choice for authorities that lack the financial or technological resources to develop other digital participation mechanisms (Mossberger et al., 2013).

During this time, digital exclusion remains a persistent problem in Australia. There are ongoing concerns that inequities faced by rural authorities and their communities are not adequately addressed (Morsillo, 2013; Park, 2012; Leung, 2014). In 2003 (p. 37), Goggin recognised that:

> The complexity of [Australian] local rural telecommunications will be further complicated by the emergence of convergent media and communications technologies over the next decade, extending and contesting traditional options.

More than a decade later, this article outlines issues that rural local governments face during the current interim phase of high-speed broadband development.

3. Methodology
To identify persistent rural connectivity issues, the multi-layers of digital exclusion must be considered. The provision of broadband does not automatically lead to adoption. Leung (2014) distinguishes between broadband availability and accessibility, arguing that the NBN will increase Internet availability for marginalised communities but accessibility is dependent upon broader factors including affordability and digital literacy. Availability and accessibility are often conflated in Australian federal policy that emphasises access-for-all NBN without recognising that availability will not ensure uptake (Leung, 2014). Individuals must be aware of potential benefits from Internet access and be willing and able to engage in effective uses. To better understand
community-level adoption or lack thereof, a full-day themed workshop on digital connectivity was conducted with rural authorities.

The workshop was held in the nation’s capital city, Canberra, in May 2014. It was the starting point for a larger project on connectivity and digital inclusion in Australia, and has since informed further empirical research into the experiences, capacities and willingness of rural communities to use digital technologies. The broader project aims to provide comprehensive analysis of the complexities of rural connectivity from the views of governments, citizens, businesses and local services to identify locally appropriate approaches to enhance digital inclusion. Future policy recommendations will require such detailed research into the multi-layers of digital inclusion to be effective (Park et al., 2015).

The purpose of the workshop was to discuss connectivity challenges affecting rural communities and generate dialogue around the NBN policy agenda, with the objective of identifying persistent barriers rural authorities face in expediting digital inclusion. The digital local government focus of this article is one aspect of a broader discussion, which also included topics such as socio-economic benefits from tele-health and telework opportunities. The workshop involved seven local governments from the Southern Inlands region of New South Wales: Boorowa, Cooma-Monaro, Goulburn Mulwaree, Palerang, Upper Lachlan, Yass Valley and Young. The Southern Inlands region surrounds Canberra and is predominantly agricultural land (79 per cent) with only a small portion (1 per cent) classified as urban (Park et al., 2015).

In total, 23 people partook in the event, including 12 representatives (n = 12) from the local authorities (Table I). Along with council participants, academics and experts were invited, including representatives from Regional Development Australia, the Department of Communications and Australia’s Information and Communications Technology Research Centre of Excellence (n = 11), with an aim to link rural connectivity issues and theoretical understandings of digital inclusion. This participatory approach considers communities as research partners, aiming to empower them to achieve change (Allen and Foth, 2011). The intention of the research is to uncover ways to enable greater appropriation of digital technologies in rural areas.

### Table I.
Summary of local council participants

<table>
<thead>
<tr>
<th>Role/position</th>
<th>Municipal population</th>
<th>Household broadband penetration (%)</th>
<th>Household internet penetration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mayor</td>
<td>2,469</td>
<td>56.3</td>
<td>62.8</td>
</tr>
<tr>
<td>General manager</td>
<td>2,469</td>
<td>56.3</td>
<td>62.8</td>
</tr>
<tr>
<td>Economic development officer</td>
<td>2,469</td>
<td>56.3</td>
<td>62.8</td>
</tr>
<tr>
<td>Director of corporate services</td>
<td>10,086</td>
<td>61.0</td>
<td>69.3</td>
</tr>
<tr>
<td>Marketing officer</td>
<td>28,285</td>
<td>58.7</td>
<td>66.5</td>
</tr>
<tr>
<td>Systems administrator</td>
<td>28,285</td>
<td>58.7</td>
<td>66.5</td>
</tr>
<tr>
<td>Mayor</td>
<td>14,835</td>
<td>72.0</td>
<td>79.5</td>
</tr>
<tr>
<td>Chief information officer</td>
<td>14,835</td>
<td>72.0</td>
<td>79.5</td>
</tr>
<tr>
<td>Councillor</td>
<td>7,378</td>
<td>58.2</td>
<td>65.5</td>
</tr>
<tr>
<td>Economic development officer</td>
<td>7,378</td>
<td>58.2</td>
<td>65.5</td>
</tr>
<tr>
<td>Economic development officer</td>
<td>15,516</td>
<td>69.5</td>
<td>77.1</td>
</tr>
<tr>
<td>Economic development officer</td>
<td>12,514</td>
<td>55.0</td>
<td>61.9</td>
</tr>
</tbody>
</table>

Attendees were invited to participate in the workshop in various ways including presenting on particular topics (such as tele-health or telework) or the specific connectivity issues faced by their communities. To uncover areas of priority, council representatives were encouraged to choose their own topic to ensure that the greatest challenges they face were those that were considered. There were also group discussions of ways to more rapidly facilitate advanced rural connectivity and digital inclusion, and participants were able to seek clarification of proposed federal solutions – and suggest modifications – directly with the Representative from the Department of Communications.

For this article, the workshop transcript was thematically analysed to uncover recurring issues surrounding connectivity and digital government initiatives. Participants’ insights are used to highlight the complexities that smaller, rural councils face during the current period of broadband development. The purpose of this qualitative approach is to illustrate nuances of rural digital inclusion that are often masked within larger statistical datasets (Wolff and Andrews, 2010). For example, while there is only a 7 per cent discrepancy between home broadband averages in urban (79 per cent) and rural (72 per cent) Australian areas (ABS, 2014), these figures do not uncover differences in broadband quality, such as latency and bottlenecks, and how these influence online experiences. The following section describes the municipalities’ connectivity issues, then the challenges the authorities face in their digital communicative practices are discussed. For the purpose of anonymity, individuals’ positions are used as descriptive identifiers for quotations.

4. Digital challenges for rural authorities

4.1 Realities of rural connectivity

Unless you live in a rural area you really haven’t got a clue what you’re putting up with in terms of service delivery, timelines, provision of services and all those little things (Chief Information Officer).

Barriers to connectivity are prolific in rural Australian areas, particularly those with small and dispersed populations (Goggin, 2003). Within the participating municipalities, two key layers of digital exclusion emerged:

1. The quality of current connections significantly lags urban centres.
2. People who live in remote regions still have no Internet access at all.

Only one of the participating municipalities has fibre-to-the-premises NBN in its major town (Goulburn). The other regions are not yet scheduled for fibre-optic developments. Residents within a limited number of townships have been able to connect to fixed-wireless NBN, and some who live further from town centres have connected to the interim NBN satellite service. However, the quality of these connections lags urban centres, and fails to support many high-bandwidth services (Middleton and Park, 2014). As one Councillor notes:

In our rural and remote areas we have no mobile and no Internet. I think it’s gone backwards in the last five years [rather] than moving forward with the NBN. I have connected onto the NBN [satellite service] and I find it extremely slow. In a time when we’re all encouraged to be online – do everything online – oh, just pop online and fill out that and email it to me – there is a greater divide. It becomes harder for us to move with the times.
While NBN Co.’s new satellites are planned to improve regional connectivity, there is uncertainty surrounding funding, regional pricing and whether they will have the capacity to cater for higher levels of demand than previously anticipated (Middleton and Park, 2014). Other connectivity issues discussed by participants in relation to the interim satellite and fixed-wireless services include:

- variable quality of connections resulting from oversubscription and times of peak usage;
- intermittent satellite signals due to changing weather conditions (including heavy cloud cover);
- significant costs of rural connections; and
- ongoing latency issues.

One Mayor spoke of the way that existing communication infrastructure in her municipality is not being repaired. For example, the landline telephone network is constantly “breaking down” every time it rains, meaning Internet connections through the telephone network are also lost. It has been anticipation of NBN developments that have prevented improvements to existing infrastructure in these regions:

The network providers are currently very reluctant to upgrade any of their infrastructure with the expectation that it would become redundant at some point in the not too distant future. That really is impacting the residents of our community. They can’t get good quality access (General Manager).

Of particular concern to these authorities was to “get some sort of access to people who have nothing” (General Manager). The local governments highlighted that their communities are very engaged with the issue of broadband as “without those kinds of services, those people become completely isolated” (Economic Development Manager). They recognised that if access is improved for underprivileged rural citizens for whom the market might not otherwise provide, this will enable greater social inclusion and increase their participation in the digital economy (Goggin, 2014).

Participants called for greater flexibility in the use of multiple forms of infrastructure to better suit rural locales. They indicated that a key barrier to connectivity is the lack of commercial viability for fibre developments in rural areas, with high infrastructure costs and small populations not attractive to providers (Dobson et al., 2013; Wolff and Andrews, 2010). Participants suggested that debates surrounding digital connectivity need to transcend economic arguments to ensure inclusion: “there needs to be a genuine government approach in delivering and connecting rural and regional communities at whatever it costs” (Representative from Regional Development Australia). A Chief Information Officer argued that:

I think one of the most serious issues in this discussion is not actually about the infrastructure. It’s about the politics, the politics of persuasion and the realities of getting the commercial interests motivated […] getting the political will to change the policies to make it viable […] there are things where everybody who has it has forgotten what it’s like to live without it.

The local governments understood that gaining broadband connectivity is a lengthy process, but they also recognised that access is increasingly important to support regional economic development:
Getting an outcome is not going to happen overnight; it’s very much an iterative process [...] but having access to good connectivity and communications infrastructure is extremely important for our local economy and being able to grow (General Manager).

This participant suggested improved rural connectivity would help save other long-term costs where, for example, the alternative is for residents to drive long distances for healthcare. In its current state, connectivity is not meeting the needs of these rural communities. Participants felt there is a disconnection between the government’s public speak and the support actually provided to rural areas:

The way the government works is they’re looking after the interests of the majority [...] So we are being left behind because we’re not a loud voice compared to the rest of the population [...] there is this feeling of disdain that a lot of the policy discussion that happens around connectivity in rural areas is a bit of a token gesture (General Manager).

Limited and volatile connectivity places pressure on both governments and citizens in terms of digital practices: “It’s really easy for all the institutions to say just submit it online [...] The realities are very different” (Chief Information Officer). For example, the Australian Taxation Office now requires small and medium businesses to complete quarterly business activity statements online. Poor connectivity prolongs the time taken by small business owners in these municipalities to complete e-tax forms and, in some cases, has prevented lodgement.

### 4.2 Digital local government practices

It all goes hand-in-hand too with just what services are delivered by the Internet [...] it becomes a norm that that’s the way you’re going to get the service [...] it is so important to be connected because that’s the way society is going (Mayor).

Traditional local government engagement activities, such as newsletters, community forums and involvement with groups/associations, remain dominant in these municipalities. A Representative from Regional Development Australia reported data on the participating authorities’ community interaction, which proved effective at encouraging high levels of involvement; participation rates in the region average 25 per cent (with one local government achieving 33 per cent) in comparison to the New South Wales average of 17.9 per cent.

Expectations of digitalised society are, however, forcing rural authorities to quickly adapt to the online environment by offering digital practices. In contrast to the Federal Government’s “digital first” approach, these councils understood that traditional methods must continue alongside digital services so that marginalised groups, such as the elderly, will still have opportunities for involvement. Moreover, advanced digital practices presuppose sufficient access and rural authorities face great challenges for digital initiatives as they often lack the capacity, skills and resources required to develop, implement and manage interactive civic engagement practices (Wolff and Andrews, 2010).

Four of the seven participating authorities currently use the “Local-e Project” archetype for their websites. This program was initiated in 2001 under the past “Networking the Nation” scheme. Local-e provides rural and remote New South Wales local governments with a platform through which they can create websites to increase information dissemination and offer basic service delivery functions (such as downloadable forms). It is an attractive option for smaller authorities that do not possess
the technical expertise or funding to develop their own websites. However, the platform remains largely reminiscent of typical websites from the early 2000s and councils using it are yet to capitalise on any substantially interactive features. The remaining three participating authorities have developed their own websites. However, these also prioritise information and service delivery practices over opportunities for two-way interaction with citizens, and they trail the mobile participatory spaces currently used by their urban counterparts (Freeman, 2015).

The participating councils identified the need to offer interactive forms of civic communication, with six authorities using social media platforms including Facebook and Twitter. Social media has been the fundamental change in local digital government practices in recent years but often its capacity to enhance government-citizen interaction is underutilised (Mossberger et al., 2013). Among participants, there was a strong reluctance to implement and use interactive civic participatory spaces if they could not be done properly. As noted by a Chief Information Officer, key barriers to digital civic engagement faced by these authorities include insufficient financial and staffing resources:

We don’t promote it [social media] very heavily because we don’t have the staff to really sustain an interaction but we do interact on the two sites [Twitter and Facebook]. If you were going to do it the way the platforms really are being driven elsewhere, you’d have several staff doing it and doing it much more aggressively.

The councils using social media largely limit its use to one-way dissemination of media release headlines, important updates and to promote local events. They recognise the value added by these practices, particularly when city-based radio stations re-tweet notifications of highway closures and delays. However, the councils’ current social media use is often insufficient to meet citizens’ changing demands for interaction:

I’d say there’d be no guarantee of any response to social media. The expectations are just ludicrous. There’s this expectation of immediate response, and we got into a difficult situation with the bushfires out here recently where users of social media didn’t understand that council wasn’t necessarily the source of information about the bushfires […] unless you’ve got massive resource levels to man Twitter and Facebook, any sort of response is just totally unrealistic (Mayor).

Citizens do not necessarily use digital practices as the councils’ intended: “they are using social media as an alternative to the more standard means of communication that we’ve had in the past within local government” (General Manager). As more services transition into digital formats, community expectations surrounding interaction with government change (Jaeger and Bertot, 2010). There was a recurring theme in the workshop about the different digital media expectations held by governments and citizens: “It’s important to think at the start of going into any of this [digital government] what the potential consequences are and what the community expectations at play may be” (General Manager). Importantly, this comment demonstrates recognition that effective digital inclusion will require understanding into local civic expectations and needs.

Currently, the authorities view social media sites largely as non-official channels for government communication. In contrast, participants suggested that citizens’ view tweeting to the councils’ accounts as just as official and acceptable a method as submitting formal requests via traditional outlets. The time required to respond and act upon digital communication is also viewed differently, with citizens often demanding
immediate responses to items posted through social media. When civic demand and
government use of digital media do not align, there are missed opportunities for
governments to engage citizens (Bonsón et al., 2012).

A suggestion put forth on how to overcome the dichotomy of digital media
expectations was that greater education is needed for citizens on how government and
good governance works, so that citizens understand the processes within which local
governments are bound to act. Educating citizens on what is possible is important.
Nonetheless, governments will also likely need to adapt their processes to changing
notions of participation in the networked environment. Rather than treating digital
media as broadcasting mechanisms, authorities should refocus on emerging civic
expectations and behaviours (Mergel, 2012). In this regard, there is little point in
governments further developing digital initiatives without systematically determining
what practices (including format and purpose) citizens will want and use (Jaeger and
Bertot, 2010).

5. Policy and public interest
The experiences outlined in this article suggest a need to reconceive Australia’s current
policy approach to connectivity and digital government. For these rural municipalities,
grand schemes are currently doing little to facilitate the development of equitable access
to broadband infrastructure and opportunities for digital inclusion. Moreover, as
connectivity drives socio-economic prosperity (Wolff and Andrews, 2010; Walterova
and Tveit, 2012), there is a genuine risk that these underserved populations will face
further disparities and marginalisation. As a Representative from Regional
Development Australia noted in the workshop:

There’s an absolute disconnect in terms of government’s public speak about how they support
rural and regional economies and communities […] they are actually neglecting needs and
they’re walking away from effectively supporting genuine regional economic development for
communities.

The workshop participants suggested taking a public interest approach in broadband
provision policy so that access is recognised as a fundamental right for citizens
(Morsillo, 2013; McShane et al., 2014): “It is a basic right and there needs to be policy
shaped around that […] Policy needs to be shaped so that rural communities are being
looked after” (Mayor). Such an approach would seek to ensure both universal
availability and accessibility of the NBN – looking beyond the provision of
infrastructure to also anticipate adoption barriers such as affordability and usability
(Leung, 2014; Goggin, 2014).

As previously indicated, Australia’s USO only includes landline telephone services,
fail to recognise that digital connectivity is interconnected with telecommunications
(as evidenced by provider reluctance to upgrade existing telecommunications
infrastructure). USO has both equity and economic grounds. If services are provided
to underserved and disadvantaged citizens in rural areas, for whom the market
might not otherwise provide, this will enable greater communication with others
and increase opportunities for participation in the digital economy. Emphasising
broadband connectivity as a public interest may also encourage commercial
providers to install improved infrastructure in rural areas as part of their corporate
social responsibility or subsidise rural and remote Internet connections to ensure
equitable costing for consumers. These types of practices existed in previous
Australian telecommunications and inclusion schemes (Morsillo, 2013; Dobson et al., 2013), and a public interest policy approach may help remove potential service duplication (provided by Telstra and NBN Co.) while expediting other connectivity initiatives (Middleton and Park, 2014).

A localised approach to broadband connectivity may also help ensure successful deployment into areas with different demands and market environments. Targeted initiatives can account for varying societal and geographical characteristics, drawing from local knowledge of spatial impacts and civic needs to inform suitable infrastructure and services (Walterova and Tveit, 2012; Middleton and Park, 2014). Useful options for rural areas include deploying multiple technologies to build advanced digital networks, the provision of Wi-Fi access as a civic infrastructure or the development of public-private partnerships to invest in upgraded infrastructure (Prieger, 2013; Dobson et al., 2013; Wolff and Andrews, 2010; Goggin, 2014; McShane et al., 2014).

Equally important is that advanced connectivity through the NBN is a precondition for digital inclusion but alone is insufficient to facilitate engagement through digital government (Wolff and Andrews, 2010). To date, digital government initiatives – at both local and national levels – have largely overlooked the value of citizen-centric approaches that encourage receptive and responsive interaction between representatives and constituents, instead focusing on service delivery to improve government efficiency (Freeman, 2015; Bonsón et al., 2012; Mergel, 2012). Effective digital civic participation must begin with understanding into civic needs and expectations so that practices can be designed in line with public interest (Jaeger and Bertot, 2010; Mossberger et al., 2013; Mergel, 2012). The findings of this research, such as different civic and government expectations for social media use and the limited capacity and resources of local authorities, are unsurprising and reflect results from other countries (Wolff and Andrews, 2010; Bonsón et al., 2012; Mossberger et al., 2013). Failure to implement digital interactive practices that meet civic expectations can, however, presents risks for authorities if citizens appropriate technologies for their own political purposes (Bonsón et al., 2012).

The proliferation of digital technologies into everyday life presents significant challenges for people who remain excluded. If the Australian Government continues to prioritise “digital first” services without first ensuring sufficient connectivity, then the development of digital government initiatives may contribute to a greater divide and further disenfranchise rural citizens who are unable to access and use online services (Bélanger and Carter, 2009). This suggests that the Federal Government has failed to consider current connectivity limitations in rural areas and the fact that the NBN alone will not solve all barriers to digital inclusion. New approaches to rural digital inclusion are therefore necessary. Rural local governments will require additional assistance – infrastructure and resources – to facilitate greater civic engagement through digital government (Wolff and Andrews, 2010). Taking a public interest policy approach to broadband and allowing adaptations to proposed infrastructure to better suit locales and civic needs may help ensure more equitable opportunities for digital inclusion. In the meantime, rural authorities will continue to face the dual challenge of communicating with connected and unconnected citizens, and doing so with limited infrastructure, capacity and resources.
6. Conclusion

This article highlights the complexities of rural connectivity and digital initiatives during the current phase of broadband development in Australia. Despite significant federal plans and investments, the workshop findings demonstrate that considerable rural areas still have no or poor Internet access, which suggests infrastructure advancements should be prioritised in underserved areas. Anticipated broadband provision undermines upgrades to telecommunications infrastructure and lack of commercial viability in rural regions also inhibits development. Furthermore, insufficient policy consideration has been given to the different needs of rural populations and locales. The result is that poor connectivity is contributing to increasing rural-urban divisions. Divides in availability and access will not be swiftly remedied by the NBN and, in the meantime, efforts should be made to help ensure equitable opportunities for digital inclusion.

As digital technologies become part of the everyday and citizens appropriate platforms for their own purposes, expectations surrounding digital interaction with governments are changing (Mergel, 2012). Even in these rural areas with poor connectivity, citizens are aware of the possibilities enabled by digital technologies and their expectations parallel those from urban localities (Jaeger and Bertot, 2010). There is a growing need for governments to adapt their practices to offer more interactive capabilities that match civic demand and consultation with citizens would be useful to identify the types of interactive practices that citizens will use. However, the evidence in this article suggests smaller rural local governments are significantly less likely to possess the necessary capacity and resources to develop, implement and manage interactive digital practices. There is significant concern amongst the participating local governments that rural citizens will face further marginalisation as the result of discrepancies in digital inclusion opportunities.

Temporary measures could provide assistance to rural authorities. For example, the provision of updated digital archetypes would save development costs, and these could potentially be provided by councils that are already privileged with NBN infrastructure and have received federal funding to develop digital practices. Rural councils could be encouraged to coordinate the use and management of digital initiatives with other nearby authorities to reduce the demands placed upon any one government, and the Federal Government could offer assistance in accessing experts to help improve rural local governments’ digital capabilities and initiatives (Broadband for the Bush Alliance, 2013). In terms of local infrastructure, taking a public interest approach in policy could help overcome some of the commercial viability challenges rural areas present. Alternatively, allowing greater flexibility in the use of multiple forms of infrastructure may encourage developments to take place in rural areas sooner, and these initiatives could be targeted specifically to local needs.

Policy success is impossible when various levels of government have different goals. For rural Australia, policy commitments over-reach while corresponding action under-reaches (Walker et al., 2012). The most well-intentioned policies can be ineffective if they lack appropriate means of implementation (Strover, 2001). During the current transition to high-speed broadband, interim efforts are necessary to ensure digital inclusion for underprivileged populations. Effective and equitable digital inclusion in rural areas may be achieved by: focusing on connectivity as a public interest goal; greater policy consideration for rural locales in infrastructure developments; the
allocation of further resources for rural authorities’ capacity-building and digital initiatives; and ensuring citizens’ needs are met in the provision of both infrastructure and digital government practices.

References


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