



'It's revolutionised how we do things': then and now - a case study of Internet behaviours in a remote rural community

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Abstract – The Digital Economy has opened up new opportunities for societal wellbeing across many domains of life. However, the market dependency of the landscape of connection has resulted in communities which have inadequate broadband infrastructure and are off the digital map. This form of digital exclusion is most notable in remote, rural areas. In this paper we draw upon the Rural Public Access WiFi Service research study that is focused upon enabling Internet connectivity for commercially 'hard to reach' rural areas in the UK. Enabling broadband connectivity to those who were previously unable to access the Internet demonstrates benefits, which translate into the positive role that improved digital connectivity can have on the wellbeing of individuals and remote rural communities at large.

INTRODUCTION

Access to the many benefits the Internet offers is not universal. In the UK, an urban-rural digital divide exists, at least in part a consequence of the geography of digital infrastructure (Riddlesden and Singleton, 2014; Philip et al, under review). Irrespective of age and socio-economic status, individuals residing in remote rural areas are the most likely to be digitally excluded. Available figures (Ofcom, 2013) suggest that on average, one-fifth of rural premises may, in connectivity terms, be classified as 'not served' or 'under-served' (Ashton and Girard, 2013) by existing digital infrastructure. There is a growing social and economic gap between those who are connected and those who are not, the 'digitally excluded'. At the societal level, digital exclusion - inextricably intertwined with issues of justice and equality - impacts on societal wellbeing.

This paper considers digital exclusion and digital inclusion in remote, rural areas, and the relationship of both of these positions with wellbeing. The Rural Public Access WiFi Service (Rural PAWS) research study explores the provision and acceptability of a rate-limited broadband service to rural households and businesses that were previously unserved or underserved in terms of fixed-line and mobile

broadband connectivity. Data gathered for the purposes of this multi-disciplinary study allows for the personal attributes and place attributes associated with digital exclusion to be explored in an integrated manner; further, the data provides an insight into the Internet behaviour of individuals, households and associated businesses, and the shift from digital exclusion to digital inclusion - the challenges, the benefits and the opportunities that this presents.

THE RURAL PAWS CASE STUDY

Rural PAWS participating households are located in a remote rural area in the Shropshire-Wales borders, a community where, due to infrastructure limitations, many individuals have no home-based Internet connection and others have a very poor quality service. Eight households (18 participants) containing local business owners and/or employees of varied ages and family composition, and semi-retired couples, each received free access to a satellite broadband service for between nine and 18 months. At no cost to the participants a satellite terminal was installed together with a router that shares broadband capacity via WiFi. Rate-limiting of the service means that it cannot be used for all Internet services but it enables email and web-browsing and provides an enhanced service to facilitate access to public services delivered online.

Qualitative data was gathered to provide insights into the Internet behaviours and experiences of our participants, before their participation in Rural PAWS (with no or poor Internet connection) and during their participation in the project (with a much faster connection). This was collected from participant dairies and interviews 'in-situ'. Pre-deployment interviews focused on existing practice, experiences and personal views of participants in respect of the Internet. Mid-way through the experiment, participants were re-interviewed, and an exit-interview is scheduled towards the end of the project. Emergent themes are visible in the data: anonymised transcripts are managed and analysed through Nvivo 10.

FINDINGS

Thematic analysis is collated and presented through a series of case vignettes that collectively represent a microcosm of digital connectivity issues in remote,

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rural areas, and barriers to digital participation more widely. These include:

The farmers

Participating farmers were frustrated about their existing broadband service, delivered via a mobile dongle and described as inconsistent, unreliable and very slow. For example, it took 4 minutes, 49 seconds to load a single webpage. These participants had the technical competence to exploit the Internet to meet their needs, and were aware of the financial penalties imposed upon them for not carrying out regulatory tasks online and for using paper alternatives e.g. sheep registrations, stock movements. Following reports of the Internet 'revolutionising how we do things', in these vignettes, of particular note are economic benefits through cost savings to the businesses and enhanced professional practice.

The older generation

Older generation households participating in the study had no prior experience of using the Internet themselves, but were aware of things potentially of interest to them online. The men in the households were ambivalent about being online while the women in these households saw communication, information access, and shopping and leisure opportunities. While apprehensive about the mechanics of going online (i.e. lack of computer literacy), all of these participants have engaged and used the Internet and some state that they would now 'miss it too much' while others remain undecided.

The Next Generation Internet Users

One of the multi-generational households in the study were *Next Generation Internet Users* (Dutton and Blank, 2011): they were trying to use their fixed home broadband service to support up to eight Internet-enabled devices. They were already active in all domains of Internet use (work, social, shopping, communication etc.) and were putting their connection under considerable pressure. They were keen to see if the Rural PAWS technology could improve the 'basic' connectivity they had been living with, but were also keen to participate in research that would highlight the connectivity challenges faced by many who live in rural communities today.

DISCUSSION

The Rural PAWS study is focussed on enabling broadband connectivity in commercially 'hard to reach' areas of the UK, and on understanding the use made of this new connectivity by families, individuals and businesses. Whilst our research looks at the behaviour of a relatively small number of users, our findings are illustrative of how improving connectivity can have a positive impact on the lives of individuals in a rural community. We propose a connection between digital inclusion and domains of wellbeing, as evidenced in our findings about the emergent Internet behaviours of our study participants. Aspects of our participants' engagement with

the Internet can be considered in terms of objective wellbeing measures (Gilbert *et al*, 2013), for example cost-savings to farmers. Subjective wellbeing measures relate to happiness and life satisfaction – engagement, pleasure and meaning (*ibid.*), akin to some of the social inclusion activities undertaken on the Internet reported by older and younger participants alike. On these bases, we adopt the premise that those residing in remote, rural areas should not be digitally excluded because of where they live. We believe that similar benefits would be made available to more people if the Rural PAWS model were adopted in other 'difficult to reach' communities across rural areas of the UK.

CONCLUSION

A critical element of digital exclusion is related to the provision of essential communication infrastructure in market-led economies. Rural PAWS contributes to our understanding of the socio-economic benefits to be gained in overcoming these limitations. Our findings illustrate that addressing digital exclusion – the personal and place barriers that prevent citizens from engaging with the Digital Economy is of paramount importance and increasingly significant to the enhanced wellbeing of those living and working in remote, rural areas.

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