

Introduction

This *In Brief* gives an overview of lessons learnt from three research projects using mobile phones for development purposes, conducted in Papua New Guinea (PNG) in 2012–2013. It presents seven guiding principles concerning best practices for the use of mobile phones in development efforts. These principles will be useful for any organisation considering the introduction of mobile phones in service delivery in PNG or in a similar context.

Background

Mobile phone network coverage has spread across many parts of PNG since the introduction of competition in mid-2007. The majority of citizens live in rural areas, where there is very limited access to modern communication devices, computers and media products, although radio broadcasting and mobile phones are widely accessible (Intermedia 2012; Watson 2011, 2013).

There are currently three mobile phone operators in PNG: Digicel, bmobile Vodafone and Citifon (a subsidiary of Telikom). An additional licence was recently granted to a new player, [A-Tel](#). While most of the network coverage is second generation, which offers very limited internet access, operators (both [Digicel](#) and [bmobile Vodafone](#)) are expanding access to third-generation services. It is estimated that 41 per cent of people own mobile phones (ITU 2014).

Increased mobile phone access has raised questions as to whether the newly available technology could be used to address urgent service delivery needs, particularly in rural areas of the country (Watson 2012). Such questions are supported by successes and failures in other developing countries (Chib 2013; Donner 2008; Woodard et al. 2014). The research upon which this *In Brief* is based is timely, as the international development community is exploring similar issues, and as donors and others look to harness new technologies in PNG.

Three Trial Projects

A study was conducted in PNG in 2012–2013, consisting of three pilot research projects utilising mobile phones. The three projects were run simultaneously in order to synthesise lessons learnt. The three research projects

were: a maternal health phone line, a data collection project using mobile phone text messaging, and a control trial in which resources were sent to teachers using mobile phone text messaging. The key findings are below; detailed reports are available from www.ahawatson.com.

A maternal health phone line was established and all interviewees (n = 44) stated that the project solved communication problems faced in the past, while clinical analysis of phone call audio and case notes revealed that lives had been saved. A data collection project using mobile phone text messaging led to a substantial increase in the amount of data collected (from 35 courts), compared with a previous paper-based process (returns from only one court). An education project in which resources were sent to teachers using mobile phone text messaging was a control trial that resulted in a statistically significant increase in student reading ability among students whose teachers received text messages.

At the conclusion of the study, guiding principles were developed for the use of mobile phones in development and rural service delivery in PNG. The guiding principles emerged from lessons learnt during the separate projects and reflect traits common to all three projects. It is intended that the guiding principles would be useful for any organisation or individual considering the introduction of mobile phones in service delivery in PNG or in a similar developing country context. Readers who might find the guiding principles useful would include public servants and officers with non-government organisations or development programs, particularly those working in areas such as program design, communication strategy, monitoring and evaluation, or community engagement.

Guiding Principles

1. Distribution of mobile phones is not recommended. Rural-based workers and many other community members own or have access to mobile phones. Technology distribution is a 'simplistic approach [and] is often at the root of failure' (Trucano 2010). If handsets are to be distributed, consider issues of theft, damage, loss, other uses of phones, and social pressure to give handsets to relatives.

2. Simple is best. If simple technology can be used, avoid introducing a more complex, advanced technology: 'the best technology is the one you already have, know how to use, and can afford' (Trucano 2013). Basic handsets are common. Voice calls and text messaging can be done with any handset and work well in the PNG context.
3. Design should be appropriate to the local context. Recharging mobile phone handset batteries can be a problem in rural areas of PNG where there is limited access to electricity. The provision of solar mobile phone chargers can be effective.
4. Consider other valuable, relevant and accessible media. In addition to voice calls and text messaging, two other media work well: radio and face-to-face. Not all communities in PNG fall within mobile network coverage areas.
5. Stakeholder participation is vital. Stakeholder consultation is particularly constructive during the writing of text message questions or messages, as these must be accurate, clear, consistent and concise (up to 160 characters, including spaces).
6. Rigorous research is constructive and highly recommended. The strategic use of mobile phones is still in its nascent phase around the world and many pilots have been run without a rigorous research base (Chib 2013; Watson 2012).
7. The use of mobile phones offers potential rewards in terms of cost-effectiveness and time-efficiency.

Conclusion

While there are other guides available in relation to technology use (for example, MacPherson and Chamberlain 2013; [UK Government Digital Service 2014](#); Woodard et al. 2014), this *In Brief* provides a timely, concise summary of principles regarding technology adoption and use in PNG and similar contexts across Melanesia and elsewhere.

In the contemporary PNG context, there are opportunities for strategic implementation of simple technology to contribute positively to service delivery in rural areas. A valuable strategy would be to design interventions that use simple technological devices, while foregrounding the absence of electricity supply and advanced technologies from rural areas. It is possible to harness the capacity of basic mobile phones in order to achieve impacts that can be positive, cost-effective and time-efficient.

Author Notes

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