

Mobile phones and the digital divide

Ken Banks, IDG News

Whether you're building an application for the 3G iPhone in the United States, or trying to figure out how to deliver health information via SMS to a rural community in Botswana, the mobile space is diverse and exciting in equal measure. It touches on more fields than you could throw a phone at – anthropology, appropriate technology, electronics, programming, telecommunications, geography, literacy, gender and poverty to name a few. It's this diversity which makes it so exciting, yet at the same time it's this same diversity that presents us with many of our greatest challenges. In many ways, the mobile world – particularly in the ICT for Development (ICT4D) field – is fragmented and often misunderstood.

There are many reasons for this, but for now I'm going to concentrate on one important aspect – mobile phones and the digital divide.

While developed markets get excited by the iPhone, N95, Blackberry, 3G, WiMax and Android, in developing countries most excitement centres around the proliferation of mobile phones – any phones – into poorer rural, communication-starved areas, and their potential to help close the digital divide. Handset giants such as Nokia and Motorola believe that mobile devices will "*close the digital divide in a way the PC never could*", industry bodies such as the GSM Association run their own "Bridging the Digital Divide" initiative, and international development agencies such as USAID pump hundreds of millions dollars into economic, health and educational initiatives based around mobiles and mobile technology. With so many big names involved, what could possibly go wrong?

To answer this I think we need to go back to basics, and ask what we really mean when we talk about mobiles helping close the digital divide. Clearly, mobile phones are relatively cheap - when compared to personal or laptop computers, anyway. They are small and portable, have good battery life, provide instant voice communications, have SMS functionality at the very least and they have the *potential* to provide access to the internet. What's more, hundreds of millions of some of the poorest members of society either own one or have access to one. No other two-way communications technology comes close (radio, which is a hugely relevant and influential channel, is obviously only one-way).

I've been lucky over the past few years to have spoken at numerous conferences, workshops and company offices about the uses of mobile technology in international conservation and development, and it's something I truly enjoy doing. But the more I do, the more I see a widening knowledge – or awareness – gap. In the West, when we talk of mobiles helping close the digital divide, many people make a **huge** assumption about the technologies available to users in developing countries. We look at the mobile through rose-tinted glasses, from the top of our ivory towers, through a Western prism or the lens of a 3G iPhone. Call it what you like. Think about it. Most of us have fancy phones (many own two or three) and are gifted with pretty good network coverage to drive them. Not only can we make calls, we can take good quality photos, we can make and edit little movies and upload them to the web, we can find the nearest cinema, we can surf the web and play neat games, find out if any friends are close by, and we can

download neat bits of software. Our overall experience is generally a pleasant one. Why else would we want a phone?

With mobiles able to do all of this, you'd have thought that their potential in developing countries would be clear, right? Well, maybe. Or maybe not...

Let's start by looking at one of the worlds best selling phones – perhaps surprisingly the Nokia 1100. Anyone who's spent any time in a developing country recently wouldn't have failed to notice the number of these around. The reason? They're Nokia (and people just seem to *love* Nokia), they're sturdy with a sealed keypad, have good battery life, the user interface is easy and they're cheap (originally selling for around \$40 new, for example, but now available for easily half of that in second-hand markets). They do everything the user wants - they can make and receive calls, they have an address book, they can send and receive SMS and the built-in alarm is very popular (during a recent trip to Kampala my taxi driver was telling me with great excitement how his alarm still sounds, even when his phone is switched off). These are the kinds of phones in the hands of many people in the very rural areas where we see the mobile as the tool to help close the digital divide. Things are slowly changing, but 'slow' is the operative word here.

The problem is that the Nokia 1100 - as with many of the low-end handsets found in the markets and shops in developing countries - has no browser of any kind, and doesn't support GPRS (or any other form of data transmission). Accessing the internet? Dream on. But this is not the only problem. Network coverage in many rural areas lacks data support even if the phones did have it, although this is admittedly changing. There are also issues of language and content, but more importantly cost. Someone with little spare income doesn't want to spend a large chunk of it scratching around the web to find what he or she is looking for. In many countries GPRS pricing models are at best confusing. While an SMS carries a fixed cost, calculating how many kilobytes of data make up a web page is anybody's guess.

The opportunity at the bottom of the pyramid is huge, and handset manufacturers and network providers alike are working hard to fill it with phones. For them, the most important issue is cost because that's what's most important to their customer. And if this means providing trimmed-down handsets at the lowest possible prices then so be it. This current reality sees many of these phones with no GPRS, no browser, no Java, no camera, no colour screen - the very technologies which form the lynchpin of our plans to promote the mobile phone as the tool to help close the digital divide.

So, if we're serious about using mobile to help some of the poorest members of society, how about diverting international development funding towards providing a subsidised, fully-internet ready handset for developing markets (it's been tried before, but lacked co-ordination)? Aid donors are already providing funds to the network operators, after all. In the DRC, Madagascar, Malawi, Sierra Leone and Uganda for example, the IFC (an arm of the World Bank) provided US\$320 to five operations of Celtel to help expand and upgrade its mobile networks. Network coverage, important as it is, is only part of the equation. From the perspective of the digital divide, who's addressing the handset issue other than companies responding to market forces (which I've already argued are often more fixed on price)?

During an interview last year with the BBC, I commented that *"Voice is still the killer app in many developing countries. Data is going to be playing catch-up for a long time to come"*. I still believe this to be true, but things are beginning to change. As often happens, the most exciting change will come from within. In some of the more encouraging moves of late, the increasing visibility (and size) of the developer community in places like Kenya is hugely welcome and significant. This is where real progress will be made, and likely be where the potential for mobiles to help solve problems of the digital divide will finally be realised.

Ken Banks devotes himself to the application of mobile technology for positive social and environmental change in the developing world, and has spent the last 15 years working on projects in Africa. Recently, his research resulted in the development of FrontlineSMS, a field communication system designed to empower grassroots non-profit organisations. Ken graduated from Sussex University with honours in Social Anthropology with Development Studies and currently divides his time between Cambridge (UK) and Stanford University in California on a MacArthur Foundation-funded Fellowship. Further details of Ken's wider work are available on his website at www.kiwanja.net