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The mobile revolution's hidden cost

Ken Banks, IDG News

Late last year the mobile phone industry passed a remarkable milestone, one that not so many years ago it didn't even expect to reach. Media sites and blogs around the world buzzed as the news was announced with equal measures of excitement, amazement and, in some cases, guarded jealousy. We'll never know who it was, or where it was, but on that one day back in late 2007 someone somewhere bought a mobile phone which tipped global sales past the three billion mark. "More than half the world's population now own a phone" were typical headlines. Of course, this isn't strictly true. For a start we don't know exactly how many people live on our crowded little planet, and increasing numbers of people own more than one phone. But nevertheless it was a remarkable achievement for an industry still so relatively young, and one which never really expected the kind of boom we're experiencing today. Adoption of these little devices, which were originally the exclusive playthings of business people and the better-off, has indeed been breathtaking. To give you some idea, in the time it's taken you to read this paragraph another three or four thousand phones will have been added to the pile. Nokia alone are reported to sell in the region of seventeen phones per second.

When numbers become so large the reality that lies behind them becomes increasingly difficult to comprehend. For me, global mobile sales passed that point a long time before this recent milestone was reached, and trying to picture what anything like three billion of the things might look like is mission impossible. But whichever way you choose to look at it, there's little doubt that mobile phones are proving incredibly empowering, and I spend a lot of my time studying their impact in the developing world. We're familiar with all the stories, and how mobiles will solve that "inconvenient little problem" more commonly known as the digital divide. Mobile technology has indeed revolutionised many aspects of life in the developing world, where the number of mobile connections almost universally overtook the number of fixed-lines in the blink of an eye (which is why they're regularly referred to as a "leapfrogging technology"). If further evidence were needed, increasing bodies of research are pointing to mobile penetration as having a strong positive impact on GDP, and for many people their first ever telephone call would have been on a mobile.

Despite the many incredible things happening around the world, one thing that continues to trouble me is the environmental impact of the number of mobile phones being manufactured, consumed and, in some cases, dumped. Let's face it, three billion phones represents a lot of plastic. Fortunately, recycling schemes have become increasingly popular in recent years, with the non-profit sector leading the way with a wide range of initiatives, and companies such as Fonebak making a tidy profit cleaning up after everyone's left the party.

Last year, in "Running the Numbers: An American Self-Portrait", Chris Jordan set out to examine modern American culture through what he described as the "austere lens of statistics". One of his most striking images shows just short of half-a-million mobile phones in a not-so-little pile. The

picture alone is staggering, but the fact that this represents the number of mobiles ditched DAILY in the United States is even more so.

If not handled sensibly, mobile phones have the potential to deliver negative environmental impacts – and in some cases social ones, too – almost all the way along their supply chain. The raw material alone needed to produce three billion phones is far from insignificant. Essential ingredients such as coltan, which can be mined by hand and is in plentiful supply in places like the Democratic Republic of Congo (DRC), has been blamed for such misdemeanours as helping fuel the civil war and driving increases in rates of child labour, to illegal encroachment into national parks and the deaths of endangered gorillas. Once you have the ingredients, there's then the the shear amount of energy required in the manufacturing process, and concerns raised about the working conditions in some of the factories, particularly those in developing regions themselves. And at the end of all that, there's the carbon emitted in shipping the finished products all over the world, most usually by air.

Once mobiles are in the hands of their new owners they're likely to be charged and re-charged several hundred times before they're sold on or thrown in a drawer, and this also carries an environmental cost (unless they're being charged by a renewable energy source). Even the physical presence of mobile phone masts, without which mobiles become little more than expensive paperweights , have been linked to all manner of things from human health scares to the killing off of the UK's already declining sparrow population, the subject of my first ever report for an internal Vodafone meeting in late 2002. (In case you're interested, evidence was inconclusive, but quite convincing).

At the end of its life – if you consider a phone no longer "up to the job" after a year or two, as evidence in the developed world would seem to suggest – then heaven would be a handset recycling scheme and hell a landfill site. Mobiles which do end up in the ground have the potential to come back and haunt the owner, and millions of other people to-boot, as toxic chemicals slowly seep out into the natural environment. A single lithium-ion battery has the potential to contaminate up to 600,000 litres of groundwater. When you think of how many mobile phones are dumped each day, and how many potentially end up as landfill, the consequences for humans alone don't even bare thinking about.

Thankfully, forward thinking companies such as Nokia are already onto some of these things, designing environmentally friendly handsets made out of recycled materials (although these remain on the drawing board, for now). With almost 40% of the handset market it's easy to argue that they need to take responsibility for at least 40% of the problem.

Although accurate figures are hard – if not impossible – to come by, the environmental cost of producing hundreds of millions of handsets a year shouldn't be underestimated. Unfortunately it's a subject which for many is largely ignored, and I – like many other people – don't have any easy answers. I wish I did – the question comes up often during my various talks and conference presentations. But I do believe it's important that as consumers, customers and messengers for the industry, that we at least remain aware of the issues and don't just stick our heads in the sand. Our love affair with the mobile phone is just one of many 'consumptions' taking hold in the world, as Chris Jordan's wider exhibition so vividly shows. Curbing our demand for newer and newer handsets is just a small part of a much wider problem.

And, right now, no-one has any answers to that either.

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