How Crowdsourcing Is Tackling Poverty In The Developing World

Guest Post by Lauren Fisher

The global disparity with respect to data that fuels crowdsourcing requires action. While the West does its best to tackle the immense flow ofdata in various contexts (*e.g.*, manufacturing, supply chain management, electronic discovery), in developing countries, entire societies are completely cut off from this exchange of information.

In a complete overhaul and modernisation of the global structures that have seen first world societies flourish while others struggle to survive day to day, data now stands to be the great leveller and democratizer. In the West we are handing over data to the Googles and Facebooks of this world in exchange for services, but the communities in developing regions that stand to benefit the most from an open information network are unable, as a result of lack of technological means, to take part in this exchange at all.

If you're reading this article, chances are you are one of the privileged few (yes, few) benefiting from digital technology. Unfortunately, as much as we might think that the digital revolution has arrived, the fact is that it has only arrived for some. You probably wake up in the morning and check your email on your BlackBerry, or flip open your laptop to scan the news. By the year 2030, however, there will still be 900 million people in the developing world who won't have the means to turn on a light.

Modern technology, one of the most powerful catalysts for social change and quality living conditions, has yet to reach mass penetration across the globe. We still have a long way to go before developing countries gain access to the technology that will allow them to tackle daily hardships, many of which are unnecessary now that we have the technology to effectively alleviate them.

For citizens in the West, this open exchange of data, including crowdsourcing technologies, means we can scan through hundreds of user reviews on a single hotel on Trip Advisor, or search for nearby bars with user-submitted images on a mobile location service. We can do all this in real time. But these are fairly minor benefits of open data – small improvements to the comfortable life we already enjoy and insignificant compared to the manner in which the West leverages Big Data by combining it on a large scale with business analytics. Place this same crowdsourcing technology in developing regions and these luxurious benefits become fundamental game changers. Replace local bars with searching for the nearest local hospital that has the vital medical service one needs, or mapping local breakouts of violence and riots in post-election Kenya.

This exists, for example, in the form of Ushahidi, a crowdsourcing platform that was borne out of those riots and aims to gather and verify local informal reports crowdsourced through email, SMS, or social platforms to ensure people have access to the information they need. This can range from the location of the nearest medical supplies to which areas of town to avoid due to severe outbreaks of violence.

It exists in the form of Medic Mobile, a new initiative that aims to transform healthcare in the developing world through simple SMS. The reality for many people in remote regions of developing nations is a 100-mile trek by foot or oxcart to see the nearest doctor. So Medic Mobile has equipped over 100 community health workers with mobile devices to enable them to treat patients more effectively and keep up health and safety advice between appointments. The outcome is that through simple mobile technology, Medic Mobile in six months has doubled the number of patients treated with Tuberculosis in rural Malawi. It has achieved this by increasing the flow of data through mobile networks. Medical professionals are able to supply patients with information on medical supplies and improved safety advice that they, in turn, are able to access through mobile technology and external information sources.

The people that need to supply and receive the data must have the means to do so. Mobile technology is the key.

Increasingly cheap handsets, ease of distribution, and the speed of both sending and receiving information make it the single most important way to connect communities in developing regions.

We are starting to make progress. In some regions, access to mobile devices already exceeds access to electricity. As highlighted by Practical Action, only 15% of the population of Kenya has access to electricity, yet the penetration of mobile phones is over 50%. The reach of mobile communication is vast and it facilitates communication between communities, allowing access to information to extend beyond those in their immediate vicinity, whether through phone calls, SMS or even mobile Internet.

When given the technology they need, developing regions flourish. Medic Mobile also runs a text messaging service to support patients in Kenya living with HIV by sending out frequent health advice. They can do this because they, in turn, are able to access the flow of medical data in networks, by being connected themselves. Nurses use their mobile devices as a reference point to access information and groups of farmers can even use simple SMS technology to share information that can help them improve their crops. This is the fundamental flow of data in action – individuals volunteering information that combines collectively to create a bank of data that helps entire communities. We now need to ensure that more and more groups have access to this vital technology.

Data in action

History has taught us that the flow of data—opening up communication channels—is a societal net positive. Compare the much-needed digital revolution in developing regions now to the newspaper revolution in the 1970s-90s in rural India. Whereas in 1976 there was approximately one newspaper available for every 80 citizens in the most remote regions, by 1996, through the arrival of new printing technology and an overhaul of newspaper institutions, this figure had risen to one newspaper for every 20 citizens. The result was a more open dialogue, educated citizens, a society more amenable to democracy and, most important, more jobs in small villages. The same thing now needs to happen on a bigger scale.

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We are starting to hear the whispers of a digital revolution in developing regions, all enabled by public access to data. NextDrop, a project

Source: Nextpoint.org

that started in a classroom at U.C. Berkeley, focuses on crowdsourcing through mobile technology to transform the way people access water. It is not uncommon for people in remote or poor regions to make an arduous trek to the local water source, where often they won't know how long they have to wait before the limited supply is turned on for a short amount of time. Yet many of these people own mobile phones. Through an astonishing application of mobile technology, NextDrop allows utility workers to place a call to NextDrop's system, alerting people when they have turned on the water supply. Residents who use the service are sent a text message that alerts them 30-60 minutes in advance that the water supply will be turned on. This means that people only need make the trip when they know water will be waiting for them at the end. Mobile Internet won't work in this case, but SMS does on the extremely inexpensive handsets people in these regions already own.

This is, essentially, crowdsourcing the supply of water – the application of a relatively simple Western concept with profound effects in the developing world. This quintessential application of technology to poverty needs to be replicated far and wide and with similar—yet unique—initiatives.

When one starts to look at the power of crowdsourcing in developing regions, there is optimism in a nascent paradigm shift of the realities of a poverty-stricken community. Data flow has the power to effect change, not only politically and socially, but on more fundamental levels such as living standards and sheer survival. We are well used to the benefits of digital technology to share and collate data. We can review local health services based on

what actual patients say through forums or dedicated websites. For years now we have been able to use Google flu trends to allow us to prepare for flu outbreaks, either in the home or in the emergency room.

When those services are placed in those areas that need them most, the potential is somewhat overwhelming. By supplying someone in a developing region with the physical means to access data, one not only automatically brings them into the loop of communication, but also introduces them into a whole new business infrastructure powered by crowdsourcing methodologies.

Cloud Factory, which launched at TechCrunch Disrupt in 2011, demonstrates how this can really work. Based in Kathmandu, Nepal, the service works along a similar concept as Mechanical Turk, which allows one to crowdsource employees through posting individual tasks. Companies that take part upload an 'assembly line' of jobs that are then posted out to Cloud Workers based predominantly in Nigeria, South Africa, Saudi Arabia and Nepal. They are focused on training workers in developing regions and running 'microloan' initiatives that enable participants to fund their own training while becoming completely self-sustainable. Their mission is to use technology to change the way the world works, so they use the concept of crowdsourcing to connect the people who have jobs to be done with the people who, given the right training, can get them done.

The power of services like Cloud Factory or NextDrop relies on the devices to which people have access. This is where the challenge lies. While we see penetration of mobile devices in some developing regions, the outlook is not as promising in a wider context. Estimated figures for 2011 show mobile cellular subscriptions in Europe and the Americas are at 119.5% and 103% per 100 people, respectively. (In some cases, respondents owned more than one mobile device.) In Africa, however the mobile subscription rate is 53%. In developing nations overall it is at 78.8%. Those who need mobile technology for survival too often do not have it. This is our challenge.

Enterprise

If digital technology comes low down the pecking order in tackling poverty, then enterprise comes even lower. But if we really aim to tackle poverty and democratise the world through the advancements of modern technology, then we must also facilitate entrepreneurship to allow small businesses in these regions to flourish and trade not only locally, but on a global scale.

This requires providing technologies – sometimes as basic as a mobile phone that connects aspiring business concerns and individual entrepreneurs with the outside world, enabling global trade and a true sense of enterprise. Consider, for example, the 4,000 women in Kenya who took part in a mobile-based initiative that allowed them to remotely access the training they need to become better entrepreneurs, such as how to manage finance, or build a business plan.

Mobile commerce and communication in developing nations can be as simple as a fisherman in one village making a call to a trader in another village to conduct business, and as life-changing as making that same call to warn a fellow fisherman of a life-threatening tide.

What Needs To Be Done

The unfortunate reality is that while we can see what modern energy, electricity, digital technology, electronic data and mobile can do for developing countries, we still have a long way to go before these services fully infiltrate developing countries. Too far, in fact, to be able to keep up with the growth of populations in certain regions. The number of people without access to electricity is actually increasing. In sub-Saharan Africa alone, this figure will increase to 691 million by 2030 and at a rate far higher than we see today.

We in the West need to act collectively to reverse the trends. And we know it can be done. It requires small actions like donating your old mobile phone to initiatives such as Hope Phones, which send them to people in developing regions where they can make a real difference in everyday lives. This is the technology that we too often relegate to the back of a drawer and forget about, whereas it could—and should—be in the hands of someone with a vital need to the data and information it can transmit.

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