



Improving Microfinance *through* Telecommunications

by Peter Bladin



Village Phone Operator Marie-Claire Ayurwanda stands on the rock foundation of the house she is building in Setwara, Rwanda, and looks at the progress. “I want to finish building this house for my children before I die,” she says with resolve.

A widow with HIV/AIDS, Marie-Claire cares for her two children and her brother’s two children, orphaned when he was killed in the 1994 genocide. After her husband died, Marie-Claire decided to start a business and took a 20,000 franc (US\$40) loan from URWEGO, a microfinance institution, to open the Isimbi Restaurant. The profits from the restaurant help support the four children in her household and pay school fees.

When Marie-Claire heard about the Village Phone pilot program early in 2005, she quickly got a phone. The business turned out to be profitable enough for her to pay back her phone loan in five months, rather than the standard six months. Now, all profits from the phone are hers. She sells nearly thirty minutes each day and generates about US\$12 a week. In a country where the average annual income is around US\$230, the extra income from the phone has a huge impact on her life.

Marie-Claire is one of over seven thousand Village Phone Operators who are running microfranchises by providing communications services to rural villagers in Rwanda and Uganda. Observing the success of Grameen Telecom’s Village Phone program in Bangladesh—where there are over two hundred and sixty thousand Village Phone “Ladies”—the Grameen Technology Center, an initiative of Grameen Foundation, set out to replicate the Village Phone Program in other countries.

Village Phone is a powerful example of how poor rural people can sustainably benefit from information and communication technologies (ICT). Village Phone works mainly because all parties involved benefit. Village Phone Operators have strong, thriving businesses. Private businesses benefit as they provide financial services to operators, tapping a previously inaccessible market; governments meet their rural telecommunications access demands; and most importantly, individuals living in rural communities gain access to affordable telecommunications services, linking them to their friends, family, business contacts, and the world. Sustainability is ensured because everyone “wins.”

Increasing economic activity depends on information; therefore, communications and other information technologies represent an integral part of a developing economy. As the Village Phone project shows, success in using information technology as a tool of development depends on three factors: viable and locally determined business models, effective private-public partnerships, and proactive government regulation.

THE CHALLENGE OF TELECENTERS

Although Village Phone has been very successful, other ICT-based initiatives, such as rural telecenter programs, have not achieved the same level of success. While there are important innovations occurring in this field, some consider telecenters and projects involving subsidized public access to the Internet to be “rusting tractors for the 21st century.”¹ In theory, telecenters seem to be a good way to bring telecommunications access to the world’s poor, and proponents argue that such projects could serve as the equivalents to public libraries.² However, many telecenter projects have failed because of undefined business models and lack of appropriate services. Both of these factors are keys to the success of any

Information and Communication Technologies for Development (ICT4D) project.

Simply exporting a technology that works in one environment and expecting the local economy to adapt is most often a recipe for failure. Experience has shown that technology alone cannot sustain itself. Instead, understanding the needs of the local community and involving them in the process enables an appropriate technology solution to be implemented. The makeup and development of services should be driven by the local market, beginning with the most basic services.

Combining a useful technology with a locally relevant and savvy business model has a significantly higher probability of success. Most telecenter projects in the past have been driven by a top-down model in which governments or multinationals have dictated their implementation. The traditional focus has been on the business, not the users. These projects have failed to implement a business model that was sustainable and, perhaps more importantly, built on local entrepreneurship and ownership—that is, taking a bottom-up approach in which locals not only

and drive it forward through the ups and downs of building a business. A strong model based on local buy-in will have a higher rate of success than a model designed to be sustained by grants.

The Village Phone model is more easily adapted to the developing world since issues such as electricity or access to the mobile network are easily solved with solar power, car batteries, and antennas. Since it relies on vocal communication, literacy is not an issue. Computers or other hardware-based devices face challenges like providing power and Internet connections and addressing issues of dust and humidity, which make it difficult to offer affordable prices. The price of computing equipment and the “pay up front” business model discourages the world’s poorest from owning and using these technologies.

One successful example of technology in a rural area is the e-Choupal program in India. e-Choupal is a corporate-based approach to village computing—one of few comparable efforts—that has been regarded as both effective and sustainable. Established by ITC Limited, a major Indian conglomerate with interests

Such adaptability and responsiveness to local needs has been crucial to its success. According to the Digital Dividend, the e-Choupal system has also catalyzed a rural transformation that is helping to alleviate rural isolation, create more transparency for farmers, and improve their productivity and incomes. Not only does this fundamental “win-win” relationship lie at the heart of e-Choupal’s effectiveness and potential for sustainability, but such relationships lie at the heart of every successful ICT4D program.

LEVERAGING PARTNERSHIPS

Private-public partnerships that combine local solutions with corporate know-how can create a strong impact and scale. Internationally- and locally-based NGOs have done a good job of demonstrating how technology can be used by relying on their knowledge of the local markets, but are not always able to take their projects to scale due to either the lack of a good business model or a simple lack of funding. NGOs need to continue to demonstrate innovative uses of technology, but they will also need to partner with private corporations to take their projects to scale and help influence the regulatory environment. The NGOs’ experiences and understanding of the local markets combined with the resources and new technologies of corporations will enable projects to become sustainable businesses. By creating financially sustainable models at large scale, people and corporations will be more willing to invest in the developing world.

Telecommunications companies have been at the forefront by adopting new business models that have been developed with the world’s poor in mind. They have created a new

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dictate the content and services of a project but are invested in its success. Such local entrepreneurial buy-in makes it more likely that the needs of the community will be addressed and that there is at least one champion of the project who will promote it

in a wide variety of areas, e-Choupal was originally created to re-engineer the procurement process for products such as soy, but has evolved into an e-commerce platform that is also a low-cost fulfillment system focused on the needs of rural India.

business model, the pay-as-you-go (PAYG) method of prepaid cards in very low denominations. This gives people with lower and/or less consistent incomes the ability to use phones only when they need to and can afford to. This business model shift contributed to the mobile telecommunications companies' growth from 1 billion to 2 billion subscribers.

puting affordable, through innovative business models, we can convert the 'digital divide' into a 'digital dividend,'" said C.K. Prahalad. "There is an opportunity at the base of the pyramid, and global firms can 'do well and do good' by activating this new category of consumers." Microsoft is currently expanding their PAYG model into other emerging markets.

and grow. Globe Telecom's G-Cash in the Philippines, a mobile-commerce or "m-commerce" product, is an example of a disruptive technology that offers a new way to view the traditional model of cash-based commerce. Because they can use airtime minutes on their mobile phones as currency, many Filipinos are using G-Cash to circumvent traditional payment methods, which allows them to use electronic cash on their phones to purchase airtime, ring tones, and items from partnering retailers directly from their phones. It is even being used as a remittance tool.

Filipinos can also transfer G-Cash from their phones to other phones by simply "texting" a message; this

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—C.K. Prahalad

Other high-tech corporations have noted the success of telecommunications companies and have adapted their business models to enter emerging markets. Microsoft, for example, recently unveiled a PAYG personal computer for developing-world consumers. Using Microsoft's FlexGo technology, this computer is adapted to the cash flow of consumers within emerging markets. According to Microsoft, "The pay-as-you-go business model makes PCs more accessible by dramatically reducing the entry cost and enabling customers to pay for their computer as they use it, through the purchase of prepaid cards. Market trials are starting first in emerging markets where inadequate access to consumer credit, unpredictable income, and high entry costs prevent many consumers from purchasing a computer." The consumer will own the computer after so many prepaid cards are purchased.

"Microsoft's trials in Brazil are small and significant steps in democratizing technology. The experiment demonstrates that by making com-



Up until now there have only been two devices to reach economies of scale: the PC and the mobile phone. Both can be classified as disruptive technologies because they fundamentally alter the way markets operate. Technological disruptions offer an opportunity for corporations to expand into new markets

allows family members in other countries to easily send money home where it can be transferred into real currency. While still in a relatively nascent stage, the potential for G-Cash and products like it is enormous. Such technologies allow people to leapfrog over traditional payment systems to systems that work for

them. However, there are challenges to m-commerce, including security and regulatory framework.

REGULATORY ENVIRONMENTS

Government policy makers and regulators have an important role to play. In the mobile phone market, the regulatory environment plays a key role in combating mobile growth inhibitors, including high customs

to legally compete on international calls, which lowered the cost of international calls by six times from the incumbent.

Government policies need to be in sync with technology. Although corporations can work to lower their end cost to the user, unless local governments understand how they

knowledge and expertise. The local organizations provide insight and knowledge of the needs of the market. Having local ownership by utilizing the microfinance institutions removes the onus from the government while still meeting its needs.

NGOs play an important role as well. Despite their success in



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too can benefit from the technologies, red tape will continue to keep costs high. Mobile phones have a bigger impact on developing economies because, more often than not, it is the first time rural communities are able to connect and help themselves. A recent study by the London Business School reports that in a typical developing country, a rise of ten mobile phones per one hundred people boosts gross domestic product (GDP) growth by 0.6 percent.⁵ ICT in developing countries will not prosper unless countries implement more holistic development strategies that include both regulatory frameworks that allow new types of communication industries to compete with traditional telecom carriers and investment climates conducive to innovation and entrepreneurship.⁶

It is critical that governments support partnerships between the public and private sectors and work with both to develop solutions. The private sector can help lower the costs and create efficiencies by sharing their

penetrating emerging markets, mobile telecommunications companies have not reached out to remote rural villages at any sort of scale. As companies look to expand into these markets, partnerships will need to be formed with NGOs to assist local telecoms by offering consulting expertise or lowering the equipment costs to expand the infrastructure. Again, cooperation between the public and private sectors is necessary to lower the costs to the end-user.

Village Phone is thriving in hard-to-reach rural areas without any additional outlay from the telecom sector for infrastructure. Before it began in Uganda, there was little to no telecom access in rural areas. Three years after its arrival, competition abounds as established telecom companies recognize that there is a market, and now the infrastructure is growing. Hardware provider Ericsson is looking to develop lower-priced towers as part of the effort to assist telecom operators to reach out to this market. The partnership between

duties, handset sales taxation, service taxation, and inefficiencies in service tariffs.³ Progressive governments are boldly embracing new technologies to gain the long-term benefits of ICT, despite potential short-term losses in revenue.⁴ Technologies such as voice-over-Internet protocol (VoIP) can ease challenges but can also create other issues. New technologies can threaten the tax revenues of local governments. For example, the Algerian government recently approved several Internet service providers to use VoIP

Village Phone and the telecom sector helped the latter reach areas it previously believed unprofitable, while also meeting the NGO's goals to create sustainable microfranchises and increase the incomes of both the micro-entrepreneur and the customer.

THE ROAD AHEAD

It is not a question of whether or not the poor need information technology, but rather what the appropriate technology is that will enable them to escape poverty. Whatever the technology, it needs to be seen as a device with real and relevant benefits, not as an extravagance. Solutions that work in developed countries cannot simply be transplanted into developing country environments; solutions must be based on an understanding of local needs and conditions. In mobile phones, future technologies will be a combination of the technologies used in Village Phone and telecenters—a combination of the mobile phone and the computer. A new device is not necessary, but new ways to lower final costs, create more durable products that can survive in harsher environments, and incorporate a payment structure that is affordable for both local vendors and end users is the application of tomorrow. From contracts with longer terms and lower payments to schemes like PAYG or shared access, the business model will have to adapt to enable products to become more reachable.

Corporations are starting to see that there are business opportunities in the developing world, and in the words of C.K. Prahalad, “companies must revolutionize how they do business if both sides of the economic equation are to prosper.” The risks of entering this new territory are high, but the long-term rewards of growth and profits will more than balance

it. The developing world is essentially looking for the same technology that exists in the developed world. They know their needs but lack the technology that will simplify their lives while their entrepreneurial spirits do the rest. New uses for these basic technologies will end up creating more businesses in the developed world.

Corporations and NGOs will both serve important roles in expanding access to technology among the poor. The NGOs are needed to explore areas that corporations would not consider profitable and to demonstrate that an application is effective and scalable in the developing world. It is also important that NGOs with experience working in certain countries ensure that any technology program they implement provides a service that is needed in the local market. Organizations, such as microfinance institutions, serve as invaluable channels to markets deep in rural areas by using their established networks and local knowledge. Thus, NGOs will serve a catalytic role, finding new innovations and forging partnerships to take those innovations to scale. It will be ICT corporations' involvement that will ultimately drive any innovation to scale because they have the needed capital.

How will this impact Marie-Claire, the Rwandan Village Phone Operator? Perhaps her clients will be paying for their meals at her restau-

rant via a mobile phone or perhaps she will be purchasing her supplies via the Internet terminal located in the front of her business. What is certain is that ICT can help the poor, and we are only in the beginning of this transformation. Nobel Laureate Professor Muhammad Yunus, founder of Grameen Bank, says, “If we are interested in eliminating poverty, you have the best chance ever in human history through telecommunications, through information technology, and through microcredit.”^{ESR}

Endnotes

- 1 Richard Heeks, “ICTs and the MDGs: On the Wrong Track?” *I4D* 3, no. 2 (2005): 9–12.
- 2 Soledad Ferreiro, “Information Literacy: A Perspective from Chile,” (White Paper prepared for UNESCO, presented at the Information Literacy Meeting of Experts, Prague, July 2002).
- 3 “Mobility for a Better World,” *New Horizons* 3 (2006): 8–10.
- 4 “Restricting VoIP and WiFi Costs South Africa Its Position as a Technology Leader in Africa,” Commentary with the Collaboration on International ICT Policy-making for East and Southern Africa (CIPESA), February 26, 2007, <http://www.bridges.org/commentaries/108>.
- 5 James Mahon, “Calling an End to Poverty,” *The Economist*, July 7, 2005, <http://www.nextbillion.net/newsroom/2005/07/07/calling-an-end-to-poverty>.
- 6 Motoo Kusakabe, “Knowledge Sharing and Capacity Building: Scaling Up Information Kiosks,” in *Connected for Development: Information Kiosks and Sustainability*, ed. Akhtar Badshah, Sarbuland Khan, and Maria Garrido, New York: United Nations Information and Communication Technologies Task Force, 2003: 51–56.

ABOUT THE AUTHOR

Peter Bladin is vice president and director of the Technology Center at Grameen Foundation. He has a degree in mathematics, with minors in programming and economics from the University of Uppsala, Sweden. Bladin is active in various nonprofits in Seattle. Currently, he is chairman of the board of Npower Seattle, a nonprofit whose mission is to help other nonprofits better use technology to achieve their missions. Heading up the Technology Center is Bladin's ideal position because it allows him to combine his interest in the appropriate use of technology with a poverty alleviation focus.