The Best Policy: Telcom Research from an African Perspective

Telecommunication policies must be based on an understanding of African realities, according to the LINK Centre. (IDRC Photo: Y. Beaulieu)

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Five years ago, no-one expected mobile telephones to be ringing in the pockets of farmers hoeing in the fields of rural Africa. However, by the end of 2001, the International Telecommunications Union (ITU)[1] estimated that 28 African countries, representing more than half the of the region's countries, had more users of mobile telephones than of fixed-line phones. Farmers are using mobile phones to ensure the best prices for their crops, small-scale entrepreneurs are contacting potential clients, and grandparents are talking to their children and grandchildren hundreds of kilometres away. The exponential growth of mobile phones has defied predictions that the technology was too expensive to be viable in Africa.

This unexpected blossoming of mobile connectivity is one more argument in favour of African-based policy research, according to Alison Gillwald, research director of the Learning Information Networking Knowledge (LINK) Centre. The Johannesburg-based Centre is an educational body that focuses on public policy, regulation, and management in the area of information and communication.

The golden egg of connectivity

The rise of mobile phones in a continent with limited access to fixed-line telephones has people rethinking strategies for providing universal access to phone service. "People are saying, ‘let's harness the mobile operators in order to deliver universal access.' Now to harness them into a fixed-line model... could work if it is done very carefully, but it presents a really serious danger of killing the goose that has laid this golden egg of mobile connectivity," says Gillwald. [See related sidebar: Universal Access Models]

Part of the problem is that the African context is vastly different from that of Europe or North America, but prevailing models of how to regulate telecommunications are based on the theory and experience of developed economies. Business models for wireless phones have developed in a setting where the vast majority of the population already has easy access to a fixed-line telephone.

Moreover, strategies for providing universal access to telecommunications services (such as fixed-line telephones) were likewise developed in a context where only a tiny percentage of the population lacks access to a fixed line.

"We are using universal access models developed in the North to address the last five 5% of the population. The problem in Africa is the inverse: you actually have to get 90% of the people onto the fixed-line network," says Gillwald. "We will always need those marginal access models because we will always have the last 5% as well. But we have to make a much bigger quantum leap, that will allow us to get people onto the network at affordable prices, as was done with mobile phones."

Upwardly mobile

It is perhaps because thinking about mobile phones was so shaped by the experiences of Northern countries that the story of mobile phones in Africa surprised everyone, including the original operators who rapidly exceeded their sales projections. "GSM technology [global system for mobile communications] was seen as so expensive it wouldn't work. Not only did it work, it took off more than anyone ever expected... it just responded to an incredible need for communications access," says Gillwald.

Whereas many Africans simply couldn't take on the cost of a monthly fee for a fixed-line rental, the option of prepaid telephone calling cards opened new doors. People got the money together to buy the cellular phone, purchased prepaid cards, and then controlled their phone usage. If they ran out of money, they stopped making calls — and only received them. People in villages began sharing phones.

Isaac Musumba, Ugandan Minister of State for Finance in Charge of Planning, has seen this phenomon first-hand. There were no telephones in the village where he grew up and this made communication difficult.

"Each time I wanted to talk to my father, I would drive to the village. We are talking about 180 kilometres from the city. So I bought him a mobile phone and said: ‘You will not call anybody, but you will receive my calls.' Then he learned that the neighbour also wanted to call her son. The neighbour came, paid him some money, and used that phone. His home became like a telephone centre. Eventually, another son also bought his father a phone. And then some villagers bought phones."

"What happens now is this. People have buyers for their maize, their coffee, their produce in town. So they call a buyer and say ‘Hello, we have 10 bags of maize. Do you need them? And what's your price?' They get the answer and then they call another buyer to ask ‘What's your price?' They get the best price. They ask: ‘How do you want it delivered, when do you want it delivered.' In the past, they would just put it on a lorry and deliver even when the buyer is not interested, even when the market is down. Now, they actually do find out."

Musumba's father is not unusual. "We have a situation today where we have at least 70% prepaid customers across the network," says Gillwald. "And 30% are on contract. Now that's a completely different model from the North." She adds that the prevailing thought was to evaluate the profitability of wireless phones by considering calls made from the phone and not calls received. "In Africa if you only looked at the AP [Average Revenue Per User] of the person who is buying the phone, you would not invest in the continent; the tendency is to look at things in terms of call origination only. That's a developed economy model," she says.

Putting ICTs in context

Of course, GSM is just one small element of an almost dizzying array of telecommunications technologies. Undersea fibre optic cable using modulated light to transmit digital data over long distances; wireless fidelity (wifi) technology that can provide low-cost, high-speed access to the Internet; VSAT (Very Small Aperture Terminal) satellites that can be used for telemedicine, rural telecommunications, or distance learning — the list is long and continues to grow.

Governments the world over are grappling with policies to make the most of these information technologies for their countries' social and economic development. The issues are complex and broad. How should the radio frequency spectrum be allocated? How can competition and innovation in the information and communication technologies (ICTs) services sector be promoted? How can consumer protection be ensured?

One of the LINK Centre's goals is to foster in-depth knowledge of issues that are specifically relevant to the African context. For example, many African countries have recently liberalized telecommunications. Yet the results of this process have been largely unstudied. Analysis is needed to determine gains for the consumer and the roll-out of much needed infrastructure, according to Gillwald. This information can help support African governments in their work to formulate policies that are both appropriate for their countries and visionary.

"Made in Africa"

To achieve this goal, the LINK Centre is building a network of African researchers to generate information that can be used to formulate "made in Africa" telecommunications policies. The Centre plans to draw on local capacity, while at the same time also collaborating with researchers elsewhere. The research program is supported by Canada's International Development Research Centre (IDRC).

"Very often research on Africa is done by people who are not African," says Gillwald. "They come and do the research and then move on. There has not been very much collaboration with African partners. Obviously we [in Africa] do have the skills, we do have the passion here, we have a lot of things to offer."

Research generated by the LINK Centre network will inform the Centre's training program — and the training program will inform the research. LINK provides education and customized training on ICTs, including certificate courses, executive courses, public seminars, and Master's and PhD degree programs. Trainees range from reporters specializing in ICT issues, to community activists, to government regulators. The degree programs are targeted to African regulators and policymakers, she adds.

Through training and by putting new information into the public domain, the LINK Centre hopes to contribute to an informed debate on what are, essentially, complex policy issues. "I think that locating the debate in a developing-country context is absolutely critical. Understanding that it is a global economy that we have to work in — but taking into account a local context based on serious analysis of what the issues are here," says Gillwald.

"The global economy and the information society are such different things from the industrial society and the nation-state, and the way things worked before," she continues. "It's all new. People are grappling for solutions. If the only solutions are the ones that have been devised by the World Bank or other organizations, people are going to use those. We need African solutions that are at least there alongside the other options for people to choose from."

"The incredible growth of wireless prepaid telephone tells us something about Africa," she adds. The hope of the LINK Centre is to help uncover more "unexpected" ways to take a quantum leap forward in an African information revolution.

Lisa Waldick is a senior writer in IDRC's Communications Division and the editor of Reports magazine.

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Sidebar

Universal Access Models

Universal access refers to providing all citizens with equally priced services, as well as access to an equivalent range of services. The challenge has been to reach rural, remote, or disadvantaged communities. The approach used in the industrialized world hinged on granting monopoly control to telecommunications companies in exchange for an obligation to provide universal access to telephone services. In Northern countries this method made sense in the last century: infrastructure costs were relatively high, but most people lived in cities that could easily be serviced at a relatively low cost. Revenue from high volume business users could also be used to offset costs to consumers.

These factors don't apply to Africa today. Infrastructure costs have plummeted and wireless and satellite bandwidth can make rural areas as easy to reach as urban areas. The demographics of Africa are also different; in many countries, most of the population lives in rural areas. Many experts see a more rapid introduction of competition in the sector as a better model for achieving the required levels of infrastructure and affordable services to support universal access.

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(1) ITU World Telecommunications Development Report 2002, quoted in South African Telecommunications Sector Performance Review by Alison Gillwald and Sean Kane, August 2003.