

Regulators – equalise opportunities through telecom

Reaching Out

The early 21st Century is the Communications Age, and nations will be judged by the access their citizens have to communication possibilities unthinkable even a decade ago.

Communications is the instrument to raise people and communities to higher standards of living, more productivity, and more self-reliance.

Increasingly, mobile phone use is outstripping traditional landlines, which are unreliable and are in short supply. In fact, 'between 1993 and 2002, mobile users in developing nations soared from 3 million to over 500 million. The number of mobile subscribers now exceeds fixed-lines in developing nations'¹. But this has only been for those who are located in metropolitan areas and can afford their own personal, and expensive, handsets.

The benefits of universal nation-wide communications are many:

- *Increase telecommunications development value*
- *Provide a community service*
- *Strengthen social bonds*
- *Connect remote locations to enlarge communities*
- *Engender personal independence*
- *Stimulate economic opportunity*
- *Broaden the taxation base*

Your challenge is to offer all your countrymen the same access to telecommunication and the opportunities it brings, while still making it economically feasible for Operators and MVNOs² to provide service to remote areas, rural districts, and the underprivileged in urban settings.

This challenge can be met by smart planning and end-to-end thinking.

The solution must be quick and easy to deploy, inexpensive to maintain and expand, and be simple enough for the most naïve users to master quickly, yet robust enough to support advanced services and future technologies.

The solution of choice is fixed wireless telephony, using or creating cellular networks to reach out to distant communities and to grant those citizens the possibilities telecom begets.

Typically, rural telephony is required to carry basic voice transmissions. Over time, as the customers make their way along the learning curve and see improvements in their lives through telecommunications, they will demand more advanced services. This comes in tandem with the increased earning and spending power they enjoy by being connected.

In order to facilitate this change Regulators should be placing demands on Operators, as a condition of their spectrum licenses, to provide basic telephony services to outlying and distant communities and to low-income residents of urban areas.

Equatel is here to help Regulators stimulate this transformation through our Fixed Cellular Technology.

Meeting the Challenge

Equatel's SIM public phone systems provide the solution to reach outlying areas quickly and economically.

The first component of equatel's SIM³ public phone system is the Subscriber Identity Module (SIM⁴) card. The SIM is a wallet sized, pre-paid card – in keeping with the most popular payment option for 95% of subscribers in Western Africa⁵ – the distribution mechanism is greatly simplified, and is the first constituent in seeding local economic opportunities. 'Many African customers would not be granted access to a phone of any kind if their credit status was checked first.'⁶ The use of pre-paid SIM cards lends itself to the economic environment, overcoming credit restrictions.

The SIM cards are rechargeable and permit the transferal of credits so that friends and relatives can 'send' talk-time. Equatel's telephones can meter a running count to the user during a conversation so that he is aware of his account status at all times; separate card chargers provide a mechanism for him to add credits to his card.

The equatel SIM card becomes the nexus of the subscriber's communications identity. It holds his personal phone number, his access key to the communications age. It stores his contacts' phone numbers and calling history. It can give him access to SMS and voicemail, and a wide range of advanced, value added services that he can afford. It may be the most precious thing that he owns.

Environmental Challenges

Equatel's SIM public phones are built to withstand harsh environments. Housed in a rugged and weather-proof casing, the phones are solid state which reduces the failure rate and maintenance costs. Although securely fixed in place, phones can be moved easily by technicians as needed to other locations, or replaced quickly for maintenance. Public phone banks can be set up swiftly in any environment to respond to special circumstances such as sporting and entertainment events, or emergency situations. Equatel's phones can be mounted on buses or trains for ubiquitous telecom access.

The equatel phones can be programmed to accept only the Operator's cards, or to accept any card with the appropriate billing arrangements. An optional internal SIM card gives the phone its own permanent number for incoming calls or outgoing free or emergency calls as per the wishes of the Operator.

The public phones can be configured to work with GSM or CDMA networks, and are powered using a standard 220-240V 50Hz AC line. For more rugged rural requirements, alternative power sources such as integral solar panels, a long-life battery, and even a hand-cranked generator are also available. The phones can be configured to be multi-lingual adding more utility in ethnically-rich regions.

Simple iconographic instructions shorten the learning curve even for subscribers seeing a phone for the first time in their lives. Other features of the phone are found through intuitive exploration.

Economic Stimulation and Other Benefits

Fifty six percent of the world's population lives in low-income economies and 70% of those – nearly 40% of the world population – live in rural areas⁷. Yet, there are more telephones on the island of Manhattan than there are in all of sub-Saharan Africa.⁸

“Developing countries clearly have the necessity of connecting their remote areas. Improved and cheaper telecommunication will generate rural employment and greatly enhance the integration of the rural with national economy and improving living standards. Since the population to be served is very large but resources are limited, therefore community-based access and resource sharing is the best choice.”⁹

Initiatives such as the ‘villagePhone’ and community-owned telephone systems (‘telephone co-operatives’¹⁰) have motivated a new class of ‘Micro-entrepreneurs’ who have much greater economic influence than just a small, select group. The Grameen Foundation estimates that a call that costs ten cents could save a person about one dollar in lost wages or business, about how much it would cost a person to take a day to travel to the nearest city to place a call.

In Uganda, a joint venture between the Grameen Foundation USA and MTN Uganda, has enabled villagers to sell phone time to local citizens through its MTN ‘villagePhone’ program. Since its inception, one-thousand-six-hundred operators have joined, with individual earnings approaching seven-hundred dollars a year, although the project is limited to a few individuals in each village who have acquired handsets. A community public phone program connects farming villages to the world's information economy, a step towards reducing poverty and improving the lives of villagers. Access to outside businesses is crucial in building support for private investment in developing countries.¹¹

Among the direct benefits of implementing community telephone projects are:

- Job creation
- Reducing the urban problems caused by continuing migration from village to city
- Better use of remittance from migrated people
- Reducing the impact of the middlemen in the supply and services chains
- Better health services
- Disaster and early warning planning and services
- Better education opportunities

“Achieving this better future will require a new development model, one that goes beyond the conventional focus on free-market capitalism, entrepreneurship, and global trade expansion—although such factors will play important roles... What is needed instead is a bottom-up model that makes credit, communications, information, energy sources, and other self-help tools directly available to communities and individuals in poor regions, empowering them to take charge of their own development.

The idea behind this new development model is that basic services should generally be provided by businesses—sometimes directly, sometimes in partnership with governments or networks of non-governmental organisations (NGOs). The right strategies can enable the poor to become customers and pay for the services they receive, services that will improve their quality of life and increase their productivity. Such programs could reach tens of thousands or even hundreds of thousands of communities or rural villages—far surpassing the very limited scope of conventional development efforts, and functioning on a scale large enough to make a profound difference in the destiny of a region and the welfare of its people.”¹²

The simple ability of villagers to both earn a living from telecommunications and reap the benefits of being connected to other villages, towns, cities and the outside world, is an enabler in the modernisation of rural populations.

“Village Phones have been a commercial success, each phone generating revenues that average more than \$100 per month—three times what the company earns from its urban mobile phones. The pent-up demand for telephone service and the ability and willingness of poor people to pay for it have turned out to be enormous. Not only are the phones profitable; they have also been a social success, providing economic benefits and improving the lives of villagers in ways that put most antipoverty programs to shame. Incomes of the phone entrepreneurs have risen sharply. And phone calls can now substitute for a trip to the city that would cost villagers ten times as much as a call. The village phones have helped people working abroad send money to their family back home, enabled farmers to get fairer prices for their crops, and allowed people to discuss funerals or other important occasions with relatives.”¹³

Choosing a System

We have already discussed the justification for provision of universal telecom services through wireless coverage. The question of which fixed wireless technology to implement remains, especially in areas that currently don't enjoy telecom access. A large number of considerations play a factor in this decision.

The planning begins by the Regulator and Operators making a joint determination on the nature of services to be offered to the target population once the wireless infrastructure is in place. The second consideration – but not a *secondary* consideration – is the number and type of future services to be offered: voicemail, SMS, MMS, data, internet, location-based information, and so on.

In general, the Operator will wish to extend his current network, but the decision shouldn't be the result of corporate pressure. The Regulator has the opportunity, through the use of restrictions and incentives, to direct the Operators to provide the products and services that best benefit the target population.

The use of fixed public phones ensures license compliance as the fixed cellular phones can't be made mobile.

"Government regulators must balance the requirements of their constituency with the need for a valid business proposal for operators."¹⁴

Let's review our list of benefits once again and see how equatel's SIM public phones can make a difference:

- *Increase telecommunications development value.* While much cheaper and quicker to build than wireline networks, there is a cost to creating or extending a cellular network. Having more users amortises the investment quickly.
- *Provide a community service.* Where previously villagers lived in relative isolation, with the introduction of simple communication they can learn of opportunities, have access to better health care, and become better educated.
- *Strengthen social bonds.* Telephony will provide callers the opportunity to stay in touch with family and friends, make new connections, and participate in all manner of events.
- *Connect remote locations to enlarge communities.* Several villages can be connected through fixed wireless telephony to create a 'larger' entity, fostering greater security, business and work opportunities, and exact better governance.
- *Engender personal independence.* By having his own SIM card and phone number, a subscriber is flexible and mobile, able to explore new opportunities, be in touch and be contacted, collect and store information about contacts, and even run his own business.
- *Stimulate economic opportunity.* The newly initiated can bootstrap businesses through the potential of telecom, from opening their own calling shops to the export of locally produced goods to an eager world market.
- *Broaden the taxation base.* Increased spectrum license fees, more economic activity and accountability, and the greater flow of goods and services all create taxable events.

Equatel's holistic approach to solving the communications problem includes consulting services to determine the essential services for properly assisting rural communities and underprivileged populations, securing financial backing to fund opportunities, technical and management expertise, and strategic partnerships to see the projects through from conception to implementation.

At equatel we believe in equalising opportunities through telecom.

¹ International Telecommunications Union, Reaching the Unreached (ITU, Busan, Korea, 2004)

² Mobile Virtual Network Operators

³ The technology described in this document and terms used are based upon the presumption that the Operator is a GSM licensee; equatel's technology is equally effective in a CDMA environment. In this case 'SIM' (Subscriber Information Module) is interchangeable with 'R-UIM' (Removable User Identity Module).

⁴ In a CDMA network this would be, of course, an R-UIM card. Optionally, and at the Operator's request, equatel can enable the use of both SIM and R-UIM cards in the same series of payphones, as well as enabling the use of cards from other Operators.

⁵ Source: telecoms.com, February, 2005

⁶ ITU, Reinventing Telecoms: World Telecommunications Development Report (ITU, Geneva, 2002)

⁷ The World Bank

⁸ National Telecommunications Cooperative Association, www.ntca.org

⁹ International Institute for Communication and Development, 2000 (www.iicd.org)

¹⁰ A cooperative is a business that is owned and controlled by its members, which provides them with the best possible service at the lowest possible price; runs on democratic principles: membership is open to all; each member has one vote toward electing a board of directors; prohibits investment and thus control by outsiders; profit remains in the community by being re-invested into the cooperative; returns its profits to the members, (National Telecommunications Cooperative Association, www.ntca.org)

¹¹ The Grameen Foundation (www.grameen-info.org)

¹² Digitally Empowered Development, FOREIGN AFFAIRS, March/April 2001, Council on Foreign Relations, Inc.

¹³ Canadian International Development Agency, www.acdi-cida.gc.ca

¹⁴ ITU, Achieving Universal Access, 2003