

## The PC is the best vehicle for providing e-Services to the rural areas



Ken Keniston

Welcome to the sixth edition of the Telecentre Debates! We have so far had two essays – one on the definition of a telecentre and another summarizing the academic literature on telecentres – and three debates: workable business models for telecentres, for-profit versus non-profit telecentres, and the hope for delivery of financial services via telecentres.



Kentaro Toyama

In this edition, we host a debate on one of the hottest topics in ICT4D. The assertion, for which we present both an argument for and against is, “The PC is the best vehicle for providing IT-delivered services to rural areas.” Vigorously arguing against this statement is Rohan Samarajiva, CEO of LIRNEasia. The obvious alternative to the PC, of course, is the mobile phone, and Samarajiva makes a strong case for it as the channel through which IT-delivered services reach rural areas. He combines three points in his argument: First, he marshals statistics that show the mobile phone’s dramatic growth and penetration, even among the poor and rural. Second, he cites the increasing complexity of the mobile phone and its capacity to enable more complex Internet tasks. Third, he cites two successful ICT-for-development projects which use the mobile phone as their client of choice.

Interestingly, we had difficulty identifying someone to argue in favor of the statement. In fact, a number of prominent proponents of PC-centric telecentres explicitly declined our request to write in favor of the statement. This represents a significant change in the dominant rhetoric of ICT4D.

There are plenty of active telecentre projects, however, run by very dedicated people, and so we knew someone had to be willing to defend the PC as rural provider. We found

a brave voice in Sarah Nalwoga Mpagi, of UgaBYTES, To counter Samarajiva’s three points, Mpagi brings out three points of her own in favor of PCs: First, PCs can often form significant portions of certain businesses, thus being able to learn about them in a telecentre can be the cause for entrepreneurship. Second, mastery of even simple PC skills brings about gains in pride and self-confidence. Finally, in those areas where the mobile network still hasn’t reached, the connected PC can offer multiple channels for communication with the outside world. Notably, both Samarajiva and Mpagi acknowledge the value of the other device. PCs have a form factor that makes them suitable for office work that involves reading and writing; these are difficult feats on the small displays of mobile phones. Mobile phones are easier to use, and because of their prevalence often don’t evoke the technophobia that many rural residents feel with PCs.

Both authors make good points, but the final story is yet to be resolved. PC-based telecentres have a longer history in rural development, yet they have so far failed to establish an iron-clad case for their own sustainability and value. Mobile phones, on the other hand, have overtaken the telecentre in rural penetration by orders of magnitude, but use of IT-delivered services beyond the voice call remains nascent.

# “PCs are not the best vehicles for providing IT-delivered services to rural areas.”



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Evidence shows that mobiles, not PCs, have the potential to be best vehicles for delivering services to rural areas in the Indo-Gangetic Plain, the world’s largest concentration of poor people. This is the hardest case. So, what works here will work everywhere.

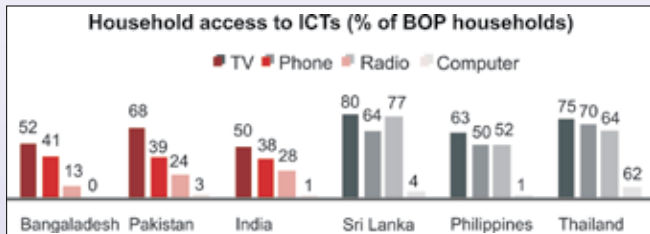


Figure 1: Household access to ICTs (% of BOP households)  
Source: LIRNEasia Teleuse@BOP3, 2009

Figure 1 shows that the phone has overtaken radio in Bottom of the Pyramid (BOP) households in Bangladesh, Pakistan and India, and is about to catch up with TVs. Computers have a distant, and insignificant fourth presence, not only in these countries, but in all the countries surveyed by LIRNEasia as part of a ~10,000 representative sample study of teleuse among socio-economic classification (SEC) groups D and E, closely correlated to households with an income of USD 2 per day and described as those at the Bottom of the Pyramid (BOP). In the Philippines, the survey was limited to SEC E. The survey revealed that forty one percent of BOP households in Bangladesh had at least one mobile, with 37 percent in Pakistan and 34 percent in India.

One does not have to own a phone or a computer to use it. Ninety five percent of BOP Bangladeshis, ninety per cent of BOP Pakistanis and fifty nine percent of BOP Indians had made or received a call in the three months prior to the survey (Figure2). More Indians and Sri Lankans used phones as shown in Figure2, but they used public or

fixed phones too. In the Philippines, hundred per cent had texted within the previous three months, even if they had not called. It was found that use leads to familiarity and converts very quickly to ownership.

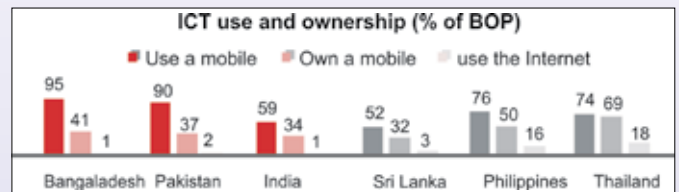


Figure 2: Household access to ICTs (% of BOP households)  
Source: LIRNEasia Teleuse@BOP3, 2009

In contrast to phone use, those at the BOP, who had used the Internet comprised one percent of the population in Bangladesh and India, and two percent in Pakistan. More than fifty percent had not even heard of the Internet in these countries. Not only are PCs scarce in BOP households, even the use of PCs in common-use locations is low. Thus, not only is the use low, awareness is also weak.

One may argue that the mobile is a voice-only device that does not allow its users to enjoy the benefits of the Internet. It is indeed true that the Internet and the many services developed for it are optimized for PCs. The following functions are currently provided over the Internet:

- Communication in multiple forms, synchronous/asynchronous, one-to-one/one-to-many, etc.
- Information retrieval
- Publication
- Transactions (including payments)
- Remote computing

The hierarchy above may be described as moving from simple to complex. It is clear that the mobile is today providing multiple forms of communication, includ-

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## “PCs are the best vehicle for providing IT-deliverables to rural areas.”



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Telecentres by definition are places that promote rural access to Information and Communication Technologies for achieving social and economic development. Those technologies may include all or a few of the following: personal computers (PCs), telephones, televisions, video decks, and cameras. Other devices include: radio recorders for those telecentres with community radios. Apart from being public IT access points, telecentres provide other services like: acting as meeting places for rural communities and providing library services, etc.

What makes telecentres outstanding from other institutions that provide almost similar services are the social bearing that it has and the introduction of information and communication technologies to the target population. The presence of such technologies supersedes everything, because it is about promoting rural access to information and communication technologies, thereby creating empowered communities with the ultimate goal being social and economic development.

However, the social bearing of telecentres should not be taken for granted because in most rural communities, people seek alternative sources, which also provide free services for community access and utility, for instance, schools, libraries, churches, mosques, as also playgrounds. Such places are also used for meetings and social gatherings, which partly explains the reason why most telecentres have not been used to their full potential for community development. The significant ingredient/flavour added in telecentres are computers.

Computers are expensive to buy and maintain in rural communities, which explains their absence in rural households. Moreover, understanding the applicability and potential of computers is complex for most rural communities where technophobia is still rampant. This

is the main reason why computers should be stationed in telecentres along with good trainers who could turn things around, because they are a major driver in accessing and disseminating information productive for the rural population. With other ICT tools like radios and televisions, one can easily learn how to switch on and off and navigate through different channels and enjoy the programmes being broadcast. But this is not the case with computers. The more one learns about computers, the more benefits one gains with them.

Among all others tools, PCs are the major ICT tools that draws people to telecentres. However, these should not merely be seen as personal computers, but as those that can motivate more women and men to access and use them whenever they visit telecentres. Since many computers have very slow processing speed, it is seen that people have to wait for a long time to access and use the computers. This drives people away from telecentres. For example, most of the telecentres in Uganda, which were visited by the UgaBYTES team undertaking a research on telecentres, were using old computers with slow processing speed, and thus people especially women failed to wait for longer hours to get spaces in telecentres where connectivity was available. On the other hand, some people who paid for long access hours for web browsing made it more difficult because it is not possible to tell such people to vacate spaces since they were not timed out and have paid for the services already.

Without computers, telecentres may end up as places for social gathering rather than information technology access centres. Computers are used in different ways: learning the use and application of software programmes, web browsing, typing, scanning, printing, etc. Other applications of computers include: chats and other

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ing text-based (SMS) and context-based (missed calls). Qualitative research showed that many of the second-hand phones were quite sophisticated. They were being used to transfer music from one phone to another using blue tooth, to watch video, to play games, to obtain news and employment information (in many cases as the sole source), and to keep records of transactions. The emerging m-payments capabilities are also well known.

The Teleuse@BOP survey specifically probed awareness, trial, and use of “more-than-voice” services over the mobile. These were low, unsurprisingly, because these services are just being developed and marketed and the business models of marketing information and transaction services to the poor are yet to be worked out. What makes the ground for optimism stronger, however, is the clear evidence of high awareness, trial and use of more-than-voice among the younger cohorts (Figure 3).

It is increasingly becoming clear that agricultural information is better provided on the almost-ubiquitous mobile, where information is available when and where the user wants it. The findings from the Warana Wired and Warana Unwired projects in Maharashtra, now being

Age Group	Awareness (%)	Use (%)
Age 15 - 24	34%	8%
Age 25-34	30%	7%
Age 35-49	24%	5%
Age 50-60	20%	3%

Figure 3: Awareness and use of Mobile2.0 (more than voice) services (% of BOP teleusers, all countries)  
Source: LIRNEasia Teleuse@BOP3, 2009

applied on a larger scale in Vietnam by Microsoft Research, serve as a good example. Innovative companies, such as CellBazaar in Bangladesh are introducing rudimentary eCommerce to BOP users, who would otherwise never get access to such services. BuzzCity and Gupshup are creating social networking in the mobile space. Once the technical and regulatory issues of m-payments are resolved, it is likely that they, not credit cards, will become the main mode of e-payment in the developing world.

The old paradigm had the PC as the central interface with the end user. It is gradually being replaced by a new paradigm centered on the mobile handset (or the emerging 3G enabled netbook type devices). These changes will occur first in places like South Asia and Africa and then spread to the developed world.

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communication applications, sharing and disseminating information and knowledge, and games. Computers could also be used as television and radio.

Training communities on the use of computers enables them to navigate through different softwares, applications, and also web browsing, enabling them, without the help of the operator, to find information, that may otherwise be unavailable in the telecentres. Hence, knowledge is turned into power as women and men are themselves able to find the information they need. For example, in a gender evaluation study that UgaBYTES conducted in two telecentres; Buwama CMC and Kawolo telecentre, it was found that rural people needed specific information which were not available in the two telecentres. That would not have been a problem had they had the knowledge to use computers to browse the Internet and find the information they need. Another example, all the women who appeared in the focus group discussions were proud of using computers and were happy to market their

businesses and produce.

Those who are trained in operating computers can also start their own computer based businesses, such as typing, type-setting, etc. They can also train other people in computers leading to their empowerment. Hence through computers, development spreads faster to other places where telecentres fail to reach considering that not all telecentres are centrally located.

Computers are suitable tools for communication also, having applications for chat, e-mailing, etc., with social media like facebook, yahoo, skype, etc. Without the availability of computers in telecentres, it would not have been possible for most rural communities to connect with people living in far off places and in places with inadequate telephone connectivity.

Internet serves as a major repository of knowledge and information. It would be very hard for the communities to have access to the wealth of knowledge and derive all the other benefits from the Internet without the aid of PCs.

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