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ICTD Project Newsletter

Recent technological advances in mobile devices, technology and networks have made it possible for citizens to access information and transact services while on the move. This gives an opportunity for governments to think out of the box while providing services to citizens. This article is a primer on the immense possibilities of mobile governance.

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Columns

From e-Government to m-Government ICTD Project Newsletter

August-2007



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possibilities of mobile governance.

Recently the State Bank of India and Bharti Airtel have partnered to enable money remittance over mobile phones. The project was piloted in a small Himalayan village of Pithoragarh district in the state of Uttaranchal, and it has had far-reaching effects in this village which does not have access to financial and banking services. With inward remittances aggregating to USD 25 billion, India is the biggest recipient of overseas remittances in the world, accounting for around 10 percent of the world market and is growing by 20 percent in India every year. This pilot will allow more than 25 million Indians working overseas to remit money over their mobile phones to families back home who may not even have a bank account.

The above is a small example of the paradigm shift mobile phones have brought about in the traditional way of doing things. India has seen an explosive growth in the mobile telephony segment becoming one of the fastest growing mobile markets in the world. In India mobile services were commercially launched in August 1995. In the initial years the growth was slow with the total mobile subscriber base at 10.5 million in December 2002. However, soon after, there was a dramatic increase and in the month of May 2007 itself 6.57 million subscribers were added while the corresponding figure for June 2007 is 7.34 million subscribers. The total no. of telephone subscribers stood at 225.21 million at the end of June 2007 of which there were 185.13 million mobile subscribers. Thus about 82 percent of the total telephone subscribers prefer a wireless phone over a fixed line phone. The kind of growth is nothing short of phenomenal.

The above scenario opens up vistas of opportunity

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Klaus Pendl
Project Officer,
International
Relations Unit,



for the government to connect to its citizens using the ubiquitous mobile device in every pocket. Currently the government is focused on reaching services and information to citizens through a computer connected to the Internet under the CSC (Common Service Centre) model. Yet there is a plethora of opportunities which can help governments leapfrog from e-Governance to m-Governance (mobile governance). There are three factors which are potential drivers for the transformation from e-Government to m-Government. They are:

(a) In India more people have a mobile phone in their pockets than they have access to a PC with Internet connection. The total no. of Internet broadband connections stood at 2.52 million at the end of June 2007 compared to 185.13 million mobile subscribers.

(b) The initial investment for a mobile device is many orders of magnitude less compared to investing in a computer.

(c) Mobile phones travel with citizens while a computer does not. Thus potentially citizens have instant access to services and information while on the move.

Mobile business is already fast catching on with consumers; people are already shopping, banking, buying movie and railway tickets while on the move. As m-Business evolves there is increasing pressure on governments also to move from e-Governance to m-Governance. m-Government vs e-Government is not an 'either-or' situation. m-Government builds upon e-Government. The first phase is to provide through mobile devices what is already available through a computer-based application. The second and more crucial phase is to provide those services and applications which are only possible through wireless and mobile infrastructure.

m-Government can be applied in different areas though currently applications in some areas are in their infancy. The four main purposes are illustrated below with examples.

m-Communication: Information is power and sharing of information promotes accountability and transparency. These two attributes, among others, are the pillars of good governance. Improving the communication between government and citizens allows citizens to be active participants in the governance process. Two good examples of citizen's participation in governance come from our neighbours. In China, the 150 million mobile phone owners can now send SMS to the 2,987 deputies of the National People's Congress. In the Philippines, half of cabinet agencies have SMS-based services that allow citizens to ask for information or to comment and complain about government officials and services. Citizens of Singapore can choose to receive SMS alerts for a variety of e-services such as: renewal of road tax, medical examinations for domestic workers, passport renewal notifications, season parking reminders, and parliament notices and alerts. In the UK, the London police have a service that sends alerts to businesses in London about security threats, including bomb alerts. At the height of the SARS incident, the Hong Kong government sent a blanket text message to 6 million mobile phones in a bid to scotch fears emanating from rumours about intended government action to stem the disease.

m-Services – m-Transactions and m-Payments: The use of m-Payments in government services is still limited as the back-end integration is a complex affair. But this is expected to ease as technology

Information



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advances. Current applications, among others, include:



Singapore's National Library Board has a SMS service that allows regular users to query the status of their accounts and books borrowed, and receive reminders

before the due date of their book loans. They can also undertake transactions such as making book renewals or paying fines using their mobile phones. The service costs each user \$5 per year.

In Finland, SMS tickets can be used for Helsinki's public transport system. These tickets can be ordered by sending a text message and the user is billed through his or her regular mobile phone bill. The ticket itself is also delivered to the commuter by SMS.

m-Democracy: The potential applications are m-Voting and use of mobile devices for input into decision making. Currently in the UK experiments are being conducted in m-Voting with mixed results. Older citizens are not comfortable with sending text messages for voting while the younger generation feel that SMS is a 'fun application' and not to be used for serious things like voting.

m-Administration: Increasing the productivity and effectiveness of government employees is an important aspect of using mobile devices for administration. Mobile devices have the potential to provide a seamless environment for government employees to access data and information when they are away from their desks. This is especially useful for law enforcement agencies, health officials, etc.

The immediate core applications of m-Government are seen in provision of health and banking services. Possibly the greatest strides have been made in extending the reach of financial and banking services to the very poor.

m-Banking and financial services: In developing countries the footprint of bank networks and ATMs is a negligible fraction of the penetration of mobile phones. This implies that provision of banking and financial services over mobile devices is a vast untapped area. Mohammed Yunus has shown the way how m-Banking is the perfect complement to microfinance. Another illustrative example is M-PESA project in Kenya. This service was launched on a pilot basis in October 2005 and a full commercial launch was initiated in March 2007. The partners in this initiative are Safaricom, a telecom company, the Commercial Bank of Africa and Faulu, a micro-finance company. The mobile phone functions like a bank account. The customer credits their account at their local air-time dealer and can then transfer the value to another person's phone or use it to make a loan repayment or redeem it as cash. The system allows customers to pay for a wide range of goods and services without the need for cash.

Anecdotal feedback suggests that M-PESA is being utilised for a wide variety of commercial transactions. Some examples include:



Paying field sales staff their allowances and



expenses – particularly to manage replenishments for long distance truck drivers. In one case, a truck

driver needed money to buy some spare parts for the lorry which had broken down on the Ugandan border. He called his head office in Nairobi, which sent him \$100 to cover the cost of spare parts and repairs.

Salary payments for casual workers. Safaricom itself uses M-PESA for payment to casual workers, who no longer need to travel to the head office in Nairobi to collect their payments.

This form of transaction can also be used as a store of value for the purposes of personal safety and security. Some examples:

One customer traveling from Nairobi to Kisumu deposited money with M-PESA and withdrew it at his destination instead of carrying cash. This was to combat the insecurity and theft on public transport.

A taxi driver requests his customers pay by M-PESA as it is safer for him, since he does not want to carry cash around due to the risk of theft.

There are examples of M-PESA being used for convenience—a more efficient, lower cost and reliable way of transferring funds for regular payments. These include:

Customers using M-PESA for rent payments.

A customer in Meru (300 kms from Nairobi) used M-PESA to purchase specific drugs from a chemist shop in Nairobi and had them couriered to his home.

There are also frequent instances where M-PESA is used in emergencies. For example:

A child fell ill while the father was in another town. He sent money to his wife via M-PESA so that the child could get medical care.

A customer working in Mombasa had a son who had been sent away to school in Kakamega [about 700Km away] and who needed to settle an outstanding fee balance. He sent the money to one of the teachers in the school who cashed the voucher and used the money to clear the balance. School fees are a regular example of M-PESA usage, with money being sent to relatives nearby.

A customer's brother was arrested and they needed money to bail him out. He sent money to his wife so that she could go personally to pay the bail fee.

Provision of health services:

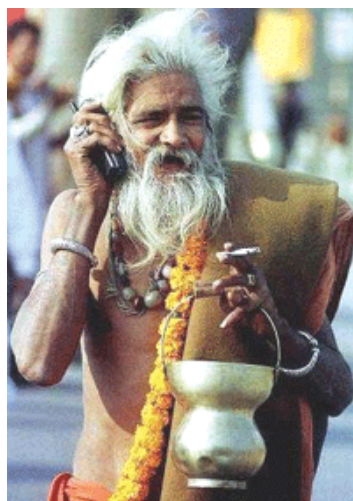
Phones for Health is a major public-private partnership to use mobile phones to fight HIV/AIDS in 10 African countries. This USD10 million project aims to use the widespread and increasing mobile phone coverage in the developing world to strengthen health systems. Phones for Health will allow health workers in the field to use a standard Motorola handset equipped with a downloadable application to enter health data. Once entered, the data is transferred via a packet based mobile connection (GPRS) into a central database. If GPRS isn't available, the software can use a SMS data channel to transmit the information. The data is then mapped and analyzed by the system, and is

immediately available to health authorities at multiple levels via the web. The system also supports SMS alerting and other tools for communication with field staff. This project builds on the successful experience in Rwanda where a similar system has been used for the last two years to manage the country's HIV/AIDS programme. This model can be extended to track TB, malaria and other diseases.

In Coura, a district of Mali's capital Bamako, it is now possible to monitor the health of local infants closely in real time with the launch of a new pilot project dubbed Pesinet. Initiated and funded by Alcatel-Lucent, Foundation Orange Mali, Afrique Initiatives, Medicament Export (Medex) and Kafo Yeredeme, the project aims to provide a preventative medical diagnostic service for infants between 0-5 years, based on regular checks on the child's weight gain.

The service is based on weighing the children every week at home twice a week for children under a year by people who are specially trained. The main job for these local staff is to record the weights of infants via a Java application on their mobiles. This information is then sent via GPRS to a database used to help the paediatricians of Pesinet to quickly spot those infants that are at risk. Consistent monitoring of variations of weight is a basic medical service, but it is also an effective way of detecting a range of illnesses from malnutrition to malaria and it allows the doctor to intervene quickly. The 'Pesinet ladies' not only register the weight of the child but they also check for four other supplementary symptoms: fever, diarrhoea, coughing and vomiting. This information provides signals to the Pesinet paediatricians as to whether the infant is in good health or there is a case for immediate medical intervention. But the processes of the project are not simply limited to detection. The service also includes medical consultations and access to medicines. Access to medicines is the service of real value for the people.

Conclusion :



The convergence of mobile communication and mobile computing technologies opens up new horizons for mobile interaction and mobile working. Recent advancements in technology coupled with new business models and services of the Internet have created new dimensions of interactivity,

mobility and intelligence of web-based solutions. The use of mobile technology in the government sector not only provides an alternative channel of communication and public service delivery, but more importantly, it can transcend the traditional e-Government service delivery model by bringing personalized, localized and context aware services close to its mobile citizens. With the opportunities provided by mobile ICT, government should shift to a 'service' mindset and be aware of the potentials of mobile government to transform the government to

be more agile, responsive, accountable, and action oriented.

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