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**7-9 February, 2012**

**THEME: Geo-Budget: Enabling  
Sustainable Growth**

Migration of eGovernance tools to Mobile Governance

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*About the Author*

*K Prashant - Brief Biography*



K Prashant, Graduated from Symbiosis Institute of Geoinformatics in 2008. With Majors in Geoinformatics he served at Reliance Infrastructure Ltd, Mumbai as Assistant Manager (IT) for more than 3.5 years, supporting Executives, Sales Teams and Managers to improve internal GIS operations for Infrastructure Group Businesses. He is Proficient in all the aspects of standard GIS desktop based Software Application Development having a diversified skill sets covering Administrative Support, Client Relations, Technical documentation and Service Ownership.

Before doing masters he attained bachelors in Electronics & instrumentation Control Engineering from Indore. His has got varied exposure of GIS implementation in Urban Planning, Power Distribution & Geological Mapping.

Currently he is pursuing executive programme in eGovernance from IIM Indore. After this course he plans to take up consulting assignments in the area of E-governance, Government Process Re-engineering, and IT Service Management.



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## **Background & Introduction**

During the past ten years, we have witnessed how mobile phones the simple functions of voice and text messaging can empower citizens and the affect the way citizens interact with each other and with society as whole. Mobile phones are also thought to open up for a deepened democracy through citizen participation and insight into state affairs, through influencing the political decision making process and helping in holding the governments accountable.

M-Government is part of a broader phenomenon of mobile-enabled development or leveraging the mobile revolution to enable development impact. It takes electronic services and makes them available via mobile technologies using devices such as mobile phones. These services bypass the need for traditional physical networks for communications and collaboration. M-Governance is a sub-domain of e-governance. M-Governance has the possibility to extend the reach of e-governance. Mobile services are cheaper as well as accessible in most of the rural areas in India and/or Asian countries.

M-Governance is not a replacement for e-Governance; rather it complements e-Governance. Mobile applications also rely on good back office ICT infrastructure and work processes: Governance networks and databases, data quality procedures, transaction recording processes, etc.

### **Rationale – why mobile phones?**

There is no need to re-emphasize just how appropriate information and communication technology (ICT) systems are used as a tool to improve good governance. ICT, as seen in many developed countries, also facilitates a freer flow of information between government and citizens and opens up for opportunities for citizens to participate more directly in influencing decisions that affect them. But how about mobile phones as the new interface between government and citizens? Can slow government processes be combined with mobile phones that are ever-changing, quick and direct in their usage? Why mobile phones? Is it not just another hype that often accompanies the latest technical breakthroughs? We have witnessed that mobile phones help to create an informative, connected, innovative, participative and converging society all over the world. What is the rationale to use mobile phones for good governance India?

- **Access:** Penetration rate is ever increasing and even more have access through shared usage and ownership. Related to access is that mobile phones add the dimension 'anywhere and anytime': due to their mobility and that mobile phones are switched on most of the time, which opens up for new possibilities.
- **Reach:** Again, due to its mobility and network infrastructure, mobiles can reach areas where there is no other ICT infrastructure (like internet, fixed lines).
- **Adoption:** As mobile phones more and more become an integral part of people's lives, m-commerce, m-government and m-x will be the normal way of doing things. Further, there is an increasing public demand for mobility and easy access to services.
- **Interaction:** Mobile phones make it possible for real-time, two-way dialogue as opposed to radio, brochures, posters, public speeches etc.



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- **Costs:** The relatively lower cost of mobile phone technology versus internet technology has lowered the entry barriers for poor people. Affordability is still a concern though –somebody needs to pay for the infrastructure, communication and services.
- **Efficiency:** Due to high access, its reach, good adoption and real-time interaction mobile phones offer efficient solutions to government’s communication challenges.
- **No other option:** In developing regions with poor infrastructure, going mobile may be the only viable option.



### Potential of Mobile Governance – India

Mobile phones have tremendous potential to expand the access to and reach of public services in India. The rapidly expanding subscriber base of mobile phone users in India can help in accelerating the use of modern information and communication technologies (ICTs) for improving governance and ushering in inclusive development. As on 30th September 2010, the number of mobile phone subscribers in India stood at over 687 million and the overall Teledensity was 60.99%<sup>1</sup>. Out of the total subscribers, the share of rural subscribers was 32.3% and the rural Teledensity was 24.29% as on 31.3.2010<sup>2</sup>. The total subscriber base of mobile phone users is projected to grow to one billion by 2012<sup>3</sup>. The huge user base of mobile phones in our country presents us with an unprecedented opportunity to expand the reach of public services to every resident, especially in rural areas.

The relevance of mobile platform as a medium for delivery of public services is also evident when we compare the subscriber base of mobile phones to that of the internet. The total base of internet users in India at the end of 2009 was only 81 million<sup>4</sup> and the total number of broadband subscribers (with connection speeds of >256 Kbps) was only 10.29 million as on 30th September 2010<sup>5</sup>. Wide access to mobile phones in the country has made it an ideal platform for government to resident interface, especially in the rural areas.



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Mobile Penetration	2000	2008	South Asia
Mobile cellular subscriptions (per 100 people)	0.4	30.4	32.6
Mobile telephone usage (minutes/user/month) 19	191	440	363
Price basket for mobile service (US\$/month) -	-	1.6	1.9

Source: ICT at a Glance, World Bank

Wireless Subscribers – India as on 30th Sept. 2010	
Total Wireless Subscribers	687.71 Mn
Urban Subscribers	460.63 Ml
Rural Subscribers	227.08 Mn
GSM subscribers	578.49 Ml
CDMA Subscribers	109.22 Ml
Teledensity	57.99
Urban Teledensity	129.8
Rural Teledensity	27.32

Source: TRAI

Internet and Broadband Subscribers – India as on 30th Sept. 2010	
Total Internet Subscribers	17.90 Mn
% Change over Previous Quarter	7.02%
Broadband Subscribers	10.31 Mn

## Global Models & Examples

### Bahrain e-Services

MGovernance became a part of the national e-Governance strategy because

- Over 100% mobile penetration
- Comfort levels of customers with mobile devices
- Availability of the latest technology - 3G facilities
- Customers showed inclination towards availing services through the mobile channels

The Government in Bahrain offers the following services through mobile phones

- Informational services - Flight information, Currency Converter, etc.
- Transactional services - Check your blood record, tracking of postal packages, graduate examination results, etc.
- Payment services (still under development) - Electricity Bill payment, traffic contravention, etc. Payment will be through credit card and card details will be stored in the database.

Critical Success Factors

National Level Strategy and Policy on m-Government



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- Right Content / Need for Content Development
- Choice of Technology Platform
- Public Private Partnership (PPP)
- Effective Demand for m-Government
  - Transaction cost
  - Communication and Change management



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### **“Go Mobile with Government”, Singapore**

Mobile service delivery has been identified as a strategic mode for Singapore’s iGov 2010 master plan and currently more than 300 public services are available through mobile technology in the country. Some of these services include:

- Checking information regarding bank accounts, property, investments etc
- Accessing weather forecast information
- E-Appointment alert – SMS is sent to a person one day before appointments
- SMS alerts for passport renewal, road tax renewal
- Public crime alert services via SMS of crimes in the neighbourhood
- Key economic statistical SMS service providing national economy estimates, consumer price index, wholesale trade index etc
- Traffic information and payment of traffic offenses

### **“We’ve Gone Mobile”, Canada**

The Government of Canada Wireless Portal is an evolving project which aims to make most government services available to the citizens through their mobile phones. The services available are:

- Information regarding current Border Wait time for crossing the Canada -United States border
- Accessing contact information Canadian Companies
- Currency Converter
- Economic Indicators
- Exchange Rates
- Government of Canada employee phone numbers
- Member of Parliament contact information
- Weather forecast

### **mDubai**

The Government of Dubai through its eGovernance initiative has developed an mDubai portal which provides details of various push and pull services available to the citizens of Dubai. The services offered are primarily based on SMS services. Some of the services available are given below:

- Salik Registration/ Payment
- Prayer Timing
- Trade License Status/Fees
- Case Information
- Traffic Fines



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**Indian Initiatives & pilots**

<i>Type of Application</i>	<i>Examples of Projects</i>	<i>Brief Description</i>
<b>SMS-based Alerts Pushed Down</b>	Bhoomi, Karnataka, 2007	Landowners register with Bhoomi by paying a fee. Will get an SMS whenever there is a transaction on the land.
	PDS, Chattisgarh, 2008	Register phone and Fair Price Shop (FPS). Access to information on availability and supply of food grains, and about time and truck number that will deliver supplies to a FPS in order to involve public in enforcing accountability.
	Reuters, Maharashtra, 2007	Register and receive weather forecast and commodity prices.
	Western Railways, 2008	Subscribed service for general updates such as mega blocks affecting train services, new services, ticketing facilities, etc. free of charge.
	SMSONE, Maharashtra, 2005	“A Local SMS Community Newsletter” service provided to different communities, each comprising of 1000 registered users. Users are empowered with localized, specific and useful information anytime, anywhere via a SMS. The community is served with messages that are relevant to them, practically covering all aspects of their daily life from health camps to beheld, non-supply of water or electricity, and traffic congestion to reminders of bill payments
<b>SMS-based Two Way Information</b>	Toll Free Agricultural Help-Line, Haryana, 2007	Users send SMS to a mobile number, and the experts/officials





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<b>Exchange</b>		telephonically respond to the questions within 48 hours.
	Jan Seva Kendra, Gandhi Nagar, Gujarat, 2006	Barcode assigned to a service application used for tracking the application, sending reminders to the officers, and for any inquiry on pending cases. People can enquire the status of their application.
	m-Sampark, Chandigarh, 2005	SMS "SMENU" to 58888. A menu of services available will be sent back to user via an SMS, from where he/she can get the required information.
	Mysore City Corporation, Karnataka, 2008	Citizens message their problem to a pre-assigned number through SMS. Acknowledgment number is sent back with concerned officer's name and contact number
	Railway Enquiries	Railway information on train schedule/time table/PNR status/train search/seat availability can be accessed
<b>WAP based Transactional Services</b>	Zero Mass Foundation (ZMF), Andhra Pradesh	Agents working on behalf of partnering banks, use special mobile phones and accessories to provide front-end full-featured transactional services (opening an account, deposits and withdrawal of cash) for financial inclusion of rural poor.

### M governance Service

In India the use of mobile phones for sharing information has already been established in various government as well as private sector initiatives. The use of mobile phones to deliver services goes through several interlinked stages.

A matured m-gov would require transaction oriented services to be provided to the citizens; however introduction of transactional services would require for a step by step transformation from simple information based services over SMS to application based services using WAP/3G etc.



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### SMS based services

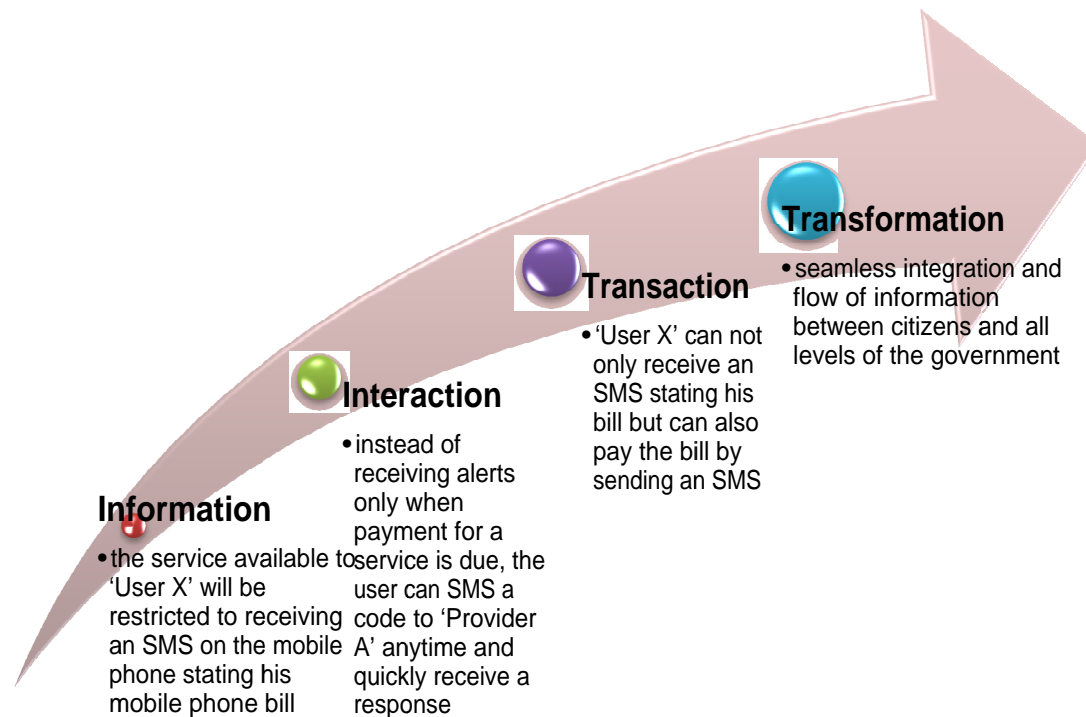
SMS form the simplest of the services and can be used to provide information related services using Push / Pull based services.

### USSD Services

Unstructured Supplementary Services Data is a session based service unlike sms which is store & forward service .It can be used by the user to send command to an application in text format. USSD acts as a trigger for the application.

### Bluetooth Based Services

Bluetooth can be used for information exchange among Bluetooth compatible devices in close proximity. It could also be used through a compatible handset to access application on another device over a Bluetooth connection



### WiFi/Wimax/WLan based Service

A mobile phone can be used to connect to the internet using wifi or wireless connection, to connect to the internet to access applications.

### 3G Based Services



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With the introduction of 3G Services, mobile phones can directly connect to the internet to access any online application or to process request using a mobile based application and transmitting data /information /transaction using 3G Connections.

Location-Aware Applications – The use of the Global Positioning System (GPS) will provide another option for m-Government applications to be tailored to a specific location. The citizen or government employee will be able to access specific information about services, facilities and specific requirements in the immediate area.

Example : City Guides – location of historical structures/buildings, government offices and interactive commercial services as Yahoo-Earth is doing.

### **Critical Issues for m-Government Applications**

It is easy to build expectations but difficult to regain trust. Citizens who are turned off by their experience with m-Government are not only harder to lure back but will also bad mouth it to other. Thus it is important to:

- Choose m-Government applications wisely. Make sure they are non-trivial but also be careful that they are not the most difficult.
- Make sure that the application is user-friendly. Balance your need for information with the comfort (or frustration) level of the user with the technology.
- In deploying m-Government applications ensure that citizens get exactly what the application claims to be able to deliver in the shortest possible time. If it is a channel to receive complaints, be sure to regularly get back to the complainants about the status of their complaint until it is resolved.
- Ensure that there are suitable back-office systems in place to deliver on m-Government promises.

Privacy and Security - While all traffic on the Internet is subject to interception, some hackers are spying on corporate wireless networks from outside buildings, where they can scan e-mail and documents. Wireless networks broadcast signals over the public airwaves so they are vulnerable. Privacy and security issues must be addressed in the planning phase, and may impact the timing or selection of a specific type of wireless service.

Accessibility – As government entities pursue plans to provide access to m-Government information and services via text to wireless access devices, they should also facilitate making the information more accessible for all citizens via the Web and other communications technologies.

### **M-Government Benefits and Challenges**

M-Government can bring potential benefits for the public sector, but it also faces challenges, as discussed below.

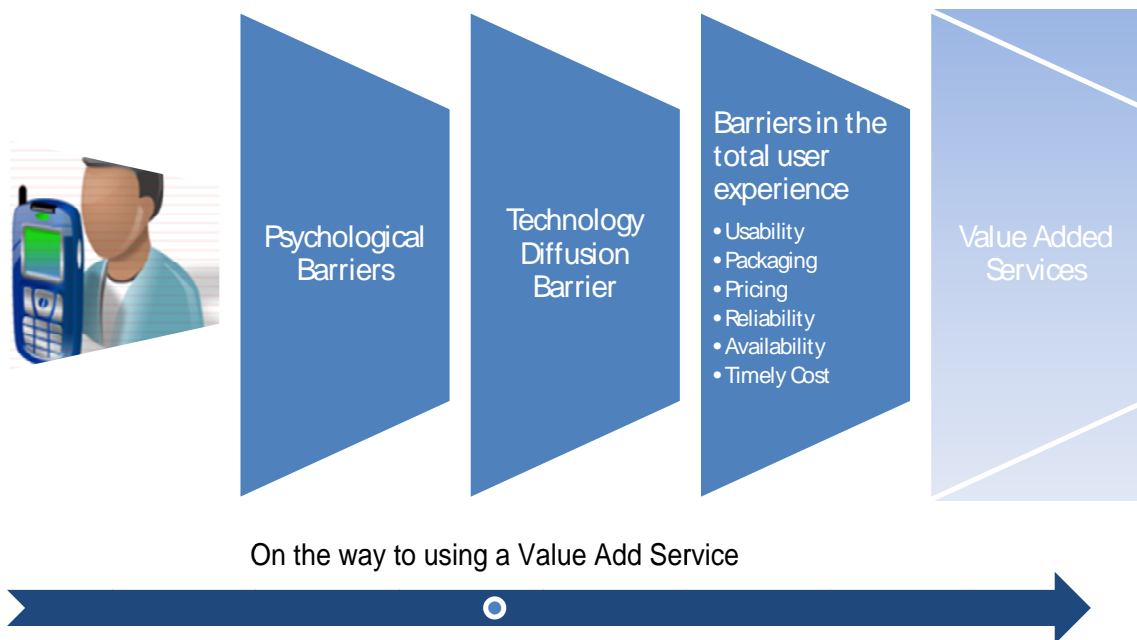
#### **Benefits**

The main benefit that m-government brings is its boundary-breaking potential: truly allowing working on an anywhere, anytime basis and helping to create a truly integrated digital nervous system for government. Because of its immediacy and convenience, it also reduces

the barriers to public service operations, encouraging citizens or service providers to make use of the technology where previously barriers were discouragingly high.

These core benefits can be seen reflected in a broader set of m-government benefits, including:

- Increasing the productivity of public service personnel: m-government allows public servants to enter data into digital systems exactly where they are in the field.
- With m-government, they can take the whole of digitised government with them into the field, allowing them to make much better-informed decisions and actions.
- Improving the delivery of government information and services: m-Government can deliver data and services whenever and wherever the citizen is.
- Increasing channels for public interactions: m-government provides an additional channel for interactions all stakeholders in governance – service deliverers, policy makers, service consumers, civil society representatives.



### Challenges

m-Government does face a number of challenges:

**Cost:** m-government tends to be yet one further channel for e-government, in which case it will create additional costs.

**m-Digital divide:** as just noted, not everyone has a mobile phone. In particular, older and poorer groups in society tend to be excluded from this technology.

**Mobile mindsets:** mobile devices – cell phones particularly – are seen by many as tools more for fun and entertainment than for serious activities.



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Trust/security: if m-government is to encompass m-payment systems or other transactional public services, then it must have good security and must be trusted. As yet, there is still a credibility gap to be crossed for many mobile device users.

Data overload: mobile devices increase the pressures of a world in which users are permanently connected: "always on". These permanent connections increase the number of messages circulating and can create a blizzard of communications – some valuable, some not – in which public service communications can come to be devalued or lost

#### Implementation Strategy

Mobile phones are now recognised as the largest service delivery platform throughout the world. In order to leverage the potential of mobile devices as the service delivery platform, following policy initiatives can be proposed:

- Making all Government web sites Mobile Compliant
- Creation of Mobile Service Delivery Gateway (MSDG)
- Development and Notification of standards for mobile applications
- Notification of Long Codes, Short codes and m-Gov Number for Mobile Governance
- Creation of m-Governance Innovation Fund
- Development of Knowledge Portal and Knowledge Management System for Mobile Government

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