M-Governance in India: Problems and Acceptability

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Abstract - Government and various public sector organizations around the world are facing to restructure their public administration organizations and deliver more efficient and cost effective services. m-Governance is the effective use of mobile technologies to improve the system of governance that is in place and thus provide better services to the Citizens. m-Governance is considered as one of an important element in India, as it is considered to be the only means of taking technologies to the “Common Public”. Developments in m-Governance provide opportunities to control the power of mobile technologies to make the business of governance inexpensive, qualitatively responsive and truly encompassing. In this paper we discuss about the basic issues and acceptability of m-Governance in India.

Keywords - ICT\textsuperscript{1}, m-Governance, Accountability, Acceptability

1. Introduction

The actual term governance comes from an ancient Greek word, kebernon which means to steer. In current usage, to govern means to steer, to control and to influence from a position of authority. According to Former Secretary General of the United Nations, ‘Good governance is the single most important factor in eradicating poverty and promoting development’. Therefore, governance is an exercise of power for steering social systems as well as a process by which organizations are directed, controlled and held to account to their society. It is a set of the systems and processes concerned with ensuring the overall direction, effectiveness, supervision and accountability of an organization. m-Governance involves new styles of leadership, new ways of debating and deciding policy and investment, new ways of accessing education, new ways of listening to citizens and new ways of organizing and delivering information and services. m-Governance is defined as “m-governance is the application of mobile technologies to transform the efficiency, effectiveness, transparency and accountability of informational and transactional exchanges with in government between government and government agencies. In other words m-Governance is the implementation and delivery of government services through the mobile technology to provide transparent, effective, efficient, responsive and accountable governance to the society. Good Governance has eight major characteristics i.e. participation, transparency, effectiveness, efficiency, responsiveness, accountability, equity and inclusiveness, rule of law for the effective and efficient governance. m-Governance has all the above properties as well as innovative Information and communication Technology for the effective and efficient governance in any sector which assures that corruption is to be minimized, the views of minorities are taken into account and that the voices of the most vulnerable in society are heard in decision making. It is also responsible to the present and future needs of society. A conceptual model for m-Governance is shown in figure 1 which explains about the interrelation between citizens.

\begin{figure}[h]
    \centering
    \includegraphics[width=0.5\textwidth]{conceptual_model.png}
    \caption{Conceptual model of m-Governance}
\end{figure}

\textsuperscript{1}Information and Communication Technology
government and the services accessed by the citizen’s through information and communication technology followed by the major characteristics of good governance.

2. m-Governance: Major issues in India

In India people are poor and infrastructures are not up to the mark. Under such condition it becomes very difficult to provide government services to the people. There are number of reasons for that:

2.1 Poverty

Mobile is too expensive for the poor in developing countries like India. Purchasing the mobile with necessary features is equally unaffordable in most poor countries. [3].

<table>
<thead>
<tr>
<th>Country</th>
<th>Phones per 100 citizens</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>90.47</td>
</tr>
<tr>
<td>Germany</td>
<td>130.1</td>
</tr>
<tr>
<td>UK</td>
<td>122.9</td>
</tr>
<tr>
<td>Hongkong</td>
<td>187.9</td>
</tr>
<tr>
<td>Australia</td>
<td>133.0</td>
</tr>
<tr>
<td>Singapore</td>
<td>143.5</td>
</tr>
<tr>
<td>New Zealand</td>
<td>108.6</td>
</tr>
</tbody>
</table>

Table: Mobile Usage in Various Countries

Source: International Telecommunication Union, World Telecommunication/ICT Indicators 2013 (September 2013 update)

2.2. Technical illiteracy

There is general lack of technical literacy as well as literacy in countries like India, the correlation between education level and use of technology and other communication technology means are quite significant for instance about usage of mobile technology is given above in the table1 [4].

2.3 Language Dominance

The dominance of English on the mobile constrains the access of non English speaking population. The content on Internet is also found in English. It is found that of all the web pages in the world, about 84 percent are in English followed by 4.5 percent in German, 3.1 percent in Japanese, 1.8 percent in French, 1.2 percent in Spanish, 1.1 percent in Swedish, 1 percent in Italian and less than 1 percent in all other languages [5]. In the case of India, 95 percent of the population does not speak English [6]. Due to such overwhelming dominance of English over these communication channels, mobiles and the internet are quite useless in Indian villages and the use of local languages does little to alleviate the problem due to the poor literacy level mentioned earlier.

2.4 Unawareness

There is general lack of awareness regarding benefits of m-governance as well as the process involved in implementing successful G-C², G-G³ and G-B⁴ projects. The administrative structure is not geared for maintaining, storing and retrieving the governance information through mobile technology.

2.5 Lack of Participations of Society, Public and Private sectors

Designing of any application requires a very close interaction between the government department and the agency developing the solutions. At present the users in government departments do not contribute enough to design the solution architecture. Consequently the solution developed and implemented does not meet the requirements of an m-governance project and hence does not get implemented.

2.6 Inequality:

Inequality in gaining access to public sector services between various sections of citizens especially between urban and rural communities between the educated and illiterate, and between the rich and poor.

2.7 Infrastructure

Lack of necessary infrastructure like electricity, internet, technology and ways of communications as in Table1 will affect the speed which delays the implementation.

2.8 Impediments for the re-engineering process

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² Government to Citizen
³ Government to Government
⁴ Government to Business
Implementation of m-Governance projects requires lot of restructuring in administrative processes, redefining of administrative procedures and formats which finds the resistance in almost all the departments at all the levels.

2.9 Operational Reluctance

The psychology of government servants is quite different from that of private sectors. Traditionally the government servants have derived their sustenance from the fact that they are important repositories of government data. Thus any effort to implement documents management and workflow technologies or bringing out the change in the system is met with resistance from the government servants.

3. m-Governance: Acceptability in India

m-Governance is a way to solve the social as well as economical problems exist in the developing countries like India. Deepak Ghaisas, former Chairman NASSCOM\(^5\) Product Forum and CEO\(^6\) India Operations estimate “23 percent of government spending goes on defense, while 46 percent of it on governance. If a small fraction is spent on technology, namely to streamline the processes, it will really boost the domestic tech industry” [7].

According to WEF\(^7\) Global Information Technology Report [8], India ranks 24\(^{th}\) out of 134 countries with 5.38 score in accessing and overall priority of technologies. Therefore, there is tremendous potential for m-Governance to provide exponentially benefit to their citizens and maximize return on government investment which represents the growth of m-Governance in India is quite encouraging.

3.1 Government Initiatives

The policy makers in India tend to justify the adoption and expansion of m-Governance on the grounds that it costs less, reduces waste, promotes transparency, eliminates corruption, generates possibilities to resolve rural poverty and inequality and guarantees a better future for citizens [9]. In other words government tends to portray m-Governance as the panacea for all ranges of problems confronting India, therefore Indian Government has set the target of delivering at least 25 percent of its dealings and services electronically [10]. To achieve the target Indian Government has decided to boost mobile density by making mobiles easily affordable; to increase internet connectivity by improving the telecommunication based on optical fiber networks.

Indian government has taken major initiatives to setup institutions for making policy, control and account deployment of m-Governance which will provide effective and efficient services.

3.1.1. Creation of Mobile Services Delivery Gateway (MSDG)

MSDG is the core infrastructure for enabling the availability of public services through mobile devices. This will be developed and maintained by an appropriate agency within DIT\(^8\). MSDG is proposed to be used as a shared infrastructure by the Central and State Government Departments and Agencies at nominal costs for delivering public services through mobile devices. Various channels such as voice, text (e-mail and SMS), GPRS, USSD, SIM Toolkit (STK), Cell Broadcast (CBC), and multimedia (MMS) will be incorporated to ensure that all users are able to access and use the mobile based services. The various delivery channels are expected to entail innovative ways of providing existing services as well as development of new services. To ensure successful implementation of the platform with requisite levels of security and redundancy, following actions will be taken:

a) End User Interface: End-user devices include landline phones, mobile phones, smart phones, personal digital assistants, tablets and laptops with wireless infrastructure. Mobile applications developed shall take into consideration appropriately the wireless-device interface issues, such as bandwidth limitations, micro-browser and micro-screen restrictions, memory and storage capacities, usability, etc.

b) Content for Mobile Services: Due to lower-bandwidth and smaller-screen characteristics of mobile devices, successful development and deployment of m-Governance will require development of separate mobile-ready content. Similarly, to meet the needs of all the potential users, the applications will need to be developed in the relevant local languages for the various channels of delivery. Open standards and open source software, to the extent possible, will be used to ensure interoperability and affordability of the content and applications developed.

\(^{5}\) The National Association of Software and Services Company

\(^{6}\) Chief Executive Officer

\(^{7}\) World Economic Forum

\(^{8}\) Department of Information and Technology
c) Mobile Applications (Apps) Store: A mobile applications (m-apps) store will be created to facilitate the process of development and deployment of suitable applications for delivery of public services through mobile devices. The m-apps store shall be integrated with the MSDG and it shall use the MSDG infrastructure for deployment of such applications. It is proposed that the store will be based upon service oriented architecture and cloud based technologies using open standards as far as practicable. The open platform will be developed and deployed in conjunction with the MSDG for making the additional value added services available to the users irrespective of the device or network operator used by them.

d) Application Programming Interfaces (APIs) for Value-Added Services (VAS) providers: MSDG shall offer suitable APIs to VAS providers with appropriate terms and conditions to ensure interoperability and compliance with standards for development of applications for delivery of public services.

e) Mobile-Based Electronic Authentication of Users: For electronic authentication of users for mobile-based public services, MSDG shall incorporate suitable mechanisms including Aadhaar-based authentication. This will also help in ensuring appropriate privacy and confidentiality of data and transactions.

f) Payment Gateway: MSDG shall also incorporate an integrated mobile payment gateway to enable users to pay for the public services electronically.

g) Participation of Departments: The Government Departments and Agencies both at the Central and State levels will be encouraged to offer their mobile-based public services through the MSDG to avoid duplication of infrastructure.

3.1.2. Creation of Mobile Governance Innovation Fund

Department of Information Technology shall create a Mobile Governance Innovation Fund to support the development of suitable applications by Government Departments and Agencies and also by third-party developers including start-ups. The fund shall be created and managed by DIT for a minimum period of 3 years. The objective of this fund will be to accelerate the development and deployment of the mobile applications across the entire spectrum of public services.

3.1.3. Creation of Knowledge Portal and Knowledge Management Framework on Mobile Governance

DIT shall develop and deploy a state of the art knowledge portal and knowledge management framework that acts as a platform for awareness generation and dissemination for various Central Government Ministries and the State Governments. This will enhance the absorptive as well as the service provision capabilities of various stakeholders in m-Governance. Since m-Governance is in its nascent stage both in India and globally, the knowledge portal will act as a reference and guide for Government Departments and Agencies in India.

3.1.4. Creation of Facilitating Mechanism

An appropriate facilitating mechanism will be created to ensure compliance with the standards for mobile applications and ensure seamless interoperability of services and implementation of short and long codes for public services across multiple service providers. The proposed mechanism shall be established and managed by the Department of Information Technology, Government of India.

3.2 Status of m-Governance in India

India is the second fastest growing market in the world after China (Next Billion 2009). The mobile telephone subscribers constitute an excellent base of people who are literally available to governments worldwide for contact. No wonder, many countries like Malta, Dubai, UK, USA (State of Idaho), Korea, New Zealand, China, etc. have made m-Government a strategic objective (Rossel, Finger and Misuraca 2006:82). The message here is clear: e-government is now required to deliver public services on mobile phones, giving birth to m-government.

Information delivery to public is a key task in a democracy and often not an easy task. It is the responsibility of the government to keep their citizens informed of what is happening around them. Citizens need this information and sometimes are critical for them in making decisions and forming any opinions. Timely information delivery to public promotes democracy in the country and creates accountability. The basic and universal cornerstones of good governance are quality of service, quick response mechanisms and above all accountable and transparent process mechanism. With advances taking place in the field of e-Governance, the government is able to easily offer good governance for the convenience of the people. The first generation e-governance initiatives resulted in computerization of the legacy systems/practices in government with limited ability to internalize the advances in Information
and Communication Technologies. The conventional e-Government efforts focus on providing services through internet portals, but it doesn’t cater to the mobility of the government and the mobile society.

Today, India is moving towards m-Governance, after its foray into e-Governance. The speedy diffusion of mobile ICT such as laptops, mobile phones, PDAs, along with emails, instant messaging and other networking services have rapidly fuelled the mobilization of interaction. Our society is increasingly getting mobile, and people want everything available on their handsets. According to Wikipedia, nearly 850 million people in India own a mobile phone today. India is the second largest telecommunication network in the world in terms of number of wireless connections after China. The Indian Mobile subscriber base has increased in size by a factor of more than one hundred since 2001 when the number of subscribers in the country was approximately 5 million to 752 Million by Feb 2011. As the fastest growing telecommunication industry in the world, it is projected that India will have 1.159 billion mobile subscribers by 2013. According to recent reports, India was purported to overtake China to become the world's largest mobile telecommunications market by the year 2013. These statistics provide an unprecedented opportunity for the Telecom Players, System Integrators, Industry Associations, Civil Society and Government Agencies to explore the utilization of the mobile / wireless applications for transforming public services. m-Governance not only improves communication between Government to citizen (G2C) and Citizen to Government (C2G) but also improves operations among government agencies and Government to Employees (G2E).

e-Governance is all about making available conventional government services to the citizens through internet portals, through internet connected computers. The project m-Governance is envisaged to propel the functioning of the government, at the next higher level. The rapid diffusion of mobile ICT gadgets such as laptops, mobile phones, PDAs, along with emails, instant messaging and other networking services have rapidly fuelled the mobilization of interaction.

These are few successful e-Governance projects in India and their characteristics which show the development of e-Governance is significant. Table 2 shows the readiness of Indian government which helps improves the acceptability of e-Governance in India.

<table>
<thead>
<tr>
<th>Govt. programs promoting use of ICT</th>
<th>Rank out of 134</th>
</tr>
</thead>
<tbody>
<tr>
<td>Govt. Success in ICT promotion</td>
<td>23</td>
</tr>
<tr>
<td>Availability of Govt. services online</td>
<td>49</td>
</tr>
<tr>
<td>ICT use and Govt. Efficiency</td>
<td>33</td>
</tr>
<tr>
<td>Presence of ICT in Govt. Offices</td>
<td>67</td>
</tr>
<tr>
<td>e-Participation Index (quality, usefulness, relevance)</td>
<td>47</td>
</tr>
</tbody>
</table>

Table 2: Indian Government Readiness


4. Conclusion

In spite of poor infrastructure, poverty, illiteracy, language dominance and all the other reasons India has number of award winning m-governance projects. Effective promotion schemes by the Indian government will also a boosting factor to provide quality services to their citizens as in table 2, which means there is huge potential for the development of m-governance in various sectors.

Therefore we can say that m-Governance is the key to the “Good Governance” for the developing countries like India to minimize corruption that provides efficient and effective quality services to their citizens.

5. References:

5.1. Papers and Publications


5.2 Websites


6. Author

Kiran Ranawat is a research scholar of Pacific Academy of Higher Education and Research University, Udaipur-Raj (India). After completing MCA from SMU University, Gangtok she is persuing PhD on “To study the potential of m-Governance based on technical and implementation aspects in India”. She has relevant experience of teaching in the field of computer science in Bhopal Nobel PG College, Udaipur.

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