Role of Mobile Governance-in Health Care

By Shaik Khaja Mohiddin
Asso. Prof., VVIT Nambur
Research Scholar in ANU.

Andhra Pradesh Human Resource Development Institute
Government of Andhra Pradesh
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Governance

Establishment of policies, and continuous monitoring of their proper implementation, by the members of the governing body of an organization. It includes the mechanisms required to balance the powers of the members (with the associated accountability), and their primary duty of enhancing the prosperity and viability of the organization.
The Relationship between e-Governance and m-Governance

*e-Governance* is the efficient use of Information and Communication Technology (ICT) at all levels of government Set up in facilitating the delivery of public services to common Man and also to the corporate world.

*m-Governance* is defined as the use of all kinds Of wireless and mobile technologies, application and devices for improving services delivery to the parties involved in e-Governance including citizens businesses and all government functions.
M-Governance

• it a sub-domain of e-governance.
• It ensures that electronic services are available to people via mobile technologies using devices such as mobile phones.
• These services bypass the need for traditional physical networks for communications and collaboration.
• Mobile services are also cheaper as well as accessible in most of the rural areas in India.
• Increasing the mobile phone accessibility, adaptability and with the millions of subscription base, governments are promoting and using the mobile phone in delivery the e-Governance services.
Objective of M-Governance

- M-Governance aims at providing fast and easy access of public services to citizens through mobile devices event to remote places.
- Delivering timely and accurate information to citizens and an established system of two-way communication between the government and people.
- It also acts as the keys to strengthening democracy by facilitating enhanced utilization of public services, participation and empowerment of citizens.
- The use of mobile technologies has been prominent in government departments especially in agriculture, health care, financial services, retail trading, utilities, communications, manufacturing, transportation and services.
Mobile Phone: Emerging Channel for Service Delivery

In first phase

• Today, the ‘Mobile Phone’ is not just used as a communication tool to it is a status symbol, it reduced the bridge between urban haves and rural have-nots.

• Within two decades of its launch in India, mobile phone has reached remote rural areas,

• it has created lakh’s of job opportunities for the youth either directly or indirectly.

In second phase

• it has emerged as a delivery channel for different kind of services, and now anyone can transfer money from one bank account to another through their mobile phones.
• The government and private agencies have also started using ‘Mobile Phone’ to deliver business services to the citizen and customer.

• In continuation Government of India has launched mobile seva and it aims to provide government services to the people through mobile phones and tablets.

• After the launch of 3G technologies in India, citizens are now be able to access health, educational, agricultural, infotainment services on their mobile phones.
M-Governance in India

• Government of India aims to utilize the massive reach of mobile phones, round-the-clock access to public services, especially in the rural areas to create unique infrastructure as well as application development ecosystem for m-Governance in the country.

• The Government of India is implementing the “Digital-India” program with a vision to transform India into a digitally empowered society and a knowledge economy.

• The digital India program consists of e-kranti, it focus to transform the e-Governance services by expanding the portfolio of Mission Mode Projects (MMPs) in e-Governance under various Government Departments.
The Ministry of Electronics and Information Technology (MEIT) took the following measures

• Web sites of all Government Departments and Agencies shall be made mobile-compliant, using the “One Web” approach.
• Open standards shall be adopted for mobile applications for ensuring the inter-operability of applications across various operating systems and devices as per the Government Policy on Open Standards for e-Governance.
• Uniform/ single pre-designated numbers (long and short codes) shall be used for mobile-based services to ensure convenience.
• All Government Departments and Agencies shall develop and deploy mobile applications for providing all their public services through mobile devices to the extent feasible on the mobile platform.
Mobile Services Delivery Gateway (MSDG)

• The objective of creating the MSDG is to put in place government-wide shared infrastructure and services to enable rapid development, mainstreaming and deployment of m-Governance services.

• MSDG supports the following delivery channels for development and deployment of mobile-based applications for Government services.

  • SMS (Short Message Service)
  • IVRS (Interactive Voice Response System)
  • USSD (Unstructured Supplementary Service Data)
  • CBS (Cell Broadcasting Services)
  • LBS (Location Based Services)
  • Mobile Payment Service
One Web Approach

One Web” means making, as far as possible, the same information and services available to users, irrespective of the device or the browser they are using. This implies that all Government Web sites should be compliant with mobile devices to enable users of such devices to access the same information and services (to the extent possible) as available, say, over the internet through computers.
Benefits of M-Governance

• Wider acceptance and penetration of mobile devices.
• Ease and flexibility offered to the citizens
• Easier interoperability
• The fact it can bring government closer to citizens
• The fact that m governance services are cheaper than computer based services.
• Improved service access
• 24/7 service availability
• Faster service response
• Enhanced service quality and efficiency.
• Enhanced participation of stakeholders
Mobile based Primary Health Care Management System
Mhealth

Mobile health (mHealth) information technology typically refers to portable device with the capability to create, store, retrieve and transmit data in real time between end users for the purpose of improving patients' safety and quality of care.
M Health benefits to payers, providers, consumers

- Helps to grow revenue
- Value-add to customers
- Attracts new members

Payers

M-Health

Consumers

- Health information on fingertips
- Better decision-making

Providers

- Quick and easy access to quality information
- Saves time
40% of physicians said tablets help cut down time spent on administrative tasks.

TOP 10 MOBILE HEALTH APPS generate up to 4 million 300K PAID downloads per day by 2017, the total mobile health market revenue will reach 26 BILLION.

Physicians are 250 percent more likely to own a tablet than other consumers.

The number of nurses and physicians using smartphones in their everyday practices increased by 10 percent in the last year, from 78 percent in 2012 to 86 percent in 2013.

Source: MedData Point
Healthcare Mobility is Getting Pervasive

Healthcare organizations are making great use of smartphones and wireless solutions at every stage in healthcare:

- **Patient Care:** Enabling patient monitoring, medication administration and transfusion verification etc.
- **Community Care:** Collect and share data from the field to monitor and manage infectious diseases.
- **Emergency Care:** To provide quickest possible aid to patients from anywhere and anytime.
- **Clinical Collaboration:** Physicians and nurses can consult and share critical information anytime anywhere.
- **Workforce Management:** Workforce scheduling, mobile dispatches, time logging etc.
- **Hospital Administration:** For patient admission/discharge process, billing and facility management etc.
Opportunity in Healthcare

**Physician**
- Appointment alert
- Patient history
- Metabolic standards
- Up-to-date medical reference

**Patient**
- Medication alerts
- Patient history
- Physicians' instructions
- Real time medication assistance

**Pharmacist**
- Stock check
- Stock level alert
- Fulfill drug requisitions

**Nursing**
- Medication alerts
- Patient history
- Job schedule
- Metabolic standards

**Pathologist**
- Physicians' instructions
- Real time coaching

**Administrator**
- Asset tracking
- Demand & capacity
- Job scheduling
- Tracking business analytics
The Rising Popularity of mHealth Apps

Top mHealth Downloads (by category):

- Weight Loss → 50 million
- Exercise → 26.5 million
- Women's Health → 10.5 million
- Sleep & Meditation → 8 million
- Pregnancy → 7.5 million
- Tools & Instruments → 6 million
- Other → 18 million

Exercise and weight apps are the most popular types.

Source: HIT Consultant
Do Doctors Recommend mHealth apps?

- **93%** of physicians believe that mobile health apps can improve patient’s health.
- **93%** of physicians find value having a mobile health app connected to Emergency Health.
- **80%** of physicians use smartphones and medical apps.
- **40%** of physicians believe mHealth technologies can reduce the number of visits to doctors’ offices.

Top Reasons for Physicians Adoption of mHealth

- Time efficiency
- Cost Efficiency
- Improved quality and continuity of care
- Improved communication with patients
- Patient Demand
- No mobile health adoptions

Source: MedData Point
Worldwide mHealth revenue forecast 2013-2017

With over 97,000 health and fitness related mobile apps currently on Google Play and Apple App Store, and 4 million downloads per day, it is difficult to deny the rising popularity of the industry. The mobile health industry has now entered the commercialization phase and will reach $26 billion globally by 2017.
The biggest impact of mHealth technology is yet to be felt.

Google Contact Lenses: Detects glucose in tears.

Apple Patent App: It counts accurate steps and distance elimination while walking.

Withings Aura: Built for people suffering from insomnia. Tracks body movements, breathing motion, noise pollution & room temperature.

Apple’s iOS 8 Healthbook App Could Be Hub For Wearables.

Kolibree toothbrush: Record every brush stroke. Sends your dental report to your smartphone via Bluetooth.
mHealth User Statistics: Mobile Apps, Devices and Solutions

Average Age
- 35%

54% Male

85% Use Social Media for Health

76% Take a Prescription

52% of smartphone users gather health-related information on their phones.

50% of smartphone users will have downloaded mobile health apps within 5 years.

87% Have a smartphone (driven by smartphone users)

61% Downloaded a mHEALTH App

Source: HIT Consultant
mHealth is booming, but riddled with challenges

- Almost 60% of providers found Security Concerns – including confidentiality – as their most significant concern.
- While Funding, Connectivity/Bandwidth and Integration with Existing Infrastructure were also found as some of the top concerns.
- A web-based survey conducted on hospitals and healthcare systems shows:

**Mobile Technology Adoption Barriers**

<table>
<thead>
<tr>
<th>Issue</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security concerns - i.e confidentiality</td>
<td>60%</td>
</tr>
<tr>
<td>Funding</td>
<td>56%</td>
</tr>
<tr>
<td>Connectivity/Bandwidth</td>
<td>54%</td>
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<tr>
<td>Interoperability/integration w/existing infrastructure</td>
<td>52%</td>
</tr>
<tr>
<td>Interoperability/integration among mobile solutions</td>
<td>48%</td>
</tr>
<tr>
<td>General Performance</td>
<td>46%</td>
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<tr>
<td>Technology obsolescence</td>
<td>38%</td>
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<tr>
<td>Physical Connectivity</td>
<td>34%</td>
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<tr>
<td>Stakeholder buy-in/culture change - user adoption</td>
<td>28%</td>
</tr>
<tr>
<td>Mobile device mgmt/network mgmt</td>
<td>26%</td>
</tr>
</tbody>
</table>

Source: Porter Research
Top 10 health apps to use

• My Fitness Pal
• Run Keeper
• Pact
• Fooducate
• Weight Watchers Mobile
• Fitbit
• My Tracks
• Healthy Food Chart
• My Diet Coach Weight Loss
• Eat Fit Diet and Health Free
Unity App: HealthCare + Social Networking App

Client's Background: One of World's leading Drug and Alcohol Treatment Centre and a non-profit organization

Business Challenge: To create a social media platform open to people in recovery and help them meet right communities and people at right time.

Business Outcome:
1. Listen over 2,500 encouraging speaker tapes
2. Create own speaker tape and share on social networks to encourage others
3. Create support circles and group chat
4. Send messages to everyone or to selected people of your groups.
5. Share pictures, Comment on others post and many more social networking features
6. Unity plus edition allows you to find like minded people that are nearby
7. Helps you in connecting to worldwide recovery communities
8. Offers traveling users access to supportive communities
9. If any member organizes event, invitation is sent to other members of the group and many more
Health & Fitness Tracker

Client’s Background: One of world’s leading health care company.

Business Challenge: To overcome the problem in accurately tracking people’s all-day activity and help them get active, eat better, manage weight, sleep better and stay motivated.

Business Outcome:

1. TRACK ACTIVITY: Accurately track your all-day activity including steps taken, distance traveled, calories burned, active minutes, and more using your Tupelo tracker.

2. SYNC WIRELESSLY: Tupelo trackers continuously sync your stats with your Smartphone and later give you real-time access to your progress without plugging in.

3. SET GOALS: Set goals, view progress, and track your trends with easy-to-read charts and graphs.

4. LOG FOOD / WEIGHT / SLEEP: Log food, water, weight, sleep, and workouts to get the full picture of your health. Connect wirelessly to a Tupelo Smart Scale to seamlessly track your weight.

5. STAY MOTIVATED: Challenge, track, and share your stats with family and friends. Leaderboards, notifications, and badges help you reach your goals faster.
Clients’ Background: One of the leading health and fitness company

Business Challenges: Tracks and monitors the regular workouts, scheduling time table, nutritional advices etc

Technology Involved: Nano progression technology, PHP, Zend framework

Business Outcome:
1. Provide custom workouts
2. Conscious variations
3. Raises energy levels by motivational quotes
4. Offers nutritional advices
Lyme Found

Client’s Background: One of the leading medical/disease research company

Business Challenges: Tracks down the development of a particular epidemic and giving assistance

Technology Involved: PHP core, My Sql, iOS

Business Outcome:
1. Helps users in joining forums to get assistance of the epidemic
2. Allows users to chat with other users in group
3. Arrange and schedule meeting among users
4. Allows sharing of status on different social networks
Doctor Shift scheduling

Client’s Background: One of world’s leading Pharmaceutical company

Technology Involved: Android Java, Native App, PHP

Business Outcome:

1. Effective shift management & reduced work-shift allocation cycle time
2. Ensuring quick and flawless shift allocation
3. Centrally managing shifts for employees
4. Closed loop co-ordination among all stakeholders – employee, shift replacement in-charge, colleagues
5. Automated & proactive alerts with effective time management for all stakeholders
Go Lift

Clients' Background: One of the leading fitness company

Business Challenges: To overcome the problem of monitoring and checking the regular exercises

Technological Involved: PHP, Zend framework

Business Outcome:
1. Keep workouts organized
2. Keep track of workout result
3. Find new workouts
4. Built-In Stopwatch and Rest Timer
5. Cloud Back-Up for all GO Lift Data
6. Access Your Data from any iOS device with GO Lift installed
7. Built-In Workout Journal and Export Data
iHear Baby

Clients' Background: One of the leading child health care company

Business Challenges: Tracks down the activities of the baby while the baby is alone

Technology Involved: Android Java, Native App, PHP

Business Outcome:
1. It gives live updates of the baby
2. Monitors the activity of the baby
3. Give reminders to the parents
4. Connect multiple babies at a time
5. Talk to the baby
Foot Ankle

Clients' Background: One of the leading orthopedic surgeons in the health and medical industry

Business Challenges: To overcome the challenges faced by the patients during Ortho related issues

Technology Involved: Android Java, Native App, PHP

Business Outcome:
1. Provide information about ortho related problems
2. Connect with experts
3. Provide solutions related to any ortho related problem

CASE STUDIES
Five Ways Digital Apps And Smart Phones Will Transform Healthcare

• Improved access to care
• Improved Patient Engagement
• New Provider Business Models
• Reduced Medicare Fraud
• Improved Patient Safety
• **Improved access to care**
  
  • In a digital age, the requirement for patients and doctors to be in the same location is eliminated.
  
  • Patients suffering from chronic diseases who live in rural areas or otherwise have limited access to doctors will be able to “visit” with primary care physicians.
  
  • Patients and physicians will decide together when to visit.

• **Improved Patient Engagement**
  
  • Many aspects of healthcare discourage patient engagement – long lines, complexity, reminder app that knows how many pills you have taken and when you will take them next.
  
  • You could easily be notified via text that your physician is running late.
New Provider Business Models

• The explosion of inbound data from sensors and devices will create new opportunities for healthcare professionals.

• Large call centers will house nurses, doctors, pharmacists and other healthcare professionals who watch, manage and respond to this inbound data.

Reduced Medicare Fraud

• One simple reason is that digital apps have an amazing ability to track people and transactions in space and time.

• Digital apps will allow Medicare to correlate claims data with location, and time data from the digital health apps to look for fraud.
• Improved Patient Safety

• Digital apps will make health care safer by giving patients tools to manage their own health.

• Today, patients leave the hospital with a stack of papers and very little memory of what they’re supposed to do when they arrive home.

• In the future, everything that can be done digitally will be done digitally. Digital health apps will schedule appointments, tell you the doctor is running late, help monitor medications’ side effects, and help you follow your care plan accurately.