

## M-governance- A Technological Innovation in India

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**Abstract:** India is heading towards good governance and globalization at a significantly fast pace. India has been doing things manually for ages, right from managing data, applications and other government operations. The time when digitization took over the world India also welcomed it with open arms. The idea of digitization would certainly solve much of the problems that the country is facing. It is the launch of "Digital India Campaign" by Prime Minister Narendra Modi in July of 2015, truly transformed the country while eliminating a lot of human and management problems. Most of the government departments now have transformed to digital platforms and most importantly mobile platforms. This technological innovation has been a blessing in disguise. There is a significant reduction in paperwork, time, dependency and process along with increased transparency, and efficiency. The paper will try to discuss the concept of M-Governance in India as a technological innovation and also analyze its impact by taking two of Government Apps as a sample. This paper hypothesizes the role of Apps as technological innovation in easing the governance process.

**Keywords:** Digitization, M-governance, Mobile Applications, Mobile communication, Technological Innovation

### I. INTRODUCTION

India is a developing country having potential for a fast development. However India has been not so citizen friendly especially when it comes to government offices. It was known that government offices have lot of paperwork to do and files to managed. Locating a file in government offices would take ages. The paper files also would easily wear out and data would be lost. The documents were not easily traceable and people had no source for process status. Citizens had to make multiple trips to government offices for even a smallest bit or an update. Along with these challenges the country is also suffering from a huge disease of corruption. For every piece of work whether it is verification, locating a file, moving the file to the concerned authorized personals or getting things sanctioned everything there was some money involved. All of this seemed a huge task to accomplish for any government and put a stop on malpractices. As the scope of internet and communications gained popularity, a concept of e-governance emerged this made some services online and open for public access. Making things online came with great advantages. It eliminated paperwork, the data managing became easy, the processes could be tracked at all stages, corruption and agents were totally eliminated . E-Governance also had its limitations, as it needed a dedicated computer and a computer literate person to undertake this task [2]. Somehow this was just limited to urban areas of the country. The rural areas were untouched as computer literacy was a challenge. Then with advent of Smartphone and mobile internet this impossible feat seemed possible. The smart phones immediately penetrated into every corner of the country be it rural or urban India [1]. People of all ages were able to use Smartphone and services became user-friendly. Looking at the scenario E-governance transformed to a technological innovation - M-Governance or Mobile Governance. The reach of M-governance grew much more and penetrated every part of the country. In order to explore this M-Governance under the governance of Hon'able Prime Minister 'Narendra Modi' came up with Digital India mission along with various Apps. This paper aims to explore M-Governance and a few Apps delivering M-Governance in order to analyze its impact on the governance in India .

### II. OBJECTIVES OF THE PAPER:

M-Governance and mobile applications are pillars of digitizing India. This paper is an attempt to analyze M-Governance as a technological innovation.

The main objectives of the paper are:

- i. To understand the concept of m-governance
- ii. To analyze Mobile applications in delivering M-Governance .

### III. METHODOLOGY

This research explores the concept of Mobile governance in India. This exploratory research was primarily based on literature review and secondary data. Initially, the concerned literature was reviewed and then the secondary data was analyzed. A sample of two Apps UMANG and MyGov were selected for the study.

#### **IV. SCOPE OF MOBILE APPLICATIONS AND M-GOVERNANCE IN INDIA**

There has been a remarkable improvement in role of Mobile applications, embarking M-Governance. This M-governance has proved a very highly plausible source of governance and means of public service. This research aims to identify the possible impact of M-Governance initiatives and its benefits.

#### **V. M-GOVERNANCE**

Earlier in government offices such as IT, Municipal office and others most of the work was manual and paper oriented. This paper work was difficult to manage; the citizens had to take number of trips and also the government employees tantrums were a thing to bear. Information and Communication Technologies (ICTs) have always been of interest to corporate and especially governments around the world. The potential and reach of Communication cannot be ignored. This is the best medium for anybody for reaching out to people. As, a result E-governance emerged to deliver government services around the world. However E-governance was dependant on computers and internet, which many developing countries like India had lower access, and resources. Since mobile technology suddenly gained popularity and penetrated in remotest part of the world, it showed potential for a newer idea of governance and outreach. Today India has over 1 billion mobile subscribers as per the 2017, data. The telecom operators also have various offers providing attractive plans for call rates and internet service, and there are number of Apps available to make things more easier. M-Governance holds a powerful and transformational capacity to existing services, while expanding the delivery of new services as well [3]. This helps the government to increase active citizen participation in government operations. The union of mobile devices and mobile applications became the cornerstone of the emerging impact of mobile governance. This type of Governance is largely beneficial for reaching out to rural India as 30% of mobile subscribers are in rural India and 70% in urban India [8]. The reach of mobile devices 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 is 432 million as per 2016 data and mobile users are close to a billion. Considering wide potential and outreach of mobile platform for delivering public services in the country, the government is exploring this technology greatly.

Department of Information Technology (DIT), Government of India aims to bring M-governance across urban and rural India. Mobile governance can aptly be described as the delivery of all types of public services including making payment for such services through various mobile based technologies, such as SMS, USSD, browser based, etc. Introduction of m-governance services empowered citizens to access any service anywhere and anytime they wanted to. Implementation of M-Governance in carrying out local government operations will not only bridge gap between the government and citizens but also help the government to serve citizens better, smoothly and effectively and provide time bound services.

#### **VI. BENEFITS OF M-GOVERNANCE**

**Wider reach and mobility** – Each individual has access to mobile phones, in rural India especially mobile phone are also a source of entertainment. Government has wider opportunities to reach people through this medium. There can be number of information conveyed through mobile phone, via IVR, SMS, calling, Apps, etc. Mobile phones also give citizens privileged to access service instantly. Government employees can work using the same type of devices regardless of distance, time, place and diverse natural conditions, especially relevant for public safety and emergency management. Mobile phones also are typically personal and this can also enable to give a more personalized service to each individual.

**Efficiency and Cost Effectiveness-** M-Governance saves a lot of paper cost, time for processing and the most important human error. M-Governance cost savers include streamlined processes, shared and co-ordinate data access, embedded mapping, and electronic processes, communications and transactions. Furthermore Empowerment of field workers and cross-agency interactions can reduce requirements and costs for time, travel and staffing, as well as eliminate faulty data entry. With digitization the information flow is real-time, location based, precise and easily accessible to citizens. Mobile technologies can be valuable assets in emergency response through instant information access and release, and shared access to mapping data. Extended outreach also expands government accountability and transparency to more citizens while empowering greater citizen participation in policy development and democratic decision making.

#### **VII. TYPES OF M-GOVERNANCE SERVICES**

There are four primary interaction models of m-Governance adopted from e-governance.

- Government-to-Citizens (G2C)
- Government-to-Government (G2G)
- Government-to-Business (G2B)

- Government-to-Employees (G2E)

### **Government-to-Citizens (G2C) applications and services**

The Information sent from the government to people was more static before the Internet and technological revolution. The transmission of information real time was impossible. But with Internet and technology the information is passed real time via "Push Service". The citizens get an instant notification on their e-mail, and with m-governance now on their phone instantly. Government-to-Citizens services interacts with the citizens directly. These services keep the citizens updated with information on government as well as take suggestions and feedback from the citizens on various policies, social issues and complaints. Government exercises this service via Apps, Social media, Television and Radio. The G2C Messages and service like tourism details, health and safety information, exam results, policy, etc can be delivered to mobile phones via "Push Service". Also the real-time transmission of Information gives the government additional flexibility to keep citizens updated with emergency situations such as Severe weather conditions, Fire out breaks , terror attacks, etc. The G2C interaction through m-governance becomes citizen centric, it is one-to-one rather than making it one-to-many. This kind of service gives a very personal touch in delivering good governance. The financial transactions of citizens to government can also be simplified through the G2C and m-governance , citizens have number of transaction such as paying bills, taxes, charges, fees, etc, with this new way of interaction, People can now pay direct to government without much hassle. The government can also transfer the subsidy, grants, benefits to each individual directly. There are number of mobile payment gateways which are functional, and user-friendly, which are associated with various government websites.

### **Government-to-Government (G2G) applications and services**

With G2G services, the government and government bodies can each become an connected entity. The needs of the citizens, emergency messages, etc call all be passed on efficiently amongst each other. The government can also improvise its co-ordination with other agencies, and local bodies all through a single medium. Activities like emergency management, disaster management, law and order situations all can be dealt easily.

### **Government to Business (G2B) applications and services**

The business struggle with updated information regarding policies, regulations, application for permit, license, etc. All these can be dealt with the Government to Business (G2B) services and m-governance. The application procedure will be much more simplified and easy to track that in return will aid the business operations. All the business right from a big firm in a city to a farmer in the rural sector. Real-time Information such as weather forecast for farmers, fisher men, tax information for organizations, etc comes really handy to citizens and businesses.

### **Government-to-employees (G2E) applications and services**

The Government to Employees (G2E) services, aims to provide training to its employees in improving daily operations, increase organizational efficiency and accountability, utilize the resource to the fullest, and provide maximum quality in service to citizens. The mobile technology comes handy to staff that are on field and especially in remote locations. For example the Health workers through telemedicine and related apps can conduct basic diagnostic and enter data which can be accessed with hospitals, and healthcare centers and provide necessary solutions. The government also through G2E service can monitor its employees and constantly strive to improve citizens service experience.

## **VIII. BACKGROUND OF APPS IN INDIA**

Today the world revolves around smart phones, Wi-Fi, and free internet. The world welcoming a smart phone was certainly a technological revolution. This smart phone has successfully substituted a Computer or a Laptop. This Smart phone economy gave rise to a newer economy of Apps. There were many small application developed that would cater to a certain task.

Apps have certainly shaped the leaders in mobile technology. Apple Inc with its launch of Iphone in 2007 and first App store in 2008 gained a large chunk of market share. Following the Apple Inc. Google Came up with its own Operating System for Smart Phones 'Android' in late 2008 gained much more popularity than Apple. Apps became a source of content for users and a source for revenue for developers. Apps available are free to pay and are highly downloaded. It's totally user driven market. There are Apps to learn or type languages, apps for cookery, apps for kids, and the list goes on. The proliferation of apps across many verticals and functions defines this sector to be a new age Economy . This 'App Economy' penetrated India highly. India today is in high demands for Apps and also highest consumer of Apps [4]. The Hindu a news daily in India reports that India has overthrown the US as a market for Smart Phones [10] . There has been a record 23%

increase in 2017 for demand of Smartphone in India. The Phone users in India has a record 1 billion phone users and out of which 125 million are Smartphone users , reports Forbes [5]. The country has also grown to 4G now and Smartphone manufactures and telecom operators are giving out the device and data service at affordable rates. India has a Internet Growth rate of 18% every year. 4G was introduced much earlier but it became a full-fledged service in 2016 with 86.77 million subscribers in same year. [6]

## **IX. UMANG APP**

UMANG or (Unified Mobile Application for New-age Governance) is a step higher in m-Governance. This is a Master App that houses many small apps to provide citizens access to multiple government departments and services. This app is developed by Ministry of Electronics and Information Technology (MeitY) and National e-Governance Division (NeGD) to drive Mobile Governance in India. UMANG is a medium to provide major services offered by Central and State Government departments, Local bodies and other utility services from private organizations. It is one stop application to avail multiple government services. This service is available on multiple channels like mobile application, web, IVR and SMS which can be accessed through smart phones, tablets and desktops. UMANG gives government services a new perspective due to incorporation of the current accelerated internet and Smartphone penetration in our country.

UMANG includes scholarships, women safety, health care, e-District, Passport Seva and others. Altogether it provides access to 162 services of 33 government departments and four states, in 12 different languages. The App is expected to provide 200 applications (around 1200 services and about 5000 variant services) of various Government departments of Centre, States and Local bodies within 3 years of launch, i.e. December 2019.

### **Objectives of UMANG App**

UMANG Acts as an initiator and facilitator in developing a mobile based service delivery ecosystem in the country by Providing various easy access citizens to various services via single Mobile Application, easy to remember short code and single Toll Free number.

UMANG Provides easy discoverability of services, easy manageability and standardization of service delivery. This App gives transforms the Government departments through easy and fast integration, on-boarding, mobile front-end roll-out by integrating their services on the App. Provide another value added services to departments via a common platform through integration with TSPs and payment gateway facilitating easy on-boarding of Government departments. This App also gives multi-lingual support covering official Indian languages, in addition to English. Also, provide support for voice interaction in local languages.

### **How UMANG will help you?**

UMANG provides access to over 100 government services and still integrating and counting. More government departments are likely to provide their services through this app. Here is a brief list of some important service which are most accessed.

1. EPFO (Employees Provident Fund Organization) has incorporated with UMANG app. This will help citizens to check and download their EPF Passbook, raise a claim and track the status of a claim. You can also apply for PF final settlement, partial withdrawal and pension withdrawal using this app.
2. The income tax department has provided the service of applying for a new PAN (permanent account number) and do e-KYC using the UMANG app.
3. If you have an NPS (National Pension System) account you can check your current holdings, account details, recent contributions using this app. Also one can apply for a change in the address, change in services and Schemes using this app.
4. Pensioners can generate their digital life certificate or jeevan praman using this app.
5. Those seeking employment can register themselves under the Pradhan Mantri Kaushal Vikas Yojana using this app. some of the states such as Gujarat has integrated the Online Job application System (OJAS) with UMANG to intimate people about the job openings under the state government.

## **X. MYGOV**

In a Democratic nation the communication gap between citizens and government should be least. The citizens should be able to interact with government, give suggestions, and raise questions or complaints directly. This is very essential to have good governance. MyGov app brings the Government closer to the citizens to exchange ideas and views involving the common citizens with a goal to contribute towards the social and economic transformation of India. This App has been instrumental to keep the citizens engaged on important policy issues and governance, Such as Clean Ganga, Girl Child Education, Swachh Bharat, Skill Development

and Healthy India and many more. This app has now plays a key role in policy and decision making process of the country and voicing the opinion of citizens in governance process.

While this platform is working for transformation of India through participatory governance, it is also been constantly undergoing upgrades to ensure an enhanced level of user experience. The major attributes of MyGov includes Discussion, Tasks, Talks, Polls and Blogs on various groups based on the diverse governance and public policy issues. This App had a record 215,000 users within 45 days of its inception, and more than 28,000 users contributed their ideas on a various issues [9]. Today MyGov has nearly 2 Million users contributing to ideas through various interactive means, helping the government to have better governance.

### **How MyGov will help you?**

MyGov App has number of features that aims to voice the opinions of citizens for better governance and also keeps citizens informed about various government policies and plans. This App hosts various interactive tools to do the task. Here is a brief outline of some of the Tools in the App that can help any user contribute towards better governance.

Groups - A group represents government department, public policy, citizen welfare initiative or social issue. Users can engage themselves in various tasks, discussion, poll and talks of any Group they want.

Do (Task) - This section enables citizens to partake in various contests such as design logos, slogan and taglines for government's popular schemes. Tasks are divided in various groups based on the diverse governance and public policy issues.

Discuss - Citizen can share thoughts on various Discussion here *based* on various government policies or laws or initiatives.

Poll/Survey - Here Citizen can cast their vote and side with options that are suitable to them and the result will be used by the government in decision making.

Blog - A blog works as a knowledge sharing platform. Users can express their views on blogs after login. Blogs engage themselves with government in choosing one option out of many.

Talk - This is a collection of videos of events occurred in government processes for various public policies, campaigns or initiatives.

## **XI. FINDINGS AND ANALYSIS**

M-governance has certainly evolved the governance scenario of India. It is due to digitizing the IT literacy has also grown. In formulating this paper two apps were analyzed- UMANG and MyGov. UMANG provides various services under one roof. The digitizing of services certainly reduces paper work, data management, increases transparency and so on. Bringing various government services under one roof also reduces hassle of visiting number of websites or apps for each service. Any service can be accessed with one registration. The App is very easy to use. The App being available in various local languages has added user friendliness. The App has also penetrated through the rural India having large number of users; this has certainly caused a positive impact on people. It is due to this one App government in the future can also club departments as they have clubbed services. The workforce would become fully automated and human error and corruption would have no scope at all. The user reviews as found on internet and play store are also very positive about the UMANG App and people have welcomed the initiative. The second App that was analyzed was MyGov, a fully democratic App, as it voices the public opinion directly. Our country votes and elects many representatives and they form a government be it state or central. These representatives then do what they desire without public involvement. Policies and laws are forced upon the people, what people want is out of question. This App gives the power to the people to guide the government and run the country the way they want to. The government takes suggestions from people through polls, blogs, surveys, etc and makes policies accordingly. The gap between the government and people is minimized due to this effort. Thus we can see the Impact of digitization has certainly helped people of the country.

## **XII. CONCLUSION**

The union of mobile devices , operating systems and new media applications that support faster access to integrated data, location-based services, and empowered citizens any place and any time is the impact of m-governance. M-Government has certainly transformed the existing services, its delivery, execution and process. For people who are not so familiar with English the Apps are available in local languages. Thus this will help

each and every citizen of the country. This will also change the perspective of people towards government. The Idea of m-governance was maximum output with minimum input of data. The Apps like UMANG make all the complicated government process easy and also come with extra benefits like booking a doctor, a certain non-government service etc. There are many services that one App is offering. The MyGov App is the direct mediator between people and government. The idea of M-governance is so powerful that this has been the only thing that has actually penetrated rural India after newspaper. The more people have access to smart phone more will they have access to government services anytime and anywhere. This is really a blessing to our country.

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