Legal Framework for Implementation of m-Government in Ethiopia: Best Practices and Lessons Learnt

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ABSTRACT

Higher penetration of mobile services in many countries, including Ethiopia, makes m-Government an eminent technological option for delivering government services to public and businesses. Although the Ethiopian government has introduced e-government services to the public, the legal framework to support such services is yet to be ratified. The absence of such a ratified legal framework is one of the reasons for the delay in implementing the intended government services via m-government. In this paper, a situation analysis of the Ethiopia case and the experiences of other countries including Korea, the leading example in m-Government, are reviewed to analyze the existing situation in Ethiopia. The objective of the thematic research which is to recommend the necessary amendments for the legal framework developed for e-Government initiatives.

Keywords: *m-Government, e-Government, e-Services, Legal Framework, G2C, G2B*

INTRODUCTION

The rate of mobile usage in our day-to-day life is showing an exponential growth. This growth is an opportunity to government and businesses to provide enhanced mobile enabled service to their citizens and customers respectively. The same trend puts a challenge for technologies and legal bodies in the area of development and regulation. The technical and implementation horizons can be filled by a vibrant private sector while the infrastructure and regulatory and legal components need due attention from the government.

Mobile government (m-Government) is an important area for responsible governments to harness and utilize efficiently. The benefits of increased access, in-situ service delivery and increased productivity, make mobile government a worthwhile venture for various levels and agencies of government. This paper suggests greater emphasis be placed on legislative and regulatory considerations during design and implementation of mobile government initiatives, and during any post implementation or periodic reviews. Moreover, the fast technological shift requires a legal framework, which facilitates the business shift.

One cannot focus only on the technical details of m-Government initiatives without proper consideration for operating legal environment. This has been studied by many researchers in the area. For example, Kushchu and Kuscu [1] saw regulating and developing legal aspects of mobile applications as an implementation issue. They question the adequacy of laws relating to recognition of mobile documents and transactions, and of laws clarifying the legal status of m-Government publications. Sandy and McMillan [2] suggested in their m-Government success factors model that a cohesive 'whole-of-government' approach, including in relation to the supporting legal and regulatory design, being paramount to successful m-Government.

The infrastructure, based on the current status in Ethiopia, creates a working space for some m-government initiatives with some level of success. To mention few, the mobile banking services by commercial bank of Ethiopia and other private banks, the result notification system for 10^{th} and 12^{th} grade national examination, and the numerous mobile based voting, question answering and interactive services by radio broadcasting services may be considered as a success stories.

In this paper we reviewed the current status of m-government in Ethiopia and the existing legal backing, most of them adopted with e-Government in mind, with recommendations for better legal framework to facilitate the technological and business implementation of reliable m-government services in Ethiopia.

Basic Terminologies

The conventional government (c-Government) is defined as an institutional superstructure that society uses to translate politics into policies and legislation.

The electronic government (e-Government), the use of ICTs in government operations, provides a new sort of relationship between citizens and the public authorities in an efficient, service-orientated provider of services. The e-Government aims to benefit from the use of web-based Internet applications in improving governments' fundamental functions. These functions are now spreading the use of mobile and wireless technologies and creating a new direction: mobile government (m-Government).

M-government is defined as the strategy and its implementation involving the utilization of all kinds of wireless and mobile technology, services, applications and devices for improving benefits to the parties involved in e-Government including citizens, internal employees, businesses and all government units.

ETHIOPIAN E-GOVERNMENT INITIATIVES

Information and Communication Technology (ICT) is an essential tool for electronic government (e-Government) of nations across the globe. Cognizant of this fact, the Ethiopian government is progressively working towards e-Government goal of establishing IT-enabled government service delivery [3]. To this end, the government has been undertaking different initiatives to use ICT as a major tool for its development agendas. The government believes that ICT can play a role in facilitating and improving public services to citizens, residents, businesses, and bring its institutes closer to stakeholders. It is believed that services delivered through the use of ICT can improve the quality of services, minimize cost for both the citizens and the government, improve accessibility of the services, and facilitate accountability and transparency in the government's processes.

Ethiopia has embarked on a number of electronic service initiatives through the e-government directorate of MCIT (Ministry of Communication and Information Technology) with the mandate of leading, coordinating, monitoring and controlling all government ICT activities including the e-Government; and it is supporting various government organs for availing electronic service to citizens and businesses. The government identified close to 210 electronic services (e-Services) where an attempt is made to host up to 7 common applications at the Ethiopian national data center (NDC). As a result, citizens and businesses are able to request public services by filling out electronic forms (e-forms) and attaching scanned versions of all necessary supporting documents from anywhere and at anytime. Moreover, they can track the status of their requests using unique service request tracking numbers; arrange appointments with the service providing government organizations when physical presence is required; get periodic notifications through email and SMS; and provide their feedbacks for future improvements therefore, these applications are expected to make the government closer to people at individual level, provide effective governance, offer increased service delivery and contribute to the general socio economic growth of the country.

The unified billing system is one of the outstanding efforts made by the government that helps to provide one-stop billing paying service for the three utility services provided by the government. *Lehulu* (ለሁሉ) is a public private partnership (PPP) project launched to provide a one-stop electronic payment services to customers. The utility bills including water, electricity, and telephone are paid at one time and place. There are also different functional e-services like issuance of diplomatic ID card (Ministry of Foreign Affairs), Licensing of Health professionals (Ministry of Health), registration of printing media services (Ethiopian Broadcasting authority), Request for lost grade 8 report cards (for Addis Ababa city Administration education bureau), Application for the Import of Pesticide for Commercial Use (for Ministry of Agriculture), Online Ticketing (for transport authority) and many more.

Currently, the mobile network coverage in Ethiopia is reaching 87% which creates conducive environment for government and business to shift to mobile based service provision. This obviously leads to more and effective utilization of the infrastructure and hence the driving force for introduction of m-Government.

The Current Status of m-Government Initiatives

In addition to the increased mobile coverage, the explosion of wireless technologies, the

introduction of 3G and 4G networks by Ethio telecom and the anticipated 50+million mobile subscribers is a motivation for the government and the private sector to move into m-government.

The m-Government in Ethiopia is started by providing SMS based government-to-citizen (G2C) services. The services included in its first phase were SMS telephone bill notification, exchange rates information by NBE and student exam notification by the national examination body for 10^{th} and 12^{th} grade. The services are mainly based on the push and pull technology with minimum intractability.

The strategy to implement the m-Government plan includes the development of mobile applications for the 219 e-services that have been identified so that anyone with a smart phone can download the apps and make use of it. From these, 20 mobile applications corresponding to 20 government offices are to be launched after development phase since September 2015.

The 20 offices are just the first few government offices that are selected based on the number of clients and among those selected are the Ministry of Trade (MoT), Ethiopian Revenue & Customs Authority (ERCA) and Ethiopian Postal Services.

EXPERIENCE FROM OTHER COUNTRIES

Experience of other countries is observed through desktop research and benchmarking visit. Benchmarking visit to leading countries in the area is considered as critical input to the study and at least two of three countries were on the list of candidates for the visit.

The primary list of candidate countries for benchmarking includes the South Africa, Singapore, and South Korea. However, due to budgetary constraints only one country (South Korea) has been taken as a reference and the visit and focus group discussion have been carried out.

Korea's m-Government has produced visible results: the efficiency and transparency of administrative work has been significantly improved; administrative civil services have been greatly enhanced; and opportunities for people to participate in the policy-making process have been expanded [6].

Accordingly, the effectiveness of the m-Government of Korea is widely acknowledged by the international community, and various m-Government systems are being exported to foreign countries.

The 2010 UN Global e-Government Survey shows that Korea ranked first among all the member countries, given the highest possible scores in the categories of Online Service Index and the e-Participation Index [6, 7, 8].

The team consisting of three members of the research group representing the three sub groups (Infrastructure, Application, and Legal Framework) could visit the relevant agencies and authorities which were involved from conception to implementation of the originally, the e-Government and later the –Government initiative.

As the caretaker of Korea's Government Integrated Data Center, the NCIA operates and manages all information systems of the government ensuring seamless and uninterrupted administration services. This is equivalent to the e-Government Directorate within the Ministry of Communication and Information Technology of the FDRE.

The major e-Government initiatives which could easily translate into m-Government applications are Electronic Procurement Service, Electronic Customs Clearance Service, Comprehensive Tax Services, Internet Civil Services, and Online Patent Service.

The overall observation from the benchmarking visit is increase in coverage of government services under m - Government initiatives due to very high penetration of smart phones.

THE NEED FOR LEGAL FRAMEWORK

Any m-Government model is only feasible if it is capable of being implemented and enforced, that is, it is applied within an efficient and effective legal and regulatory context.

m-Government topics considered in regulatory design include taxation equity, copyright, compatible encryption standards, and contract laws affecting transactions between service providers and recipients. A whole-of-government approach generally requires well-drafted legislation to ensure successful delivery of the technology, while protecting stakeholders' interests. For example, Singapore's legislative approach to m-Government acknowledges mobile records and signatures through whole-of-government legislation. Similarly, Canadian legislators have made it possible to create financial contracts from overseas via mobile

service delivery. While the legal and regulatory framework can enhance m-Government services, it may also need to address issues of cross-jurisdictional demarcation. Onken, Fischer et al (2005) expressed this view on the impacts of government regulation in the transfer to technology based systems, and surmised that regulation must be taken into account to achieve a competitive advantage through better management. In the m-Government context, literature and experience suggest that legislation or regulation may be necessary to achieve the outcomes.

Along with application and infrastructure, legal framework is one major component for m-government success.

The aim of these regulatory documents, as per the draft, is to provide facilitation and regulation of electronic communications and transactions; to provide protection of consumers and personal data in the electronic environment, to put in place electronic signature, set out the framework for domain name registration and regulation, the framework for content regulation, to prevent abuse of information systems; to encourage the use of e-government services; and for related matters. The absence of an appropriate legal and regulatory framework in Ethiopia for m-Government as well as e-Government is frequently cited by authorities and researchers.

CURRENT E-GOVERNMENT REGULATORY ELEMENTS

In an attempt to regulate the e-Government and ICT related initiatives the Ethiopian government has been engaged in producing some regulatory and legal documents. These legal document include: e-Signature law, e-Commerce law, data protection act, value added service (VAS) directive.

It is observed that most of these documents are at draft level and awaiting approval by the highest public body. Furthermore, these legal and regulatory documents are not drafted with m-Government initiatives in mind.

The Electronic Transactions Proclamation

- ✓ The proclamation supports the use of electronic technology by reducing uncertainty regarding the legal effect of information where certain paper based legal requirements may be met by using electronic technology.
- ✓ It seems to work only in the context of e-government systems. But it can also be modified to incorporate any B2B and B2C systems.
- ✓ It support and promote public confidence in the authenticity, integrity and reliability of data messages and electronic communications
- ✓ Primarily support emails as legally acknowledged communication.
- ✓ Aims to eliminate barriers to electronic commerce resulting from uncertainties, overwriting and signature requirements
- ✓ To lend authenticity and integrity to correspondence in any electronic medium.
- ✓ Support for electronic contract: For the avoidance of doubt, it is declared that in the context of the formation of contracts, unless otherwise agreed by the parties, an offer and the acceptance of an offer may be expressed by means of electronic records. Prominent sections of the Proclamation that is relevant for the m-Government project

Electronic Signatures

Support that denial of legal effect, validity and enforceability cannot be done solely based on the fact that the transaction or information is in electronic format.

- ✓ Retention of electronic records

States how to retain electronic transaction for reference purpose as deemed necessary. As long as the date, time, sender and receiver information is accessible, such transactions are acceptable in the face of law.

- ✓ Attribution

States that the validity of the electronic transaction sent from the originator should be in conformity with the one agreed between the parties as long as it is sent by the originator, authorized representative of the originator or a system developed on behalf of the originator. The case should be settled based on the fact that the originator sent a notice within reasonable time to the receiver stating the same or that the receiver exercised reasonable care or used any agreed procedure that the electronic transaction has error or not intended to be so.

- ✓ Acknowledgment of Receipt

States that acknowledgement of receipt of electronic transaction shall be done based on the agreement between the originator and the receiver. The modality could be any form of electronic communication or otherwise. The two parties can agree how and when acknowledgement is required and that the transaction is considered void if the agreement is breached either by not sending the acknowledgement within the specified time.

- ✓ Time and Place of Dispatch and Receipt

States that dispatch of an electronic transaction is when the transaction enters the information system outside the control of the originator.

States that receipt of an electronic transaction is when the addressee designated an information system for the purpose and the information system receives the information.

Amendment Recommendations:

Traditional regulation on electronic transaction could not be directly applied to mobile governance and transactions. The communication modality and the message or transaction exchange formats need to be included as acceptable means of electronic communication.

Inclusion of Mobile Communication Modalities:

- ➢ Unstructured Supplementary Service Data (USSD)
- ➢ Short Message Service (SMS)
- ➢ Mobile App Data exchange: The mobile back-end facilitates data routing, security, authentication, authorization, working off-line, and service orchestration. This functionality is supported by a mix of middleware components including mobile App servers, Mobile Backend as a service (MBaaS), and Service Oriented Architecture (SOA) infrastructure.
  - ✓ Should include the storage of the information in electronic devises and not only via information systems unless and otherwise stated that SMS, APPS and USSD are kind of information systems.
- ➢ Could be stated as: "Electronic Record: Data generated, communicated, received, or stored by electronic means, and retrievable in perceivable form."

The E-Commerce Law

M-Governance is not a new concept. The private sector has been greatly leveraging the use of mobile phones for delivery of mostly SMS based value added services for banking services, media, entertainment, news, and sports.

Points from E-commerce Law

- There are legal issues which affect the development of electronic banking and other electronic financial services. There is no highly assured security against fraud and other related cyber offences given lack of legal framework that regulate this area. E-banking through use of ATM systems raise number of legal problems with regard to the effectiveness of the mandate provided by the PIN, privacy, security of the system, liability in the case of fraud or card loss and liability of losses caused by system failure.
- There are legal frameworks in Ethiopia that regulated electronic banking, mobile banking and cyber payment systems.
- The current legal framework on financial and other related transactions do not suit e-transactions hence barrier to e-commerce development. For instance the current laws which regulate negotiable instruments, Banking etc in Ethiopia do not accommodate on-line transactions or payment in cyberspace rather than off-line transactions. The traditional requirements of writing and manuscript signatures which are not tenable under e-commerce are the common features under the laws regulating and governing this area. On the other hand, the new mode of electronic funds transfer (EFT systems-SWIFT) between financial institutions from one country to another is not clearly reflected by the Legal frameworks that regulate financial transactions.

Recommendation

- The laws that compliment to the Laws on e-commerce, and Electronic Signatures, Guide to treat e-documents, m-documents, m-evidences , e-evidence, e-signatures and data message as equivalent to manuscript signatures and original physical document in a written form.
- Ethiopia need sound laws and practices to support e-commerce, m-commerce, m-payment and e-government and the use of EDI and electronic mail which are becoming widespread. The government should create a media-neutral environment law that cut across all issues brought by e-commerce, m-commerce, m-payment, m-service etc.

CONCLUSION

Various initiatives have been launched in Ethiopia within the past five years or so to implement selected e-Government applications and even if there are a lot more to be done along the original e-government concept, shift to m-Government application is already rightly felt by the MCIT.

Already some applications in financial sector are cropping up in addition to other areas. Although applications based on web and mobile phone (mainly SMS and apps to some extent) are quickly spreading, the legal and regulatory framework is not yet fully in place and care must be taken to avoid gaps as a result of the use of the applications.

The relevant draft documents on e-Signature law, e-Commerce law, and data protection act are reviewed and recommendations are in order to adapt the laws and acts to mobile environment.

Mobile transactions are getting more and more common but so far no serious problem has been reported. Nevertheless, this cannot be taken as justification for the delay in ratification of the relevant laws and quick action must be taken by all parties to make the environment ready for full-swing m-Government application.

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