

# Citizen Perspective E-Governance Model for Developing Countries: Bangladesh Context

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**Abstract** E-governance can play a vital role in socio-economic development of a country by reducing corruption and strengthening democracy. Developing countries like Bangladesh are facing a lot of challenges to establish good governance. E-governance could be a good solution through which government can facilitate an efficient, speedy and transparent process for performing government administrative activities and delivery of services to the citizen and other agencies. This research aims to assess the potentialities, issues and challenges of implementing E-governance in the developing countries. The study has been conducted in context of Bangladesh, a most densely populated developing country in the world where good governance is badly needed. Considering the expectations of the citizens, a model for implementing a successful E-governance system has been proposed in this paper.

**Keywords:** E-governance model, ICT, electronic services, developing countries, bangladesh

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## 1. Introduction

Electronic governance or E-governance refers to the use of information and communication technologies (ICT) by the government agencies to transform relations with citizens, business and other arms of government in the delivery of services. E-governance can be defined as the delivery of government services and information to the public using electronic means to support good governance. In the developing countries, service at doorsteps through ICT is vital not only to establish a democratic and transparent government, but also to fight against poverty. Service at doorsteps is also necessary for ensuring government accountability, decentralization and providing effective and efficient service delivery to citizens. The governments of many developing nations, as well as Bangladesh are coming to a fast realization that ICT is not only necessary for promoting economic growth but also can be a great engine for driving good governance [1].

E-governance promises transparency, shortens service delivery time, alleviates poverty, reduces corruption, strengthens democracy and implements good governance. Good governance can play an important role in economic and social development cooperation. The use of ICT in government facilitates an efficient, speedy and transparent process for performing government administration activities and for disseminating information to the public and other agencies. The developing countries can be benefited by implementing E-governance both in internal

government sectors and the public sectors for the ultimate socio economic development [2,3,4].

In most of the developed and developing countries governments have identified the potentials of ICT for doing business and have recognized as a powerful tool for social welfare and economic growth. The developed countries like the US, the UK and Singapore have fully recognized the power of E-governance to make a significant contribution in achieving the objectives of good governance. Bangladesh and other developing countries have gone ahead in implementing E-governance systems. As it is still a new concept, the governments of the developing countries are facing a lot of challenges to implement it. The governments are trying to give an infrastructural solid framework on the basis of which everything can run smoothly and perfectly. Financial unsoundness and lack of skilled manpower is the main obstacle to introduce pure E-governance [5,6,7]. This research has explored the potentialities of E-governance as well as the common threats and key success factors for implementing E-governance in the developing countries. The study has been conducted in context of Bangladesh, one of the least developed country in the world.

## 2. Potentialities of E-Governance in Government Systems

Most of the developing countries possess a structure of governance characterized by large amount of paper work and file handling which is a time consuming process.

Government in the developing countries costs too much, delivers too little and is not sufficiently responsive or accountable. E-governance offers a new way forward improving government processes, connecting citizens and building interactions with civil society. If the information gathered from cross sections of the government such as ministries, departments, directorates, and other offices are not utilized properly, it will be a waste of effort and money and will have no value. Therefore the computerization of government, today and the foreseeable future is a prerequisite for the effective national development [8].

E-governance can improve the efficiency and effectiveness of government's service delivery systems. It will bring transparency in government operations and government-public interface. Use of ICT in the government offices will bring transparency in the activities of different government operations by enabling everyone to see what is happening in other agencies. At the same time it will also create a bridge between the government and the public for the basic information access and interchange. Government could disseminate information to the public as well as gather information by setting up information kiosks at different public places. It will reduce corruption in the different agencies of the government.

### 3. Research Methodology

The methodological approach focused on the collection of data from different sources, study of the survey reports of different groups, depth interviews with key informants and informal focus group sessions. Citizen survey has been conducted to know the citizen's perspective of E-governance in different areas. The questionnaire for citizen survey is designed to get the idea about how ready the citizens are for E-governance and what are the citizens' wants and needs in terms of E-governance from the government. Finally data were analyzed and conclusion was drawn. Data were collected from 300 samples in which the valid response rate was 90 percent.

### 4. Present Telecommunication Infrastructure in Bangladesh

Bangladesh is a densely populated developing country in the world. The country is covered with many rivers and most of the regions are remote areas. Therefore, its long route communication systems are mainly composed of microwave, UHF and VHF radio links [9]. The use of optical fiber is presently limited within some city areas. The country has a link to Europe with SEA-ME-WE-4 fiber optic submarine cable consortium connecting a total of 14 countries at 16 landing stations [10].

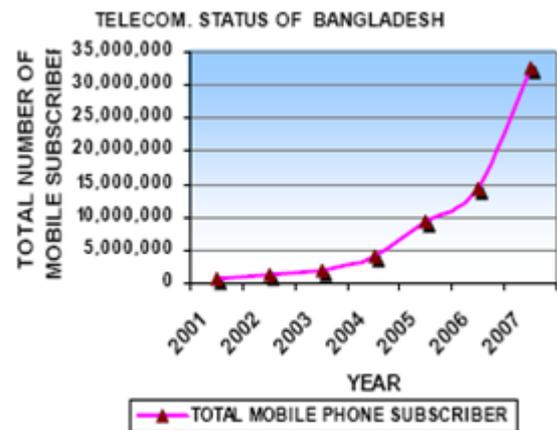
Telecommunication sector in Bangladesh has been experiencing a huge boom in the last few years. Several private and public telecommunication operators have established their network all over the country. Currently there are 6 mobile operators in Bangladesh. Bangladesh has a huge potential in WiMax and submarine cable which has attracted the foreign telecom operators. Many foreign investors are now interested to invest in telecom sector in

Bangladesh. A summary of the present status of the telecommunication infrastructure has been depicted in Table 1 [11,12,13,14].

**Table 1. Current telecommunication infrastructure in Bangladesh**

Category	Quantity
Digitized Districts	All (64)
Mobile operators	6
Mobile Phones Subscribers	98,593 million (Feb. 2013)
Fixed Phone (PSTN) operators	12
Fixed Phone Subscribers	1.372 million (2009)
Internet Service Provider (ISP)	220
Internet Subscribers	30,390,374 (Feb. 2013)
VSAT- Provider	30
VSAT user	88
IP Telephony Service Provider	39
National bandwidth within the country	68 Mbps
National bandwidth to and from the country	112 Mbps
Available highest bandwidth of link	10 Mbps
WiMAX users	481,559
3G licenses awardees	5
Radio broadcast stations	38 (SW,FM, Internet)
Television broadcast stations	27
satellite earth stations	7
Computer ownership	0.782 (per 100 people )

Cellular Phone has revolutionized the telecommunication infrastructure in Bangladesh. It is really amazing that within the last decade, mobile phone service has provided about eighty million people with telecommunication services. Figure 1 indicates the trend of growth of mobile communication.



**Figure 1.** Mobile telecommunication status of Bangladesh

### 5. Implementation Challenges

As a least developed country Bangladesh is facing various obstacles to the promotion and implementation of E-governance. This study has identified some major threats and challenges for developing E-governance in our country which include:

- Poor ICT infrastructure
- Lack of appropriate IT policy
- Lack of awareness of government officials
- Non-acceptability of IT systems
- Lack of coordination
- Low level of IT literacy
- Lack of IT training
- High-cost, lower liability of Internet access

- i) Lack of IT funds
- j) Poor salary structure
- k) Wrong task and blocked post
- l) Wide spread corruption
- m) Lack of attention in complain centre
- n) Lack of education
- o) Practice of violation of law and order
- p) Hassle in getting required service
- q) Lack of information

The citizens opine that some major constraints are influencing e-governance implementation which are summarized in the [Table 2](#).

**Table 2. Major constraints influencing e-governance implementation**

Constraint	Status	Level
Lack of Infrastructure	Not at all	Government Perspective
Lack of Strong IT Policy	A lot	Government Perspective
Lack of High Speed Internet	Not at all	Government Perspective
Lack of Internet Access	A lot	Citizen Perspective
Lack of Computer Knowledge	A lot	Citizen Perspective
English Language Barrier	A lot	Citizen Perspective
Lack of Bangla Computing	Some	Citizen Perspective
Lack of Adequate Training	A lot	Government Perspective
Lack of IT Funds	A lot	Government Perspective
Lack of Coordination	Some	Government Perspective
Lack of Maintenance	A lot	Government Perspective
Fear of Change	Slightly	Government Perspective
Wide Spread Corruption	A lot	Government Perspective
Lack of Awareness	Some	Citizen Perspective

## 6. Recommendations

This study has captured the expectations of the citizen and tried to discover what they think about E-governance. The citizens suggested some recommendations to face the issues and challenges of implementing e-governance in Bangladesh. These are summarized below:

**a) Provide Website, E-Mail and Phone based Government Services:** Different countries around the world provide the services through websites and telephones. The successful story in SSC and HSC result in Bangladesh is remarkable initiative in this section. Now anyone can get his/her SSC or HSC result through SMS.

**b) Must have strong road map:** There should be a long-term project to implement e-governance. Short-term projects will be implemented as small modules of long-term projects. Small projects will be synchronized so that government can save money and time.

**c) Reduce internet and local bandwidth costs:** The Internet bandwidth costs are almost ten times higher in Bangladesh than that of our neighbour country India. All sorts of network bandwidth costs must be drastically reduced. This will also help to reduce the network access and bandwidth costs for businesses and general citizens.

**d) Every organization should have strong IT division:** Real IT professionals of IT division should maintain IT related tasks. If the organization is very large then there will be more than one IT division. And central IT division will control other divisions.

**e) Must have structured IT posts with handsome salary:** There will be no block post. While an employee works he will try his best to improve his works as because he knows he will get promotion for his good performance. IT professionals should have good salary structure.

**f) Provide information through Village Info Centers:** Access to information is very much limited in our society. The situation in the villages is worse than that in the city. Village information centers can be a solution to provide necessary information.

**g) Establish online Mobile Phone based complaint centre:** Use of Internet is no more a dream in Bangladesh - it is a reality. In the recent time the usage of mobile phone is increasing day by day. So mobile phone can be used as a strong tool to provide service to the mass people.

**h) Arrange more TV programs on Social and Economic Development issues:**

Television is the most popular media of transmitting information in Bangladesh. Television should be used to increase awareness and disseminate information dissemination. Rural people watch BTV as it is the only terrestrial channel in Bangladesh, so the programs should focus more on the different development programs like agricultural program, health care, education, gender issue etc.

**i) Provide Weather Forecast through Mobile Phone:** Mobile phone is used widely among the citizens. It can be used to broadcast weather forecast in times of national emergency.

**j) Submission of Utility Bills through SMS:** Payment of utility bill is a hassle and time consuming for general people. It wastes important working hours. Broader ICT delivery channels, like SMS, web etc can be used to pay the utility bills.

**k) Internet which could decrease the Educational Expense:** Internet can be used to deliver education to every corner of the country. Distance learning should be strengthened as our infrastructure for formal education is still lacking in resources.

**l) Make Disability-Friendly software with steps from the Government:** Disability issue is still underestimated in our country. Government should take some steps so that other organization can be influenced from this. In this regard, Government can develop read out software to teach the blind people.

**m) Technical infrastructures should be flexible:** In order to compete in this new era, governments at all levels must be able to react quickly to challenges - constantly innovating their processes to stay relevant in meeting public service expectations and priorities.

## 7. Proposed Network Model for an E-Governance System in Bangladesh

The implementation of a successful E-governance system depends on the improvement of information and telecommunication. Based on the present Telecommunication infrastructure this research has proposed a network model of the e-governance system in Bangladesh which is shown in [Figure 2](#). In Bangladesh, *Union Parishad (UP)*, is an important administrative part of the government in the root level which is formed with some adjacent villages. Some UPs create an *Upazila* (or sub-district) and with some upazilas a district is constructed. A division manages some districts and Bangladesh now has 6 divisions, 64 districts and 482 upazilas. The whole country is

governed by the central administration having government official up to the upazila level.

In Level-1 villages can be connected with the UP (Level-2). *Upazila* in Level-3 bridges communication with its UPs. Most of the areas of Level-1, Level-2 and Level-3 are rural and undeveloped and surrounded by riverside. That's why; it is not so easy to establish telephone lines in these levels. Thus, the network from Level-1 to Level-3 can be implemented by mobile phone that would be the easiest and most cost effective telecommunication medium with respect to other available medium. So here the "Village Phone" or "Grameen Phone" can be the most effective mobile phone since it has become a weapon of a social revolution in rural areas of Bangladesh. Though phone lines (UHF & VHF) are available between Level-3 up to

Level-6, but their speed is extremely low. So here we should try to implement fibre optic network to get sufficient high speed.

The root level connection of the network can be established in the UP chairman's office, from where local people can access the Internet. The villagers can take the Internet line to their home also if they can provide.

Upon successful implementation of village phone-based communication infrastructure, one of the major drawbacks of implementing E-Governance, can be transformed into a state-of-art telecommunication infrastructure in the context of Bangladesh. This infrastructure development particularly in the rural areas is the urgent issue to cover the major portion of the country under the administration of e-governance.

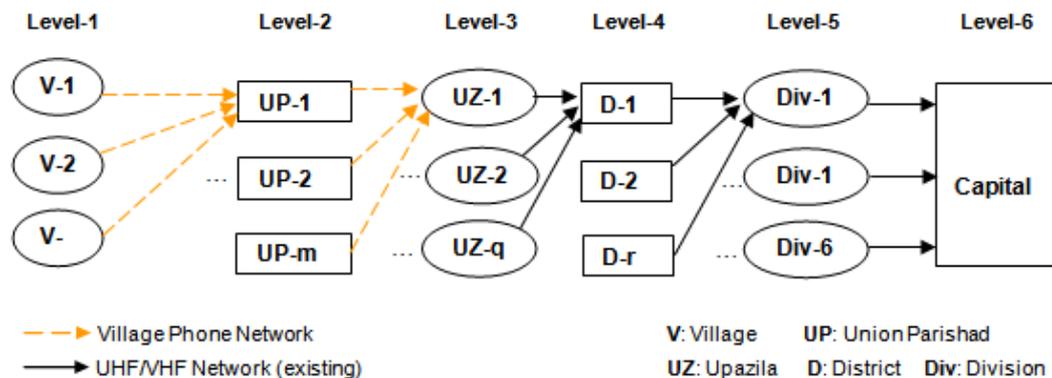


Figure 2. Proposed network model for implementing E-governance system in Bangladesh

## 8. Conclusion

Bangladesh is facing a lot of challenges to work on implementing E-governance system. This paper has identified a number of challenges faced at both government and citizens' level. This study predicts that the actual implementation of e-governance is a complex and lengthy task that may proceed well beyond the government's target of 2021. From a citizen's perspective, some social issues will impede citizens from using E-government services, while from the government's viewpoint financial and political constraints are the key challenges for implementing E-governance. The social issues are further compounded by technical complexities such as, the need of a strong ICT infrastructure and the demand to integrate business processes and technology across different government agencies to facilitate the efficient and effective delivery of e-services. By implementing E-governance in different agencies of the government and the public sectors, we can reduce corruption and strengthen democracy. This study also suggested some specific recommendations to overcome the challenges for implementation of E-governance system in Bangladesh.

## References

- [1] Alam, M. and Islam, M. S. (2007), "E-Governance: Infrastructure and Implementation Challenges in Bangladesh", *10<sup>th</sup> International Conference on Computer and Information Technology*, Dhaka, Bangladesh.
- [2] Alam, M. and Islam, M. S. (2007), "E-Governance: Infrastructure and Implementation Challenges in Bangladesh", *10<sup>th</sup> International Conference on Computer and Information Technology*, Dhaka, Bangladesh.
- [3] Das, S., Sharma, L.N., and Gogol, A. K., (2004), "ICT Infrastructures in Indian Villages", *7<sup>th</sup> International Conference on Computer and Information Technology*, Dhaka, Bangladesh.
- [4] Brendan, (2000), "Electronic Government for New Zealand: Managing the Transition", *Thesis of MBA*, Alfred P. Sloan School of Management.
- [5] D.Net (Development through Access to Network Resources) (2004), "Handbook On Implementing E-Government With Basic Introduction To E-Commerce", Academy for Planning and Development (APD), pp 25-26.
- [6] Backus, M., (2001), "E-Governance in Developing Countries", *IICD Research Brief N0-1*.
- [7] Sambamurthy, V. and Zmud, R. (1999), "Arrangements for information technology governance: a theory of multiple contingencies". *Management Information Systems Quarterly*, 23, pp. 261-290.
- [8] Spafford, G. (2000), "The Benefits of Standard IT Governance Frameworks", *IT Management*.
- [9] Fazlur Rahman, "Bangladesh Telecom Country Paper" Session I. Telecom Policies, Regulations and Infrastructure, Telecommunications in Bangladesh.
- [10] Ahasanun Nessa, Moshaddique Al Ameen, Sana Ullah, and Kyung Kwak (2010), "Applicability of Telemedicine in Bangladesh: Current Status and Future Prospects", *International Arab Journal of Information Technology*, Vol. 7, No. 2, pp. 138-145.
- [11] Bangladesh Tele Regulatory Commission (BTRC), <http://www.btrc.gov.bd/index.php> (visited on 12.05.2013).
- [12] Grameen Phone, <http://grameenphone.com/> (visited on 12.05.2013).
- [13] <http://www.tradingeconomics.com/bangladesh/> (visited on 12.05.2013).
- [14] M. Mozammel Hoque Chowdhury (2009), "The Role of E-Governance towards Citizen Welfare in the Developing Countries: Perspective Bangladesh", *International Conference of e-CASE 2009*, Singapore, January 8-10, 2009.