

E-government Efforts against Corruption in Bangladesh: What We Have Done and What We Have to Do

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Abstract

This paper provides an overview of e-government efforts against corruption in Bangladesh based on the relationship between e-government and anti-corruption efforts in general. Specifically, it discusses what Bangladesh's government has done to reduce corruption using ICT. It highlights two factors. First, there is a strong relationship between ICT use and low corruption. Second, many successful e-government services dramatically reduce corruption. The purpose of this paper is to examine the need for e-government services for the purpose of reducing corruption in Bangladesh (what we have done) and to suggest what we have to do. In particular, the paper analyzes e-government efforts against corruption in Bangladesh. An empirical analysis is developed and tested in order to examine the relationships between e-government and anti-corruption efforts in Asian countries. Time series data are collected from the United Nations (UN) e-government survey and Transparency International's (TI) annual report. The empirical analysis verifies that corruption decreases when the use of ICT in government increases. It then explores what Bangladeshi governments have done against corruption through e-government efforts. It is evident that there are many limitations to these efforts and challenges in maximizing the benefits of e-government and opportunities for reducing corruption in Bangladesh. Concluding remarks emphasize what the Bangladeshi government has to do in order to overcome technological weakness, lack of infrastructure, limited human capital, and low budget from the government

Introduction

E-government can be defined as the application of information and communication technologies (ICTs) to enhance the performance of government functions and services. More specifically, e-government is the use of digital technologies to transform government operations in order to improve effectiveness, efficiency and service delivery [1]. E-government refers to government's use of ICTs to work more effectively, share information and deliver better services to the public. It is essentially more about the process of government reform and resulting benefits than about the application of specific technological solutions or services. A well-planned e-government strategy can make leaps into building a more efficient, accountable and transparent government. E-government applications can rebuild citizen trust in government, promote economic growth by improving interface with business, and empower citizens to participate in advancing good governance. On the other hand, corruption is the misuse of public power, office or authority for private benefit through bribery, extortion, influence peddling, nepotism, fraud, speed money or embezzlement. It is principally a governance issue a failure of institutions and a lack of capacity to manage society by means of a framework of social, judicial, political and economic checks and balances.

However, corruption is the greatest obstacle for economic and social development in the developing world [2]. It is a burning issue for Bangladesh and various reports already have identified that Bangladesh is one of the most corrupt countries in the world. Corruption is widespread and permeates all levels of society; the rule of law is weak and the most institutions lack transparency and integrity structures in Bangladesh. This is reflected in the country's poor performance in most areas especially political parties, public administration, the judiciary and the police are perceived as the most corrupt institutions of the country [3]. Actually, e-government is use of information and communication technologies with the aim of improving information and service delivery, encouraging citizen participation in the decision making process and making government more accountable, transparent and effective in the public sector. As

an important tool e-government enhances transparency these days and there are many remarkable or successful examples to reduce corruption through e-government in the world [4]. So, to meet global challenges and to reduce corruption Bangladesh has no way to escape the process of establishing e-government.

The purpose of this paper is to provide an overview of e-government efforts against corruption in Bangladesh based on the relationship between e-government and anti-corruption efforts in general. Specifically, it discusses what Bangladesh's government has done to reduce corruption using ICT. An empirical analysis is developed and tested in order to examine the relationships between e-government and anti-corruption efforts in Asian countries. The time series data are collected from the United Nations (UN) e-government survey and Transparency International's (TI's) annual report. The empirical analysis verifies that corruption decreases when the use of ICT in government increases. The government of Bangladesh is drawing the utmost attention for corruption and emphasizing various reforms to reduce corruption. Why Bangladesh government should think more about e-government is also discussed here. It is evident that there are also limitations to these efforts and challenges in maximizing the benefits of e-government and opportunities for reducing corruption in Bangladesh. The results of this study imply that appropriate implementation of e-government that can reduce corruption from Bangladesh. In addition, how can e-government effect on corruption and to identify the role of e-government to reduce corruption from Bangladesh.

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Moreover, concluding remarks emphasize what the Bangladeshi government has to do in order to overcome technological weakness, lack of infrastructure, limited human capital, and low budget from the government. Here we test the relationship between ICT driven e-government and corruption that examines how changes in the use of e-government in various countries are linked to changes in their levels of corruption. So, this study examines the strength of the relation between e-government and corruption which estimates GLS regression model that considers dependent and independent variables from the different time periods.

Theoretical Discussion

Relationship between E-government and corruption

E-government refers to the use by government agencies of information technologies that have the ability to transform relations with citizens, businesses and other arms of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management [5]. E-government is more about government the process of reform and resulting benefits than about the technology. The resulting benefits can include: increased efficiency in governments' functions; greater trust between government and citizens from increased transparency; empowerment of citizens through access to information; and contributions to overall economic growth etc. on the other hand, corruption as the misuse of public power, office or authority for private benefit through bribery, extortion, influence peddling, nepotism, fraud, speed money or embezzlement. Corruption is principally a governance issue, a failure of institutions and a lack of capacity to manage society by means of a framework of social, judicial, political and economic checks and balances [6].

However, a poor corruption perception index (CPI) score is likely a sign of widespread bribery; lack of punishment for corruption and public institutions that don't respond to citizens' needs [3]. The World Bank also identifies corruption as one of the single greatest obstacles to economic development and social development. It goes on to state that through bribery, fraud and the misappropriation of economic privileges. It is an important strategy for dismantling corruption can be the providing of easy access to information for all citizens through the use of e-government initiatives. Moreover, e-government can not only provide greater information to the population but also remove the discretion of the public official and allow citizens to conduct transactions themselves which, in turn, could lead to a reduction in corruption. Corruption has been cited as one of the most prevalent and persistent challenges in enhancing economic growth and improving the quality of life of citizens across the globe [7]. Haque [8] mentioned that the use of e-government can reduce costs and delays in processing and delivering services, expand citizen's access to public sector information, increase transparency and public accountability, and weaken authoritarian tendencies.

Actually, information technology (ICT) as one of the enablers are regarded as alternative ways of minimizing corruption in service delivery and enhancing transparency [9,10]. In 2006, Andersen and Rand also studied the relation between corruption and e-government and concluded that well-designed ICT policies are likely to be effective in the fight against corruption. The electronic delivery of services like as submitting internet applications and tax returns for

computer processing can reduce corruption by reducing interactions with officials, speeding up decisions, and reducing human errors [11].

Klitgaard [12] mentioned also the use of e-government can substantially contribute to reduce corruption due to the positive impact on three indicators: monopoly of elements of government by the political class, the discretionary power of state employees, and accountability bureaucracy. E-government is used, being considered an efficient and effective mean to improve public transparency and reduce corruption [13]. In addition, Shin & Eom [14] cited that ICT can reduce corruption by promoting good governance, strengthening reform initiatives, reducing the potential for corrupt behavior, strengthening relations between government employees and citizens, allowing tracking activities and monitoring and control behavior of government employees by the citizens. Also the impact of ICT and social capital on corruption and argue that ICT has the potential to reduce unnecessary human intervention in government work processes, which reduces the need to monitor corrupt behavior. They used panels of datasets from various sources and concluded that ICT is an effective tool for reducing corruption and social capital also has positive effects on reducing corruption [15].

Best E-Government Practices Against Corruption

E-government Services against Corruption for Citizen and Business

There have been a general approaches used to integrate e-government in anti-corruption initiatives. Here we looks at how e-government can help fight corruption; gives a well-known examples from the Republic of Korea where e-government has successfully helped to fight corruption.

In the early 1990s, in the wake of globalization and increased pressures for improving governing institutions, there is a global demand for accountable and transparent governance. E-government became one of the key components of a broader anti-corruption strategy as is demonstrated by the OPEN system established in the Seoul Municipality in the Republic of Korea. In 1998, Seoul's Mayor initiated an anti-corruption program, the Online Procedures Enhancement for Civil Applications (OPEN) initiative, which opened up governmental procedures to the public. This project is widely recognized as an effective example of political and managerial commitment to transparency and for its impact on corruption. The OPEN web portal contains information on application procedures and contact information of departmental persons-in-charge so that citizens can monitor applications and raise questions in the event any irregularities are detected. A major part of the OPEN initiative was focused on the simplification of regulations and procedures, reengineering of work practices, transparency in procedures, effective communication with the citizens, and training, rather than the technology. The technology was used as a tool to achieve its goal [3]. The OPEN has contributed to notable decrease in corruption levels and has significantly enhanced the credibility of Municipal Corporation amongst citizens.

Moreover, the Korean e-procurement system provides a convenient one-stop service, enabling users to process all necessary operations for procurement-registration, bidding, contract and payment. The e-procurement system has generated considerable benefits and offers lessons for other countries interested in public procurement reform. In 1997, the Korean government began reforming its notoriously

complicated, nontransparent, corrupt public procurement system, introducing e-procurement to exploit the country's well-developed information and communications infrastructure. E-procurement has generated numerous benefits, including enhanced transparency and public trust by reducing contacts between officials and suppliers and by sharing information between government agencies and the public [16].

Anti-corruption Agencies Effect against Corruption

Corrupt Practices Investigation Bureau (CPIB) is a government agency in Singapore which investigates and prosecutes corruption in the public and private sectors. Although the primary function is to investigate corruption, it is empowered to investigate other criminal cases in which corruption may be involved. Here, e-service is really appreciable and there have reporting or providing information on corruption offences.



Figure 1: Website of Corrupt Practices Investigation Bureau, Singapore.

There have lodge a new corruption complaint, check status of my previous corruption compliant, how CPIB deals with corruption complaints, and other means of lodging corruption compliant. Moreover, there have booking of prevention talk option. In this option public sector and private sector are included. There also have an online service and defense counsel and application and payment for documents and fees (CPIB) order is available in this area.

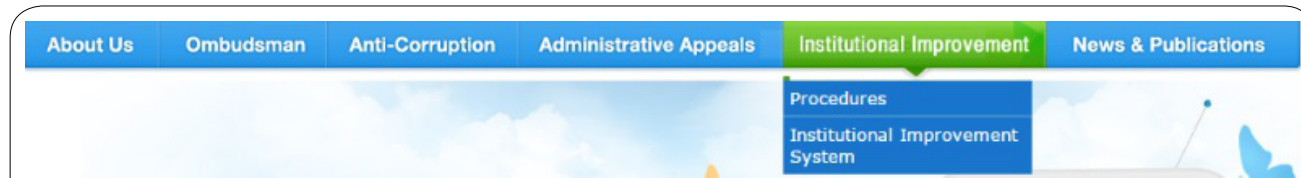


Figure 2: Website of Anti-Corruption & Civil Rights Commission, Korea.

The Anti-Corruption & Civil Rights Commission (ACRC) aims at resolving people's grievances, protecting their rights and fighting corruption. Also ACRC are committed to achieving these goals by placing the greatest priority on the protection of people's rights and interests. This homepage is an open channel to communicate with citizens. Here, institutional improvement area is very remarkable and it is really different than others. Procedures and institutional improvement system are included here. In the procedures area each organization voluntarily selects its institutional improvement tasks and improves its institutions while the ACRC supports their efforts by conducting anti-corruption initiative assessment.

The ACRC analyses corruption acts and the current trends of civil petitions, figures out corruption-prone or complaint-causing areas, and recommends public organizations to improve unreasonable laws and institutions.

Analysis and Findings

E-government can offer a number of benefits, including better quality government services, higher efficiency, less costs, a lower

administrative burden on citizens and businesses, shorter processing times, increased citizen participation in the decision-making process, and enhanced transparency.

Statistical analysis and implications

In order to compare the Asian countries, e-government development index (EGDI) data were collected from the United Nations e-government survey that assesses the e-government development status of the member countries of United Nations. This survey highlights emerging e-government trends, issues, and innovative practices as well as challenges and opportunities for e-government development. However, mathematically e-government development index (EGDI) is a weighted average of three normalized scores on the three most important dimensions of e-government, namely: the online services, the telecommunications infrastructure; and human capital. EGDI is a composite indicator measuring the

willingness and capacity of national administrations to use ICTs to deliver better services to the public and to have telecommunication infrastructure and human capital that can make it possible to work and share information more efficiently. On the other hand, corruption perceptions index (CPI) measures the perceived levels of public sector corruption worldwide. Transparency International (TI) the Berlin-based organization released the report on all over the world. In view

of the relationship, the analysis uses e-government development index (EGDI) as a dependent variable. So, the statistical analysis uses GLS regression to analyze the factor that is most closely associated with corruption. The GLS analysis examines the relationship between e-government (EGDI) and corruption (CPI) that presents the hypothesis of this paper.

The below regression result is a positive relationship between corruption and e-government development whereby a low score on the corruption index (low corruption) and a low score on the e-government development index (high degree of e-government) are related, though there may be other factors. The coefficient estimate for CPI is positive and statistically significant, but relatively weak.

However, the positive relationship with the corruption variable that means e-government may provide hope for the people of Asia to change their life, and this also supports reducing corruption in Asia. It can be explain that corruption is a basic problem for Asian countries. Shin et al. [13] also cited that ICT can reduce corruption by promoting good governance, strengthening reform initiatives,

Random-effects GLS regression		Number of jobs = 280	
Group variable: ID		Number of groups = 40	
R-sq:	within = 0.0299	jobs per group: min = 7	
	between = 0.5560	avg = 7.0	
	overall = 0.4665	max = 7	
corr (u_i, x) = 0 (assumed)		wald chi 2 (1) = 41.98	
		prob > chi 2 = 0.0000	
E-gov.(EGDI)	Coef.	Std. Err.	z P> z [95% Conf. Interval]
Corruption(CPI)	.0439037	.0067763	6.48 0.000 .0306223 .0571851
_cons	.2860015	.0316151	9.05 0.000 .2240372 .3479659
sigma_u	.10593051		
sigma_e	.06963369		
rho	.69826925 (fraction of variance due to u_i)		

Table 1: E-government Readiness & Corruption.

reducing the potential for corrupt behavior, strengthening relations between government employees and citizens. It also shows a strong correlation that means e-government can play an important role to reduce corruption in Asian countries. E-government is used, being considered an efficient and effective mean to improve public transparency and reduce corruption [13]. So, to meet global challenges Bangladesh has no way to escape the process of establishing e-government. As an important tool it enhances transparency these days and there are many remarkable or successful examples to reduce corruption through e-government in the world [8].

Best E-government practices against corruption

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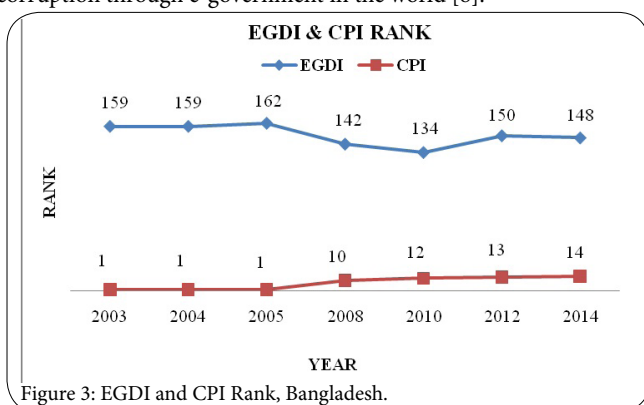


Figure 3: EGDI and CPI Rank, Bangladesh.

The figure 3 shows the status of e-government and level of corruption in Bangladesh. Here we can see that the EGDI rank was 159 while the CPI rank was 1 in both the year of 2003 and 2004. However, the EGDI rank was 162 and the CPI rank also was 1 in 2005. In 2008, we can see that the EGDI rank was 142 while the CPI rank was 10 and from this year the CPI rank was just moving forward. As we discussed above information technology (ICT) as one of the enablers are regarded as alternative ways of minimizing corruption in service delivery and enhancing transparency [9, 10]. In 2009, Hopper et al mentioned also the electronic delivery of services can reduce corruption by reducing interactions with officials, speeding up decisions, and reducing human errors. After that the EGDI rank was 134, 150 and 148 while the CPI rank was 12, 13 and 14 in 2010, 2012 and 2014. And the CPI rank was just moving forward continually in all of the years.

The use of e-government can substantially contribute to reduce corruption due to the positive impact on three indicators: monopoly of elements of government by the political class, the discretionary power of state employees, and accountability bureaucracy [12].

Efforts of ACC in Bangladesh against Corruption

The Anti Corruption Commission (ACC) is combating corruption through punitive actions; pre-empting corruption through system review; and preventing corruption through education and advocacy. Within this strategies there have some supporting objectives like as designing the organizational structure; designing operating mechanism, providing human resource support and good internal governance; and providing sound financial and logistical support. The ACC is a statutory independent corruption prevention and corruption detective body of the state, operating under the ACC Act, 2004. According to the Act, the commission is responsible for several important functions such as: conducting enquiry and investigation into the scheduled offences of the ACC Act on any allegations of corruption on own initiative or upon an aggrieved person; approval to lodge cases (FIR) and sanction to submit charge sheets or final report on the basis of enquiry and investigation; creating honesty and integrity to prevent corruption, building mass awareness against corruption and organizing seminars, symposium, workshops etc. on issues within the jurisdiction of commission's functions; and performing any other duties imposed upon commission under the law to combat corruption.

However, the basic intent of the ACC is uncompromisingly conducting drives to prevent and combat corruption. ACC in

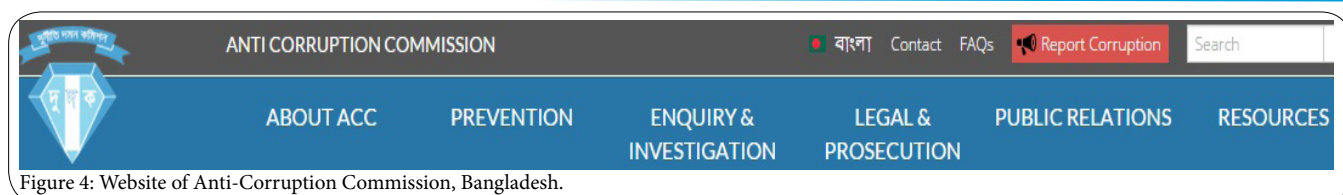


Figure 4: Website of Anti-Corruption Commission, Bangladesh.

Bangladesh is the entity in charge of combating corruption through investigation, issuing of arrest warrant, and lodging cases against corrupt individuals including public officials. Actually, still there are no nation-wide government efforts to fight corruption through e-government practices in Bangladesh. Moreover, by law the ACC is independent and impartial but in practice it is systematically subjected to political influence [17].

Limitations and Challenges

E-government is not a single event in a short period of time but a long-term evolutionary process of transforming government to focus on citizens. In general, the more services are available online and the more widespread the use of these services, the greater the impact of e-government. E-government challenges are often dependent on the national capacity for change and innovation, which itself largely determines the success of e-government goals. The countries that have a more vibrant information society are able to better leverage human talent and ICT services for improve e-government performance [18]. Commitment of decision makers is a key to the success of all government anti- corruption programs. E-government can lead to transparency with the legal framework supports for free access to information. Secrecy laws are still in effect in many of the developing countries. However, the cost of introducing ICT in government organizations is high and selecting appropriate hardware and software is also a challenge due to the rapid advancement of new technologies. Moreover, securing the ICT system is important to prevent corruption by those who know how to manipulate the ICT system [6]. The UNDP discussed some general main limitations and challenges which are discussed below:

- **Building Political Commitment:** Commitment of decision makers and adequate financial resources allocation is a key challenge to the success of all government anticorruption programs.
- **Providing Legal Support:** Until a few years ago most countries still had strict national secrecy laws. This secrecy laws are still in effect in many of the developing countries.
- **Selecting Appropriate Technologies:** The cost of introducing ICT in government organization is high. Selecting appropriate hardware and software is also a challenge due to the rapid advancement of new technologies.
- **Ensuring Interoperability:** Overlapping roles and responsibilities among government departments and lack of cross-departmental cooperation in developing common hardware, software, data collection methods, and rules and procedures proves a challenge when designing a national e-government system.
- **Promoting Access and Use:** Increasing availability of information on the internet is not sufficient. Providing universal access, promoting literacy, fostering people's participation in governance are some of the key challenges in any e-government applications.

However, in case of Bangladesh failing experts and human resources are major bottlenecks for the introductions of e-governance. Low levels of ICT infrastructure and limitations of skills and aptitude among the senior officials. Inappropriate resources allocation and acceptability of electronic documents officially, political willingness and people's scarceness to use technology is also a big challenge [19]. Overlapping roles and responsibilities among government departments and lack of cross-departmental cooperation in developing common hardware, software, data collection methods, and rules and procedures proves the challenges in e-government system. Providing universal access and fostering people's participation in governance are also the key challenges in any e-government applications. Bangladesh has numerous challenges of like as centralized administrative and financial power, less accountability and transparency, poor management of government, misuse of power, lack of public officials and people participations, restricted access of information, priority of individual interest etc. (Iqbal, 2008). Moreover, still all software systems that developed in Bangladeshi governments' organizations are discrete in nature and they do not support inter-departmental or inter-organizational data sharing techniques [19]. By the law, the ACC is independent and impartial but in practice it is systematically subjected to political influence [17].

One expert from ACC mentioned there have some limitations and challenges in ACC in Bangladesh which are discussed below:

- ACC in Bangladesh is still plagued by its own problems including a highly centralized system;
- The ACC began its journey with a huge case backlog inherited from the BAC. As a result the ACC was stretched thin with putting away the old cases rather than initiating new investigations;
- Although the commission became more active and made the headlines with high profile cases, it became an object of hatred among the political and business elite who were prosecuted and sentenced under the ACC laws;
- ACC's de jure and de facto dependence on the government in terms of financial allocation and other facilities;
- Within the greater framework of pseudo-democratic institutions and procedures, these institutions should have little scope to function independently.

Concluding Remarks

E-government is a strategic tool and it has a potential role to mitigate corruption. This paper also tests the relationship between e-government and corruption and argues that e-government can reduce corruption. We have discussed the relationship between e-government and corruption and then investigate in the use of ICT are linked to changes in the levels of corruption. To reduce the corruption e-government and its role may the best way for the nation. Many governments around the world are putting information online, automatic processes and interacting electronically with their citizens [18]. So, Bangladesh needs to think to reduce corruption by using e-government tools. To enhance good e-governance Bangladesh may follow the e-services like as Singapore and e-procurement system like

as Korea to get the better results and to reach the goal.

However, this paper looks at how e-government can help fight corruption; gives a well-known example from Singapore and the Republic of Korea in Asia where e-government has successfully helped to fight corruption; and discusses the challenges in designing and implementing similar programs. Bangladesh may refer to use e-government as a tool to reduce corruption as well as to establish good governance. The website of ACC should be an open channel to communicate with citizens and business. The ACC should commit to achieving the goal by the priority on the protection of people's rights and interests. Institutional improvement system should also include here. ICT specialists need to work closely with public officials to ensure that the design of the ICT system is coordinated with other reform processes.

E-governance is used, being considered an efficient and effective mean to improve public transparency and reduce corruption [13]. So, to achieve the e-governance success we must ensure some recommendations. As human resource is a factor to drive the e-government is technology. So training needs to enrich human and ensure to remove the bottleneck in e-governance introduction. Education about e-governance including the utilization and importance can be generated through media publicity, seminars, workshops and also pilot testing as for example. Interactive ICT needs to be spread all over the country to build the platform of e-governance. Human resources need to be trained up from the successful countries in establishing e-governance and have to bring back to countries for effective utilization in implementation phase. It is highly required to change the mentality of political governments if they are really enthusiastic in preventing corruptions. Moreover, ICT specialists need to work closely with public officials to ensure that the design of the ICT system is coordinated with other reform processes. Securing the ICT system is important to prevent corruption by those who know how to manipulate the ICT system.

Meanwhile, Transparency International (TI) published Corruptions Perception Index (CPI) 2015 and Bangladesh has been ranked 139 with a score of 25 out of 100. Last year it was also placed at 145 with the same score of 25. So, this index suggests Bangladesh is the 13th most corrupt country while last year's the index rank was 14th. Many countries improved their scores in 2015 but there has been no improvement as far as corruption in Bangladesh. Moreover, the Transparency International of Bangladesh (TIB) launched the report and stated that the score is unchanged but the rank went down one notch from the bottom. The Anti-Corruption Commission (ACC) of Bangladesh will have to be more effective to improve from this situation. The government also should take stern action against corruption.

Competing Interests

The authors declare that they have no competing interests.

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