E-Governance as an Anti Corruption Tool: 
Korean Cases

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<Abstract>
Corruption is an impediment for development and good governance. It is more than true especially in the least developed countries (LDC), and emerging and development economies (EDE). Academics have given strong attention on corruption since last couple of decades. In this modern information age, Information and Communication Technology (ICT) becomes almost compulsory in daily life. E-governance is the by-product of ICT. Effort of this study is to see e-governance as an anti corruption tool. Cases of Republic of Korea i.e., the OPEN system and the GePS will be analyzed as example. This article will identify the successful actors and factors of Republic of Korea emphasizing on stakeholder mapping through ‘DOCTORS’ and explain how e-governance help to curb corruption.

<Key Words: E-governance, Corruption, DOCTORS, Korea, OPEN, GePS>

I. INTRODUCTION
Corruption specially in the least developed countries (LDC) and emerging and development economies (EDE) is ‘sky high,’ ‘very serious,’ ‘an epidemic,’ ‘highly common,’ ‘a social ill,’ ‘a major crisis,’ ‘at an alarming stage,’ and ‘extreme’. E-governance may one of the ways to restrict corruption, as most of the LDC and EDE do not engage in the practice of e-governance yet. Some of those are initiated to implement e-governance and some are taking initiatives to establish the same as a way of reducing corruption. There are many good
examples in the Asia where e-governance is producing good results to limit corruption. South Korea, Singapore, Hong Kong are the vivid examples.

The World Bank has specified corruption as among the greatest obstacles to economic and social development. Undermines development by distorting the rule of law and weakening the institutional foundation on which economic growth depends. The harmful effects of corruption are especially severe on the poor, who are hardest hit by economic decline, are most reliant on the provision of public services, and are least capable of paying the extra costs associated with bribery, fraud, and the misappropriation of economic privileges (http://web.worldbank.org). Corruption undermines justice in many parts of the world, denying victims and the accused the basic human right to a fair and impartial trial. This is the critical conclusion of TI’s Global Corruption Report 2007 (http://www.transparency.org/publications/gcr/download_gcr#summary).

Corruption is a threat to the stability and security of societies, undermining the institutions and values of democracy, ethical values and justice and jeopardizing sustainable development and the rule of law. In the final declaration of "Global Forum on Fighting Corruption and Safeguarding Integrity II" held in the Hague, 28-31 May 2001, Corruption has identified as a virus capable of crippling government, discrediting public institutions and private corporations and having a devastating impact on the human rights of populations, and thus undermining society and its development, affecting in particular the poor. The declaration has also stated that fighting corruption is crucial for reaching development objectives. Anti-corruption efforts must always be an integral part of promoting good governance, including a sound financial system (http://usinfo.state.gov/topical/econ/bribes/gf2declaration.htm).

For a less corrupt society transparent governance is highly desirable. Information disclosure is also important for governance. E-governance can ensure more transparency and easy access to information. More transparency means less corruption. In this information age developed world means almost ‘e-world’. To promote integrity, accountability and proper
management of public affairs and public property is one of the purposes of United Nations Convention against Corruption (UNCAC) which can be achieved through e-governance.

Corruption is an impediment for development and good governance. In this modern information age Information and Communication Technology (ICT) has become almost compulsory in daily life. E-governance is a by-product of ICT. The purpose of this study is to see e-governance as an anti-corruption tool. Cases of the Republic of Korea (ROK) such as the Online Procedure ENhancement (OPEN) system for civil applications of Seoul Metropolitan Government (SMG) and the Government e-Procurement System (GePS) will be analyzed and generate policy implications for reducing corruption. The OPEN System was developed to achieve transparency in the city’s administration by reducing unnecessary delays or preventing unjust handling of civil affairs. The web-based OPEN system allows citizens to keep an eye on how applications for permits are dealt with, especially in the areas where irregularities are most likely to occur. In short, OPEN is an online system to enhance transparency in the process of administrative services. Ensuring transparency in administrative procedures easy citizen access to the OPEN system, and Increasing credibility in the city administration are the features of the OPEN system. These components lead the city council to get a less corrupt environment.

On the other hand, the GePS is a system that turned the procurement procedures from paperwork to digital, a portal site for information on public procurement and an application service provider (ASP) for e-procurement, a public e-market place where multiple buyers and sellers can meet electronically and transact all types of business through a single point of integration, a network that connect public agencies and vendors. The GePS has four major functions (Kim, Kyung-Sup, 2003):

1) Providing integrated information: As a portal side, GePS provides integrated information. About 27000 public organizations are required by law to list their bidding information on the GePS including project volume, specifications, contract award
criteria, etc. Information on 390,000 products is also listed on the system.

2) Single registration: Suppliers can participate in all public organizations’ bids by registering with the GePS only once. They don’t need any other registration. Their participation in bids has increased sharply.

3) Ensure more transparency: The GePS enables transparent e-procurement. The entire procurement process, including purchase request, invitation for bids, contracting, inspection, and payment are digitalized, and disclosed on a real time basis. Currently 92% of domestic bids are executed electronically. About 1.2 million people participate in e-bidding every month.

4) E-shopping mall GePS: The operates an e-shopping mall. About 23,000 pre-contracted products including office supplies are available in this mall. Public organizations can purchase these highly demanded products with just a few clicks to complete the entire procurement process from order placement to payment. Public organizations purchase 97% of their office supplies from this e-shopping mall.

However, this article begins with a brief description of e-governance and corruption, and a short description about the concept on the OPEN system and the GePS. It points out some reasons for what and how e-governance can help to minimize the corruption. Then it will try to find some mechanism of e-governance, which is applicable especially in LDC to reduce corruption. Finally, successful example from Republic of Korea has given for policy implication.

Defining E-governance and Corruption

Governance and government are not synonymous terms. Scholars stated - government occurs when those with legally and formally derived authority and policing power execute and implement activities; governance refers to the creation, execution, and implementation of activities backed by the shared goals of citizens and organizations, who may or may not have formal authority and policing power. Similarly, e-government and e-governance is not the
E-government is the first step of e-governance. Ensuring e-government is possible to ensure e-governance. E-government is understood as the use of emerging ICTs like Internet, World Wide Web (www.) and mobile phones to deliver information and services to citizens and business. As a first step, information about services is published on a web site and citizens can interact with the site to download application forms for a variety of services. The next stage involves the use of ICT in the actual delivery of service such as filing a tax return, renewing a license, etc. (Bhatnagar, 2003: 1).

E-Government initiatives can be categorized as internal, which are government to government (G2G) and government to employee (G2E), or external, which are government to business (G2B) and government to citizen (G2C). G2G involves interaction among government officials, whether within a government office or within government offices. Examples include using e-mail for internal government communication or customized software for tracking progress of government projects. A popular G2G service is e-Police System in Karnataka, India, which has an electronically searchable database of various types of police records. G2E (Government to Employee) involves government services for its own employees. One good example of a G2E service is Pension Management System that keeps track of pension-related information of all government employees and prints out reports as and when needed (Dnet Bangladesh, 2004:13). G2B (Government-to-Business) involves interaction of business entities with the government. Examples include corporate tax filing or government procurement process through the Internet. South Korea’s Government e-Procurement System (GePS) is a well known example of G2B. G2C related interactions of citizen with government. Online Procedure ENhancement (OPEN) for civil application system of Seoul Metropolitan Government (SMG), South Korea is a good example for G2C.

UNESCO defines e-governance as follows. "E-governance is the public sector’s 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 (http://portal.unesco.org)."
In short, E-governance can be defined as the civil and political conduct of government using information and communication technologies (ICT) by which citizens can be empowered with greater access to services and more flexible and effective means of participating in government, leading to improved citizen-government interaction.

Defining corruption is a matter of long debate. "Shows are not dirty in themselves, but it is dirty to place them on the dining-table; food is not dirty in itself, but it is dirty to leave cooking utensils in the bedroom, or food bespattered on clothing; similarly, bathroom equipment in the drawing room; clothes lying on chairs; out-door things in-doors; upstairs things down stairs, under-clothing appearing where over-clothing should be, and so on"(Douglas, 1966: 36-37). Like this – ‘corruption’ behavior may change its meaning considering the actors and directors. Corruption has different meanings in different societies. One person’s bribe is another person’s gift. A political leader or public official who aids friends, family members, and supporters may seem praiseworthy in some societies and corrupt in others (Rose-Ackerman, 1999: 5).

Klitgaard (1988: 75) defined corruption by giving an equation i.e., Corruption = Monopoly + Discretion – Accountability. Oxford Advance Learner’s Dictionary (2000: 281) mentioned the meaning of corruption as dishonest or illegal behavior, especially of people in authority. Thompson (1993:369) identified three main elements of the general concept of corruption: a public official’s hidden gain, a private citizen’s receipt of a (sometime hidden) benefit, and the connection between the gain and the benefit. To Kaufman, Kraay and Zoido-Lobaton (1999: 8) corruption is the exercise of public power for private gain while Schleifer and Vishny (1993: 599) stated corruption as the sale by government officials of government property for personal gain. According to Transparency International corruption is the abuse of entrusted power for private gain (www.transparency.org). A Report of the committee on Prevention of corruption (Santhanam Committee Report, 1964:5) define corruption as improper and selfish exercise of power and influence attached to a public office or to the special position one occupies in public life.
Nearly all definitions of political corruption emphasize the subversion of the public good by private interest. Among the more famous definitions of corruption is the one offered by Nye (1989): "Behavior which deviates from the formal duties of a public role because of private-regarding (personal, close family, private clique) pecuniary or state gains; or violates rules against the exercise of certain types of private-regarding influence". Here we have identified corruption as any type of illegal action or step to get a legal service, facility, or right. ‘Bureaucrats’ and ‘citizens’ and ‘businessmen’- have considered as principal stakeholders in corruption process in this study. E-governance can limit this process by broadening transparency and participation which we have tried to conclude through this study.

II. E-GOVERNANCE AND CORRUPTION: THEORETICAL DISCUSSION

Corruption has drawn the enormous attention of scholars in various fields and practitioners around the world. A survey by Transparency International identified 4000 books and journals articles published in the last ten years with corruption as their main theme. Of those, 74% addressed politics and public administration issues, 10% took a historical perspective, 9% focused on law and judiciary, 4% on economics, 2% on ethnographic and culture and 1% on business ethics (Global Corruption Report. 2001: 229). Over the past fifteen years new evidence and refined theories have shown that on the whole corruption delays and distorts political and economic development. Unlike functionalist arguments these findings focus on real processes and systemic, measurable consequences, rather than upon specific or hypothetical deals in isolation (Rose-Ackerman, 2002). In third world corruption is one of the principal impediments for governance. Hence e-governance can promote the efforts of reducing corruption.

Corruption is an important development issue that undoubtedly cannot be ignored. There
are many intermediate success stories related with much greater openness, demystification of the issues, advocacy efforts and the development of tools to measure corruption. In a number of emerging success stories, ICT is often one of the most important components assisting these improvements along with other factors such as leadership, management, positive incentives, and stakeholder involvement. There are some debates about the anti-corruption effect of ICT. It is still evident, however, that the ways of exploiting ICT as one of the enablers are regarded as alternative ways of minimizing corruption in service delivery and enhancing transparency (Bhatnagar, 2003; Heeks, 1998). Given the fact that a large number of countries have ambitious plans for using ICT in service delivery under the title ‘e-governance,’ there is a significant opportunity to impact corruption by designing these systems in a manner that can take away the basic reason that enables corruption to take place and for transparency.

Why does corruption matter? Former UN secretary Kofi Annan stated - ‘Corruption hurts the poor disproportionately –by diverting funds intended for development, undermining a government’s ability to provide basic services, feeding inequality and injustice, and discouraging foreign investment and aid’ (Stausberg, 2006). In her presentation in the K-PACT International Forum 2006, Huguette Labele mentioned that - corruption traps millions of people in poverty and misery; undermines democracy and the rule of law; distorts national and international trade; jeopardize sound governance and ethics in private sector; breeds social, economic and political crises; threaten domestic and international security (Labelle, 2006:7). Corruption undermines people’s trust in the political system, institutions, and leadership. Husted (1999: 339-59) from Instituto De Empresa has showed in his study ‘Wealth, Culture, and Corruption’ – that corruption significantly correlated to GNP per capita, power distance, masculinity, and uncertainty avoidance. Habib and Zurawicki (2002: 291-307) has described the impact of corruption on Foreign Direct Investment (FDI). They found that corruption is a serious obstacle for investment.

By providing an alternate to a departmental channel for service delivery, e-government
introduces competition which improves service levels and lowers corruption. Web publishing of Government information builds accountability by providing documentation to citizens to substantiate their complaints against corrupt practices (Bhatnagar, 2003:1). E-governance is an effective anti corruption tool for developing countries. Beijing’s Business E-park, Computerized interstate check post in Gujrat, VOICE online delivery of Municipal services in Vijaywada, India; Philippine custom reform are may the example. On the World Bank web site these are reported less corruption as one of the benefits of e-governance (http://www1.worldbank.org/publicsector/egov).

E-governance can make the scope of competition for all equal. Theoretically the effect of competition on corruption is ambiguous. Less competition means firms enjoy higher rents, so that bureaucrats with control rights over them, such as tax inspectors or regulators, have higher incentives to engage in malfeasant behavior (Ades and Tella, 1999: 982).

E-governance can stop ‘arrangement’ of corruption. Macrae (1982) refers to corruption as an ‘arrangement’ that involves "an excellence between two parties (the ‘demander’ and the ‘supplier’) which (i) has an influence on the allocation of resources either immediately or in the future; and (ii) involves the use or abuse of public or collective responsibility for private ends (Macrae. 1982: 678).’ The demander might be the representative of the selling firm, for example. The supplier could be a public official (Husted and Instituto Tecnologico y de Estudios. 1999:340). Kim, and Keun Joo Lee (2001) showed some statistics where they mentioned that after establishing E-governance (OPEN system) the service level of public officials has been increased.

‘E-culture’ can change cultural attitude to corruption. If some one want get a license, work order, even drawing the pension s/he has to pay some ‘speed-money’ to get that service. This almost becomes a one kind of culture in some developing countries. Cultural values play a fundamental role in the structural aspects related to corruption. Tsalikis and Nwachukwu (1991) found that culture affected the way that Nigerian and U.S. business students viewed
acts of bribery and extortion. Establish e-governance will create a new culture where transparency is available. E-governance ensures equal treatment from bureaucrats. A widespread notion prevails that corruption is available in bureaucracy. Personal position of a citizen differs to get service from bureaucrats. But in e-governance this scope is limited.

The introduction of ICT (here we mean it as e-governance) can reduce corruption by better enforcing rules, reducing the discretion of officials, and increasing transparency. Indeed, Heeks points out that, officials may resist a new ICT system for fear of losing corrupt income. Yet, while ICT eliminates many opportunities for corruption, it may open new ones for those who understand the new systems well enough to manipulate them. In a sense, ICT permits an intergenerational shift in corruption and rent seeking (Heeks, 1998).

Participation is also important to reduce corruption. Article 31(1) of UNCAC provides for the participation by civil society on the following terms. Each State Party shall take appropriate measures, within its means and in accordance with fundamental principles of its domestic law, to promote the active participation of individuals and groups outside the public sector, such as civil society, non-governmental organizations and community-based organizations, in the prevention of and the fight against corruption and to raise public awareness regarding the existence, causes and gravity of and the threat posed by corruption. This participation should be strengthened by such measures as: (a) Enhancing the transparency of and promoting the contribution of the public to decision-making processes; (b) Ensuring that the public has effective access to information; (c) Undertaking public information activities that contribute to non-tolerance of corruption, as well as public education programs, including school and university curricula; (d) Respecting, promoting and protecting the freedom to seek, receive, publish and disseminate information concerning corruption (AJIL, 2004: 183). E-governance is one of the best of way to ensure participation.

E-governance eliminates ‘middleman.’ Middleman is a central actor in the corruption transaction. In his article Oldenburg (1987) explained the middleman as a one significant
element in the mechanism of corruption considering land consolidation in the giant north Indian state of Uttar Pradesh (U.P.). Corruption is not simply a matter between donor and recipient: the middleman plays an important and sometimes crucial role. Oldenburg gave of diagram of middleman\(^1\) roles in corruption transactions as follows:

### Table-1: Schematic Diagram of Middleman Role in Corruption Transactions

<table>
<thead>
<tr>
<th>Donor’s Side</th>
<th>Outsiders</th>
<th>Recipient’s Side</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right-hand man</td>
<td>Brokers</td>
<td>Touts</td>
</tr>
<tr>
<td>Commission agent</td>
<td>&quot;Big-timer&quot;</td>
<td>Personal asst.</td>
</tr>
<tr>
<td>Sycophant</td>
<td>Fixer</td>
<td>Helper</td>
</tr>
<tr>
<td>Gofer</td>
<td>Petty broker</td>
<td>Barker</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clerk/Office boy</td>
</tr>
</tbody>
</table>


Government can stop the propaganda ‘corruption is pervasive’ which has broadcasted by the middleman. Corruption transaction by middleman could be restricted strongly through e-governance.

### III. CONCEPTUAL FRAMEWORK

Corruption curbs development and governance especially in the third world. From the theoretical discussion it is assumed that e-governance can reduce corruption. So establish e-governance as an anti corruption tool may get priority. The Republic of Korea (ROK) has a robust infrastructure (see table-2) of e-governance, though the history of development on ICT of this country is not so long. Any least developed or developing country can learn from

1) Right-hand man: trusted lieutenant, responsible for independent action and expected to follow orders; Sycophant: client/dependent available to work; Gofer: person to fetch and carry; completely dependent, acting on orders only; Commission agent: high-class broker with considerable expertise, connections, or authority; Fixer: arranger, lower status; Petty broker: person who brings people together; "Big-timer": typically a relative or close ally of recipient (or, if the recipient is high enough, of his immediate confidant or junior officer); Helper: tout who knows the ropes; Barker: tout who spreads the word.
Korea and follow the policies, which are well fit in respect of its own environment. Now Korea is treated as a developed country. The Republic of Korea is one best example for the LDC and EDE, which gets satisfactory output to reduce corruption through e-governance.

Stakeholders have an important impact in establishing or succeeding at e-governance as well as corrupt action. In general, public officials or bureaucrats, citizen, businessmen are the principal stakeholders for a corrupt action. This study assumes that e-governance can limit the in-person contact, which can help to reduce corruption. Hence, this study will consider Richard Heeks’s stakeholder mapping. Heeks (2004) clarified this by the acronym DOCTORS 2) (Drivers, Owners, Constructors, Third parties, Operators, Recipients, Sources) – and map out the key groups and individuals that belong to the category for e-transparency, and is equally true for e-governance (www.egov4dev.org). Drivers are directly related with Owners, Constructors and Operators. Operators have a reciprocal relationship with third parties. Operators also have a direct relation with Owners, Constructors, Recipients, and Sources. If these relationships act well, then e-governance can be established effectively to play a role as an anti-corruption tool.

2) Drivers: those who are pushing the project forward; often they will be from outside the implementing agency, and they may well be providing key funding for the project. Owners: the manager of the organisation or department that owns and uses the system, who is ultimately responsible for the system. That manager, in turn, may have their own line manager who may be seen as a secondary owner. The ‘tree’ of owners could rise as far as a Permanent Secretary or Minister, even up to Prime Minister/President for a large, high-profile e-transparency project. Constructors: those who analyses, design and build the e-transparency system including the builders/suppliers of the hardware, software and networks. Third parties: others who could have an important influence on the project or on whom the project will have an important effect. Operators: those who carry out the activities that make the e-transparency system work; not just clerical staff, but may also be managers and technical maintenance staff. Recipients: those to whom data or services are delivered by the e-transparency. Sometimes it can divide into primary recipients, who get the data/services directly; and secondary recipients, who only get the data/services indirectly via the primary recipient. Sources: those who provide data for the e-transparency system; often public servants but not always.
Why this study selected Korean cases?

As per UN Global E-readiness report of 2005, Korea with e-government readiness index of 0.8727 is ranked 5th in the world and the regional leader in South and Eastern Asia (UNPAN, 2005). The ROK has 72.8% Internet users and rate of mobile phone subscribers is 79.7% (NIA, 2006: 4-5). It has a high level of e-governance infrastructure. The Government e-Procurement System (GePS) for and the OPEN system of Seoul Metropolitan Government (SMG) for G2C, will be described briefly proving the success of e-governance as an anti corruption tool. They are the best well-known cases in tackling corruption through e-government and highlight the potential and pitfalls in designing e-government applications that focus on the twin objectives of transparency and combating corruption (Shadrach, 2000).

In 2003 and 2005 SMG ranked No.1 e-government among 100 cities of the world in a survey on digital governance sponsored by the UN and the American Society for Public Administration (SMG, 2006: 36). Seoul’s e-government has been benchmarked by various overseas cities and organizations. By the first half of 2005, more than 570 officials and experts from 50 nations had visited, sharing their know-how and experience of building e-governments.

The United Nations Division for Public Economics and Public Administration announced Public Procurement Service-PPS as winner of the United Nations Public Service Awards 2002 for the GePS. The World Bank shows their interest in the GePS because the system is expected to save costs and to increase transparency of government purchasing and contract processing (Seong, and Jae Young Lee, 2004: 140). As per OECD (2004) the GePS has a ‘strong pull-through effect on information and communication technology use in the private sector and ‘no further action required’. The analysis of these Korean cases will draw a clear picture both of criteria for establishing e-governance and reducing corruption through it. Let us look to the ICT infrastructure of Republic of Korea, which will be a big support to select the Korean cases for this study, too.
Table-2: ICT infrastructure status of Korea

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Number/ Quantity (unit 1000 persons)</th>
<th>Rate (%)</th>
<th>Year, Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC penetration</td>
<td>25,685</td>
<td>53.4</td>
<td>2005</td>
</tr>
<tr>
<td>Internet users</td>
<td>33,010</td>
<td>72.8</td>
<td>2005</td>
</tr>
<tr>
<td>Local telephone subscribers</td>
<td>22,920</td>
<td>47.6</td>
<td>2005</td>
</tr>
<tr>
<td>Main fixed telephone lines</td>
<td>23,745</td>
<td>49.2</td>
<td>2005</td>
</tr>
<tr>
<td>Mobile phone subscribers</td>
<td>38,342</td>
<td>79.7</td>
<td>2005</td>
</tr>
<tr>
<td>Broadband Internet service subscribers</td>
<td>13,944</td>
<td>28.9</td>
<td>2006.10</td>
</tr>
<tr>
<td>.kr domains</td>
<td>642,770</td>
<td></td>
<td>2005</td>
</tr>
<tr>
<td>IPv4 address</td>
<td>43,196</td>
<td></td>
<td>2005</td>
</tr>
<tr>
<td>Internet banking</td>
<td>35.7</td>
<td></td>
<td>2006.09</td>
</tr>
</tbody>
</table>

Source: NIA (2006)

Rationality of these cases

Procurement is one of the ‘popular’ fields for corruption in public sector. In case of procurement system the World Bank assumes that in most of the LDC and EDE the implementation of the procurement process is far from satisfactory, due to the following problems: poor advertisement, short bidding periods, poor specifications, nondisclosure of selection criteria, contract awards by lottery, one-sided contract documents, negotiations with all bidders, and re-bidding without adequate grounds. Bangladesh, for example, is particularly known for long delays in the award of contracts. An organization compiled data on the elapsed number of days from bid invitation to award in 148 procurement cases in FY98. The normal time allowed is 150 days. The review showed that the awards were made in 240 days or less in only 29% of the contract. Another 28% were awarded within a year, and the rest took 500 days or more. Procurement delays increase costs, defer benefits, deter good firms from bidding and are often indicative of corrupt interference (www.transparency.org/content/download/2048/12352/file/PE_corruptiondevelopment_15-04-05.Bonn.doc.). Implementing a system like GePS can make easy the procedure more transparent and limit the source of corruption.
Local government is the nearer government from where people can receive service closely. In underdeveloped countries, local government sectors are highly corrupted too. Accountability, transparency, participation, empowerment, equity, and all other attributes of good governance can become a part of the daily work of both the government and local bodies when decentralization and devolution take place. Without decentralization and devolution, local government bodies remain paper organizations without any effective role. It is no exaggeration to say that it is in a decentralized local government system that most of the attributes of good governance have a chance to survive and prosper (Panday, 2005). E-governance can promote a real decentralized local government strongly. G2C is needed to stop or reduce the corrupt actions between bureaucrats and citizens. A government can follow G2C to limit corruption at least in local urban government (City Corporation, Municipalities) through e-governance as we experienced the success of G2C through OPEN system of SMG.

Through OPEN system information on civil applications, procedures of approvals, document reviews, schedules for the process, etc. can be accessed in real time, so that transparency may be secured in advance, contrary to the longstanding practices whereby ongoing processes were not open to the public. Citizens are allowed to monitor the procedures of civil applications through the Internet anytime, anywhere without making telephone calls or visiting the government offices. Offering access to information to all citizens, fairness and objectivity are secured in the city administration, thereby removing public distrust. In the previous regimes there were many rumors and scandals around various permits and approvals, which made citizens distrust their government. However, offering access to information to all citizens brings fairness and objectivity in city administrations, which enhance public trust.

‘Modernism’ (from the late 19th to the mid-20th century) contended that corruption was present everywhere throughout history and did not regard it as worth studying (Hutchcroft, 1997: 642-3). From the last few decades, corruption received the serious attention of academics. Recently the UN, the World Bank, and the OECD have emphasized reducing
corruption for good governance and development and implementing a remarkable number of projects, mainly in LDC. This study assumes e-governance is an effective anti-corruption tool and will try to analyze successful cases from the ROK, from which LDC and other countries can apply for their own. Because the ROK has developed all its images on ICT in a LDC environment and got outstanding results to reduce corruption by using it.

IV. ANALYSIS OF SUCCESS CASES: THE OPEN SYSTEM AND THE GePS OF KOREA

G2B and G2C are two important components of e-governance. The next discussion will emphasize these with successful experience from the ROK. The GePS and OPEN of South Korea may be good examples of e-governance, which have triggered a reduction of corruption.

The Online Procedures ENhancement (OPEN) for civil applications system was developed to achieve transparency in the city’s administration by reducing unnecessary delays and preventing unjust handling of civil affairs. The web-based OPEN system allows citizens to keep an eye on how applications for permits are dealt with, especially in areas where irregularities are most likely to occur. In short, OPEN is an online system for enhancing transparency in the process of administrative services.

What is the mechanism for preventing corruption through the OPEN system? Under OPEN, one hundred and eleven cases of civil applications in eleven categories are open for public access. A citizen can file an application for the service s/he needs and access to handle the information. When a citizen files an application for a needed service, the public officials in charge post the details of the received application on the OPEN site. Using any computer terminal connected to the Internet, the citizen can monitor whether the application has been received in real time, which is handling and reviewing the case, when the permit or approval
is to be granted, and if it is rejected then the reasons will also be mentioned. For example, as soon as a citizen files an application for a building permit, one can visit the official web site of the SMG (http://www.seoul.go.kr) and click the OPEN icon, or select a case from the application list in the Open Seoul website (http://open.seoul.go.kr). Then they can view the application status where one can watch the transaction status in detail. For this whole process s/he does not need to contact anybody directly, which naturally stops rent-seeking behavior.

Choi and Moon-Suk Ahn (2001: 13) in their paper "OPEN the Government: Online Procedures Enhancement for Civil Applications" showed the following figure proving the reduction of corruption through OPEN.

〈Figure 1〉 Reduction of Corruption

<table>
<thead>
<tr>
<th>Service Area</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning &amp; Construction</td>
<td>55%</td>
</tr>
<tr>
<td>Construction Work</td>
<td>52.1%</td>
</tr>
<tr>
<td>Fire-fighting</td>
<td>52.5%</td>
</tr>
<tr>
<td>Sanitation</td>
<td>44.4%</td>
</tr>
<tr>
<td>Transportation</td>
<td>49.2%</td>
</tr>
<tr>
<td>Parks &amp; Green Areas</td>
<td>46.4%</td>
</tr>
</tbody>
</table>

Korea has already erased their ‘developing’ image and almost replaced it as ‘developed’. They have been changing their economic condition in the last forty years and now their economy is one of the best in the world. The most fantastic development done by Korea is in the IT sector. Regarding e-government/governance their ranking is higher than many advanced countries of Europe and America. Koreacurbed corruption at a remarkable rate where e-governance is one of the effective factors.
Considering the successful examples of the OPEN system of the Seoul Metropolitan Government (SMG) and the Government e-Procurement System (GePS) of Korea, we can select some factors which realized them. The success factors are: (1) Setting vision and goals, e.g., Cyber Korea 21 (1999-2002); (2) Strong leadership and interest of the president (political leaders); (3) Roadmap for e-government, (4) Organizational coordination and support; (5) Integrated information protection system; (6) Robust data center; (7) Geographic information system portal; (8) e-Seoul net; (9) IT education and practice; (10) Appropriate infrastructure; (11) Skilled IT personnel; (12) Purchasing power and ability of citizen to use IT; (13) Continuous effort and financial support of government.

On September 30, 2002, Korea opened the GePS, which allows digital processing of procurement work for all public organizations, including government agencies, local municipalities, and institutions receiving government funds. The GePS is a system that digitally processes complicated procurement procedures which were previously done by paperwork. Since its opening, all advertisement of domestic public procurement contracts had been run through the GePS, while more than 80% of actual bidding has been conducted electronically (Hong, 2003: 2).

How does the GePS reduce corruption? Among all the advantages of the GePS, the most important enhancement is to the transparency of public procurement rather than the quantitative effects. The Public Procurement Service (PPS) expects open competition between bidders to develop from publicly held information of a bid announcement. The transactions between public organizations and companies are improved through the Internet and not in a face-to-face mode. Potential corruption factors, for example, frequent relationships between procurement officials and the staff of private companies, which caused absurdity in procurement absurdities in the past, are prevented. The PPS is looking forward to a greater enhancement of transparency and efficiency in public e-procurement. The factors through which the GePS can reduce corruption are: opening specifications to the public on a real-time basis; increased competition and impartiality; preventing improper supplier
participation in contracts; protecting against the wrong-doings of procurement officers; and making more transparent policy guidelines available.

The GePS is expected to help save about $2.7 billion in annual procurement costs. The GePS has made it possible to reduce visits to public organizations. The GePS provides integrated information on public procurement from integrated sources. The GePS will be done through online in real time from information to payment everything. Suppliers/bidders only need to register once. They can then access all the facilities of the GePS like obtaining all procurement-related information, submitting bid and performance guarantees, requesting payments, etc. Here person-to-person contact is not necessary. These enhance the transparency and curb corruption.

To perform all procurement activities online, the GePS is connected to fifty-three external systems. For example, it is linked to six construction-related associations to enable sharing of evaluation information to select qualified contractors such as through financial standing and past performance record. The GePS is connected to fifteen major commercial banks for electronic payment. Through its linkage with ten guarantee agencies, the GePS electronically handles the various guarantee-related documents including guarantees for tender and contract. By applying e-signatures in association with the six certified authentification institutions, the GePS secures the security of online transactions. Users of the GePS do not need to turn in many documents in person any more because the PPS has digitalized one hundred and sixty six procurement-related documents, previously exchanged between public organizations and suppliers. The GePS sharply reduces time required to proceed with procurement. For example, payment for goods can be made within four hours instead of the fourteen days under the former system (Kim, 2003).

The table that follows describes the actors of the OPEN system and the GePS by category. These categories have considered Heeks’s e-governance stakeholder mapping.
Table-3: ‘DOCTORS’ of GePS and OPEN

<table>
<thead>
<tr>
<th>Categories</th>
<th>GePS</th>
<th>OPEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owners</td>
<td>PPS</td>
<td>SMG (Information System Planning Bureau)</td>
</tr>
<tr>
<td>Third Parties</td>
<td>Personnel of PPS: Public and private organizations/agencies</td>
<td>Personnel of SMG: Citizens</td>
</tr>
<tr>
<td>Operators</td>
<td>Managers/specialists/employees of PPS</td>
<td>Managers/trained staffs of SMG</td>
</tr>
<tr>
<td>Recipients</td>
<td>27,000 public organizations from central and local government and 90,000 private firms (as per 2002)</td>
<td>Citizens</td>
</tr>
<tr>
<td>Sources</td>
<td>PPS: NIA: MIC: MPB: related other government agencies</td>
<td>Seoul Data Center (SDC): officials from related government agencies</td>
</tr>
</tbody>
</table>

All the actors of ‘DOCTORS’ worked and are working in Korea. Their proper reciprocal actions and interactions bring success in reducing corruption through e-governance. Among these actors there is the possibility of corruption. ‘Constructors’ can try to get favors from ‘Drivers’ ‘Constructors’ and ‘Operators’ has reverse opportunities for private gain. The same thing is also true for ‘Operators’ and ‘Recipients’. ‘Recipients’ can create illegal methods of getting advantages from ‘Third parties’. The mechanisms of the OPEN system and the GePS were able to stop these types of corruption sources. Figure-2 shows the areas where corrupt actions can be stopped through e-governance.
We found from the experiences of the GePS and the OPEN system in the Republic of Korea that e-governance can act positively to reduce corruption. E-governance is able to restrict the corruption of the actors. Discussion with couple of academics and bureaucrats of Korea it is also found that even under this systems sometimes official has scope to seek rent. They can delay to provide the service for intention of ‘speed money’. They can ask more documents before receiving application. To limit this type of sources government started cross-check system by opening ‘bulletin-board’ site. In this site citizen can claim if officials seek more documents than that of required or do any unnecessary delay to receive application. This will make officials more accountable and restricted the ways of taking bribe or doing injustice.

V. CONCLUSION

E-governance can act an effective role as an anti corruption tool. It can increase
transparency, create an equal environment, stop arrangement of corruption, create new culture and behavior, and close all opportunities for ‘middleman’. As a portal side, the GePS provides integrated information. About 27000 public organizations are required by law to list on the GePS their biding information including project volume, specifications, contract award criteria, and etc. Information on 390,000 products is also listed on the system. Suppliers can participate in all public organizations’ bids by registering with the GePS only once. They don’t need any other registration. Their participation in the bids increased sharply.

The GePS enables transparent e-procurement. All the procurement process including purchase request, invitation for bids, contracting, inspection, and payment are digitalized and disclosed on a real time basis. Currently 92% of domestic bids are executed electronically. About 1.2 million people participate in e-bidding in every month. From the e-shopping mall of the GePS (about 23000 pre-contracted products including office supplies are available in this mall) public organizations can purchase these highly demanded products with just a few clicks to complete entire procurement process from order placement to payment. Public organizations purchase 97% of their office supplies from this e-shopping mall.

Through the OPEN system information on civil applications, procedures of approvals, document reviews, schedules for the process, etc. can be accessed in real time, so that transparency may be secured in advance, contrary to the long standing practices whereby ongoing process was not open to the public. Citizens are allowed to monitor the procedures of civil applications through the Internet anytime, anywhere without making telephone calls or visiting the government offices. Offering access to information to all citizens, fairness and objectivity is secured in the city administration, thereby removing public distrust. In the previous regimes there were many rumors and scandals around various permits and approvals, which made citizens, distrust their government. However, offering access to information to all citizens brings fairness and objectivity in city administrations, which enhance public trust.
In their paper Kim, and Lee (2001) showed some statistics where they mentioned that after establishing OPEN system the service level of public officials has been increased. Among 1947 public officials targeted for the survey, 50% agreed and 27% officials disagreed about increasing speed of work through OPEN. On the other hand among 500 citizens of their survey 68% recognized that OPEN make the work faster than before. In view of reduction of corruption, their survey calculation showed that e-governance has decreased corruption in various sectors e.g., in housing & construction 29.8%, in city planning 9.9%, in construction 17% etc.

The OPEN and the GePS system show examples of "utmost work in least cost." The Republic of Koreahas a strong ICT infrastructure. Hence these systems are built without much cost. But countries of third world have to go far way to be developed in ICT. It is needed high infrastructure cost for e-governance or systemsimilar to the GePS or the OPEN. These need no more expenditure to reduce incentives for corruption except the initial costs to establish the Internet infrastructure. If the local/central administration is already computerized the initial cost is not too high to establish e-governance. The South Korealexperienced all this development by last 30-40 years only. Other developing countries can follow the learning from the Koreato use e-governance as an anti corruption tool.

From the analysis of the Korean cases this study found some elements of how e-governance can help to minimize corrupt actions. Figure-3 will clear the sense at a glance.
Finally we can conclude that e-governance is an effective anti-corruption tool. Though other factors like education, culture, political stability, rule of law, economic infrastructure and so forth is also important. In somewhere corruption is a kind of habit. E-governance can change that habit. The OPEN system and the GePS are evidence to bring change in habit for both officials and citizens, which triggered to reducing corruption.
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Anti-bribery and corruption: global enforcement and legislative developments 2017. Trends in anti-bribery and corruption. This update provides an overview of anti-bribery and corruption legislative and enforcement developments in 2016 in over 30 jurisdictions. The Standard thus functions as a tool to guide compliance officers as they work to determine where and how to deploy resources, and also as a benchmark that can be used to justify such deployment to company leadership, regulators and key stakeholders. Trends. Other notable cases ongoing in 2016 involved allegations of bribery and corruption within the police force and a Belgian senator accused of being paid to use his influence to expedite the passing of a new law in 2011. Trends. Anti-Corruption System in Korea. by Young Jong Kim, Professor, Soongsil University. Cleaning Up the City Government of Seoul: a Systematic Approach. by Hong-Bin Kang, Vice Mayor I of Seoul, Republic of Korea. The Seoul Anti-Corruption Symposium 2001 provided an opportunity to municipal level leaders and administrators to explore the intersection of three interlinked areas of interest in anti-corruption initiatives: transparency, accountability and e-government. Local governments are much closer to the citizens than regional or central governments. During this special session, four case studies of incorporating information technologies in public administration were presented.