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Oye, N. D.
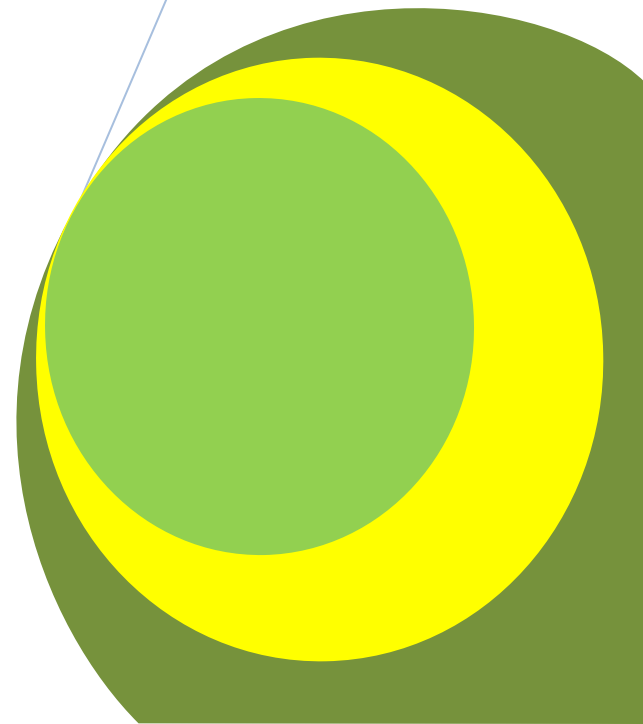
Research Article

Reducing Corruption in African Developing Countries: The Relevance of E-Governance

Oye, N. D.

Department of Information Systems, Faculty of Computer Science
University Technology Malaysia

Email: oyenath@yahoo.co.uk

The author received his M.Tech OR (Operations Research) degree from the Federal University of Technology Yola-Nigeria in 2002. He is a lecturer in the department of Mathematics and Computer Science in the same University (for the past 15yrs). At the moment he is a PhD student in the department of Information Systems in the Faculty of computer Science and Information systems at the University Technology Malaysia, Skudai, Johor, Malaysia. +60129949511.

ABSTRACT

This paper presents a review on reducing corruption in African developing countries, to lessen the discretion of officials, and increase transparency. While it is true that ICT eliminates many opportunities for corruption for those who do not understand the new technology fully, however, it opens up new corruption vistas for those who understand the new systems well enough to manipulate them. Therefore proper safeguards are needed. Putting in place systemic hurdles may prevent people from abusing their power for private gain. While complete eradication of corruption is difficult to achieve, much can be done in reducing its prevalence.   ICT can support actors wishing to improve governance capacity and fight corruption, but the surrounding political, social and infrastructural environment will decide if the technology is to be used to its fullest potentials. Automating existing bureaucratic processes that are defective will not yield good results. In this paper, we propose a methodology to combat corruption using information and   communication technologies (ICT) that entails process restructuring. Most developing countries are not fully ready to embrace a comprehensive program of e-government, thus transparency is not holistic in all the sectors. Rather than wait for total readiness, an approach of learning by trial and consolidating small gains are recommended. While e-Governance holds great promise in many developing countries however, substantial challenges are to be tackled. Many ICT projects fail because of insufficient planning capacity and political instability.

Keywords: E-Governance, Corruption, Government-citizen relationships, Public   Sector Corruption, ICT

INTRODUCTION

In every works and stage in life there are opportunities to be involved in one type of corrupt practice or the other. Corruption is an Adamic nature in man, founded on the satanic spirit of telling lies. This can only be dealt with by the fear of God and the love for humanity. There are numerous types of corruptions just as we have numerous ways of telling lies. We have different types of corruptions ranging from political, social, academic, economic, cultural, and spiritual just to mention few. In other words, whichever position one finds himself, there is an opportunity to get involved in corrupt practices. In his lecture Jibril (2010), said "corruption and public morality seem to be at the nadir in Nigeria today. We seem to have reached the stage when, if we lived in ancient times God used to destroy nations that were beyond redemption in their moral transgressions, we would have been more than ripe for a total destruction". Poverty, corruption and inequality are the biggest hindrance towards development. Poor people only get the poorest services or the least from the government. Corrupt officials acquire, if not all, most of the public budget for their own benefit. Rich people receive not only good but rather the best things with the aid of their resources. Corruption is also linked with increased inequality in the quality of education between the rich and the poor. When resources allocated for public education is inadequate or do not reach the schools, it is the poor who bear the brunt. Unlike the rich, who can afford private tuition for their children, the poor have to depend on the government.

Education is the cornerstone of a vibrant and involved populace; therefore corruption within the education sector should not be allowed to flourish.

What is Corruption?

Corruption is the misuse of public power, office or authority for private benefit. This misuse manifests in many ways: bribery, extortion, influence peddling, nepotism, fraud, or speed money. Petty corruption is frequently found where public servants who may be grossly underpaid depend upon small kickbacks from the public to pad their pockets and feed their families. Grand corruption involves high officials who make decisions on large public contracts for their personal benefit, or to the benefit of organized group interest. Corruption is a multifaceted phenomenon supported by differing historical and socio-economic conditions in each country. It exists at all levels of society. Although in the past it could have been considered a largely domestic issue, corruption now often transcends national boundaries. Its consequences are global; its hidden costs immense. The private sector has responded by implementing ethics and compliance standards and regulations, while the public sector benefits from the ratification of recent laws and international conventions. Oversight bodies and mechanisms have been created to ensure the smooth running of efforts in both sectors. Nevertheless, corruption remains rampant in many countries, continuing to siphon off valuable resources and economic gains. Corruption undermines everything the law enforcement community works towards. It impoverishes whole communities, and threatens the safety and security of the many for the benefit of a very few.

A person is corrupt when he is dishonest in his intentions and actions. So corruption means dishonesty in thinking and action. Bribery using one's official position improperly and using money or material of others without their permission are some very common forms of corruption. Political corruption means cheating in elections, buying the loyalty of members of assemblies, offering ministries to them to win their support and so on. Bribery is the most common form of corruption in different countries and societies. We find so many people offering and giving money and things to government servants to get their work done. We see students giving money to the staff in examination halls to copy, which can be called educational corruption. It brings down the standards of education. Selling good in black market is a serious form of corruption. Many businessmen sell those things at very high prices that are in short supply. Today we find several other forms of corruption all around. Corruption is the result of wide gap between rich and poor in our society. Poor government servants like policemen and clerks sometimes have to take bribes to meet the expenses of their families. Government should try to improve their economic condition by increasing their salaries. Political corruption during elections, bribery and use of recommendation and connections to get jobs should be checked through strict rules.

In many parts of the world, a major part of the problem in dealing with public sector or government bodies is corruption. No doubt, corruption has been around since time immemorial and indeed, may well be an engrained trait of human nature; nevertheless, most governments and technologists are interested in figuring out what means may be created to combat it. Public corruption can be largely attributed to government intervention in the economy. Therefore, policies aimed at liberalization, stabilization, deregulation, and privatization can sharply reduce the opportunities for corruption (Ndou, 2004 & Dong and Tae, 2007). High levels of corruption are present where institutional mechanisms to combat corruption are weak or not used, and where a system of simple internal checks and balances does not exist. In such cases, entrenched political elite dominates and exploits economic opportunities, manipulating them in return for personal gains (Fangzheng, 2010).

Why does Corruption threaten good governance?

Corruption is a manifestation of institutional weakness, poor ethical standards, skewed incentives and insufficient enforcement. When corrupt officials slowly drain the resources of a country, its potential to develop socially and to attract foreign investment is diminished, making it incapable of providing basic services to or enforcing the rights of its citizens. Furthermore, corruption fuels transnational crime. Terrorists and organized criminals could not carry out their illegal activities without the complicity of corrupt public officials. It threatens security and damages trust in systems which affect people's daily lives. It is a particular concern for the world's police and judicial systems, as corruption in one country can compromise an entire international investigation. Corruption itself does not produce poverty, but it does have a direct and immediate impact on economic growth and good governance, which in turn raises poverty levels. It remains a major obstacle to the achievement of the UN's eight Millennium Developments Goals, whose primary aim is to reduce poverty. The most recent analyses indicate that corruption continues to thrive globally. But as the awareness of corruption increases, so too does the understanding of its negative effects on political, economic and social reforms. Transparency International's 2006 report shows that corruption is rampant despite improved legislation and counter efforts. More than US$1 trillion is paid in bribes alone each year, according to a World Bank Institute report – compared to the estimated size of the world economy at that time of just over US$30 trillion.

Corruption indicators

According to World Bank Report, corruption indicators are inexhaustible and the ingenuity of those involved in corruption knows no bounds! You should beware of:

- Abnormal cash payments
- Pressure exerted for payments to be made urgently or ahead of schedule

- Payments being made through 3rd party country, e.g. goods or services supplied to country 'A' but payment is being made, usually to shell company in country 'B'
- Abnormally high commission percentage being paid to a particular agency. This may be split into 2 accounts for the same agent, often in different jurisdictions
- Private meetings with public contractors or companies hoping to tender for contracts
- Lavish gifts being received
- Individual never takes time off even if ill, or holidays, or insists on dealing with specific contractors him/herself
- Making unexpected or illogical decisions accepting projects or contracts
- Unusually smooth process of cases where individual does not have the expected level of knowledge or expertise
- Abusing decision process or delegated powers in specific cases
- Agreeing contracts not favorable to the organization either with terms or time period
- Unexplained preference for certain contractors during tendering period
- Avoidance of independent checks on tendering or contracting processes
- Raising barriers around specific roles or departments which are key in the tendering/contracting process
- Bypassing normal tendering/contractors procedure
- Invoices being agreed in excess of contract without reasonable cause
- Missing documents or records regarding meetings or decisions
- Company procedures or guidelines not being followed
- The payment of or making funds available for high value expenses or school fees etc on behalf of others.

The Role of ICT in Fight against Corruption

ICT has had tremendous impact on our lives. We can do almost nothing without ICT today. The ICT industry over the past decades has led to tremendous changes and progress in economic and social development around the world and has opened up greater opportunities for even faster growth and change than has already occurred. ICT has helped improve efficiency in many sectors and increased the volume and quality of outputs in almost all sectors, from industry to manufacturing, construction to banking, finance, health, education, development assistance and government services. With the technological advances, the internet and cryptography, the risk associated with leaking documents conveying important information can be lowered substantially.

The use of ICT for faster communications, exchange of information, and improved recording and monitoring of information can greatly improve the operational efficiency of Government agencies. For example, financial transactions and accounts, personnel information, land ownership records, tax payments, birth registration, etc. The increased automation of processes reduces the need for person-to-person contact in the delivery of Government services to the people, and the less contact there is, the less opportunity there is for rent-seeking behavior. Increased automation improves the quality of services delivered to the public and also reduces the cost of doing business. As the cost of doing business declines and becomes "predictable", business development and investment is stimulated, further expanding economic growth. The growth of e-governance services is still at a very early stage in Nigeria and many developing countries in Africa. ICT is increasingly being used to strengthen good governance. The application of ICT to improve the functions and service delivery of the Government is known as "e-Governance". This is where ICT can impact on improving governance, preventing and combating corruption. If implemented strategically, e-governance can improve efficiency, accountability and transparency and contribute to establish governments which are small in size but more efficient and effective in service delivery. ICT facilitates citizen's right to information, augments citizen-government dialogue and encourages people's participation in the administrative process to ensure

justice, transparency, accountability and confidence in governance. ICT is also an effective tool to realize people's right to information by making disclosure and it's monitoring quicker and easier than ever before.

E-Government and Corruption

Corrupt actions are so diverse and the concept of corruption so generic that any precise definition of institutional corruption is difficult to frame. Corruption can be broadly defined as the abuse of public power for the benefit of private individuals (Rose-Ackerman, 1999). Corruption includes both monetary and non-monetary benefits. Common forms of corruption are bribery, extortion, influence peddling, nepotism, fraud, and opportunism. Garcia-Murillo and Vinod (2005) identify the main drivers of corruption to be economic, political, and cultural factors, which vary from country to country. ICT can through e-governance systems support the fight against corruption by raising accountability through digital footprints, raise transparency by publicizing regulations and fees, and reduce face-face interaction where most requests for bribes take place. ICT such as mobile phones, effectively empower citizens by allowing people to collaboratively gather and share evidence of corrupt practices. In other words, ICT can assist citizens willing to challenge the systems that condone corruption.

Kaufmann, Kraay and Mastruzzi (2003, 2005) and Lambsdorff (2001) have identified the drivers of corruption as: (i) monopoly of power; (ii) discretion; and (iii) lack of accountability and transparency. It is useful to distinguish between types of corruption and to identify those which e-Governance can most readily fight. The first group of corrupt practices is petty bureaucratic corruption (i.e. Low-level administrative corruption). The second group of corrupt activities consists of strategies aimed at self-serving asset stripping by state officials. The third group of corrupt activities consists of large political corruption (grand corruption), (Shah & Schacter, 2004). the Internet minimizes the opportunities for public officials to monopolize access to relevant information and to extract bribes from their clients.

In addition, use of ICTs in government can also foster the anticorruption struggle against 'self-serving asset stripping' by state officials (Cisar, 2003; Dorotinsky, 2003, 2005; Talero, 2005; Yum, 2003, 2005) and ICTs may potentially play an important role in preventing some types of grand political corruption (Prahalad, 2005). E-Governance represents a significant opportunity to move forward with qualitative, cost effective government services and a better relationship between citizens and government (Fang, 2002). The potential benefits of using ICT in government include, but go beyond, efficiency and effectiveness. By making available interactive access to and use of information by people who use government services, e-Governance initiatives hope to empower citizens (Gage, 2002) and improve relationships between governments and citizens by helping build new spaces for citizens to participate in their overall development (Gasco, 2003). However, if e-Governance initiatives are to curb corruption then the design of such systems needs an appropriate conceptual framework and needs to be understood by policy makers and public managers (Cisar, 2003; Mahmood, 2004; Tangkitvanich, 2003).

E-government is believed to reduce corruption by prompting good governance and strengthening reform-oriented actors. Specifically, e-government can reduce corruption behaviors by externally enhancing relationships with citizens internally by effectively controlling and monitoring employee's behaviors (Ndou. 2004); Dong & Tae, 2007). In addition to E-government impact on combating corruption, there are several compelling case studies. In the areas of internal control, the successful cases are OPEN (Open Procedures Enhancement for Civil Application) system of Seoul Municipality (Kim, Lee, 2009), which reduced human intervention in corruption prevention and e-procurement system in Brazil (Von Halddenwang W. 2004).

E-governance in Combating Corruption

One of the ways to combat corruption is by automating G2C interactions that lie at the heart of e-Society. A critical component of e-society refers to the digital content that users can access. User interactions with digital or electronic means have been grouped in a number of ways (Homburg and Bekkers, 2002 & Karlins, 2005). The introduction of ICT can reduce corruption by improving the enforcement of rules, lessening the discretion of officials, and increasing transparency. Yet, while ICT eliminates many opportunities for corruption for those who do not understand the new technology fully, it opens up new corruption vistas for those who understand the new systems well enough to manipulate them. Proper safeguards are needed. E-government is the use of information and communication technology (ICT) to promote more efficient and cost-effective government, more convenient government services, greater public access to information, and more government accountability to citizens. ICT-enabled reforms can yield many benefits, including lower administrative costs, faster and more accurate response to requests and queries every day.

Another reason for relatively slow ICT adoption by financing accountability, government agencies need to go through a lengthy process of secure problems. To prevent undue influence of any one official, many decisions along the way are made by committees, which can lead to an unclear focus as compromises are made. In the Philippines,

the Department of Budget and Management (DBM) has established an online e-procurement system (http://www.procurementservice.org/) that allows public bidding for suppliers to meet government needs. The system has reportedly led to increased transparency in transactions, and is favorably regarded by suppliers (http://www1.worldbank.org/publicsector/egov/philippines_eproc.htm).

In Thailand, Asian Development Bank (ADB) is working with the Asian Foundation to strengthen National Counter Corruption Commission (NCCC) and senate procedures for impeachment, to develop a strategic plan to help the Office of the NCCC better carry out the expanded mandate of the office under the new constitution, and to strengthen civil society's capacity for advocacy and monitoring accountability mechanism (ADB, 2001). ADB, support a pilot project to computerize the task of identifying corruption abuses. At present, the NCCC must process paper forms and financial reports for thousands of government officials. In Seoul, Republic of Korea, the Online Procedures Enhancement for Civil Applications (OPEN) allows citizens to monitor applications for permits or approvals where corruption is most likely to occur, and to raise questions in the event of any irregularities detected. Examples of civil applications are: Building Permits and Inspections, Approval and Sanction of Entertainment Establishments & Song Bars, Decision and Change of Urban Development Plans (http://english.metro.seoul.kr/government/policies/anti/civilapplications/index.cfm).

Transparency and Corruption

The primary factors that contribute to the growth of corruption are the low probability of discovery, and perceived immunity against prosecution. Secrecy in government, restrictions on access to information by citizens and the media, ill defined/complex and excessive rules, procedures and regulations can all lead to a low chance of discovery. A lack of transparency in the functioning of the government agencies can make it easy for the perpetrators to cover their tracks and unearthing corruption becomes very difficult. The weak character of institutions which are supposed to investigate charges of corruption and prosecute the guilty as well as an inefficient or corrupt judiciary further exacerbate the problem of corruption and facilitate immunity against prosecution. E-governance is the use of ICT by Government, civil society, political institutions to engage citizens through dialog and feedback to promote greater participation of citizens in the process of governance of these institutions. For example e-governance covers the use of the Internet by politicians and political parties to elicit views from their constituencies in an efficient manner or the ability of civil society to publicize views which are in conflict with the ruling powers. Many governments have chosen to go on-line in departments such as customs, income tax, sales tax, and property tax; which have a large interface with citizens or businesses and are perceived to be more corrupt. For instance, the online registration of Joint Admission Matriculation Board (JAMB) has brought in some kind of transparency on the issue of admission into Nigerian public universities. Procurement by government is also seen to be an area where corruption thrives. The very process of building an on-line delivery system requires that rules and procedures are standardized across regions and made explicit (amenable for computer coding). Web publishing of Government information builds accountability by providing documentation to citizens to substantiate their complaints against corrupt practices. Increasing access to information, presenting the information in a manner that leads to transparency of rules and their application in specific decisions, increasing accountability by building the ability to trace decisions/actions to individual civil servants represent the successive stages in the hierarchy.

Impacting Corruption through E-Government: the Way Forward

Although there are some evidences that use of ICT in Government can also enhance opportunities for corruption (Richard, 1998). However e-government reduces corruption in several ways. It increases chances for exposure by maintaining detailed data on transactions, making it possible to track and link the corrupt with their wrongful acts. E-government can be used to combat corruption in two ways. First, e-government can become one of the key components of a broader anti-corruption strategy as is demonstrated by the OPEN system installed in the Seoul municipality in Korea. By reducing administrative corruption in service delivery, e-government can reduce the tolerance for corruption amongst citizens who would no longer be required to compromise their honesty by paying a bribe to public officials. E-government can lead to transparency provided that the legal framework supports free access to information. Most developing countries are not fully ready to embrace a comprehensive program of e-government.

According to (Wei Zhang, Yu Zhang & Bo Wang, 2011), China's efforts on E-anticorruption promotion was classified into four categories based on the information communication theory application, which illustrates the whole process of information flow as orderly sequences of information generation, delivery, share, analysis and feedback. They are making government information public, monitoring of real-time governmental behaviors and collecting the online public opinions, analyzing high-risks of corruption points and making possible prediction, and sharing the corrupt-information with interrelated bodies. The following strategies are used:

- Information publicizing, basic components of transparent government. Anti-corruption system forced public servants to behave normally by increasing interaction with the public as the manipulation of government relevant power is more authoritative and fair.

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- Instant monitoring: To be active in analyzing corruption situation, anti-corruption system needs strong data support. As input of the system, data should be firsthand collected and trustworthy. The resource of data mainly contains electronic supervision, statistics of business activities and general information pertaining online public opinion, e.g. online-reporting.

- Preventing and control: Preventing corrupt activities is the most valuable part in the whole anticorruption process as a core function of the system. By analyzing the data automatically, systems alert when abnormal conditions appear. As a main part of output, preventing/warning function react on earlier stages and lessen adverse effects of corruption.

- Data sharing: Each system has database to store involved information during ordinary operation, but for the technical and communicational limitation in collecting information, database cannot support completely dependable and requisite information used for scientific analysis. In this time, data sharing between different systems is necessary.

CONCLUSION

The rapid development and diffusion of (ICT) have led to the notion of e-government which is quickly embraced by many governments. Using ICT, especially the Internet, governments not only can link databases in different departments to streamline the back-end of public administration processes, but also can improve the interface through which governments interact with their citizens (Mahmood, 2004). Having largely evolved from the e-business framework, the services provided in respect to e-government have now evolved from websites offering basic government information to more value-added transactional-level services that offer convenience, efficiency, and transparency (Dwivedi et al., 2009). By reducing administrative corruption in service delivery, e-government can reduce the tolerance for corruption amongst citizens who would no longer be required to compromise their honesty by paying a bribe to public officials. In addition a massive societal education effort is required to reinforce fundamental values like honesty. E-government can lead to transparency provided that the legal framework supports free access to information. Until a few years ago most countries still had strict national secrecy laws. Secrecy laws are still in effect in much of the developing countries. Most developing countries are not fully ready to embrace a comprehensive program of e-government. Rather than wait for total readiness, an approach of learning by trial and consolidating small gains is recommended. Corruption is rooted in the cultural, political, and economic circumstances of those involved.

The introduction of ICT can reduce corruption by improving the enforcement of rules, lessening the discretion of officials, and increasing transparency. Yet, while ICT eliminates many opportunities for corruption for those who do not understand the new technology fully, it opens up new corruption vistas for those who understand the new systems well enough to manipulate them. Therefore proper safeguards are needed. Improving the enforcement of rules is clearly the best way to combat corruption. The introduction of e-Government can play a major role in this context as it automates several processes. Automating existing bureaucratic processes that are defective will not yield good results. In this paper, we propose a methodology to combat corruption using information and communication technologies (ICT) that entails process restructuring. While e-Governance holds great promise in many developing countries, however substantial challenges are to be tackled. Many ICT projects fail because of insufficient planning capacity and political instability.

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REFERENCE

ADB, 2001. Technical assistance to Thailand for strengthening accountability mechanisms (Online). Available: http://www.adb.org/Documents/TARs/THA/R86-01.pdf

Cisar, O. 2003. Strategies for Using Information Technologies for Curbing Public-Sector Corruption: The Case of the Czech Republic (CR). Budapest: Open Society Institute.

Dong Chul Shim and Tae Ho Eom, (2007). "E-Government and Anti-Corruption: Empirical Analysis of International Data," International Journal of Public Administration, vol. 31,pp. 1–35, Dec.2007,doi: 10.1080/01900690701590553.

Dorotinsky, B. (2003). Technology and Corruption: The Case of FMIS, Presentation delivered at International Anti Corruption Conference Seoul Korea, 26 May 2003.

Dorotinsky, B. (2005). IFMIS, PEM, and Anti-corruption, Presentation delivered at Anti Corruption Thematic Groups One Day Clinic on Building ICT Applications for Combating Administrative Corruption, 21 April 2005, Washington, DC.

Dwivedi, Y. K., Weerakkody, V., and Williams, M. D. (2009). Guest editorial: From implementation to adoption: Challenges to successful E-Government diffusion. Government Information Quarterly, 26, pp. 3-4.

Fang, Z. 2002. E-Government in Digital Era: Concept, Practice and Development. International Journal of the Computer, Vol. 10(2), pp. 1-22.

Garcia-Murillo, M. & Vinod, H.D. (2005). Opening to the World: The Effect of Internet Access on Corruption. Available from http://web.si.umich.edu/tprc/papers/ 2005/478/ppr%20corruption%200.pdf (Accessed 23 January 2007).

Gage, J. (2002). Some thoughts on How ICTs Could Really Change the World. In The Global Information Technology Report 2001-2002: Readiness for the Networked World, Center for International Development, Harvard University.

Gasco, M. (2003). New Technologies and Institutional change in Public Administration. Social Science Computer Review, Vol. 21(1), pp. 6-14.

Homburg, V. and Bekkers, V., (2002). "The Back-Office of E-Government," Proceedings of the 35th Hawaii International Conference on Information Systems, (9 pages).

Fangzheng, (2010). Information Office of the State Council. The People's Republic of China, China's Efforts to Combat Corruption and Build a Clean Government. Beijing: Fangzheng, 2010.

Jibril, A. (2010). Corruption has long history in Nigeria. Vanguard paper- Nigeria. Monday 1st November, 2010.

Kaufmann, D., Kraay, A. & Mastruzzi, M. (2003). Governance Matters III: Governance Indicators for 1996-2002. Available from http://siteresources.worldbank.org/ INTWBIGOVANTCOR/Resources/govmatters3_wber.pdf (Accessed 23 January 2007).

Kaufmann, D., Kraay, A. & Mastruzzi, M. (2005). Governance Matters IV: Governance Indicators for 1996-2004. Available from http://www.worldbank.org/wbi/ governance/pdf/GovMatters%20IV%20main.pdf (Accessed 23 January 2007).

Lambsdorff, J.G. (2001). How Corruption in Government Affects Public Welfare: A Review of Theories. Center for Globalization and Europeanization of the Economy Discussion Paper 9, Göttingen, Germany.

P. Larmour and N. Wolanin, eds. Corruption & Anti-corruption, (Canberra: Asia Pacific Press, 2001), pp. xxii – xxiii.

Mahmood, R. (2004). Can Information and Communication Technology Help Reduce Corruption? How So and Why Not: Two Case Studies from South Asia, Perspectives on Global Development and Technology, Vol. 3(3), pp. 347-373.

Ndou,V . (2004). "E-Government for Developing Countries: Opportunities and Challenges," The Electric Journal on Information Systems in Developing Countries , Jan. 2004, pp.1–24.

"Philippines Pilot E-Procurement System", World Bank (Online). Available: <http://www1.worldbank.org/publicsector/egov/philippines_eproc.htm>

Prahalad, C.K. (2005). The Fortune of the Bottom of the Pyramid. Eradicating Poverty through Profits. Wharton School Publishing, United States of America.

Rose-Ackerman. S. (1999). Corruption and Government: Causes, Consequences, and Reform. Cambridge University Press, United Kingdom.

Richard Heeks (1998), Information technology and Public Sector corruption, September 1998, http://idpm.man.ac.uk/idpm/ispsm4.pdf

Seoul Metropolitan Government: Anti-corruption procedures (Online). Available: http://english.metro.seoul.kr/government/policies/anti/civilapplications/index.cfm.

hah, A. & Schacter, M. (2004). Combating Corruption: Look Before You Leap. Finance & Development, December. Available from http://www.adb.org/Documents/ Conference/Fight_Corruption/part1.pdf (Accessed 17 January 2007).

Seongcheol Kim, Hyun Jeong Kim and Heejin Lee,("An institutional analysis of an e-government system for anti-corruption:The case of OPEN, "Government Information Quarterly, vol.26, pp. 42-50, January 2009,doi: 10.1016/j.giq.2008.09.002.

Talero, E. (2005). Reducing Corruption through Electronic Procurement, Presentation delivered at Anti Corruption Thematic Groups One Day Clinic on Building ICT Applications for Combating Administrative Corruption, 21 April, 2005.

Tangkitvanich, S. (2003). Designing E-government Services to Combat Corruption in Developing Countries. The ASEM Conference on Globalisation and ICT. 10–12 March, Malmö and Helsingborg, Sweden Session IIB, March 1. Thailand Development Research Institute, Thailand.

Von Haldenwang, W. (2004). "Electronic government and development, "The European Journal of Development Research, pp.417–432.

Wei Zhang, Yu Zhang & Bo Wang, (2011). E-government application in Combating Corruption: Chinas' Case. International Conference on Information Management, Innovation Management and Industrial Engineering.

Yum, J.H. (2003). Enhancing Public Procurement Transparency through ICT. Anti Corruption Conference (IACC) Seoul, Korea Workshop 26th May, 2003.

Yum, J.H. (2005). Enhancing Transparency through Government e-Procurement System. 11th International Anti-Corruption Conference. 25-28 May 2003 Seoul, Korea.