E-PUBLIC SERVICE DELIVERY SYSTEM:
AN EFFECTIVE STRATEGY OF DECENTRALIZATION, GOOD GOVERNANCE, AND SOCIOECONOMIC DEVELOPMENT

By

Atul Sarker

THESIS

Submitted to

KDI School of Public Policy and Management

in partial fulfillment of the requirements

for the degree of

MASTER OF DEVELOPMENT POLICY

2014

E-PUBLIC SERVICE DELIVERY SYSTEM:
AN EFFECTIVE STRATEGY OF DECENTRALIZATION, GOOD GOVERNANCE, AND SOCIOECONOMIC DEVELOPMENT

By

Atul Sarker

THESIS

Submitted to

KDI School of Public Policy and Management

in partial fulfillment of the requirements

for the degree of

MASTER OF DEVELOPMENT POLICY

2014

Professor Changyong Choi

E-PUBLIC SERVICE DELIVERY SYSTEM:

AN EFFECTIVE STRATEGY OF DECENTRALIZATION, GOOD GOVERNANCE,

AND SOCIOECONOMIC DEVELOPMENT

By

Atul Sarker

THESIS

Submitted to

KDI School of Public Policy and Management

in partial fulfillment of the requirements

for the degree of

MASTER OF DEVELOPMENT POLICY

Committee in charge:

Professor Changyong CHOI, Supervisor

Professor Abraham Joseph SHRAGGE

Professor Seulki CHOI

Approved as of May, 2014

ABSTRACT

E-PUBLIC SERVICE DELIVERY SYSTEM:
AN EFFECTIVE STRATEGY OF DECENTRALIZATION, GOOD GOVERNANCE, AND SOCIOECONOMIC DEVELOPMENT

By

Atul Sarker

Effective public service delivery is a big challenge for public sector; either it is infested with corrupted mechanisms or inefficient management. Developing countries are more vulnerable to ensure the basic necessities where chitizens are frequently harassed or deprived of receiving their expected services. Manual service delivery system, ineffective public policies, vested interest of both public representatives and officials, resource constraints, and information asymmetry mainly create this gap between citizen and government mechanism. In spite of having decentralized governance system, in many cases the concept does not work properly, because the system itself not transparent and accountable. The main purpose of decentralization is to serve people in their doorsteps to ensure good governance and socioeconomic development, but in an existing decentralized system, the delivery process of public services could be easily manipulated by influential groups and eventually diminish the development. In this dilemma, an accountable and transparent service delivery system, for example **"e-Public Service Delivery System"** might be a dynamic solution to mitigate these social problems. According to the UN E-Government Survey 2012, both anecdotal and empirical data shows, the countries where ICT penetration is high, enjoy better socio-economic standards like as Korea. Their service delivery

systems are fully integrated with ICT; hence, e-PSD system is more responsive, open and citizen centric. Finally, it engages all the stakeholders including civil societies and medias with the government mechanisms and secure the quality of decentralization, good governance and socioeconomic development.

Key words: Public Service Delivery System (PSD), electronic (e), accountability, transparency, openness, good governance, socioeconomic development, citizen centric, vested interest, and manipulation.

Dedicated to lovely Parents and KOICA

ACKNOWLEDGEMENTS

I am very much enthusiast to convey my abyssal appreciation to the eminent advisers 1. Professor Choi, Changyong, and 2. Professor Shragee, Abraham Joseph, 3. Concerned members of research and evaluation team of KDIS, and 4. Above all the profound talented faculties of KDI School of Public Policy and Management and awesome learning environment of this prestigious institution, that encouraged and made me courageous to write this thesis. Moreover, the contribution of the very rich and equipped library and its dedication to the students, associate course mates, all the members of KOICA, KDI, KDIS, the government of the Republic of Korea, and the hospitality of Korean People played a pivotal role in the completion of my endeavor.

On the way my graduation (Master of Development Policy), this thesis is the final touch and it has been bestowed me to be honored as a professional in the field of sustainable development and development economics. I believe the finding of this thesis might be able to provide cognitive contents to the development thinkers and policy makers in ensuring effective decentralization and good governance with transparency and accountability in order to achieve socioeconomic development. Constructive criticisms of any opinion or discussion of this thesis would be appreciated for its further development.

Finally, I would like to express my special gratitude and thanks to my mother, father, sisters, brothers, friends, and colleagues in the People's Republic of Bangladesh for their love, encouragement and cordial supports.

TABLE OF CONTENTS

LIST OF TABLES

Chapter I

Chapter III

Chapter IV

LIST OF FIGURES

Chapter I

Chapter II

Chapter III

Chapter IV

ACRONYMS

C2G Citizen-to-Government
e-PSD Electronic Public Service Delivery
G2C Government-to-Citizen
G2G Government-to-Government
G2E Government-to-Employee
GDP Gross Domestic Product
GII Government Information Infrastructure
GNI Gross National Income
HCI Human Capital Index
HDI Human Development Index
ICT Information and Communication Technology
IM Instant Messaging
ISP Internet Service Providers
ITU International Telecommunication Union
LDC Least Developed Country
NGO Non-Governmental Organization
OECD Organization for Economic Cooperation and Development
OSI Online Service Index
PPP Public-Private Partnership
SMS Short Message Service
S/C Sub Claim
UNDESA United Nations Department of Economic and Social Affairs

Chapter - I

Title: e-public service delivery system: an effective strategy of decentralization, good governance, and socioeconomic development.

1. Introduction

In public sector management, street-level bureaucracy or service providers frequently face tremendous pressure or challenges to provide accountable and transparent services to the citizens, especially in developing or least developed countries, due to the existing manual service providing systems. People become harassed from getting of their required services, for example in health, nutrition, sanitation, education, security, and social safety net program; that ultimately creates hindrance in the spirit of decentralization, good governance, and socioeconomic development. Political and bureaucratic inefficiency or red-tape complexities, lack of accountability and transparency usually generate these unexpected problems. Sometimes it happens intentionally or sometimes unintentionally but the deserving people are deprived in many cases. Literally, the term decentralization brings the authority and responsibility of the central government to local governments in order to provide prompt delivery of public services. It is a well-supported concept of many scholars and institutions' including the World Bank and IMF that decentralization is the effective way to ensure the citizen's rights and good governance. *But does it really work in practice?*

In many developing countries, in spite of having a long practice of decentralized local governments, supported by institutions, finance and staff, officials frequently fail to provide proper social assistances to the beneficiaries on behalf of the state or central government, because of either their own vested interests or political interests. As a result citizens do not get

their services timely and properly. Even in relief disbursement during natural calamities, according to Shahzada, Tanvir and Iftekharuzzaman, "patronage of influential individuals including public representatives and institutions within or outside the government is often a pre-requisite for becoming eligible for receiving relief."[1] Citizens are either affected by the biases or partiality of service providers or they are bound to give bribes to get desired services. One of the main reasons for these scenarios, existing manual service delivery systems, infested with a lot of significant drawbacks could not mitigate the demand of effective decentralization and good governance. An e-delivery system of public services is almost free from those ingredients that diminish the value of transparency and accountability. Moreover, it improves the quality of decentralization. For example, in South Korea most of the services are provided electronically. This system reduces unnecessary distress and the scope of nepotism and corruption significantly. In spite of some complexity of "the digital divide," a disparity in adopting the benefits of ICT creates a gap among the stakeholders; a digitized service delivery system with proper literacy and access to ICT has the capability of enhancing decentralization, reducing corruption, and establishing good governance and socioeconomic development.

1.1. Statement of the Problem

On one side, the prevailing manual delivery system is not sufficiently capable to maintain neutrality and equity in social service delivery. On the other hand, ensuring citizens' rights and proper resource allocation is one of the fundamental conditions of decentralization and good governance. In this dilemma, an e-delivery system of essential public services is quite efficient to ensure accountability and transparency in the delivery of public services. Constitutionally, a state has the responsibility to serve its people without compromising any group or personal interest

[1] Shahzada M Akram, Tanvir Mahmud, Iftekharuzzaman, *December 18, 2007;* Integrity in Humanitarian Assistance: Issues and Benchmarks, 10.

and greed, race, religion, ethnicity, culture, and political influence. In this situation, a digitized service delivery system (DSDS) could be an effective strategy to provide state services to the people efficiently which eventually pave the way for socioeconomic development.

1.2. Purpose of the study

The main purpose of this thesis is to illuminate the differences between e-delivery and manual delivery system of public services and its relationship with decentralization, good governance, and socioeconomic development. In order to justify the argument, this paper reviews the literature on local governance and public management capacity and a set of indicators that measure enhancement to transparency and accountability in local governance especially in the public service delivery system in developing countries. This paper also conducts several case studies of "local governments in the People's Republic of China (hereinafter called China) and the Republic of Korea (hereinafter called Korea), and reviews the literature on innovative local government practices in Southeast Asia."[2] This thesis aspires to depict theoretical and practical instances on how to develope the quality of service delivery through the implementation of a digitized service delivery system that can be used as an efficient electronic tool for adopting development policies and further advancement of public sector management. Any suitable electronic device, for example Smartphone, Laptop, Desktop, Television, Radio, and Internet connectivity could be considered as the medium of service delivery.

To provide citizen-centric services, many developing countries like Korea, China and India have adopted a digitized *social service delivery* system due to its effectiveness. The term Social Service includes all types of public services that are provided through local government and public departments to the grass-roots and urban inhabitants to uphold their life standards and

[2] Soonhee Kim, Management Strategy for Local Governments to StrengthenTransparency in Local Governance, Good Governance Research-1,UNPOG PublicationCopyright: United Nations, 2009,7.

ensure fundamental necessities. For example, in Bangladesh there is a legal system to provide more than 80 types of social services such as Vulnerable Group Feeding (to provide food and other emergency assistance to disaster victims), Maternity Allowance for the Poor Lactating Mothers (to ensure safe motherhood, better health and nutrition of mothers, and safe birth and sound upbringing of infants), and Old Age Allowances through local public representatives and officials. During these service deliveries, destitute citizens are frequently deprived of these services, due to inefficient service delivery and selection processes. Opportunistic and cunning local leaders and officials frequently manipulate the existing systems, in spite of having many rules and regulations. As a result, a state's noble initiative does not find intended outcomes.

1.3. Descriptions of Relevant Terms

1.3.1. Public Service

The term Public Service refers to those services , for example education and health care, that are provided by a government in order to improve and maintain socioeconomic development. It is the global trend and state responsibility to ensure the basic services for its citizens for national and international development. In spite of this essential requirement, to get access in public services in developing countries, for example in Bangladesh is highly constrained by several anti-development factors such as incapabilities of service providers, political interventions, nepotisms, biases and corruptions. Inefficient service delivery worsens the poverty situation through restricting proper resource allocation and the rule of laws, and eventually it hindrance the socioeconomic development. In contrast, transparent and accountable service provision helps people to transition out of poverty.

Depending on the importance of effective public service delivery, various global organizations including the World bank and the IMF have taken several reform measures to

improve its quality. Even both MDG's and SDG's one of the main agenda is poverty eradication, moreover SDG's have set the target to end poverty by 2030. But to combat poverty, it requires to mitigate some essential social needs of people such as education, health, nutrition, shelter and cloth. Many of these basic needs are managed by the state mechanism, where empirical data shows, in many cases the deserved people do not get their state service properly either for inefficiencies of service delivery mechanism or resource constraints. So, for an optimum utilization of resources requires transparent and accountable service delivery mechanisms, for example e-PSD system, in order to ensure social accountability and justice, that are inevitable elements of socioeconomic development.

1.3.2. Decentralization

According to the WB Independent Evaluation Group (IEG), *decentralization* is "a process of transferring responsibility, authority, and accountability for specific or broad management functions to lower levels within an organization, system, or program."[3] It can be classified as administrative decentralization, fiscal decentralization and political decentralization. It is one of the preconditions of good governance and the main purpose of decentralization is to provide services to the targeted population effectively. Including World Bank, IMF, and UNDP, the various global organizations have always strongly advocated for this and have sometimes imposed conditions on the developing countries before providing loans, grants or humanitarian assistance. As a result, most of the aid-seeking countries have converted their centralized governance system into a decentralized form without adopting efficient operational measures due to their inefficiency or lack of resources. This type of decentralized system is not able to mitigate the local demands of bringing the governance to the local level. So the service seekers

[3] Decentralization in Client Countries: An evaluation of World Bank Support, 1990-2007, Independent Evaluation Group. XI, 04. http://lnweb90.worldbank.org/oed/oeddoclib.nsf.

are either deprived of their rights or purchase their legal rights (that the state provides free or at a subsidized rate) by bribe. Year after year these things happened before introducing an electronic service delivery system or e-governance. Now in many developing and developed countries, people are enjoying the real test of decentralization through an internet-oriented mechanism.

One of the much discussed and simplest arguments in favor of decentralization is that, this system accelerates public services in a promt manner and enables governments more effective and responsive as priority basis. It increases the citizens' security and eventually an effective decentralization ensures proper accountability. But in the context of developing or least developing countries, for example Bangladesh, where political influence is one of the inevitable issues in every decision making or public service delivery process, it is really tough to justify the effectiveness of this claim without having any transparent public service delivery mechanism. In this situation only ICT could be an efficient tool to make a bridge between decentralization and accountability. Many local government experts or some empirical evidences claim, citizens' participation in the local governments' decision making process like 'Gram Sabhas' (meeting of the village people) in India and Bangladesh, improves their access to government resources. "For instance, a 2005 study by Timothy Besely, Rohini Pande and Vijayendra Rao find that gram Sabha meeting are positively correlated with better targeting of BPL (Below Poverty Line) cards to the poor villagers. Interestingly, they also find the odds of politician's household receiving a BPL card is lower in villages where gram Sabha's were held suggesting that gram Sabha's can in fact have a "disciplinary effect" on local political behavior thus ensuring greater accountability."[4] But the opposite scenario is not also uncommon. At many times the decision what is taken in the gram Sabha's, become changed by political pressure or vested interest of the

[4] Yamini Aiyar, *Why decentralization matters* , "Accountability Initiative, research and innovation for governance accountability", India, Posted on 21-05-2013, http://www.accountabilityindia.in

concern people of public representatives and officials. The villagers could not protest or their allegations are ignored due to lack of transparent evidence of their decisions. The cunning decision makers either manipulate or hide real decisions of the meeting. Due to lack of data or specific information, the citizens' could not raise their strong voice against these unaccountability or dishonesty in spite of having their participation in the initial decision making process. But, if the taken decision would publish electronically instantly or if citizens' would have an individualistic published date, it would be very difficult to alter the public opinion by the self-interested groups. So, only public participation does not always provide a guarantee of accountability and transparency. ICT as a tool, can enhance its potentiality.

1.3.3. Good Governance

Good governance is related to accountability, transparency and rule of law, responsiveness, and equity. According to the Human Rights, "There is a significant degree of consensus that good governance relates to political and institutional processes and outcomes that are deemed necessary to achieve the goals of development. It has been said that good governance is the process whereby public institutions conduct public affairs, manage public resources and guarantee the realization of human rights in a manner essentially free of abuse and corruption, and with due regard for the rule of law. The true test of 'good' governance is the degree to which it delivers on the promise of human rights: civil, cultural, economic, political and social rights. The key question is: are the institutions of governance effectively guaranteeing the right to health, adequate housing, sufficient food, quality education, fair justice and personal security?"[5] In most of the cases institutions are not effectively capable to ensure the public right. Among the various

[5] Good Governance and Human Rights. United Nations Human Rights, Office of the High Commissioner for Human Rights. http://www.ohchr.org/EN/Issues/Development/GoodGovernance/Pages/GoodGovernanceIndex.aspx.

constraints, lack of transparency and accountability is more common hindrance which eventually diminishes the value of decentralization and good governance. Both of the terms are closely associated and in the absence of anyone, the whole cycle becomes ineffective. To minimize this major gap, e-PSD system could be utilize an efficient tool to improve the Management Framework and the capabilities of the Institutions.

According to Kofi Annan, former Secretary General of the United Nations, "Good governance is perhaps the single most important factor in eradicating poverty and promoting development."[6] And essential public services like as food, shelter, health care, education, agriculture, water and sanitation are catalytic factors of development which reduces poverty and ensures human development. Mostly public sector (one of the actors that contribute to good governance) holds the responsibility to disbursement these services among the citizens. But one significant problem is that in many cases, public sector in a manual service delivery system which is characterized by less interaction or no interaction with other good governance actors, for example civil societies and private sectors (figure1), does not efficient enough comparing to e-service delivery service system due to lack of openness and transparency. Most of the developing and least developed countries still very lag behind in the digitization of their public service delivery system. Without effective interactions of the major actors of good governance, it is difficult to achieve expected development. So, for effective interventions of good governance requires such

Figure 1: Vision for Change

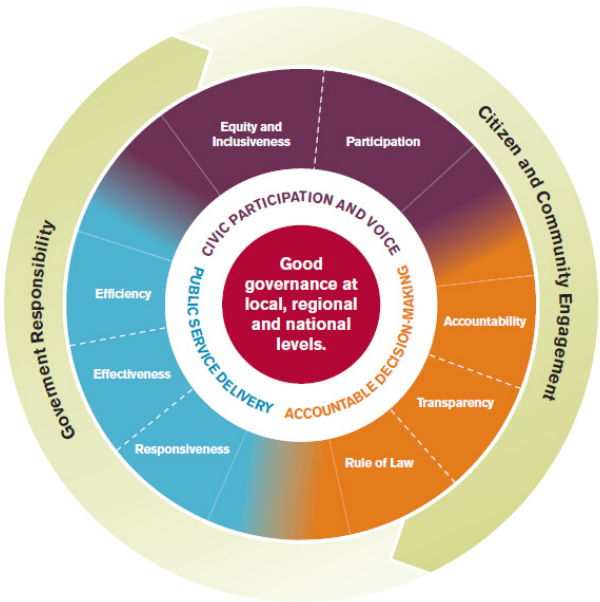
Source : Guide to Good Governance Programming ***http:// mercycorps.org***

[6] Regina Birner, Improving Governance to Eradicate Hunger and Poverty, 2020 FOCUS BRIEF on the World's Poor and Hungry People, 2007 International Food Policy Research Institute. http://www.ifpri.org/sites/default/files/publications/beijingbrief_birner.pdf

a mechanism (for example e-psd) that can make a bridge among the actors in order to improve the institutional management capacity, transparency and openness.

According to the UNDP's e-Governmnet Survey 2013 and Corruption Perception Index 2013 of TI, it is explicitly illustrated that the countries which have good governance, comparatively they secured a better position in the concerned rankings, even their Human Development Index is also high. Empirical data shows, most of the countries on these lists, provide their public services electronically. Their digitized service delivery system successfully engaged their citizens with the government decision making process, enhanced transparency and accountability, reduced corruption and ensured better economic advancement. The following framework (figure-2) of good governance depicts how the essential factors of development are interconnected with good governance. Effective participation of civil societies and their voice,

Figure-2 : A Framework for Good Governance



Source : Guide to Good Governance Programming, http:// mercycorps.org

Public service delivery, and Accountable decision-making play a pivotal role in desired development. It is the equal responsibility of all of the major actors (figure-1) to play the role of

"accountable, participatory, transparent, responsive, equitable and inclusive, and follows the rule of law. It assures that corruption is minimized, the views of minorities are also taken into account and that the voices of the most vulnerable in society are heard in consensus oriented decision-making. It is also responsive to the present and future needs of society."[7] In this way ICT oriented common platforms minimize information asymmetry, create a linkage among the stakeholders and bring the positive changes towards good governance and development.

1.3.4. Digital Divide

The term *Digital Divide* indicates a disparity in accessing opportunity to the technologies and resources of the information and communication among advanced and backward individuals, households, business and geographic areas at different socioeconomic levels. Due to poor access in the internet and lack of ICT knowledge, digital divide might diminish the benefit of e-governance. But it cannot be an excuse to abstain from using the latest tools of modern technology. While many developed countries like the USA and UK are still suffering from this, so it is not unexpected that developing and underdeveloped countries have not to face the same discomfort due to their ignorance and illiteracy. However, easy access to internet through smart phone and rural ICT centers can play a pivotal role to minimize the digital divide. For example, in India, many important social services are being provided to the stakeholders in their local languages through mobile communication and in Bangladesh, *Mobile Banking* gradually becoming more popular to the rural people. "Friendly" mobile phone technology and the Smart Identity Card (that contains core data of the cardholder's, including biometrics) can create a bridge between users and technology. According to Bertot and McClure, "[a] citizen-oriented approach can decrease the identified gaps between government service providers and users. And

[7] Mercy Corps, Guide to Good Governance Programming, http://www.mercycorps.org/sites/default/files/mcgoodgovernanceguide.pdf

as well, this can increase the use of E-Government service, increase the impact of those services, and increase user interaction with government."[8]

Digital Divide varies depending on the type of technologies, users' age and capacity, functionality of the devices, availability of technologies, language and relevancy with the necessities of daily life, and contents. If information or functions of digital devices are implicitly essential for daily life or associated with individual needs, then its users become more attentive to be accommodated with the devices. Indeed, digital device itself does not reliable for creating a digital divide, complexities of uses, nature of necessities and language barriers play more important role to create the divide. That's why many countries where English is not the first language, creating their digital contents in local languages to make a bridge between users and digital devices. Users obtain different levels and types of access depending on their requirements and to mitigate demands. These attempts influence the user capabilities and minimize the divide. In the case of essential public services which have an acute demand to citizens, digital divide could not restrict them to get the services if those services are served properly. For example, in Bangladesh where the majority of the total population still lives in village, basic level of education is not satisfactory and many of them live in extreme poverty, yet most of them are used to using one or several *Mobile Phones* (68.35% as of August 2013, BTRC) to maintain their day to day communication and business because of its effectiveness. On an average, every family possesses a mobile phone connection.

"The cost and affordability of ICT is a big issue in many countries, but a bigger one is the lack of knowledge and understanding of the technology. Studies show that over 40 per cent of the world population does not have the opportunity to learn how to use a computer. This

[8] Bertot, J.C., Jaeger, P.T., & McClure, C.R. (2008). Citizen-Centered E-Government Services: Benefits, Costs, and Research Needs. *The Proceedings of the 9th Annual International Digital Government Research Conference*: 137-

is the hardest issue to address, as it implies changes in both education and mentality, as well as investments in e-services. E-governance should play the leading role in creating usable e-government tools, regardless of the level of education. Some governmental websites are very complicated and unfriendly both in access and content. Adopting an integrated and citizen-oriented approach may lead Governments to increase equal opportunities in the use of ICTs."[9] For this, a holistic cooperative approaches among the relevant stakeholders for example central governments to local governments, civil societies, media, academia, professionals, software and IT entrepreneurs and concern national and international organizations are essentially needed. Government as a main actor should play the vital role to create a friendly environment for accessible e-services, understandable ICT contents and effective engagement of social factors in order to minimize the digital divide using the e - PSD system as a tool.

1.3.5. Socioeconomic Development

Socioeconomic Development refers to a development process or situation where social and economic factors that are essentially required for citizens are rationally sufficient to mitigate the demands. Several factors including jobs, employment opportunities, financial stability and accessibility in the local economy, and rule of law's influence socioeconomic development; where a decentralized good governance and a strategic leadership plays a pivotal role to ensure it. In the previous discussion, it has analyzed the impacts of digitized decentralization and good governance in proper resource allocations, transparent and cost effective service delivery, and effective participation in social decision making process. With this a good leadership which has

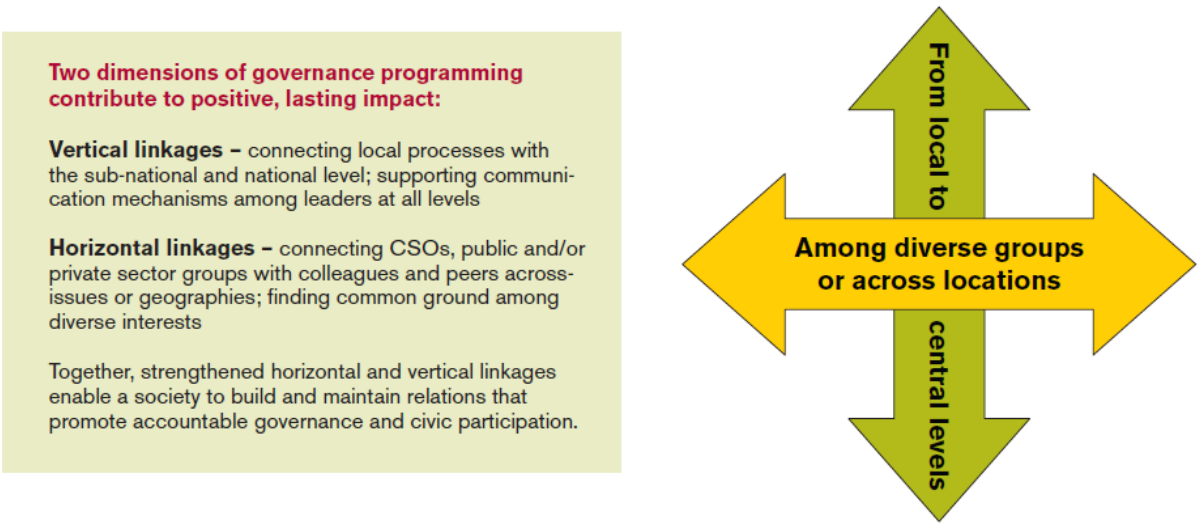
---

142. Montreal, Canada, May 18-211, 2008.

[9] UN Chronicle : Andreea Stoiciu,The Role of e-Governance in Bridging the Digital Divide, Vol. XLVIII No. 3 2011, October 2011. http://unchronicle.un.org/article/role-e-governance-bridging-digital-divide/

the horizontal and vertical impact in the society, acts as a catalyst to facilitate the socioeconomic factors. Eventually it helps the society to achieve desired development (figure: 3).

Figure 3 : Horizontal and Vertical Linkages



Source: Mercy Corps, Guide to Good Governance Programming, *http:// mercycorps.org.*

The ultimate result of effective decentralization and good governance is socioeconomic development. Efficient leadership expedites the effectiveness of good governance (figure 3) and decentralization process. But in reality, most of the developing and least developed country's leadership faces diversified constraints both in the vertical and horizontal levels, towards ensuring th e factors of good governance. Lack of transparency and accountability diminish their authority and trust of the leadership, and eventually it restricts the socioeconomic development. Here, ICT could play a significant role, as a tool of trustworthy leadership, ensuring openness and easy participation of the community people in the entire decision making and implementation process. An ICT empowered leader can easily engage people and local governments with national and international issues and vis a vis global issues to local people. In fact, ICT not only empowers a leader's capabilities, but also make transparent and receivable of leaders opinion and decision. Thus, ICT (for example e-psd) brings people and leader under a

umbrella, and reveals an opportunity to work together in nation building activities which finally ensure socioeconomic development.

"Typically, socioeconomic development involves making changes in current laws and regulations in order to attract new growth and enhance the standard of living for local resident. Changes in laws can make it easier for new industry to move into the area and offer employment at equitable wages. This in turn can aid in motivating the creation of more services that citizens can enjoy, allowing the area to prosper. With the right type of motivation and improvements to the infrastructure, residents are not tempted to move away in order to earn a living or enjoy desirable services, and there is a good chance more people will move into the area and provide further stimulation for the local economy."[10] But in a manual system it is really difficult to disseminate the right and required information throughout the society compared to a digitized system (like e-PSD) which is efficient enough to bring positive changes for socioeconomic development by minimizing information asymmetry and ensuring transparency.

1.3.6. Openness

Convenient public service is a vital component to make a bridge between service providers and receivers. It leads to gain public trust and engages them with governments' decision making process. A digitized service center as a one stop centre enhances the opportunity of citizens or users to get 24 hours open access and instantaneous response that ensures the openness of the public systems and services. Openness is a term that implicitly engages citizens in the government's decision making process and development activities. It is one of the fundamental rights (right to information) of the people to know the whereabouts of their state resources, public services, local and national development initiatives to incorporate themselves as a part of

[10] Wise Geek, What is socioeconomic development? http://www.wisegeek.com/what-is-socio-economic-development.htm.

the Governance. Civil Societies, media, and private sectors all are crucial factors in local and national development process. But without substantive information it is quite difficult to play effective roles in the society. A transparent system like digitized service delivery system might create a linkage between government and non-government stakeholders by creating openness.

1.3.7. Accountability

"Accountability is one of the cornerstones of good governance. It ensures actions and decisions taken by public officials are subject to oversight so as to guarantee that government initiatives meet their stated objectives and respond to the needs of the community they are meant to be benefiting, thereby contributing to better governance and poverty reduction."[11] This amorphous concept always a great concern in development discussion. It indicates to ensure the peoples' right explicitly that are identified by state rules and regulations, global and civic customs, in order to implement social justice. It is one of the guiding factors of effective decentralization, good governance and socioeconomic development.

In public sector management both horizontal and vertical accountability that includes all stakeholders such as public officials-citizens and civil societies-media, are crucial factors to achieve the development goals. Political, legal, and social accountability expedites these development approaches. Indeed, a holistic accountable atmosphere ensures the socio-economic development of a society. No question is that, how a state can ensure an accountable environment in all the spheres of its decision making and implementation process? According to the World Bank, ICT based institutional reform is more effective to generate accountable working conditions in a society. For example, Public sectors could improve their accountability in the case of service delivery by using e-PSD system as a tool.

[11] Accountability in Governance, http://siteresources.worldbank.org/PUBLICSECTORANDGOVERNANCE/Resources/AccountabilityGovernance.pdf.

1.3.8. **Transparency**

Transparency is another vital element of good governance that attracts private sectors and citizens to be a part of government. It makes the government services, rules and regulations and decisions on particular issues transparent to the incumbents for further initiatives. As a consequence of transparency, a trustworthy relationship between the stakeholders motivate the people to play effective role in nation building process. The role of transparency in public sector management is very significant, especially the deserving people who are somehow dependent on government services. ICT base transparency is more efficient to minimize corruption, ensure proper resource allocation, disseminate information, and boost up the public participation in decision making process.

1.3.9. **Public Participation**

"Public participation is the process by which public concerns, needs and values are incorporated into governmental decision making."[12] It involves all relevant stakeholders, improve their capabilities and ensure high quality dialogue which eventually bring socioeconomic development. Its success depends on the mode of participation and its implementation. Moreover, citizens' freedom of speech and assembly, security and their inclusion in the society are also very important. ICT might act as an effective actor to facilitate these issues with the strong assistance of civil societies and media. Though ICT reveals the opportunity to convey opinions, but without analytical capabilities and sufficient knowledge, the general people could not participate effectively. But in the real sense of public participation requires sensible and substantive involvement of citizens.

[12] James L. Creighton, The Public Participation Handbook: Making Better Decisions Through Citizen Involvement, Published by John Wiley & Sons, Mar 21, 2005, Business & Economics 304.

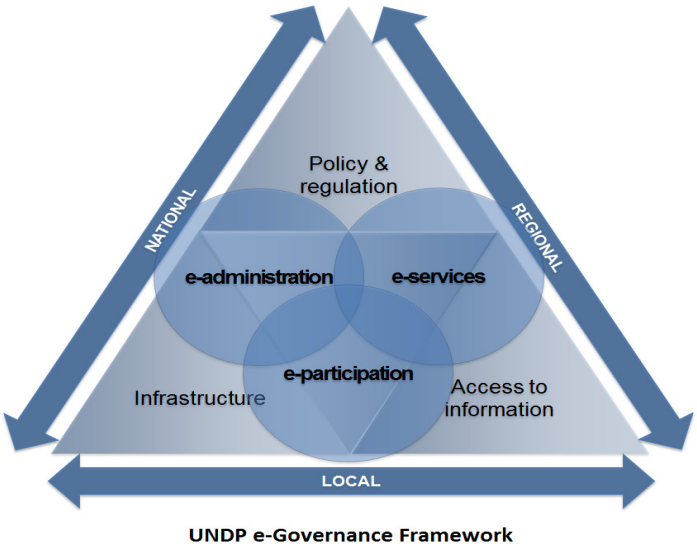
,

1.3.10. e-Governance

The term e-Governance refers a digitized transformation of the government in order to delivery public services to the people and businesses with more transparent, accountable, convenient, cost-effective, and efficient way through information and communication technologies (ICT). It interacts between Government to Citizen, Government to Business, Government to Employee, and Government to Government. It creates more openness, ensures improved resource allocation, enhance rules and regulations, and engage more public participation in the government decision making process which ultimately brings socioeconomic development.

According to the UNDP e-governance framework, e-Governance connects local, regional, and national governance in a same thread through e-administration, e-services, and e-particpation which eventually reduce the decision making time, minimize the so-called bureaucratic red tape problems, and ensures government services to the doorsteps of incumbent citizens (figure 4). "UNDP's approach to e-governance sees citizens as both clients and stakeholders. As clients, citizens have a one-way, low-cost transaction relationship with their government, with governments providing basic services and information to citizens. As stakeholders, citizens play a key role in decision-making processes that directly affect their

Figure 4: e-Government Framework



Source: 2010 Mapping of UNDP E-governance Activities.

lives, by participating in policy design and implementation. Here there is a *particular* focus on reaching and engaging poor, disadvantaged and marginalized populations. In both instances, ICTs can play a *catalytic* and *transformational* role in achieving not only scalable and cost effective service delivery platforms that cater to the most vulnerable but also in creating new and innovative ways of fostering engagement between governments and stakeholders to better shape investment of public resources."[13]

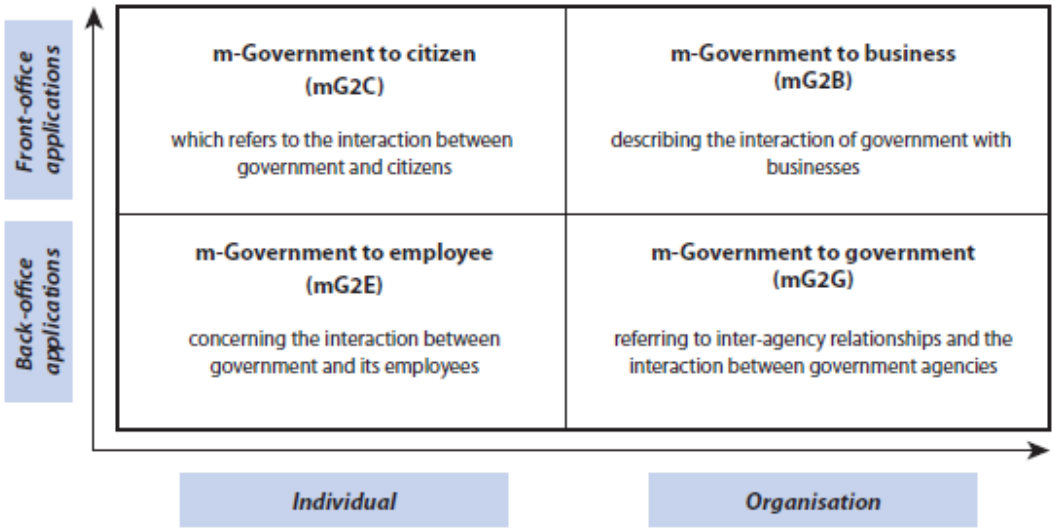
1.3.11. m-Governance

It is the latest form of e-governance where mobile phones are used to provide public services and information dissemination. Due to availability and convenience, mobile phones are now strongest digital device what are used by the maximum number of people competing to any other electronic devices. "M-Government – the adoption of mobile technologies to support and enhance government performance and foster a more connected society –can help improve government performance and strengthen public good governance provided that the emphasis is not placed on the "m". The focus should be indeed on the needs of the public sector and of the end-users, be these citizens or businesses, to ensure that technology is exploited to reorganize the way civil servants work and to meet the needs of citizens through improved service delivery."[14] M-Government expedites the government initiative towards the betterment of the general people with greater cost optimization, improved communications and data coordination, and expanded service delivery. It minimizes the digital divide and improves digital equality. It enhances wider ICT penetration, more personalization of services, cost effectiveness, mobility and ubiquity, faster information flow, better management, green growth and good governance.

[13] 2010 Mapping of UNDP E-governance Activities,www. undpgov.org/mapping/2010.
[14] OECD/International Telecommunication Union (2011), *M-Government: Mobile Technologies for Responsive Governments and Connected Societies*, OECD Publishing. http://dx.doi.org/10.1787/9789264118706-en.

Indeed, both e-governance and m-governance is very essential for effective good governance and socioeconomic development. The main purpose of this thesis is also to demonstrate or justify

Table1: Primary delivery models of m-government



Source: Oui-Suk, Uhm (2010), Introduction of m. Government & IT Convergence Technology, KAIST Institute for IT Convergence.

the effectiveness of e-Public service delivery in effective decentralization which has strong co-relation with good governance and socioeconomic development. Hence, m-governance is a more powerful tool to ensure accountable, transparent and citizen centric services. Moreover, it engages the business, private sectors, civil societies and media more efficiently to the government channels. The target of the e-service delivery concepts of this thesis is not only to improve the quality of decentralization, this e-PSD system is also capable to work in a centralized form of government. For example, when all services are available in electronic channel, then it is less important whether the government system is decentralized or not. Because the main purpose of decentralization to bring the central government services nearer to the local people. In a digitized governance format (e-PSD), citizens could consume their demands in their convenient time and places.

Chapter - II

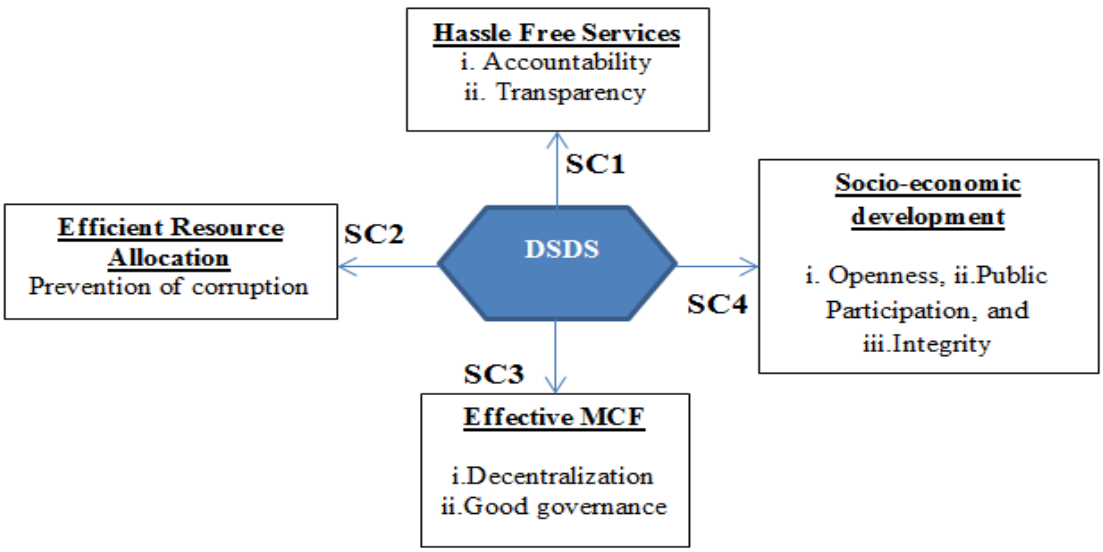
2.1. Thesis Statement

The **main claim** of this paper is, "A digitized (electronic) public service delivery system is an effective strategy of decentralization, good governance and socioeconomic development." In the remaining part of this paper this concept will be discussed in detail and at the same time seek the answers to the following **sub claims**.

- S/C1. A digitized service delivery system (DSDS) ensures distress-free service delivery with accountability and transparency.
- S/C2. This mechanism prevents corruption and ensures proper resource allocation.
- S/C3. DSDS improves the Management Capacity Framework (MCF) that eventually enhances good governance and effective decentralization.
- S/C4. DSDS elevates openness, participation, and integrity in decision making and implementing process, in order to achieve socio-economic development.

Research Model

Figure 1: *Co-relationship between Sub-claims and a digitized service delivery system*



Indeed, an electronic service delivery system can make a revolutionary effect in accountable and transparent public service delivery. But, high speed internet connection, uninterrupted electricity, easy accessibility of ICT equipment and proper literacy, service oriented content and required data are also crucial to ensure effective decentralization and good governance. Improper content and lack of ICT literacy might create a digital divide and discourage people from using ICT. This inefficient situation can diminish the total benefit of digitization. So, a long run vision and policy are needed to achieve desired goal.

2.2. Research Questions

S/C 1. A digitized service delivery system brings government services to the citizens in their homes and offices. In this strategy citizens get access to the services according to their own convenience, instead of visiting the concerned public offices or public representatives personally. An electronic service delivery mechanism reduces waiting time and provides a guarantee of services. In the existing manual system, most of the developing and underdeveloped countries, citizens are usually bound to spend their whole day or in some cases few days, and very frequently they are bound to provide speed money to get their services. These things happen in the dark of governance decentralization under the leadership of public representatives and supervision of public officials. Without accountable, transparent and responsive service delivery systems citizens suffer severely in various public sectors such as police stations, land registration offices, courts, social welfare offices, and local public representative's offices in spite of having very tough regulations. It is not so difficult to alter or manipulate the manual system for personal or combined gains, but it is very tough to do the same things in a digitized system. Therefore, this new way effectively reduces the suffering of citizens, ensures accountability, transparency; and eventually improves the quality of decentralization and social capabilities.

- R/Q 1. What are the factors that influence a transparent social service delivery system?
- R/Q 2. What is the strategy that can minimize harassment in the service delivery system?
- R/Q 3. How an electronic service delivery system can be an effective mechanism in public service delivery?

S/C 2. In a non-automated service delivery system when service providers and receivers become closer to each other, the scope of corruption expands. For example, it is very easy for a service seeker to get undue priority through personal relationship or political influence or embezzlement, when a service provider in exchange for his personal gain, abuse the power in providing or channeling illegal benefits to an unfit person. But, same service when it is delivered electronically, every transaction, and other relevant data are recorded instantly, it becomes very difficult. Finally, this system dramatically reduces the level of corruption, nepotism, and partisan activities ; and as well as ensures proper resource allocation by engaging real service seekers with the state services.

- R/Q 1. What are the factors that can influence corruption in a social service delivery system?
- R/Q 2. Why does the prevailing (manual) service delivery system cannot prevent corruption?
- R/Q 3. Is there any influence of e-service delivery system in preventing corruption and efficient resource allocation?

S/C 3. One of the crucial components of good governance is to provide state services timely, transparently and accountably. In the prevailing system, though, the delivery has been ensured through the various rules and regulations, but frequently it does not work effectively due to service providers' personal dishonesty or lack of morality or political intervention. As a result,

the decentralized local government or even many state governments cannot ensure good governance. The role of decentralization is not only to decentralize the political, fiscal and administrative power of the government or institutional structures, the main purpose is to ensure the state services to citizens door steps transparently and quickly. Many external and internal factors including lack of personal commitment, integrity and illegal intervention of local public representatives restricts the street level bureaucracy to discharge their duties efficiently. In this scenario, the intervention or successful implementation of ICT both in personal office management and service delivery system, significantly could improve the quality of office management capacity framework(MCF), and eventually, better opportunity for decentralization and good governance.

- R/Q 1. What are the factors that ensure decentralization and good governance?
- R/Q 2. What is the relationship between decentralization and good governance?
- R/Q 3. How ICT based Management Capacity Framework influences decentralization and good governance?

S/C 4. Socio-economic development depends on social justice, equity and proper resource allocation. A poor public service delivery system restricts equal resource allocation and self-sustaining development in the society. It also creates obstacles in openness, public participation in the decision making process, asymmetry of information and individual or combined capacity building approaches. Equal access to education, health, food, shelter, sanitation, pure drinking water, sharing ideas and innovation, and the rest of fundamental necessities are the constitutional rights of every citizen in every country and as well as, these are also essential components of socio-economic development. The existing gap between the local government and citizens, misuses of limited resources, and top down approaches in decision making and implementing

process are real challenges for a Government to ensure the socio-economic development. But ICT, with the assistance of real electronic data and information of all citizens can make a bridge between inefficiency and efficiency or mismanagement and management to pave the way for desired social development.

- R/Q 1. Does DSDS really enhances the peoples' participation, access to information, and openness in decision making process?
- R/Q 2. What are the impacts of digital divide in diluting the benefits of the e-service system in social perspective?
- R/Q 3. Why accurate data (National Population Register (NPR) and Departmental Register (DR)) is so important in the e-service delivery system?

2.3. Hypotheses

1. A digitized (electronic) service delivery system provides guarantee of an accountable and transparent service.
2. Accountability and transparency in public service delivery improve the quality of decentralization and good governance by constraining corruption, ensuring efficient resource allocation and enhancing management capacity framework.
3. Both decentralization and good governance elevate the level of socio-economic development through e-PSD by creating more openness, easy access to information, and mass public participation in the decision making process.

2.4. Methodology

This thesis consists a series of hypotheses, generated from various secondary data, tables and diagram. The secondary data has been accumulated by the World Bank, United Nations Development Program (UNDP), Transparency International, official web portals of sample countries, relevant books, articles and journals. The claim and sub-claims of this study will be analyzed through these combined sources in order to make a comparison between automated and non-automated social service delivery system. In the literature review section, the proposed hypotheses of this research will be compared and discussed with relevant books, and journal articles. Then in the analysis section, the hypotheses will be tested by empirical evidence of reviewing literature and contemporary data on ICT. And finally, the significance of a digitized service delivery system and its impacts on decentralization, good governance, and socioeconomic development will be justified using this evidence through *qualitative research* approach.

Chapter - III

Literature Review

3.1. Introduction

Effective service provision to citizens is one major precondition of good governance and decentralization. A digitized service delivery system ensures services with accountability and transparency. On the other hand, existing manual systems frequently dilute the benefits of decentralization in most developing and least developed countries. Citizens of those countries are either affected by the biases or partiality of service providers or they are bound to give bribes to get desired services, while the main spirit of decentralization and good governance is to provide essential services to citizens properly. In spite of some complexity of the digital divide, a disparity in adopting benefits of ICT creates a gap among the stakeholders; a digitized service delivery system with proper literacy and access to ICT has the capability of ensuring true decentralization, reduction of corruption, good governance and socioeconomic development.

Contemporary information from various researches, some dissertations, theses, articles, books and websites of different national and international organizations such as Transparency International, the World Bank and UNDP have been taken into account and examined to justify the hypothesis. Among several secondary sources, the following books, dissertation, and thesis are more relevant to evaluate the claim and sub-claims of this thesis. Moreover, some ICT related websites and their researches played a pivotal role to articulate and demonstrate relevant evidences in favor of the arguments : an e- public service delivery system as a tool of ICT, enhances transparency and accountability in public sector management which are essential components of decentralization and good governance.

1. Management Strategy for Local Governments to Strengthen Transparency in Local Governance, Soonhee Kim, Good Governance Research 1, United Nations Project Office on Governance United National Department of Economic and Social Affairs, UNPOG Publication,United Nations, 2009.
2. M-Government: Mobile Technologies for Responsive Governments and Connected Societies. OECD/International Telecommunication Union (2011).
3. A dissertation on "The effect of Information and Communication Technology (ICT), diffusion on corruption and transparency (a global study)" by Leebrian Ernest Gaskins, published in May 2013, Texas A&M International University, USA;
4. "Increasing Transparency & Fighting Corruption through ICT, Empowering people & communities" by Ake Gronlund, Rebekah Heacocks & David Sasaki, Johan Hellstrom, Walid Al-Saqaf, SPIDERICT4D Series no. 3,2010;
5. "E-Governance, corruption and public service delivery: A comparative study of Fiji and Ethiopia" by Pathak, R. D. Singh, G., Belwal, R., Naz, R. & Smith, R.F.I (2008); and
6. "TIB, Corruption in Service Sectors: National Household Survey 2012"

These sources will be reviewed broadly depending on their relevancy with the thesis statement.

3.2. Management Strategy for Local Governments to Strengthen Transparency in Local Governance.

Professor Soonhee Kim, in her book "Management Strategy for Local Governments to Strengthen Transparency in Local Governance" successfully illustrated the effectiveness of the efficient management framework in improving transparency of local governance using twelve management capacity concept. Transparency is one of the single most vital elements of

decentralization and good governance. The whole success of a decentralized local government depends on an accountable and transparent governance, which requires an efficient management. A transparent efficient management not only increases accountability, openness, participation, and integrity but also helps to fight corruption and enhances socio-economic development. In public sector management transparency engage all the external development actors, such as citizens, community organizations, nongovernmental organizations (NGOs), and private sectors with the government channel. Thus it creates a suitable environment of real development. But the question is that what are the elements which play a catalytic role to improve the management capacity? Many scholars argue in favor of institutional reforms and many of them advocate for cultural reforms. "This book seeks to link local government management capacity to transparency in local governance by focusing on three dimensions of transparency: openness, participation, and integrity." Depending on this queries, this author argues, ICT based institutional reforms, for example e-Public service delivery system might play a pivotal role to enhance organizational management capacity and consequently eliminates or reduces several anti-development practices from the society, which in the long run also improves cultural metamorphosis. Thus, it creates a linkage between institutional and cultural reforms.

The proposed twelve management capacity concepts of this book mainly focus on ***Structural frame*** which includes law, policy, and program; resources and IT adoption; evaluation systems; and citizens' right to information, ***Human resource frame*** which associated with professionalism, competency, and leadership, ***Political frame*** that is related with citizen participation, collaboration, and media affiliation or relation, and ***Symbolic frame*** that deals with social capital and the culture of inclusiveness and diversity. According to the author, "These multiple frames help local government leaders to apply various management capacity concepts

that facilitate openness, participation, and integrity in local governance. The structural frame and the human resource frame emphasize management capacity for the rule of law and accountability, while the political frame and the symbolic frame promote management capacity for innovation and creativity." Throughout the book the author, tried to illuminate the effectiveness of transparency in management framework and how it could be enhanced in order to secure socioeconomic development? To justify her research objectives, she uses four local government case studies, two from China and two from Korea.The result of the case studies on the development of the management capacity framework successfully illustrated the effectiveness of Information and Communication Technologies in creating openness, integrity, transparency, accountability and public participation. The local government of these studies adopted various institutional and cultural reform initiatives to improve their organizational management capacity and to enhance the human resource capabilities. In every case those local governments adopted ICT as an efficient tool to improve human resource capabilities, organizational performance, and enhance the quality of public service and interactions with key stakeholders. For example several ICT based initiatives such as e-procurement, e-parmit, e-supervision system to improve internal management capacity, utilization of satellite system to monitor illegal structure throughout the society, e-mapping, and e-public service delivery system remarkably improved their management transparency and efficiency which ultimately ensured expected socioeconomic development. The author of this thesis also argues the effectiveness of ICT, especially in the application of the public service delivery system in order to improve the quality of decentralization and good governance.

Public services are the most important element to improve the socioeconomic conditions in a society. It is the prime responsibility of every local or central governments to ensure these

services available to its citizens. All decentralization forms of governments are dedicated to ensuring it effectively. But an inefficient decentralized government such as local governments are not capable enough to mitigate the demands of citizens transparently. It is also a great concern of public sector reforms or accountable management. One of the main constraints of this inefficiency is existing manual service delivery system. According to the study of this book, it is clear a digitized service delivery system is more cost effective, reliable and transparent.

Guangzhou Municipal Government and Xiamen Municipal Government of the republic of China and Bucheon City Government, and Paju City Government of the republic of Korea all were passing a transitional stage of good governance during the study period in 2007. Lack of transparency, accountability, and openness, poor public service delivery, inefficient management framework, low engagement of the concern local people in local or national decision making process were almost common problems of those local governments. Among the various reformative initiatives all those local governments focused on the latest ICT based reforms strategies to enhance the management capacity frame work. For example, in Xiamen Municipal Government used advanced IT to enhance the quality of public services and interactions with stakeholders. To improve the management efficiency the Guangzhou Municipal Government made an easy process for citizen interaction with local government using ICT, such as "1) a citizen complaint system (online, e-mail, and a phone number); 2) online public opinion assembly regarding regulations and urban planning; 3) online surveys; 4) citizen satisfaction surveys on government performance; 5) interviews with government officials; and 6) online application for accessing government information." In Korea, both Bucheon and Paju city government adopted **e-*participation*** system to transform their management and service delivery system more efficient through ICT based reforms. All of these local governments introduced and

emphasized citizen centric and business oriented management framework in order to gain more economic development by using ICT as a development tool.

To enhance the transparency this book emphasized on three dimensions that are openness, participation, and integrity. A new management capacity framework , known as ***twelve management capacity concepts'*** is introduced in this study to assess the local management government capacity. These concepts mostly focused on four institutional capabilities that are very crucial for enhancing transparency in local governance. The structural frame, political frame, human resource frame, and symbolic frame all are dedicated to ensuring accountability and transparency. A careful analysis illuminates that ICT is one of the major tools to achieve the requirements of these frameworks. Here is a significant relevancy between the study and this thesis, both advocates and identifies ICT as an efficient tool in ensuring efficient office management, citizen participation, rules and regulations, proper resource allocations, performance measurement , trustworthy leadership. To enhance transparency in local government, the structural frame emphasized the institutional capabilities with required rules and regulations. To improve the institutional capabilities it requires effective interventions in four management components, that are (i) Law, policy, and programs; (ii) resources and IT adoption; (iii) evaluation system; and (iv) citizens' right to information. In the Political frame, citizen participation, collaborating, and engagement of media are more significant to ensure transparency. The human resource frame focuses on Professionalism, competencies, and leadership of civil servants because of their strategic role in development activities. Indeed government's success mainly depends on various development approaches and policies that are mostly implemented by government officials. An effective HRM ensures transparency and accountability. Finally, The symbolic frame emphasizes a culture reform through exchanging

interwoven beliefs, customs, practices, and artifacts that set a rule in the society. Effective dissemination of information enlightens these ingrained behaviors toward the desired changes. Both this study and thesis propose that community based development approach supported by right information are more active to enhance openness, participation, and integrity in local governance.

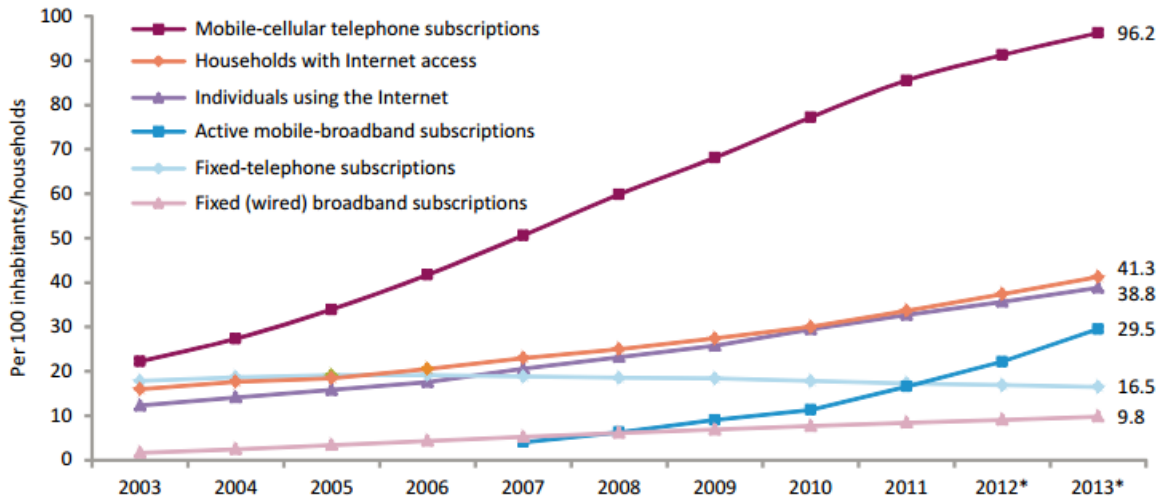
For the institutional and cultural reform in order to enhance management transparency, the proposed twelve concepts of this book recognize the necessity of ICT application. The main purpose of this book is to find out the right way to ensure transparency in order to create openness, participation and integrity. Among the suggested reform strategies by the author ***Soonhee Kim,*** ICT like a backbone network acts as a catalyst to enhance the transparency in all spheres of management capacity. This thesis also argues that e-service delivery system is an effective strategy to improve the quality of decentralization which main agenda is to bring the central government services nearer to the local people. But the system decentralization itself is not efficient, its effectiveness depends on its actors and systems which are assigned to provide services to the citizens. ICT base institutional reform is certainly capable to improve the management capacity and as well as HRM capacity, which ultimately ensures the transparent public service delivery.

3.3. **M-Government:** Mobile Technologies for Responsive Governments and Connected Societies.

M-Government: Mobile Technologies for Responsive Governments and Connected Societies is a joint innovative work of the International Telecommunication Union (ITU) and the Organization for Economic Co-operation and Development (OECD), in collaboration with the United Nations Department of Economic and Social Affairs (DESA). In a digitized public

service delivery system, it is very important to identify an effective affordable digital device which can connect maximum stakeholders with the government mechanism. Mobile phones are now single most adopted popular technologies in the world. According to the ITU World Telecommunication and ICT Indicators database, around 90% of the world population, while 80% of them living in rural areas are now under mobile network coverage. This increasing penetration of mobile network is now approaching to 100% network coverage (Figure : 1) with the significant progress of mobile broadband subscriptions, in order to connect the world communities in a same thread. Thus, mobile has become an effective, convenient, and

Figure 1 : Global ICT developments, 2003-2013*



Note: * Estimate.

Source: ITU World Telecommunication/ICT Indicators database. (ITU, Measuring the Information Society 2013) [15]

cost-effective digital device in the public service delivery system. This book successfully illustrated the global penetration of mobile networks, m-governance, and their potentiality in transparent and accountable governance mechanisms. Indeed, it has demonstrated that, how application of ICT improves openness, ensures more participation and enhance integrity? This

[15] ITU, Measuring the Information Society 2012, CH-1211 Geneva Switzerland, 1. http://www.itu.int/en/ITU-D/Statistics/Documents/publications/mis2012/MIS2012_without_Annex_4.pdf

thesis also argues, an effective digitized service delivery (e-PSD) system ensures more transparency and efficiency in a decentralized local government.

"Given this unparalleled advancement of mobile communication technologies, governments are turning to m-government to realize the value of mobile technologies for responsive governance and measurable improvements to social and economic development, public service delivery, operational efficiencies and active citizen engagement. The interoperability of mobile applications, which support quick access to integrated data and location-based services, paves the way for innovative public sector governance models – also called Mobile Governance or M-Governance – based on the use of mobile technology in support of public services and information delivery."[16] Hence, mobile phones are now used as a tool of improved governance and as well as economic and social progress. Including basic service delivery mobile technologies are playing a pivotal role in electronic voting, registration or electronic monitoring; weather forecast for agriculture and natural disasters and market price alerts, coordination of real-time location data for emergency response, and dynamic interactions between citizens and government[17] to build responsive and transparent governance. Like this evidences, this thesis also argues that effective public service delivery improves the qualities of decentralization, good governance and socioeconomic development. Mobile phone technologies have not only connected government with much greater number of people than ever, but it has also brought unthinkable opportunities for its users to enjoy fruitful communication with each other depending on their convenient time and places. It has revealed the opportunity to get access in both public and private information and services ignoring the boundaries and limits.

[16] OECD/International Telecommunication Union (2011), *M-Government: Mobile Technologies for Responsive Governments and Connected Societies*, OECD Publishing. *http://dx.doi.org/10.1787/9789264118706-en.*
[17] ibid

M-Government is emerging as the next big wave of information and communication technology (ICT) use in the public sector. Growing research depicts the radical transformation of government in providing various public services using mobile communications. Using this device, service providers whether it is the government or public could easily reach to its consumers without any heavy infrastructure and service cost. Its easy affordability and accessibility is minimizing the barriers and empowering citizens to get easy access to public services for example health, education, food, employment, shelter, public safety, financial, transportation, legal and other services. Though the scenario varies from developed to developing countries due to some other essential associated elements, but mobile government playing a pivotal role in improving social and economic conditions. The following figure shows the effectiveness of m-governance compared to conventional and e-governance. It is the tools of

Table 1: **Overview of conventional, electronic, and mobile government concepts**

Item	C-Government	E-Government	M-Government
Principles	• Bureaucratic Process (phone, fax)	• Process reengineering using IT (PC, Internet)	• Seamless integration and linkage wireless devices
Service time	• 8 hours a day, 5 days a week	• 24 hours a day, 7 days a week	• 24 hours a day, 365 days non-stop
Service space	• In-person visit, fax, phone	• Customer's home and office using the Internet	• Customer's location and physical place
Service form	• Several visits to offices	• Multi-clicks to web portals	• One time access to needed service

Source: Oui-Suk, Uhm (2010), *Introduction of m.Government & IT Convergence Technology*, KAIST, Institute for IT Convergence.[18]

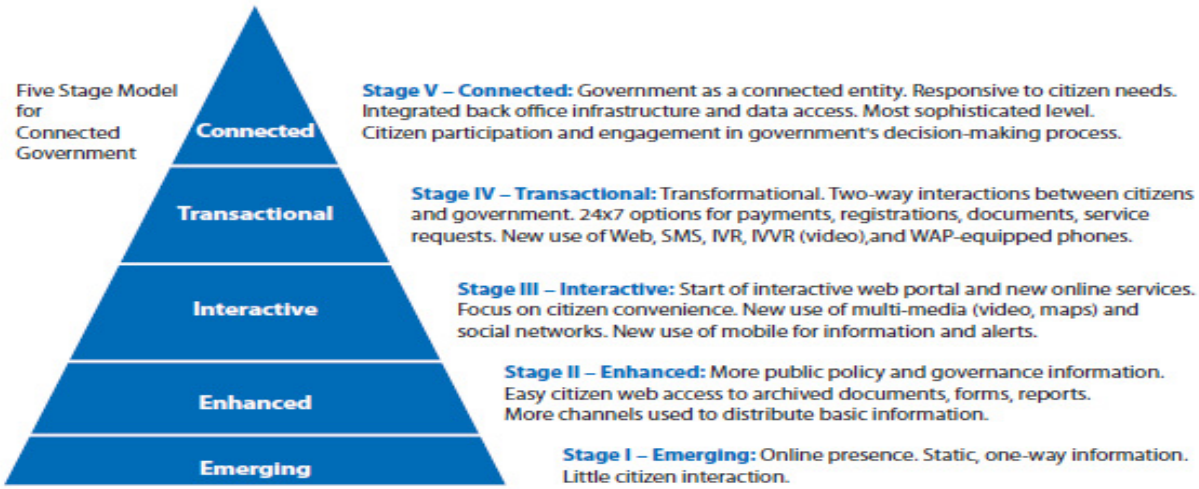
[18] Ibid,19.

24 hours which connect citizens and government, citizens and business, and citizens to citizens non-stop basis. Though both e-government (computer based) and m-government are efficient in quick service delivery, but m-government is more responsive, convenient, cheaper, and easy interoperable. Depending on the geographical diversity and technological advancement both digital government system could be used in public service delivery.

According to this report, "Mobile technology is significantly expanding governments' capacity to produce benefits and deliver outcomes for governments, citizens, businesses, and to impact positively national overall economic growth. The most notable progress will be in developing countries which have been historically limited by poor or non-existent communications infrastructure that, in turn, have constrained economic development and social improvements." [19]The main claim of this thesis also demands efficient service delivery system ensures proper resource allocations, enhance rules and regulations, and engage more people to governments decision making process that ultimately brings positive change in socioeconomic development. Without ensuing a transparent public service delivery system, only so-called decentralization of governance most of the time could not improve the capabilities of institutional framework or cultural practices, except to create more expense and in some cases more corruption. The following figure (figure 2) shows that, how a digitized communication system engages its stakeholder with the government? To ensure the social justice, one of the important things is effective connection (stage V), which dominates or influences all other social factors. Depending on the demands government or authority concerned could serve that properly which is the gateway of development and social equity.

[19] Ibid,25.

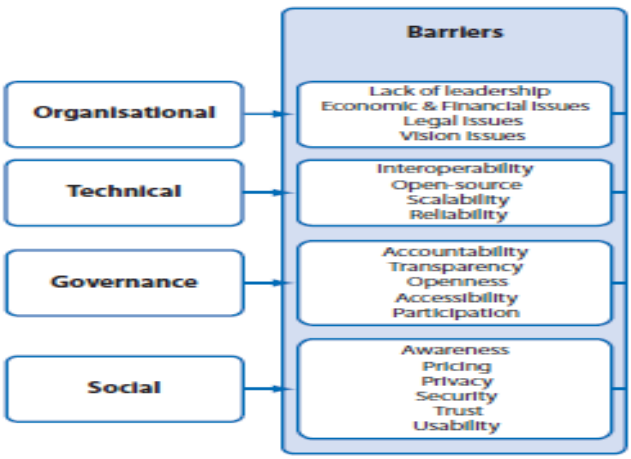
Figure 2 : Stages of connected government



Source: DESA (2010), *E.Government Survey 2010*, United Nations, New York.[20]

In spite of having these potentialities of m-governance, some following barriers (Figure 3) or challenges in organizational, technical, governance, and social sectors are needed to be addressed. Indeed, it is not only challenges in m-governance application, creates hindrances in

Figure 3: Mobile government service implementation challenges



Source: El Kiki, Tarek (2009), *A Management Framework for Mobile Government Services*, University of Technology, Sydney.[21]

[20] Ibid, 28.
[21] Ibid, 68.

social development. For effective service delivery, a state should take proper policy measures to remove or minimizes these challenges. In this book, several successful m-governance cases of various countries like as Wireless Portal of the Government of Canada, Use of SMS to deliver tax information to citizens in China, SMS Security warnings in case of security threat in UK, Lokvani – "The Voice of the people" – an innovative model of Citizen Service Centers (CSCs) in India, and Disaster and Management of Information System for implementing mobile technology for disaster management in Bangladesh[22] are discussed which demonstrate the effectiveness and necessities of this new concept of service delivery system. So, for improved service delivery system, m-governance might be one of the better options. In developing countries such as Bangladesh, where infrastructural development is still lagging behind, and decentralized local governments are inefficient to provide public services transparently, M-governance, could enhances responsiveness, openness, accountability, and integrity in suitable public services.

3.4. The effect of information and communications technologies (ICT) diffusion on corruption and transparency (a global study)

Leebrian Ernest Gaskins in his dissertation demonstrated a comparative relevancy among the implications of ICT, reduction of corruption and economic development. According to his findings it is clear that ICT plays a pivotal role in advancement of any country's economic development by reducing corruption and ensuring good governance. His concept explicitly supports the idea of this paper and strongly correlated with its main claim. Mr. Gaskin's "study also examines how macroeconomic and national sociocultural variables mediate and moderate the relationships of ICTs on transparency and corruption. The results show that for

[22] Ibid,119-150.

each increase unit in NRI (Networked Readiness Index), transparency increased by 9.423% and corruption decreased by 14.017%. Furthermore, increasing access to the Internet by 27 people per 100 persons increased transparency by 17.581% and reduced corruption by 15.239%."[23] As it is discussed in the previous section of this thesis, citizens' effective access to ICT increase transparency and accountability, reduce corruption and enhance the scope to achieve socioeconomic development. ICT enables citizens' to participate in their country's political and social matters more readily. For example, e-governance has reduced bureaucratic overhead while increasing governmental efficiency and transparency (Andersen et al., 2010; M. Backus, 2001; Bertot et al., 2010). Indeed, it is very powerful tool to make a bridge between government and citizen including other professionals and non-government organization which is one of the main agenda of decentralizations.

Mr. Gaskin's study investigated about the effects of ICT in levels of corruption and transparency; and examined the interrelated effects of ICT, macroeconomic, and national sociocultural variables on transparency and corruption. "Specifically, this study increases the existing body of research on corruption by providing confirmatory evidence of how corruption and transparency are affected by three ICT variables: NRI, Internet diffusion, and mobile cellular diffusion."[24]

According to this study, the countries which NRI is high, their level of transparency is also high and hold the lower position in the CPI index compared to others. Moreover, empirical data shows, effective application of ICT influences the other socio-economic indicators such as HDI, GDP growth, and good governance. "These findings reinforce what other scholars have found concerning the positive effect of ICT infrastructure in reducing corruption and increasing

[23] Leebrian Ernest Gaskins, "The effect of Information and Communication Technology (ICT), diffusion on corruption and transparency (a global study)." published in May 2013 and submitted to Texas A&M International University, USA.

transparency (Charoensukmongkol & Moqbel, 2012; Soper, 2007; Soper & Demirkan, 2012). ICTs have been shown to be a tool in democratization (Opoku-Mensah, 2000; Soper, 2007) and a device that facilitates and improves political involvement (Krueger, 2002, 2006; Norris, 2001), thereby increasing transparency."[25] Similarly, this thesis argues, the purpose of decentralized local governments could only be effective, when accountability and transparency are ensured. In a developing society, where resource scarcity is a common phenomenon, improper resource allocation and inefficient service delivery might aggravate the situation more and prevent the deserving citizens to get their required service from the government. Where as ICT based service delivery systems can enhance the management capacity ensuring accountability, openness, and reducing corruption. For example, this research demonstrates that when internet diffusion is 27.372%, transparency increases 17.581% and corruption reduce 15.239%. In fact, any digitized service delivery system either computer based or mobile base, or any other automated form significantly improves the level of accountability, efficiency and integrity of a management.

Both transparency and corruption practices are interconnected in socioeconomic conditions. An increase of one factor decreases another. But both are the essential elements of good governance and socioeconomic development. According to Mr. Gaskin's, if transparency increases 0.879% , corruption reduces 9.063%. Furthermore, the effect of transparency has the moderate explanatory power of corruption ($f2 = 0.348$ or 34.8%). Such a finding was expected and consistent with similar findings from other studies. Transparency creates barriers against corrupt practices (Akpan-Obong, Alozie, & Foster, 2010; Bertot et al., 2010; Cho & Choi, 2005; Kolstad & Wiig, 2009). Transparency initiatives have been shown to be an effective anti-

[24] Ibid, 141.
[25] Ibid, 142.

corruption instrument (Bertot et al., 2010). Also, there is a strong association between transparency through greater press freedom and lower levels of corruption (Brunetti & Weder, 2003). On the contrary, a lack of transparency has been shown to intensify corruption-related problems (Kolstad & Wiig, 2009).[26]

Though transparency plays a pivotal role both in rural and urban economy and ICT is one of the major actors of it but due to financial problems and lack of effective policies, most of the least developed countries could not adopt ICT in their whole required transactions. In addition, poor literacy and extreme poverty situation restrict the destitute people to be attracted in any development channel of the government. Their bitter experiences consider its fruitless efforts to get any services from the government without providing bribe, political influences or nepotisms. They became bound to mitigate their requirement from different sources. But, problem is that without active participation of citizens with the local development approaches and public decision making process, a society could not achieve minimum development. Hence, such a mechanism is required which could purposefully attract the people to the government services. This thesis argues, an e (electronic) - public service delivery system initially engages people with government and ensures effective interactions between government and citizens. Due to the openness and accountability people re-set their confidence in public services as well as governments. They become motivated to governments initiatives and response properly. This approach enhances their capability and attracts them to be incorporated in the nation building activities with the governments. That's why this author argues sector specific ICT interventions such as e-PSD instead of overall ICT implication at a time. Public services have the mechanism

[26] Ibid, 148.

to engage maximum people in government channels if it is transparent, responsive, and accountable which is inevitable components of community based socioeconomic development.

In this dissertation Mr. Gaskin's examines the effects of some macroeconomic factors such as FDI and GDP in ICT penetration. The author got the positive impacts in his study. It is usual, in a stable socioeconomic condition both state and people would search for a better lifestyle and facilities supported by latest technologies. As internet is the latest invention of the modern age, the challenging factors are how it could be utilized in uplifting poorer people to a convenient socioeconomic situation from their existing worse position. According to the World Development Indicators 2013 of the World Bank, still 1.2 billion (22.7%, 2008) people are living in extreme poverty (figure :4) whose daily income less than $1.25 a day; and more or less one third of the total population are continually fighting for minimum life standard. To bring out of this large number of people from the extreme poverty, the application of latest technology is inevitable. Initially, the internet could be used to prove transparent public service delivery to these destitute people. Due to resource constraints and some other institutional and cultural

Figure 4: Poorer than poor

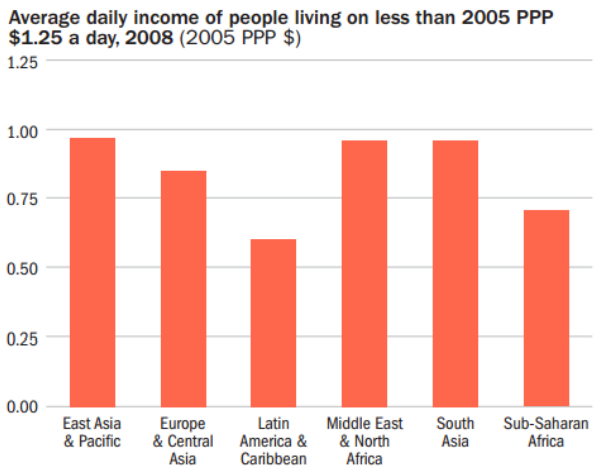
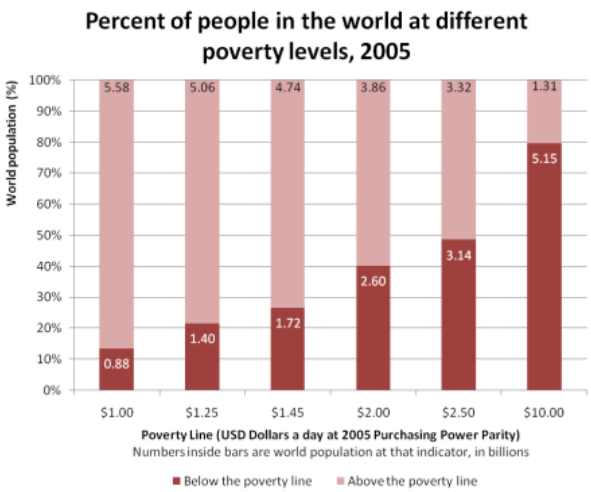


Figure 5: Poverty Facts and Stats

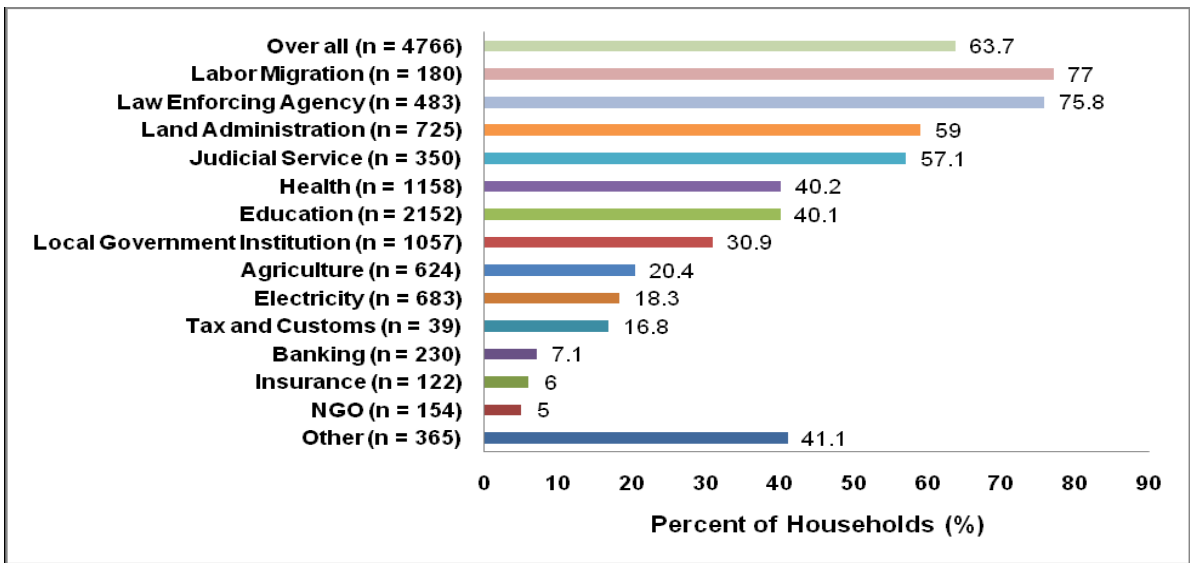


Source: World Development Indicators 2013/2008

Problem, in most of the least developed countries manual service delivery systems are infected. To bring overnight change it is very difficult, but using ICT especially e-public service delivery system the situation could improve and transparency, which eventually paved the way for good governance and socioeconomic development.

According to the TIB, general citizens of Bangladesh are mostly deprived of getting fundamental assistance from the state. For the services either they bound to provide bribes or face serious trouble or wait for an uncertain period as is the case in other developing countries. The following figure (Figure-6) shows that 63.7 percent of total population became bound to purchase their legal services through bribes in 2012. Labor Migration, Law enforcement, Land Management, Judiciary, Education, Local Government Institutions, Agriculture and Electricity where people were closely associated with service providers and their necessities were indispensable, corruptions had been occurred in large scale. The reason behind this corruption largely depends on the service delivery mechanism. Most of the services were provided

Figure 6: Percentage of surveyed households who experienced Corruption:



Source: TIB, Corruption in Service Sectors: National Household Survey 2012

manually and service providers had the opportunity to negotiate with service seekers regarding service delivery. Sometimes an organizational head might not be involved in corruption or they might have good intentions to serve people with accountability and integrity, but due to the office's service delivery system this fails. Obstacles of red tape bureaucracy, some obscure guidelines, rules and regulations and wicked political influences also retard delivery of services and caused corruption. On the other hand, a digitized service delivery system diminishes the scope of corruption and ensures effective decentralization and good governance.

3.5. *Increasing Transparency & Fighting Corruption through ICT, Empowering people & communities*

Professor Ake Gronlund, Rebekah Heacocks & David Sasaki, Johan Hellstrom, Walid Al-Saqaf in their book, *Increasing Transparency & Fighting Corruption through ICT, Empowering people & communities* illustrates the significance of ICT in minimizing of citizens' sufferings, ensuring accountability and transparency in service delivery, reduction of corruption and above all socio-economic development. This thesis also argues that 'a digitized service delivery system' can reduce the agony of people. According to Professor Gronlund and his associates, "In Andhra Pradesh (AP) and Karnataka, well-known IT developed region (State) of India, due to using an ICT based service delivery system such as an online property registration system of land ownership, the Bhoomi project for online delivery of land records, kiosks (service for farmers), eSevas (e-services) and Telecentres (center of ICT) has been ensured right of people to get services."[27]

[27] Ake Gronlund, Rebekah Heacocks & David Sasaki, Johan Hellstrom, Walid Al-Saqaf, "Increasing Transparency & Fighting Corruption through ICT, Empowering people & communities," SPIDERICT4D Series no. 3,2010.

The following figure (Table 1) shows in a digitized system how ICT can reduce the torment of people-

Table 2 : Impacts of ICT Applications

Action type	Logic to achieve benefits	Main target	ICT used
Automation	Remove human agents and hence corruption opportunities from operations	Petty bribery in everyday operations	Any system
Transparency	Remove opportunity for discretion	Mobilize the public, inform users	Web sites where information is published. Manual or automatic input
Detection in operations	Both details and aggregates from operations can be monitored to detect anomalies and unexpected performance	Petty bribery as well as large-scale operations	Log analysis tools, standard as well as specifically targeted ones Control functions in e.g. procurement systems
Preventive detection	Online social networks and individuals can be monitored to detect preparations for corrupt action	Large-scale corruption, e.g. in procurement or international trade	Social network analysis and social media analysis tools
Awareness raising	If the public is aware of government rules and procedures they are better able to resist arbitrary treatment	Petty bribery	Any technology, but web sites are most common
Reporting	Mobilizing users/community to report cases will make it easier to take corrective action towards individuals and to reorganize systems to avoid "loopholes"	Petty bribery Large-scale operations	Web sites, social media networks, online newspapers, mobile phones, SMS for input
Deterrence	Publishing information about reported corruption as well as indicators (such as imbalance between income and property) will deter civil servants from engaging in corruption.	Petty bribery	Web sites, social media networks
Promoting ethical attitudes	Engaging the public by means of pursuing discussions in various online forums	Public attitude change	Social media forums

Source: SPIDER ICT4D Series | Increasing transparency and fighting corruption through ICT.

ICT as a catalytic tool can enhance transparency in the public sector management though improved coordination, dissemination of required information and institutional capacity. An improved service delivery for example, according to this thesis e-public service delivery system, transform public sectors to more responsive and accountable. Digital footprints, complete audit trail, and some other digital factors increase individual accountability and decrease various

corrupt practices. It engages citizens, civil societies, NGOs, and media with government, create opportunity of social mobilization, working together, and provide a digital platform where citizens can participate anonymously. In this book, the authors examined the effectiveness of ICT in combating corruption, improving transparency and as well as challenges of effective ICT application that supports the argument of this thesis. The author found positive development both in macro (nation) and micro (projects) levels.

Macro level studies (Nations)

According to this author, the counties, whose network variables such as three measurement factors of ICT (i) the UN e-Government readiness index, (ii) the UN e-participation index, and (iii) internet penetration are high, their GDP, Per Capita Income, and Corruption Perception Index (CPI) etc. also comparatively better than others. Depending on this evidence, this author's claimed effective utilization of ICT improves the socioeconomic situations and ensues rules and regulations. In addition, when a country's Social Capital and transparency increases, corruption decreases as a consequence of ICT applications. The author argues, "When a country implements more e-Government there follows a considerable reduction in corruption. The three ICT variables accounted for 77 % of the total variation of corruption, which means that ICT variables had a substantial effect. In fact, ICT variables were more influential in terms of reducing corruption than traditional anti-corruption factors."[28] Moreover, in traditional anti-corruption approaches for example administrative reform and law enforcement, ICT could be an effective tool in improving transparency and accountability. The author examined several projects (Annex-01) of direct application, implemented in East Africa, addressing various forms of corruption. Through his research he justified the effectiveness of ICT in minimizing corruption and improving transparency.

Micro level studies (projects)

In micro level application of ICT already recognized as an efficient management reform. Both developed and developing countries are using many e-services to ensure the accountability and transparency. For example in India two major projects namely Bhoomi and CARD; and in Bangladesh Machine Readable Passport (MRP) and Voter ID are remarkable examples in ensuring microlevel benefits with more convenient and transparent way. All these projects dramatically reduced corruption, enhanced openness and accountability. "The Bhoomi project was initiated in Karnataka by the Department of Revenue (DoR). The project was designed to facilitate online delivery of land records so that citizens could challenge arbitrary bureaucratic action if they deemed them to be unfair."[29] Land record is required for bank loans, tax and land transfers. Before this project, citizen had to spend unexpected hassles and time in local Village Accountant's Office to get a copy of their Record of Rights (ROR) /Tenancy of Crops (RTCs). Sometimes service seekers would bound to bribes, and the amount of bribes would depend on the importance and urgency of the documents and. A typical bribe in 2002 ranged from US$2 to US$40 (Bhatnagar, 2002:26). In contrast, after launching of this project, "some studies have claimed that Bhoomi reduced corruption from 66 % to less than 3 % (Pathank and Prasad, 2006; Bhatnagar, 2003). A 2006 study suggests the reduction is from 29.7 % to 0.8 % for RTCs and from 33.8 % to 0.7 % for mutations (Bhatnagar, 2009)."[30] This data illuminate the capabilities of ICT applications in service delivery systems. More or less same impacts are in the above mentioned Computer-aided Administration of Registration Department (CARD), MRP, and Digital Voter Card projects. Notably, the digital voter registration project in Bangladesh

[28] Ibid, 18-19.
[29] Ibid, 20.
[30] Ibid, 21.

dramatically eliminated the fake or ineligible voter from the National Voter List while the old voter lists were infested with 12.2 million fake voters.

Depending on the success of some Sub-Saharan Africa and East African countries and their gradual improvement in socioeconomic conditions and ensuring transparency, the authors of this book claim, ICT has a great impact on accountability, integrity, transparency and people's participation. These elements are essential factors of Decentralization and Good governance. But level of success does not depend on only ICT. This book argues, ICT is a tool, it is the user's responsibility to ensure its effective uses. Strong public policies, visions and required institutional reforms are necessary to get expected cost-effective benefit from ICT. So, if the main agenda of decentralization is to serve the citizens more efficiently and transparently, then adoption of ICT is one of the best policies.

3.6. *E-Governance, corruption and public service delivery: A comparative study of Fiji and Ethiopia*

In E-Governance, corruption and public service delivery: A comparative study of Fiji and Ethiopia by Pathak, R. D. Singh, G., Belwal, R., Naz, R. & Smith, R.F.I (2008) is an empirical study of ICT's effectiveness in public service sectors. This study has been examined two South Pacific countries to measure the fruitfulness of digitization in their governance, corruption and economic advancement. "The outcome of the study suggests that ICT and ICT based service delivery are essential tools that combat corruption, increase efficiency of public sectors, ensure social service delivery and enhance socioeconomic development."[31] To justify the claim, in this study, a survey was conducted among 800 hundred selective group of people

[31] Pathak, R. D. Singh, G., Belwal, R., Naz, R. & Smith, R. F. I. (2008). E-governance, corruption and public service delivery: A comparative study of Fiji and Ethiopia, JOAAG, Vol. 3. No.1.

from diversified sectors both of Fiji and Ethiopia. The result of research demonstrated that people have great discontent about the public services while most of them infested with corruption, biases, politically influenced, and very less transparent and less accountable. Among the various data, the following two cases are more significant.

A. Experience of time and cost factors in public service delivery and corruption

Among the 800 hundred respondents, 532 persons (66.5%) were mostly/fully worried about the time and cost of public services (Table 3). In contrast, very few percentage of respondents had not much discontent or remarks about the time and cost of public services. However, almost 2.3% in Fiji and 15.5% respondents in Ethiopia preferred to remain neutral on the issue. This survey illuminates the time and cost factors are the major obstacles in getting public services and causes of corruption in both countries. It indicates, the existing manual service system is not efficient enough to provide transparent and accountable services compared to a digitized public service delivery system such as e-PSD.

Table 3: Time and cost factors in dealing with public service delivery and corruption

STATEMENT	Frequency		Percent	
	Fiji	Ethiopia	Fiji	Ethiopia
Time and Cost is not a problem - Totally Agree	10	5	2.5	1.3
Time and Cost is not a problem - Mostly Agree	38	8	9.5	2.0
Time and Cost is not a problem - Somewhat Agree	19	13	4.8	3.3
Okay-Time and Cost Factor makes no difference	9	62	2.3	15.5
Time and Cost is a problem -Somewhat Agree	14	90	3.5	22.5
Time and Cost is a problem – Mostly Agree	156	111	39	27.8
Time and Cost is a problem – Totally Agree	154	111	38.5	27.8
Total	400	400	100.0	100.0

Source : E-governance, corruption and public service delivery: A comparative study of Fiji and Ethiopia

B. Experience of Red tape procedures in public service delivery and corruption

Red-tape problem is another big concern of getting public services transparently. Its complexities vary from agency to agency and step to step but citizens suffer very much. Lack of specified terms and condition of services, management's incapability, individual inefficiencies,

corruption, and vested interest mostly are responsible for this red-tape problem. The majority of the respondents in this survey both from Ethiopia and Fiji identified the red - tape as a major challenge in public service delivery (Table 4).

Table 4. Experience of Public Red tape procedures involving more than one agency and more than one step

STATEMENT	Frequency		Percent	
	Fiji	Ethiopia	Fiji	Ethiopia
Public Red-tape procedures are not problematic - Totally Agree	10	13	2.5	3.3
Public Red-tape procedures are not problematic – Mostly Agree	38	7	9.5	1.8
Public Red-tape procedures are not problematic - Somewhat Agree	19	26	4.8	6.5
Public Red-tape procedures- Make No Difference	9	31	2.3	7.8
Public Red-tape procedures are a major problem- Somewhat Agree	14	116	3.5	29.05
Public Red-tape procedures are a major problem - Mostly Agree	157	110	39.3	27.5
Public Red-tape procedures are a major problem - Totally Agree	153	97	38.3	24.3
Total	400	400	100.0	100.0

Source : E-governance, corruption and public service delivery: A comparative study of Fiji and Ethiopia

Finally, this study argues, a careful implementation of ICT in the service delivery system certainly enhances the efficiency of management, improves transparency and accountability, creates a responsive bridge between government to others which are essential elements of good governance. The main claim of this thesis, an effective digitized service delivery system enhances the quality of decentralization, good governance and socioeconomic development, is also correlated with the argument of this study. But, for a successful implementation of any ICT project effective planning, political stability, selection of right and cost-effective technologies, and required institutional reforms are necessary.

3.7. Conclusion

It is the fact that an electronic service delivery system can make a revolutionary effect in accountable and transparent public service delivery. But, high speed internet connection, uninterrupted electricity, easy accessibility of ICT equipment and proper literacy, service oriented content and required data are also crucial to ensure true decentralization and good

governance. Improper content and lack of ICT literacy may create a digital divide and discourage people from using ICT. This inefficient situation can diminish the total benefit of digitization. So, a long run vision and policy is needed to achieve desired goal. To minimize corruption, ensure transparency, and accountability through quick service delivery is the main motto of decentralization and good governance. A Digitized Service Delivery System could mitigate the problems easily. But, for an effective electronic service delivery system, a database of citizens (NPR), departmental register (DR) and sufficient service contents of concern public agencies, easy access to internet connectivity and ICT literacy, uninterrupted electricity supply and, above all citizen friendly electronic delivery procedures are preconditions. According to Transparency International, still many developing and underdeveloped countries are severely suffering from political and bureaucratic biases, corruption and inefficiency that are preventing the countries' socio-economic advancement. It is explicitly examined in this study; an automated service system reduces these problems dramatically which are essentially required for decentralization and good governance.

Chapter - IV

4.1. Analysis and Hypotheses Test

The impacts of ICT (e-public service delivery system) on accountability, transparency, openness, corruption, and management capacity have been analyzed in this chapter, using several research works, data, and empirical evidences which mostly discussed in the literature review part. Moreover the latest data and analysis of the World Bank, UNDP, ITU, CIA, and some other international organizations which are correlated with ICT have taken into account to justify the main claims, sub-claims, research questions, and hypothesis. The whole analysis is divided into two parts,

A. Strategic Analysis
B. Successful Cases Analysis and Hypotheses test

In the strategic analysis part the relationship between, i. e-PSD and Accountability and Transparency, ii. e-PSD and Corruption, iii. e-PSD and Decentralization & Good Governance, and iv. e-PSD and Socioeconomic Development have been discussed to illuminate the main argument of this thesis. The remaining part 'successful case analysis,' has analyzed several substantive success stories of ICT applications which indeed a dictum of the effectiveness of e-PSD and consequently depending on theses anecdotal and statistical evidences, 'Hypothesises' have been tested. During these analyses and tests, 'Bangladesh' has been considered as a sample country in order to compare its ICT capabilities and its implementation in the service delivery system, especially in decentralized local governments compared to other Asian countries India, and the Republic of Korea (case study countries). Regarding the ICT penetration and intervention, according to the e-Government survey 2012, Korea ranked 1st and 87% of its public services are provided through online service delivery systems. Though the other global

economic power India ranked 125th, yet is doing better in the field of online services delivery than Bangladesh (ranked 150th).

4 (a). Problem and Prospects of ICT Penetration in Bangladesh

Bangladesh with a population of about 160 million (*2012 est.*) in only 1,47,570 km^2, is one of the emerging country of South Asia, mostly bordered by India in its East, West, and North; and Bay of Bengal and Myanmar in its South. Just in early 1990, the country started its journey on the way to digitalization using traditional PC, Fixed line phone, and very slow internet connection. In 2008 digitalization becomes one of the state policies and Visions and the government promulgate a political strategy to transform the country as a 'Digital Bangladesh.' Depending on the government initiatives and disruptive innovation of private sectors, especially several Mobile Companies and Software companies, a major part of Bangladesh is now under the internet network through mobile and fixed line connections. Comparatively cheap ICT related equipment or electronic devices, for example PC, Laptop, Multimedia Projector, Digital Camera, Smart phone with internet connection generates a huge enthusiasm among the young generation, professional groups, civil societies, media and some other stakeholders, throughout the country. As a result, By the initiative of Public Sector and the office of the Honorable Prime Minister, more than 4,501 UISCs (Union Information and Service Centers) have been established at all Union Parishads (the lowest administrative tier) of Bangladesh in order to provide e-delivery of public services to the rural people . Moreover, the government has been implementing an independent e-delivery service center in every Sub-district (Upazila) and District (Zila). Several Mobile companies suppose Grameen Phone; including govt lead Teletalk using 3G to provide their services to the smart customers.

According to Bangladesh Telecommunication Regulatory Commissions the total number of Mobile Phone subscribers has reached **109.349 million (68. 35%)** at the end of **August 2013.** Moreover, the total number of Internet Subscribers has reached **36249.018 thousand** at the end of **August 2013, and** the total number of PSTN (Public circuit-switched telephone network) Phone Subscribers has reached **1028.19 thousand** at the end of **May 2010. In addition,** In 2006 Bangladesh has been connected to the SEA-ME-WE4 submarine cable with data transfer capacity of 14.78 Gbps. The Government has also taken further initiatives to install a second submarine cable backbone as a redundant and an alternate path to overcome the risk from disruption of the first one (Rahman, 2010). **These data and information indicates that the ICT penetration and its utilization would be continued throughout the countries. But, in spite of this advancement and government's pro ICT policy, according to** the United Nations

Table: 1: E-Government Ranking of Bangladesh, compared to other SAARC Countries.

Country	E-Government 2012	Rank 2012	Rank 2010	Rank Change
Maldives	0.4994	95	92	-3 ↓
Iran (Islamic Republic of)	0.4876	100	102	+2 ↑
Sri Lanka	0.4357	115	111	-4 ↓
India	0.3829	125	119	-6 ↓
Bangladesh	0.2991	150	134	-16 ↓
Bhutan	0.2942	152	152	
Pakistan	0.2823	156	146	-10 ↓
Nepal	0.2664	164	153	-11 ↓
Afghanistan	0.1701	184	168	-16 ↓

Source : E-Government Survey 2012

E-Governemnt Survey 2012, Bangladesh dropped from its previous position 134(2010) to 150 (2012) in E-Government ranking, and it also holds the lower position 114 out of 142(2012) in the

Networked Readiness Index 2013, conducted by World Economic Forum. E-Government capacity and Networked readiness both are crucial factors for e-delivery system of public services. Indeed, e-PSD enhances the quality of accountability, transparency, and public participation in the governments' decision making process, which are influential conditions for decentralization, good governance and socioeconomic development.

Unlike many developing countries, under the provision of article 59 and 60 of Bangladesh constitution, the country has decentralized its administration in three stages (tier), in the name of Union Parishad, the smallest rural administrative and local government units in Bangladesh, Upazila Parishad (sub-district level) and Zila Parishad (District level). Among these three tiers, in Union Parishad and Upazila Parishad, there are elected public representatives whose main responsibilities to bring the central services to the local people (micro level) through proper resource allocation and service delivery. But, in reality it is merely happening. Inefficient resource allocation, mismanagement and illegal political interventions are more or less common scenario in every decentralized stage of the country.

What are the reasons behind this and why street level bureaucracy faces challenges in the service delivery system. Among the various problems in **Macro-Meso-Micro** level, one of significant causes, the **Manual Service Delivery System** is not efficient enough in proper resource management or ensuring accountability and transparency. As a result, in many incidents, the deserving people deprived of their required services. Therefore, Bangladesh is severely suffering from providing efficient and accountable services to the citizens and ensures effective resource management. Indeed, none can doubt about the effectiveness of Electronic Delivery of Services in the country. However, for "Political Reasons", this essential requirement has always been kept at bay for one reason or another. Surprisingly like many other developing and least

developed countries, in Bangladesh, lack of financial resources is not also the real reason for non-adoption of Electronic Delivery of Services. The main issue is "**Strong Political Will,**" at first, which is essentially required. For this, the Effective State Policies and long term vision, Uninterrupted electricity generation, Creative contents of services and National Population Register (using the electronic voter register and birth registration register), Revealing the opportunity for private sectors' intervention, High speed internet connection, and ICT intervention in internal public management sectors focusing on the concept of three dimensions (360^0 performance measurement strategy) are most important.

4 (b). Public service delivery and local governments in Bangladesh

On one side, the prevailing manual delivery system is not sufficiently capable to maintain neutrality and equity in social service delivery. On the other hand, ensuring citizens' rights and proper resource allocation is one of the fundamental conditions of decentralization and good governance. In this dilemma, an e-PSD is quite efficient to ensure accountability, transparency, and equity in the delivery of public services both for rich and poor people who are struggling with their extreme poverty and essentially dependent on government's assistances. Constitutionally, a state has the responsibility to serve its people perfectly without compromising group or personal interest and greed, race, religion, ethnicity, culture, and political influence. So, a digitized service delivery system (DSDS) could be an effective strategy to provide state services to door of the people efficiently and finally it paved the way for socioeconomic development.

To provide citizen-centric services, many developing countries like China, India and Korea have adopted a digitized *social service delivery* system due to its effectiveness. The term Social Service includes all types of public services that are provided through local government

and public departments to the grass-roots and urban inhabitants to uphold their life standards and ensure fundamental necessities. In Bangladesh, for example, there is a legal system to provide around 80 types of social services such as Vulnerable Group Feeding (to provide food and other emergency assistance to disaster victims), Maternity Allowance for the Poor Lactating Mothers (to ensure safe motherhood, better health and nutrition of mothers, and safe birth and sound upbringing of infants), and Old Age Allowances through local public representatives and officials. But during these services deliveries, destitute citizens are frequently deprived of these services, due to inefficient service delivery and selection process. Opportunistic and cunning local leaders and officials can manipulate the existing systems, in spite of having many rules and regulations. As a result, a state's noble initiative does not find intended outcomes.

At present, in the local level of Bangladesh, especially in Union (a lowest administrative unit, constituted with 4-5 villages) and Upazila (Sub-district, 2nd local administrative body, constituted with 5-10 Unions) there are elected representatives to a decentralized form of government. In spite of having this decentralization, most of the elected representative did not bring any significant change by their local administrative body in social-economic structure and good governance. Institutional incapabilities, cultural barriers, insufficient training and commitment, less participation of civil societies and media in decision making process, information asymmetry are considered as the major barriers. Then what is the strategy that might have brought positive change in local good governance? Some scholars, argues institutional change, for example, required rules and regulations, more independence, privatization, outsourcing of so-called experts, reducing power of government officials could be better solution for the strengthening of local government. Another group demand for cultural reforms of the community people, which will improve their capabilities and played a pivotal role in the

socioeconomic development. In fact, both institutional and cultural change has the pros and cons. The success of implementing strategy depends on a country's ground reality. But without putting more emphasizes on these reforms, a careful analysis of developed countries' governance, demonstrates that ICT could make a bridge between institutional and cultural reforms to improve their quality. ICT made the public sector more competent, accountable and transparent compared to the previous time. It ensured the easy access of the common people to the government information and citizens' capabilities have been dramatically improved by righteous information and knowledge through the ICT. That's why; in general, decentralization, good governance and socioeconomic development are now comparatively better of those ICT based governed countries than the many developing and least developed countries. Both political representatives and officials are more accountable and transparent in discharging their duties and keeping their pledges, and citizens are getting their required services without unnecessary hassles.

4.2. Strategic Analysis

4.1.1. e-PSD and Accountability and Transparency:

The main purpose of electronic public service delivery (e-PSD) is to ensure a hassle free service delivery system which is more accountable and transparent. According to the ITU, 173 of 190 countries across the world use the internet to deliver government services. Over 250 million people came online in the year of 2012, and it has been estimated almost 40 per cent of the world's population used the Internet by the end of 2013. The empirical data[32] demonstrates the continuous penetration of internet in multipurpose sectors including service delivery throughout the world. The reasons behind this inclusion of ICT in government management framework, is to improve the capabilities and efficiency of public sectors and to ensure the

essential public services to the incumbent citizens for the betterment of the society. In the sub-claim (I), this thesis argues that "e-PSD ensures distress-free service delivery," through following three research questions which are indeed related to accountability and transparency.

- **R/Q 1. What are the factors that influence a transparent social service delivery system?**

According to the Transparency International and the previous discussion of this paper, **Transparency** involves clear and public disclosure of information, rules, plans, processes and actions by governments, companies, organizations and individuals. It is the principle that public affairs need to be conducted in the open. Questions designed to measure transparency, focus on financial management, financial record keeping, and stakeholder knowledge of schools' financial status. **Accountability** means "holding individuals and [organizations] responsible for executing their powers properly (in accordance with the rules and duties of their post), and for paying particular consideration to vulnerable parties. More specifically, accountability is about upwards and downwards responsibility of actors (to their superiors and to service users), participation, and sanctioning of actors for their corrupt acts. Accountability also includes: capacity, participation, and integrity".[33] In fact, both institutional and cultural factors influence the quality of accountability and transparency. Various social problems, including incapabilities of public officials and elected representatives, lack of openness, less engagement and evaluation of public participation, socioeconomic status, immoral politics and ethics are associated with. To minimize all these problems required long term political vision and commitment of necessary

[32]ITU, Measuring the Information Society 2013, *Annex 3. Statistical tables of indicators used to compute de IDI,*CH-1211 Geneva Switzerland, 228-231.
http://www.itu.int/en/ITUD/Statistics/Documents/publications/mis2013/MIS2013_without_Annex_4.pdf
[33] Transparency International, *Mapping Transparency, Accountability and Integrity in Primary Education in South Africa*, 2011 Transparency International, 5.
http://www.un.org/en/ecosoc/newfunct/pdf/luxembourg_tisda_south_africa_report_web.pdf

institutional reforms. On the way to achieve this desired outcome, a digitized service delivery system could be an effective mechanism or tool as the first step to make a bridge between non-transparent (Mannual) system and transparent (Digital) system. *This paper has limited its area of discussion only in comparison between automated and the nonautomated service delivery system and their effectiveness.*

In a traditional decentralized local government system, it is expected that it would be accountable and transparent to citizens' demands, but there is a very little evidence in favor of this claim. For example, "One study suggests that corruption is greater in decentralized than in centralized countries (Treisman 1998). Also, anecdotal evidence indicates that there is plenty of corruption among local officials. On the other hand, there are case studies of governance improvements arising from local efforts in decentralized systems. (Litvack et al. 1998, Klitgaard 1988)."[34]Without effective reform of public sector management framework, a vicious cycle of corrupted local elected representatives and public officials just spread the corruption or mismanagement in local levels. Several factors like as the political framework, fiscal transactions, lack of proper engagement of citizen, civil societies, and media in public service delivery mecanisms, and finaly poor social structure constrain the performance of such decentralization. As a result, in most of the developing or least developed countries, in spite of having decentralized local governments, there is no sufficient evidences of effective contribution to socioeconomic development. They have no good records of accountability and transparency in public service delivery; either they are less efficient or inefficient. In contrast, effective application of ICT in its management, made these governments more transparent and accessible

[34] Omar Azfar et al, *DECENTRALIZATION, GOVERNANCE AND PUBLIC SERVICESTHE IMPACT OF INSTITUTIONAL ARRANGEMENTS, A REVIEW OF THE LITERATURE,* IRIS Center, University of Maryland, College Park, USA, September 1999,4. http://siteresources.worldbank.org/INTINDONESIA/Resources/Decentralization/Lit_Review_IRIS.pdf.

to the citizens. A digitized local government or even central governments are more capable to ensure good governance. For example, the governments of the Scandinavian countries, according to the CPI of Transparency International, most of the time secured the highest ranks in transparency.

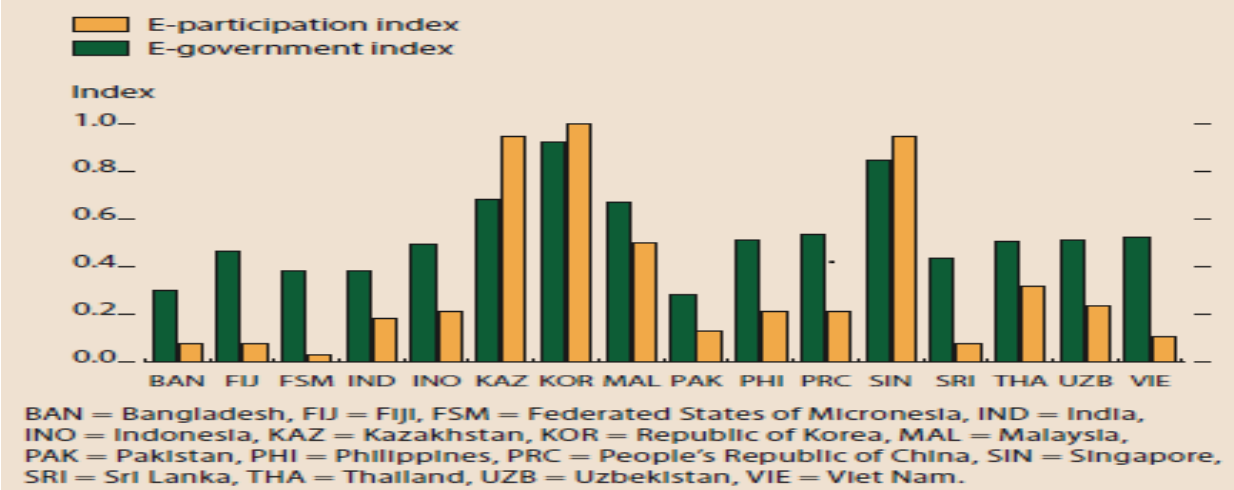
- **R/Q 2. What is the strategy that can minimize harassment in the service delivery system?**

Both e-Government and m-Government are being used throughout the world in providing accountable and transparent service delivery at citizens convenient time and places. A significant progress has already been achieved by public sectors in delivering online information and services in order to develope the quality of public service delivery. As it is discussed in previous sections, manual service delivery is infested with several social and institutional problems, including nepotism, corruption, biases, and political intervention which frequently creates agony to get public services. To overcome these problems, need such mechanisms which are accountable and transparent. Application of ICT (e-PSD) in service delivery, decision making process, easy dissemination of information or communication between service providers and seekers, and any other suitable sectors, certainly improves the transparency, openness, and accountability subject to required political commitments and plans, specific rules and regulations, and institutional reforms. A lot of evidence illuminates that application of ICT in any institutional or cultural reform strategies increased its effectiveness dramatically. Moreover, many innovative implementations of ICT exploring its effectiveness even in several security sensitive sectors, for example, very recently British banks have been agreed to accept photos of cheques sent by smartphone as a speed up process of cheque payments and make it easier for businesses and consumers. According to "The Guardian, Thursday 26 December 2013, this step

will reduce the processing time from six to two days and boost up the convenience of many busy stakeholders as well as banks' efficiency.

Like other parts of the world ICT has also taken root in Asia. Most of the Asian countries are approaching to enhance an efficient, transparent, and accountable governance system using ICT. Average use of telephone both fixed and mobile and internet are continuously increasing, considering its effectiveness in all required transactions or communications. New online services are gradually included and more people are involved with governments' channel. High speed broadband connections not only connected citizens with governments or government with the globe, but also empowering and transforming individuals socioeconomic status by connecting them to global networks and employment opportunities. The following figure demonstrates of

Figure 1: E-government in selected Asian countries



Notes: The E-participation index assesses the quality and usefulness of information and services provided by a country for the purpose of engaging its citizens in public policy making through the use of e-government programs. The E-government development index is a composite index comprising the web measure index, the telecommunication infrastructure index and the human capital index.

Source: *United Nations E-Government Survey online database. http://unpan3.un.org/egovkb/datacenter/regionalview.aspx?view=table&reg=0&ID=0 (accessed 20 September 2013).*[35]

[35] ADB, Asian Development Outlook 2013 Update Governanace and public service delivery, 2013 Asian Development Bank, ISBN 978-92-9254-268-9 (Print), 978-92-9254-269-6 (PDF), Publication Stock No. FLS136033-3. http://www.adb.org/publications/asian-development-outlook-2013-update-governance-and-public-service-delivery.

some Asian countries' e-government and e-participation advancement. Many successful implementation of e-services in Korea, Singapore, China are inspiring all the countries of this region to adopt e-services in their service delivery mechanisms in order to reduce harassements and improve accountability. For example, "more than a dozen state governments in India participate in an initiative to computerize land record management and issue ownership records toward obtaining bank loans for agriculture (Bhatnagar, forthcoming). It has yielded impressive results. Manual systems could achieve only poor service delivery requiring an average of 3–4 trips to government offices, 2–6 hours of waiting on each trip, and bribes equal to 20%–90% of the transaction value. After computerization, the number of trips fell by one, average waiting time was reduced by 30%, and bribery was significantly curtailed. Reduced face-to-face contact with government officials limited opportunities for bribery and corruption and protected low-income and disadvantaged users from potential bribe-seekers."[36]

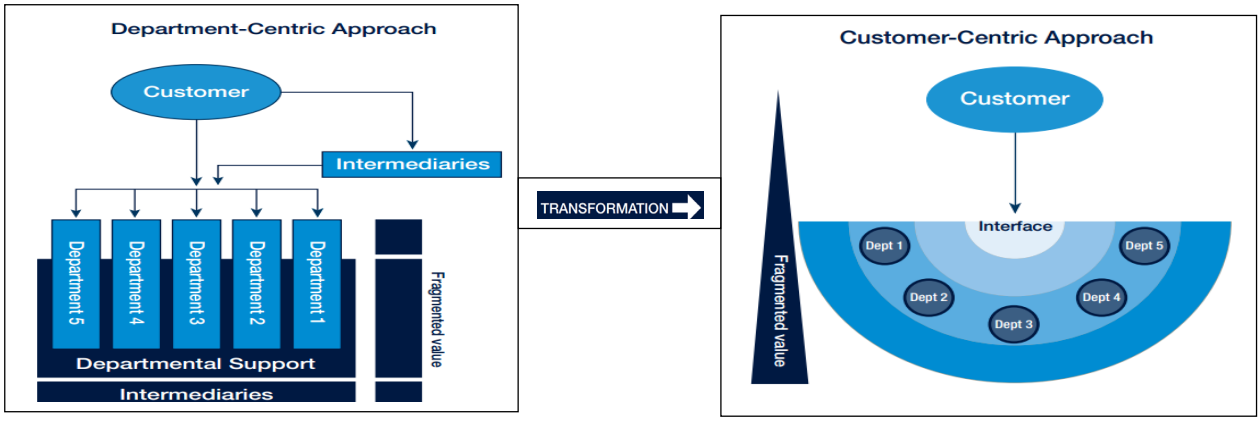
R/Q 3. How an electronic service delivery system can be an effective mechanism in public service delivery?

An electronic service delivery system focuses on customer-centric approach instead of department-centric, and eliminates the intermediate stages which are mainly responsible for inefficient service delivery(Figure-2) in the public sector. Moreover, digitized service delivery system is an efficient tool to improve the quality of public service delivery through analyzing stakeholders demand and required services. "The public sector is, collectively, the world's largest service provider. Any incremental improvement in public services positively impacts

[36] ADB, Asian Development Outlook 2013 Update Governanace and public service delivery, 2013 Asian Development Bank, ISBN 978-92-9254-268-9 (Print), 978-92-9254-269-6 (PDF), Publication Stock No. FLS136033-3. http://www.adb.org/publications/asian-development-outlook-2013-update-governance-and-public-service-delivery.

millions of people."[37] Indeed, a responsive electronic service delivery system (figure 3) is characterized with specific transparent and accountable mechanism, and its every transaction is duly recorded which eventually reduces the scope of manual manipulation of public services and creates more openness. In the e-service delivery system, in most of the cases, services are delivered by front office staffs which are supported by electronic mechanisms of mid office and

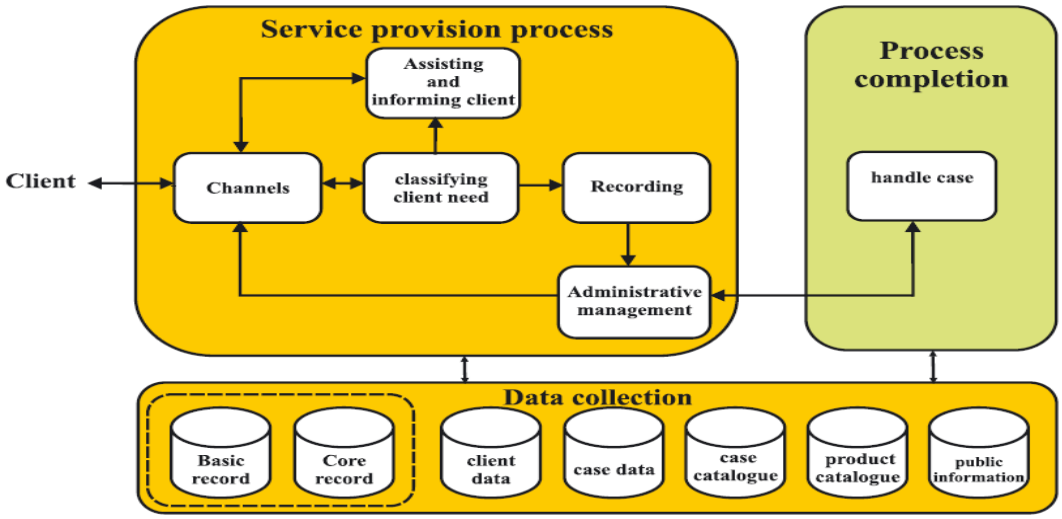
Figure 2: Department-centric vs Customer-centric



back office. Due to a systematic digitized approach, services are delivered swiftly and the queries are dissolved promptly like a one stop where one can buy his/her required items without unnecessary delay and hassels. Moreover, as every transaction is handled electronically, and every stage of communications is recorded properly, so the mechanism discourages the concern people not to compromise one's specific duties. Hence, this system converts a manual system into an efficient public service delivery system and improves accountability and transparency.

[37] PSRC, The road ahead for public service delivery, Delivering on the customer promise. http://www.iccs-isac.org/en/pubs/the_road_ahead_for_public_service_delivery.pdf

Figure 3. Process model for an e-service delivery system



Source: *E-Service Delivery:A manual for delivering E-services as a local government in the digital information society.*[38]

4.1.2. e-PSD and Corruption:

e-PSD as a tool for ICT application showed remarkable effectiveness in minimizing corruption and resource allocation by enhancing accountability, transparency, openness and good governance. Corruption acts as a diminishing factor in economic growth and development. Considering of its ancient presence and difficulty of eliminating from the society ("The Arthashastra", an ancient Indian text written around 4 BCE[39]), most of the scholars argue, preventive measures are more feasible than the thinking of elimination of corruption. Hence, in public sector management, e-PSD is one of the best efficient tools to constrain the degree of corruption and improve the resource allocation. Since corruption negatively affects economic

[38] Municipality of Dordrecht, Mark Voogd*, E-Service Delivery A manual for delivering E-services as a local government in the digital information society,* 2007 VNG International, The Hague, the Netherlands, 40. http://www.vng-international.nl/fileadmin/user_upload/downloads/publicationsAndTools/E-Service_Delivery.pdf

[39] Kautalya, & Rangarajan, L. N. (1992). *The Arthashastra*. New Delhi, India: Penguin Books India.

and human development and as well as its diminishing effects on macroeconomic variables to create long term sluggish growth, so to minimize the corruption and proper resource allocation are very essential and ICTs have that capacity.[40] According to the World Bank and Transparency International corruption is the abuse of public power for private benefit or profit. Both corrupt public officials and elected or nonelected influential public representatives or figures are mostly involved with these undue practices by using their public powers to secure personal gains. It affects countries GDP, rules of laws, resource allocation, and overall development. The second sub-claim of this thesis advocates that an *e-PSD system prevents corruption and ensures proper resource allocation*. Empirical data show any types of manual preventive measures such as effective anti-corruption agencies and strong political will sometimes play a crucial role to combat corruption, but in the long run, most of the time, due to inefficient system it could not achieve desired success. In contrast, with strong political will and rules of laws, the countries which have the effective electronic system or e-governance for example e-PSD, their Corruption Perception Index is much lower and socio-ecnomic indicators such as HDI, GDP are much higher than the countries which have not (CPI 2013, Transparency International). Depending on this sub-claim, the following three research questions analyzed the matter more explicitly.

- **R/Q 1. What are the factors that can influence corruption in a social service delivery system?**

Corruption diminishes socioeconomic development and undermines quality of life, especially to the vulnerable groups, for example the people who are living in extreme poverty or who are severely affected by the impacts of climate change. These groups of people, mostly

[40] Soper, D. S. (2007). *ICT investment impacts on future levels of democracy, corruption, and egovernment acceptance in emerging countries.* Paper presented at the 13th Americas Conference on Information Systems

depend on public services, but in a developing or least developed society where there is a resource scarcity, and when due to corruption or inefficiency those resources are not utilized properly, the situations become more detrimental. Soaring levels of corruption played significant role to lead more poverty due to two reasons. "First, evidence suggests that a higher growth rate is associated with a higher rate of poverty reduction and that corruption slows the rate of poverty reduction by reducing growth. Second, income inequality has been shown to be harmful to the growth and if corruption increases income inequality, it will also reduce growth and thereby limit poverty reduction."[41] So in a given society, proper resource allocation plays a very significant role to maintain socioeconomic development. Though the factors that induce corruption varies from region to region, but mostly, including some cultural and institutional problems, manual service delivery systems also instigate the vested interested group to be engaged with unaccountable and non transparent activities. Hence, corruption starts.

In public service management, poor salary structures, resource scarcity, monopolistic regulations and authorizations, information asymmetry, spending time for getting a decision, lack of holistic integrity, political intervention and patronization, unclear rules, regulations, and responsibilities, and lack of effective monitoring are mainly liable for corrupted atmosphere.

In case of subsidized public services, government usually fixed price at a lower price compared to market price or sometimes the essential services are provided free of cost which creates a scope of corruption. For example,if the price for the good or services is measured on the vertical axis (Figure-4) and the demand is measured on the horizontal axis, then OA represents the supply of the good or services available. DD' is the demand curve. The

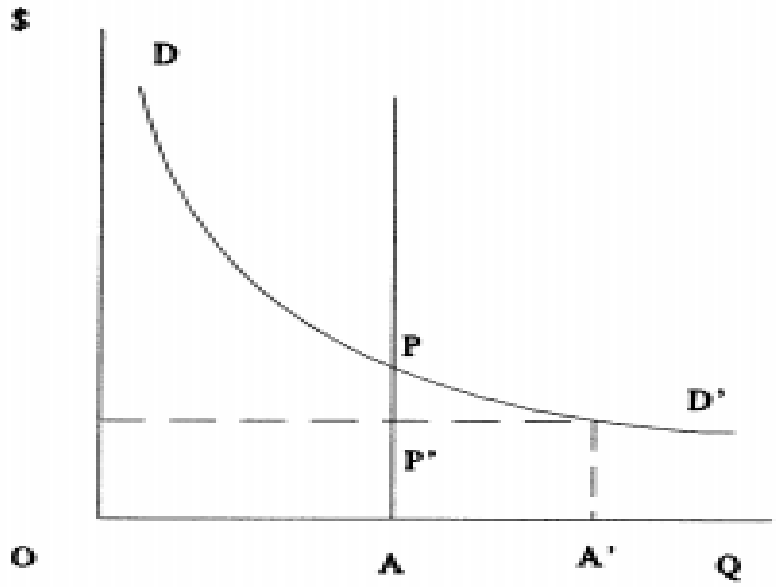
---

(AMCIS), Keystone, CO.

[41] Lala Camerer, Poverty and Corruption in South Africa: Government Corruption in Poverty Alleviation Programmes, ISS Monograph No. 15, Costly Crimes, September 1997. 5-6, http://www.casac.org.za/?wpfb_dl=71.

equilibrium demands would be OA. However, the price is set by the government at AP'. At that price there is an excess demand equal to AA', This excess demand brings rationing and offers

Figure 4: Subsidized Price and Demand



Source :IMF, Corruption Around the World : Casues, Consequences, Scope, and Curse.

of bribes from the users or demand for bribes from those who administer these programs.[42]

In a manual management system, it is very difficult to coordinate and monitor all of the things effectively through only policies and regulations. Here, automated management systems could be an efficient solution by enhancing accountability and transparency in every stage of service delivery mechanisms. According to Vinod (1999), the potentiality of internet based service delivery systems is promising and certainly effective for reducing corruption. There is a negative relationship between ICT investment and the level of political corruption in emerging

[42] Vito Tanzi, Corruption Arround the World : Casues. Consequences, Scope, and Curse, IMF Working Paper, Fiscal Affaires Department, May 1998, 14. http://www.imf.org/external/pubs/ft/wp/wp9863.pdf.

economies, successful ICT diffusions minimize corruption[43]. "Vinod (1999) stated that the top five actions in reducing corruption, in order of importance, are as follows: 1) reducing bureaucratic overhead (e.g. red tape), 2) increasing judiciary efficiency, 3) increasing GNP per capita, 4), increasing education and economic freedoms, and 5) reducing inequalities in income. ICTs such as e-public service delivery systems, internet access and mobile cellular phones have the potential to do several of these actions, including informing citizens of relevant information regarding government and society"[44].

- **R/Q 2. Why does the prevailing (manual) service delivery system cannot prevent corruption?**

As it has been discussed in the previous sections, manual service delivery systems are infested with less accountability and transparency, nepotisms, biases, service providers likes or dislike, comforts or discomforts and acute vested interests than professionalisms or responsibilities made the existing manual service delivery system ineffective to combat corruption. Like many other developing countries, in Bangladesh corruption is not new at all. Kautilya, an eminent writer of the ancient Indian text 'the Arthashastra', more than 2000 years ago defined 40 different kinds of embezzlement of government funds, urged his ruler to run all his ministers through an obstacle course of temptations: 'Religious allurement, monetary allurement, love allurement, and allurement under fear. Moreover, Kautilya explained, "Just as it is impossible not to taste honey or poison that one may find at the tip of one's tongue, so it is impossible for one dealing with government funds not to taste, at least a little bit of the king's wealth. Just as it is impossible to know when a fish moving in water is drinking it"

---

[43] Vinod, H. D. (1999). Statistical analysis of corruption data and using the Internet to reduce corruption. *Journal of Asian Economics, 10*(4), 591-603. doi: 10.1016/s1049- 0078(00)00034-8.10.
[44] ibid

(Kangle.1972: 91)."[45] This evidence indicates that there are several cultural and institutional problems behind in manual service delivery system from the ancient period in this region.

In manual service delivery system, in one hand citizens come into direct contact of public service providers (both public officials and elected representatives) to get their services, on the other hand, in most of the cases service providers enjoyed monopolistic authority with ambiguous guidelines, insufficient manpowers and logistic supports in providing and selecting suitable service seekers. Without explicit data and the information it turns very difficult to identify real public service seekers by the public officials. Moreover, most of the time they are convinced by local political influences, elected representatives and their ingrained thinking or vested interest. There is little chance to analyze the information properly. Either they depend on the local elected representative's information or backdated records. As a result, several incidents of overlapping, deprivations, and mismanagement are a common phenomenon in manual service delivery systems. Many scholars argue that decentralization of governance, institutional and cultural change successfully could minimize this problem. But empirical data shows, its mearly happened in reality. For example, more than 2000 years ago 'Kautilya(as discussed prior)' urged to the rulers to combat corruptions, after that many cultural and institutional reforms, including decentralization are adopted in this region, but corruption is still one of the biggest threat to the development. According to the United Nations Government Survey 2012, the countries whose internet government ranking or e-service delivery ranking is lower, their Corruption Perception Index is higher, though many countries have decentralized governments and as usual manual

[45] MS Iqbal, Can E-governance restrict the Relationships between Stakeholders of Corruption? An Empirical Study of a Developing Country, Korea University, South Korea, http://www.idec.gr/iier/new/CORRUPTION%20CONFERENCE/Can%20Egovernance%20restrict%20the%20Relationships%20between%20Stakeholders%20of%20Corruption-%20Iqbal%20_.%20Sohel.pdf

service delivery system. It demonstrates that the above mentioned factors create hindrances in ensuring accountable and transparent public service delivery in manual systems.

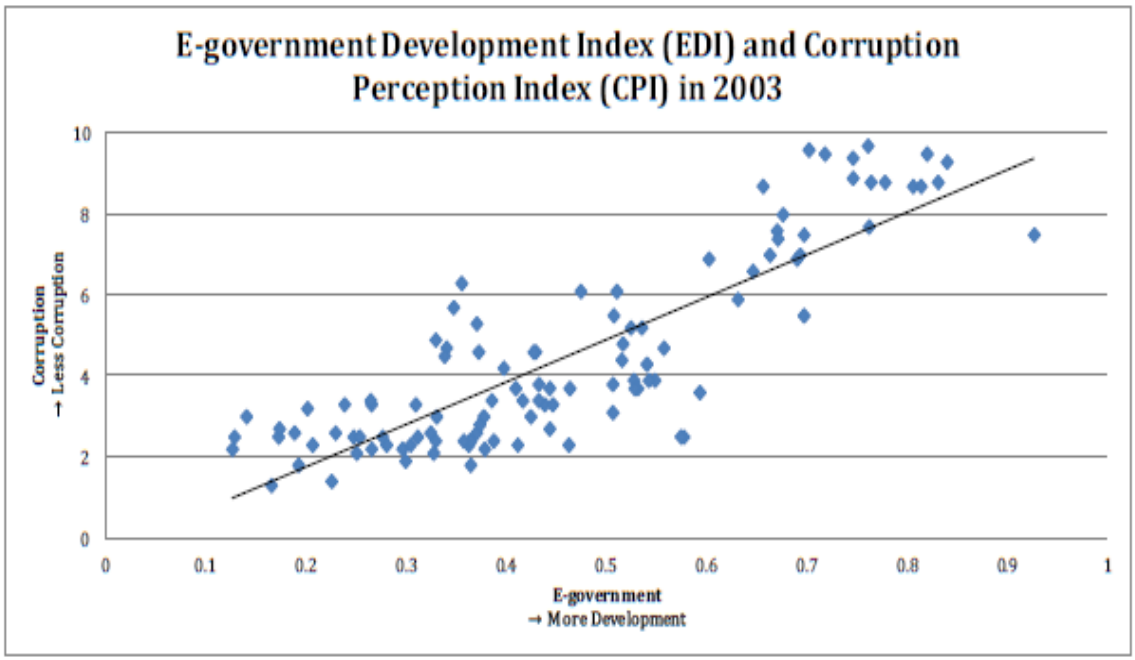
R/Q 3. Is there any influence of e-service delivery system in preventing corruption and efficient resource allocation?

Though there are not many explicit examples about the relationship between corruption and e-government, but some empirical research works demonstrate the positive relationship between these two factors. Most of the findings depict that effective uses of ICT in public sector management, reduce corruption significantly through enhancing accountability, transparency, and openness. According to one of the recent research work on" An empirical analysis of the relationship between e-government and corruption" conducted by Mistry and Jalal of Suffolk University, USA, 1% change in EDI (e-government Development Index) leads to a 1.17% decrease in corruption. An empirical model based survey was conducted in 108 countries to justify the relationship between e-government and corruption using two time series (2003 and 1010) data for EDI and CPI (corruption Perception Index). This research indicates that both developed and developing countries are influenced by ICT in reducing corruption, but the impacts of ICT in minimizing corruption are more significant in developing or comparatively more corrupted countries. Among the following three figures, first two figures demonstrate the causal relationship between CPI and EDI respectively in 2003 and 2010. The third figure illuminates the change happened in during the 2003 to 2007 between CPI and EDI.[46]

In Figure 5, the e-government Development Index in 2003 on the horizontal axis and the Corruption Perception Index in 2003 on the vertical axis. Higher values of EDI indicate better

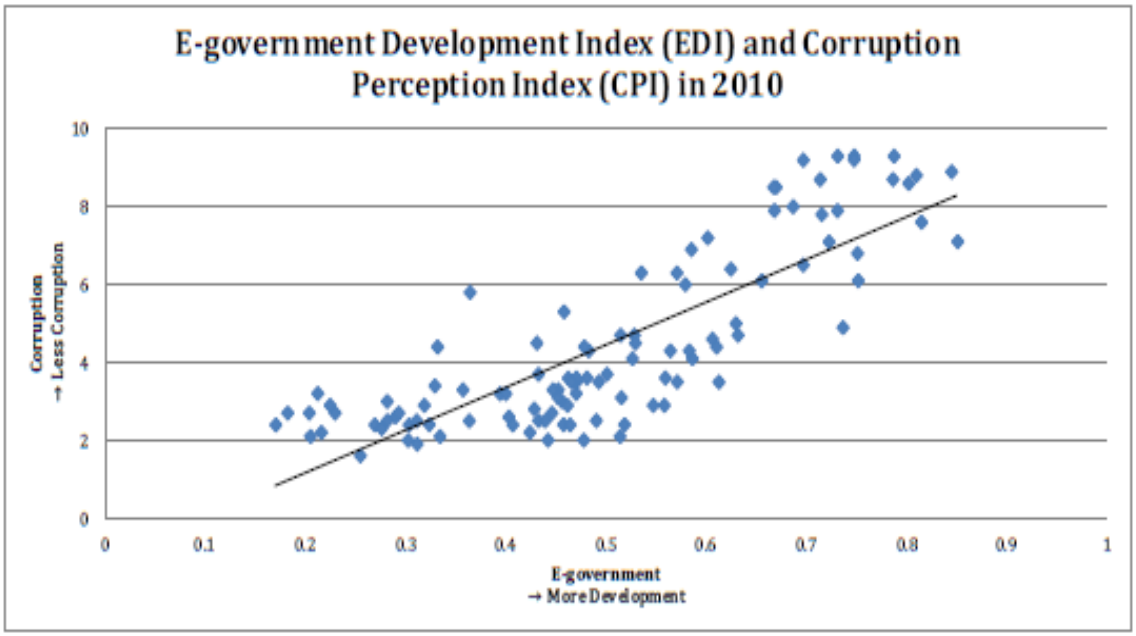
[46] Mistry and Jalal, *An empirical analysis of the relationship between e-governmnet and corruption,* The International Journal of Digital Accounting Research Vol. 12, 2012, pp. 145 – 176, ISSN: 1577-8517. http://www.uhu.es/ijdar/10.4192/1577-8517-v12_6.pdf.

Figure 5: CPI and EDI in 2003



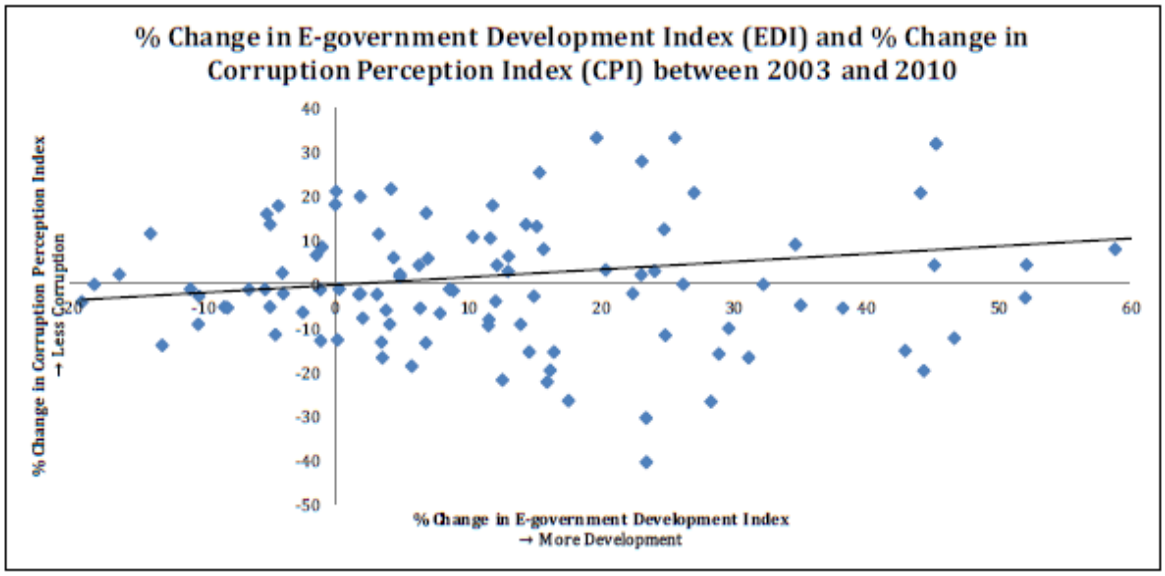
Source : Mistry and Jalal, *An empirical analysis of the relationship between e-government and corruption.*

Figure 6: CPI and EDI in 2010



Source : Mistry and Jalal, *An empirical analysis of the relationship between e-government and corruption.*

Figure 7: Percentage Changes in CPI and EDI between 2003 and 2010



Source : Mistry and Jalal, *An empirical analysis of the relationship between e-government and corruption.*

preparedness and higher values of CPI indicate lower corruption. Therefore, in this research, it was expected to observe a positive relationship if corruption decreases as ICT increases. This positive relationship was depicted in the graph in Figure 7. A linear "best-fit" line which was drawn depending on the observations, suggested that there might be a positive relationship. In Figure 2 the same exercise was repeated with data from 2010 where EDI in 2010 was plotted on the horizontal axis and the CPI in 2010 in the vertical axis. A positive relationship was also found in these observations and next expectation was to concentrate on how changes in EDI might affect changes in CPI. In Figure 3, it was plotted the percentage change in EDI between 2003 and 2010 on the horizontal axis and the percentage change in CPI between 2003 and 2010 on the vertical axis. This graph significantly identified the evolution of CPI and EDI over the sample period. A linear best-fit line was also drawn through the data to justify the degree of impacts. These observations and graphs dictum that the best-fit line have a positive slope between e-government development index and corruption perception index. Though all countries

did not reflect the same level decrease of corruption compared to the same level increase of digitalization, but more or less there are significant positive impacts of ICT on minimizing corruption.[47]

e-PSD system positively helps to ensure efficient resource allocation through disseminating right information and analyzing social welfare competitiveness. Effective resource allocation not only helps in poverty and social inequality reduction, but also plays important role in enhancing business competitiveness which is very crucial in the context of socioeconomic development. Social welfare competitiveness and business competitiveness jointly reshape one country's sustainable development or inclusive growth. Here e-government could be utilized as an instrumental tool in achieving these desired progress subject to others relevant factors such as government policy and governance. e-PSD creates a responsive network between citizens-businesses and governments that helps to know each other. These ultimately assist service providers to improve the quality of resource allocation minimizing wastages of resources and bringing down the processing time by reducing the number of working procedures. An empirical study on Performance Impacts of E-Government: An International Perspective, conducted by Shrish and Thompson of National University of Singapore reveals that "the development of e-Government is significantly associated with resource allocation efficiency and internal operations efficiency of governments".[48] Their cross country (99 countries) research work using the data of Global Competitiveness Report 2005 and UN e-government Survey 2004 suggests that e-government (e-PSD) enhances the Public sectors internal management capacity and helps

[47] ibid

[48] Shrish and Thompson, *Performance Impacts of E-Government: An International Perspective*, conducted, NUS Business School, National University of Singapore,The Tenth Pacific Asia Conference on Information Systems (PACIS 2006). http://www.pacis-net.org/file/2006/1149.pdf.

nations to achieve their social welfare through proper resource allocation and commercial objectives (business competitiveness).

4.1.3. e-PSD and Decentralization and Good Governance:

As it is discussed in the previous chapter about the decentralization and good governance, the discussion here will be confined only the relationship among e-government, decentralization and good governance in order to justify the research questions which are derived from sub-claim 3, "DSDS improves the Management Capacity Framework (MCF) that eventually enhances good governance and effective decentralization." Here, the term MCF indicates the capacity of public service management in delivering government services to citizens. Without application of ICT in the service delivery mechanisms, public offices usually work in a traditional manual system where there are less transparency, accountability, openness and a lot of scope of service manipulations and inefficiencies. In contrast, e-PSD system as a tool of ICT applications or e-government provides comparatively more transparent, convenient, and cost effective services. Though, here ICT plays a pivotal role, but the significance of public officials who are engaged with its operation are very crucial. ICT itself just a tool, its success and failure depend on its users, but the interesting thing is that ICT successfully engaged public officials with its operating procedure. As its operating system is mechanized and stored all records of transactions or communication with stakeholders, gradually it helps officials to improve their personal and institutional capabilities. In a digitized office management citizens, civil societies, and media get more access to public sector information, that create a paramount pressure on concern employees to keep official record and information up to date and discharge his or her duties more promptly. Moreover, ICT based service delivery by nature responsive, transparent, and accountable that

also influences the organizational management capacity. In addition, ICT could successfully make a bridge among various external and internal factors that influence the organization's management through dissemination of information and creating more openness in government. In this case all influential stakeholders from the structural framework, the human resource framework, the political framework, and the symbolic framework behaved with more responsible and accountable.

According to Bolmen and Deal, "every individual has personal and preferred frames that they use to gather information, make judgments, determine behavior and explain behavior (University of Melbourne). Each frame provides one version of organizational life and each frame also provides a specific, albeit narrow range of ideas, techniques, processes that may be used to improve the efficiency and effectiveness of the organization (University of Melbourne)."[49] In the "structural" framework, the manager tries to design and implement a process or structure that will be appropriate to the problem and the circumstances; the human resource manager views people as the heart of any organization and attempts to be responsive to the needs and goals to gain commitment and loyalty; the political leader understands the political reality of organizations and can deal with it; and the symbolic framework views vision and inspiration as critical.[50] The combination of all these attitudes and views shaped the organizational management capacity framework. In most of the cases public sectors are used to work with public elected representatives. So lack of effective analysis all the relevant stakeholders including politicians might diminish the management capacity. To address these issues, need authentic data or information and substantive communication. And the empirical

[49] Dr. P. McCabe, *BOLMAN AND DEAL'S FOUR-FRAME ANALYSIS: CASE STUDY,* January 2003, http://en.convdocs.org/docs/index-39189.html.
[50] ibid

data showed (UN e-Government Survey 2012) ICT is one of the best tools to bind all the stakeholder in a single thread with more accountability and transparency, which ultimately enhance the management capacity framework (MCF).

Effective MCF is one of the most significant preconditions of decentralization and good governance. To bring the central government services at the local level and ensure the legal rights of citizens are the main purpose of both decentralization and good governance. The task, without knowing the targeted groups (citizens) and effective implementing tools (public agencies) is almost impossible. Here, ICT is the best assisting tool to fill up the gap. The further discussion of the following research questions will illustrate this issue more explicitly.

- ***R/Q 1. What are the factors that ensure decentralization and good governance?***
- ***R/Q 2. What is the relationship between decentralization and good governance?***
- ***R/Q 3. How ICT based Management Capacity Framework influences decentralization and good governance?***

In order to coherent analysis of these research questions, it has been discussed altogether. The nature of these three questions is logically interconnected. ICT based management capacity framework, as it is discussed earlier, is one of the best implementing mechanisms of decentralization and good governance. To ensure its benefit, it is essentially needed to establish accountable, transparent, and responsive public services to citizens. Including service delivery, democratic institutions, rule of law, antipcorruption measures, and human rights are key factors of good governance both in decentralized local governments and central government. Among the factors service delivery is more crucial due to its interconnectivity with other factors. The success or failure both is revealed through the level of transparency and responsiveness of service delivery, that is mostly provided through the management of public sectors. In this way

public sector managememt capacity is closely associated with decentralization and good governance.

> *IT promotes good governance in three basic ways: (1) by increasing transparency, information, and accountability; (2) by facilitating accurate decision-making and public participation; and (3) by enhancing the efficient delivery of public goods and services…. The availability of information helps people, especially those who live in the provinces, to access the data that they need without going to the nation's capital. Information about government operations is a basic requirement in fostering transparency in governance. The use of IT could enable the government, as well as civil society, to inform the people of their rights and privileges.*[51]

The role of e-PSD is more crucial in decentralization. Including the World Bank and IMF, most of the international organizations advocate for decentralization in order to achieve socioeconomic development. Both normative-inherent and instrumental arguments have identified the importance of decentralization (Table:2) as a mean of development. This thesis also supports this

Table 2: Arguments in Favor of Decentralization of Political Power

Normative/Inherent Arguments	Instrumental Arguments
Increased citizen participation in public Affairs	Greater efficiency and effectivity of the management of public affairs
Minority rights protection against majority rule	Prevents system overload and Breakdowns
Increases the acceptance of grass roots diversity such as local customs and traditions	Prevents abuse of central government, "bulwark against tyranny"

Source: Decentralization and Good governance: ten years of Hungarian experience.[52]

[51] Francisco Magno and Ramonette Serafica, *Information Technology for Good Governance,* http://unpan1.un.org/intradoc/groups/public/documents/apcity/unpan002708.pdf

[52] Zsolt Nyiri, DECENTRALIZATION AND GOOD GOVERNANCE: TEN YEARS OF HUNGARIAN EXPERIENCE, University of Connecticut, USA. http://unpan1.un.org/intradoc/groups/public/documents/nispacee/unpan005561.pdf

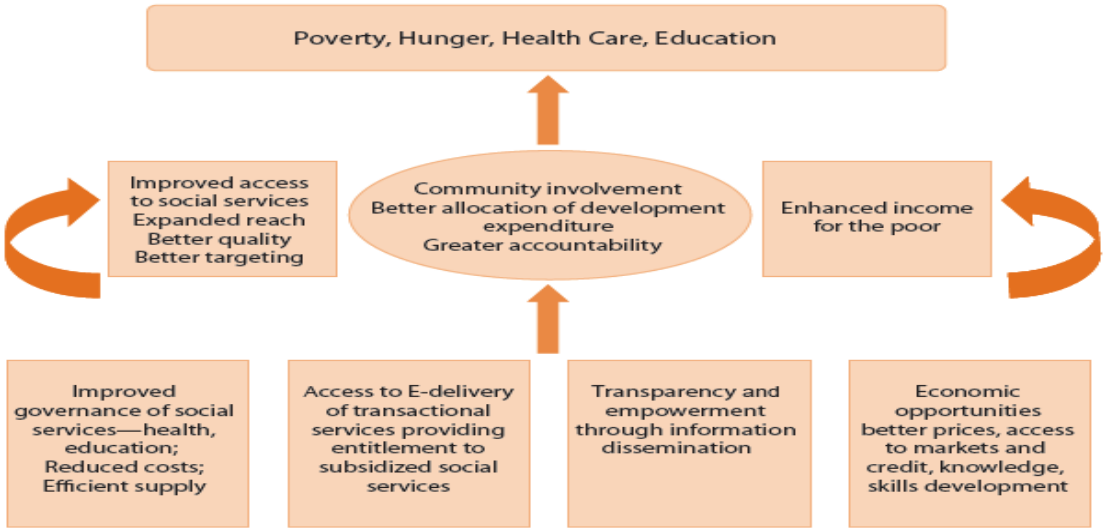
Claim, but empirical evidence shows the traditional decentralized governments are not capable enough to mitigate the basic demand of good governance. Whereas, when a decentralized government is equipped with ICT, it became more efficient in ensuring transparency, accountability and effective resource allocation.

Considering the potentiality of ICT based service delivery system(e-PSD) among the United Nations Member States at present 187 countries out of 190 are providing online services (UN e-Government Survey 2012), only Central African Republic, Guinea and Libya have no online presence. The main purpose of adopting e-delivery services is to ensure more accountable, responsive, and cost effective service delivery for the betterment of citizens and as well as countries socioeconomic development. The online penetration through mobile network and broadband connectivity is continuously advancing. The following figure shows how rapidly this change is happening. According to the Measuring Information Society 2013 Survey, in 2003 where the Mobile-cellular telephone subscription was more or less 20 per 100 inhabitants or households, whereas only after 10 years in 2013 it reached at 96.2 (estimated) (Ch-III, Figure-1). Not only that the countries whose e-government ranking is high, there socioeconomic indicators such as HDI, GDP also high, CPI is remarkably low, means less corrupted. For example the countries, Korea, Singapore, and USA which is providing 87% online services, their decentralization and good governance are globally recognized and well-known. There public sector management system are fully equipped with latest ICT which ensures transparent and accountable public services. These information certainly supports the sub-claim of this thesis that, e-PSD(e-government) or digitized public service delivery system enhances the capacity of management capacity framework and eventually it improves the quality of decentralization and good governance.

4.1.4. e-PSD and Socioeconomic Development:

"Information and communication technologies support the development. When that development is effective, efficient and enduring it is called sustainable. E-government impacts directly on sustainable development through the use of ICT."[53] e-PSD or DSDS is a mechanism of ICT. According to the anecdotal evidences e-PSD system is used for enhancing transparency, accountability, engaging people with the government decision making process, creating an open governance, providing responsive public services throughout the world that eventually playing a pivotal role in ensuring socioeconomic development (UN E-Gvoernment Survey 2012). The following figure demonstrates how public service delivery creates a linkage among the various stakeholders and as well as socio-economic indicators such as poverty, health, and education.

Figure 8. Different Types of Information and Communication Technology Applications for Rural Poor



Source : Empowerment and Public Service Delivery in Developing Asia and the Pacific, 2013 Asian Development Bank. [54]

[53] UN E-Government Survey 2012, E-Governmnet for the people, Department of Economic and Social Aff airs, United Nations, New York, 2012.37.

[54] **ADB,** Empowerment and Public Service Delivery in Developing Asia and the Pacific, 2013 Asian Development Bank, ISBN 978-92-9254-043-2 (Print), 978-92-9254-044-9 (PDF),Publication Stock No. RPT135565-3,44. http://www.adb.org/publications/empowerment-and-public-service-delivery-developing-asia-and-pacific

The subclaim 4(four) of this thesis also supports this evidence. It claims, "DSDS elevates openness, participation, and integrity in decision making and implementing process, in order to achieve socioeconomic development." Following this claim, the three research questions elaborately analyzed this argument.

- ***R/Q 1. Does DSDS really enhances the peoples' participation, access to information, and openness in decision making process?***

The main goal of e-PSD is to provide responsive, accountable and transparent services which essentially attract people to get required public services without any undue hassles. Moreover, it minimizes information asymmetry that creates openness in any decision making process. A lot of statistical and anecdotal evidence justifies these arguments. For example, In *British Columbia*, the local government introduced a portal which is dedicated to provide public services only for women to ensure their every right. "This Web site provides information, government assistance and training to women in general, as well as to be aboriginal, immigrant and minority women living in the province of British Columbia. The services include application for business loans and childcare subsidy,employment preparation training, job matching, health information services, and counseling and legal aid,[55] those are crucial factor of socioeconomic development. Another example provides the evidence of large number of peoples participation in government services, the Department of Revenue in Karnataka, India providing digitized land record services to 6.7 million farmers through computerization of 20 million records of land owenership. ROR (Record of Rights) is required for many socioeconomic purposes including obtaining obtaining bank loans and licenses. Before introducing this digitized

[55] Wiki Books,E-government/E-Government and Human Development, http://en.wikibooks.org/wiki/E-government/E-Government_and_Human_Development. Accessed January 20, 2014.

system, this sector was infested with inefficiency and corruption. Citizens had to collect this Record of Rights, Tenancy and Crops (RTC) through facing many stages where frequently they suffered from several bureaucratic and political problems such as undue delay, harrasement and bribe. In contrast, at present it is so convenient to collect a printed copy of RTC only by Rs. 15 from a digitized land records kiosk (called Bhoomi) centers in 140 taluk offices. Moreover, the government is working to make this service available in fully internet based online service, so that farmers can obtain this record at their any convenient places and time.[56]

Now efficient e-PSD has been provided by multifaceted channel using all effective digital devices such as mobile phones, computers, televisions, and GPS that covers all diverse group of people who have access in internet and digital devices . Most of the efficient public sector disseminating their many essential information or services which are crucial to public health, education and other interests through digital communication method. Politicians are campaigning their views and exchanging opinions with citizens. Physicians, Teachers or Educational Institutions (for example MOOC) are providing their respective services through online or recorded digital devices. Civil Societies and Media raising many important social issues through online survey and discussion. Moreover, e-PSD "compels public officials to be more transparent and accountable for their actions and decisions, as well as to improve not only the delivery of services but also the quality of these services" which finally enhancing the capacity of public sector management. Hence, an e-PSd system efficiently encourages people to be incorporated with government service channels and enhances their participation in creating transparency and openness in decision making process.

[56] ibid

- ***R/Q 2. What are the impacts of digital divide in diluting the benefits of the e-service system in social perspective?***

Many scholars argue digital divide (as discussed before)is one of the biggest threat in introducing effective e-governments where an e-PSD system is one of the important tools. Minimum digital skills, awareness, willingness, and capacity to engage with ICTs are extremely crucial for any e-government approaches. Still today, a major portion of the total global population lives in the rural area, and among them a significant number of people are illiterate or less literate and live in the extreme poverty. But inclusive growth or sustainable development could not be achieved without bringing this population into the mainstream of the development. In most of the cases, these groups of the people either excluded from the service of the latest technologies are unable to avail these services. This group of people, primarily needs work, nutrition, health, shelter, and education. Then, how e-government can help to minimize this problem? According to the United Nation E-Government Survey 2012, "e-government can deliver public services such as health and education more effectively through broadband, with e-health allowing people in rural and remote areas to access doctors online and e-education enabling youth to receive Internet-based education that would not be physically available. It can also contribute to the design, provision and delivery of more accountable services by incorporating the inputs of wider segments of society that otherwise would not have the means to contact their local or national representatives or representative institutions."[57] Hence, e-government through e-service delivery could minimize the digital divide and bring positive change into the Lifecycle of these vulnerable groups of people. Citizen centric responsive services depending on the demand of local people irrespective any discriminations certainly

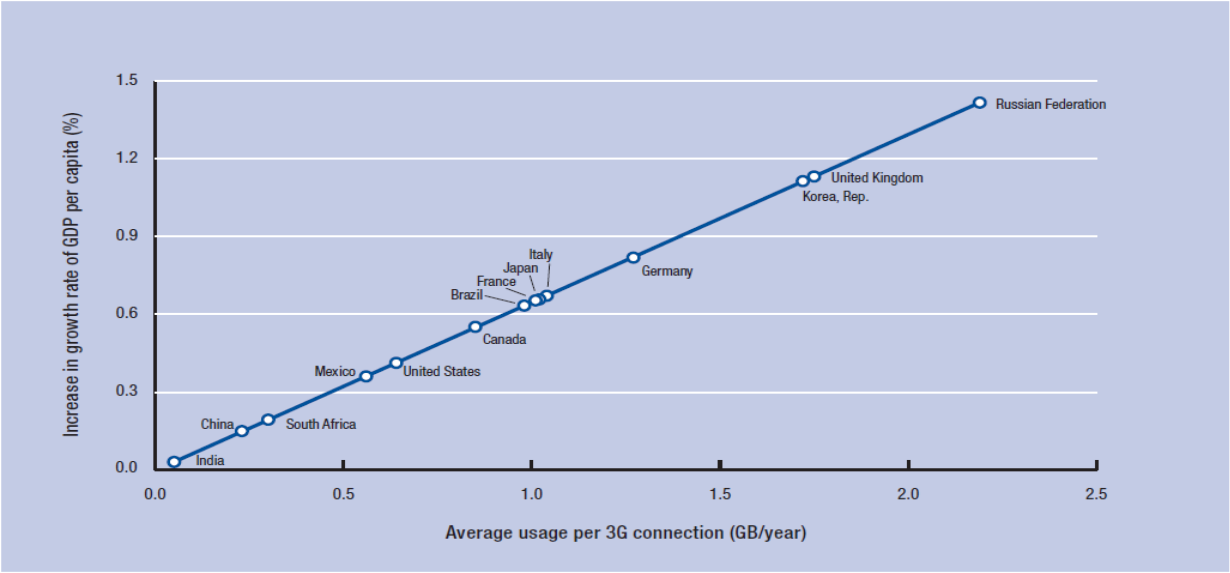
[57] UN E-Government Survey 2012, E-Governmnet for the people, Department of Economic and Social Aff airs, United Nations, New York, 2012.37.

would engage people with the government channel. Besides this accessibility and cost effectiveness of those services and their medium, are also important factors, inefficient handling might diminish the benefit of e-PSD. The rural people might not be interested in the e-PSD, if the service providers fail to provide services in convenient time and places of service seekers. Here, Mobile Network with broadband connectivity revealed and already successfully utilized in many countries for providing public services in more convenient and cost effective way. For example, 'Mobile Banking' in Bangladesh empowering people to send their money in a quickest and safest way to their rural relatives. Ministries of Health, Education, Agriculture, and Disaster providing many required services (information) in local language to the rural people almost free of cost through mobile communication (National Web Portal of Bangladesh). Chief mobile devices, smartphones, and other electronic devices are helping both service providers and seekers to reach each other for their own purposes and thus, it is reducing the digital divide also.

Mobile broadband connectivity not only reducing the digital divide and ensuring public services to the all diverse groups of people, but also playing a very significant role in enhancing countries economy. "Research shows that every 10 percent increase in broadband penetration accelerates economic growth by 1.38 per cent in low- and middle-income countries."[58] The following figure (Figure 9) shows how increased use of mobile data per 3G connection influence the countries growth rate of GDP per capita.According to the Global Information Technology Report 2013 "mobile data usage per 3G connection has a positive effect on the growth rate of GDP per capita. This effect grows linearly with the initial level of data usage per 3G connection in the country: countries with a higher average level of mobile data consumption per 3G connection experience a larger impact on GDP per capita growth from increasing this

[58] Ibid

Figure 9 : The effect of doubling mobile data usage per 3G connection



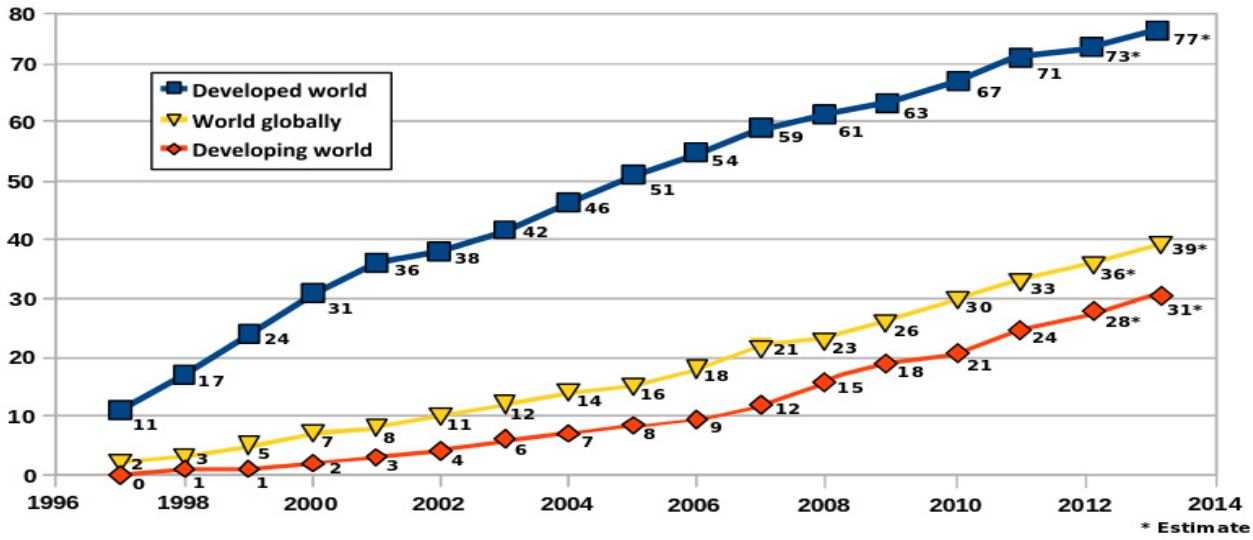
Source: The Global Information Technology Report 2013,P-79.

consumption." This report examined the relationship between the volume of mobile data used by each 3G connection and increases in economic growth on some sample countries and found positive impacts between 2005 and 2010. The sample 14 countries experienced an on average growth rate of GDP 0.5 % points each year. Among these countries, Russia, the United Kingdom, and the Republic of Korea, the United Kingdom, and Russia who used a higher level of data usage per 3G connection experienced an increase in GDP per capita growth of up to 1.4 percentage points, though the effect is more limited in the developing countries who are still improving their mobile data usage, for example India, and China.

Indeed, after the intervention of Mobile Government, advanced form of E-Government, electronic public service delivery (e-PSD) are also provided through mobile communication. The above anecdotal evidence illuminate that how electronic services or uses contributing countries' development through connecting the people worldwide. Around 40% of the global population are using internet for their livelihood purposes, this percentage is almost double (77%) in

developed countries. Though in the developing world the internet penetration is comparatively slow (31%), but its continued advancement indicates its capabilities to catch up the best progress (Figure 10). Moreover, out of 190 United Nation member countries, 187 countries have now connected with online, and most of the people of the world are under mobile network which depicts the demand for online services. Thus, the impact of digital divide day by day minimizing.

Figure 10: Internet users per 100 inhabitants



* Estimate.
The developed/developing country classifications are based on the UN M49,
Source: ITU World Telecommunication /ICT Indicators database

e-PSD empowered by broadband connectivity has the ability to improve citizens livelihoods, including enhancing their voice in the decision making process, and improving literacy and education which making the bridge with the digital divide.

- **R/Q 3. Why accurate data (National Population Register (NPR) and Departmental Register (DR)) is so important in the e-service delivery system?**

To provide effective public services and ensure resource allocation, especially in a developing society where there is a resource scarcity and mismanagement, the accurate information and identity of each citizen's is very significant in socioeconomic context. Similarly,

a department that is assigned to deliver public goods to the desired citizens, should have also detailed information about the services and demands of expected citizens. Otherwise, the purposes of e-PSD might be diminished, probably it is one of the main causes of many unsuccessful e-PSD. Detailed further research only on these issues might identify the real impacts of the National Population Register and Departmental Register on socioeconomic development and e-PSD. Empirical evidence demonstrates that, most of the developed and even many developing countries have national population register or citizen register which are used in addressing citizens basic needs and providing public services. Moreover, different organization is utilizing these data for their specific purposes, for example law forcing agencies are using this information in maintaining citizens' security and ensuring the rules of laws. As it has been discussed in the previous section e-PSD is an efficient tool of e-government which is capable of providing transparent and responsive services depending on accurate programing and information both for services and citizens. Without accurate instruction, this mechanism could not perform in a proper way, in that case the potential of e-PSD system might be hindered. For example, If the Ministry of Social Affairs in Bangladesh, does not have real data of disables or autistic persons in a given society, then it is very difficult to address their specific needs to autism. In that case the provided public services either would be useless or inappropriate.

Hence, a National Population Register, contains essential basic information of citizens and a Departmental Register, the main purpose is to store and disclose all required information regarding the services and deserved service seekers are extremely crucial in effective service delivery, whether it is electronic and manual. According to the United Nations Statistics Division, "the main administrative functions of population registers are to provide reliable information for the various purposes of government, particularly for program planning, budgeting and taxation;

for issuing unique personal identification numbers; for establishing the eligibility of individuals for voting, education, health, military service, social insurance and welfare and the pension system; and for police and judicial references."[59] Indeed, this information is the prerequisite of e-service delivery. For example, in India, 'AADHAAR'[60], a smart card containing 12-digit unique number for every eligible citizen is required to get access in public services. Utilizing this card, public service providing agencies made the public services more accountable and transparent, and as well as enhanced the efficiency in resource allocations.

4.3. Successful Cases Analysis and Hypotheses Test

The effectiveness of e-PSD system in enhancing accountability, openness, and transparency and their role in decentralization, good governance, and socioeconomic development has analyzed in section 'A' through anecdotal and statistical evidences throughout the world. Twelve research questions, derieved from four sub-claims are discussed and justified accordingly. Now in this part some substantive success cases from three crucial countries (China, Korea, and India) of the developing world have illuminated the hypotheses. According to the UN E-Government Survey 2012, "Asia is home to 60 per cent of humanity. Some Asian countries, including China and India, averaging around 8 to 9 per cent of the continent's GDP" and playing a pivotal role in e-government development." E-Government services have continually expanded in this region in order to improve citizens' socioeconomic status. In 2012, three of the world's best 20 e-leaders, including the Republic of Korea (0.9283), the world leader in e-government (Table 3), come from Asia and as a whole this region has a higher level of e-government

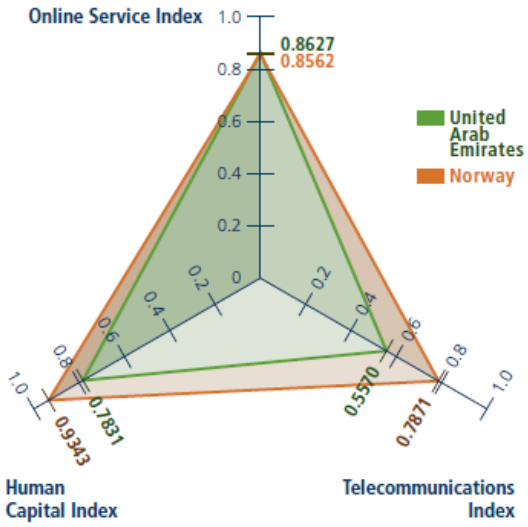
[59]United Nations Statistics Division, Population Registers.
http://unstats.un.org/unsd/demographic/sources/popreg/popregmethods.htm#1
[60]Unique identification Authority of India, Planning Comission, Government of India.
http://uidai.gov.in/what-is-aadhaar.html

development than the world average. Many successful e-government initiatives of these countries are effectively playing significant role in ensuring integrity, accountability, improving quality of public sector's management capacity and socioeconomic development. For example, "the rapid progress of United Arab Emirates (0.7344) is considered as a best practice case highlighting how effective e-government can help support the development (UN E-Government Survey 2012)." This country in global EGDI 2012 ranked 28th and 5th in Asia by advancing 21 positions from its prior record. Compared to one of the global e-government leaders Norway (8th), United Arab Emirates with double the population and three quarters of the GDP per capita,

Table 3: E-government leaders in Asia

		E-gov. development index		World e-gov. development ranking	
Rank	Country	2012	2010	2012	2010
1	Republic of Korea	0.9283	0.8785	1	1
2	Singapore	0.8474	0.7476	10	11
3	Israel	0.8100	0.6552	16	26
4	Japan	0.8019	0.7152	18	17
5	United Arab Emirates	0.7344	0.5349	28	49
6	Bahrain	0.6946	0.7363	36	13
7	Kazakhstan	0.6844	0.5578	38	46
8	Malaysia	0.6703	0.6101	40	32
9	Saudi Arabia	0.6658	0.5142	41	58
10	Cyprus	0.6508	0.5705	45	42
	Regional Average	**0.4992**	**0.4424**		
	World Average	**0.4882**	**0.4406**		

Figure 11: E-government in Norway and the United Arab Emirates



Source : UN E-Government Survey 2012

has achieved almost same level of progress in online services (Figure 11). Moreover, it has notable progress in human development and corruption minimization. Thus, online services have been gradually recognized as an effective mean of development throughout the world.

In 2003, when United Nations started to e-government survey among the member states (190), 18 countries were not in the online (Figure-12). After one decade in 2012, only three

countries (Central African Republic, Guinea and Libya) did not have a web presence. In spite of having ups and downs in some countries, all of the member countries have been making significant progress in online service deliveries. According to the survey, more than 50% (96) of the total member countries are providing advanced search feature on the website, the rest of the country is also approaching to catch up the desired progress. More or less every country is trying to provide online services in various social and business sectors including education, health, social welfare, finance, labour, and environment (Figure-13).This survey revealed that the countries who have provided more transactional and responsive online services their all socio ecconmoc indicators are comperatively better than the countries who hav not. For example, the

Figure 12: United Nations Member States' online presence, 2003 – 2012

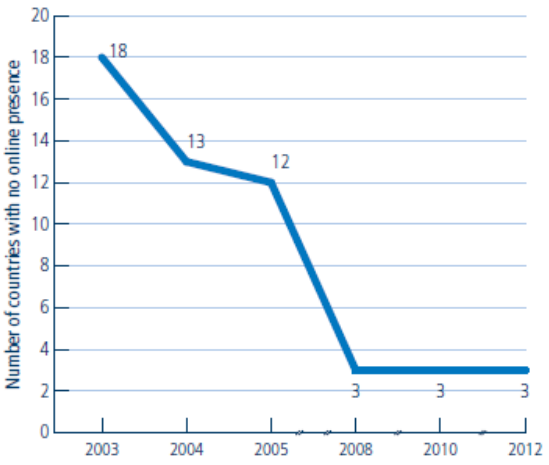
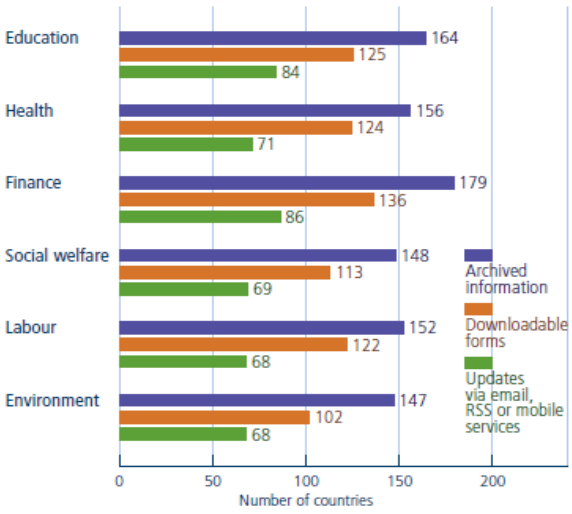


Figure 13 : Sectoral user services online



Source : UN E-Government Survey 2012

countries Republic of Korea, Singapore, and the United States are providing 87% (highest) effective online services, on the other hand India (47%), China (46%), and Bangladesh (39%) are providing almost half of the service. This scenario is worse in some other least developed countries like Tuvalu (only 5%), Kiribati (6%), and Congo (7%). In the lower scoring countries,

the service availability level is very low, and according to the World Bank's statistical data and other anecdotal evidences their decentralization, goodgovenance, and socioeconomic development almost ineffective and stagnant. In contrast, "e-services in a country are a function of the level of development, resource availability, and human and technological infrastructure."[61]

Table 4: Relationship between ICT and Socioeconomic development

Countries	e-Government ranking 2012	e-Readiness ranking 2013	HDI (2012)	CPI (2013)	GDP (PPP) (2012)
Bangladesh	***150***	***114***	***146 (0.511)***	***136***	***$2000 (198)***
China	78	58	101 (0.699)	80	$9100 (120)
India	125	68	136 (0.554)	94	$3900 (164)
Japan	18	21	10 (0.912)	18	$36200 (36)
South Korea	***1***	***11***	***12 (0,909)***	***46***	***$32400 (40)***
Maldives	95		104 (0.688)		$8700 (122)
Singapore	***10***	***2***	***18 (0.895)***	***5***	***$60900 (6)***
Sri Lanka	115	69	92 (0.715)	91	$6100 (142)
Thailand	92	74	103 (0.690)	102	$10000 (113)
Vietnam	83	84	127 (0.617)	116	$3500 (167)

NB. Data collected from the concern online sources, for GDP
http://www.photius.com/rankings/economy/gdp_per_capita_2013_0.html

Though there is some debate between development and level of online services, But, without effective resource allocation, good governance, efficient decentralized local governments, and public sector management it is difficult to catch up the expected development. The e - PSD system as an efficient e-government tool plays a vital role to expedite development and there is a strong relationship between ICT and socioeconomic development.

Before going to more indepth and specific discussion about the impact of e-PSD sytems in accountability, transparency, integrity, decentralization, good governance and socioeconomic

[61] UN E-Government Survey 2012, E-Governmnet for the people, Department of Economic and Social Aff airs, United Nations, New York, 2012.37

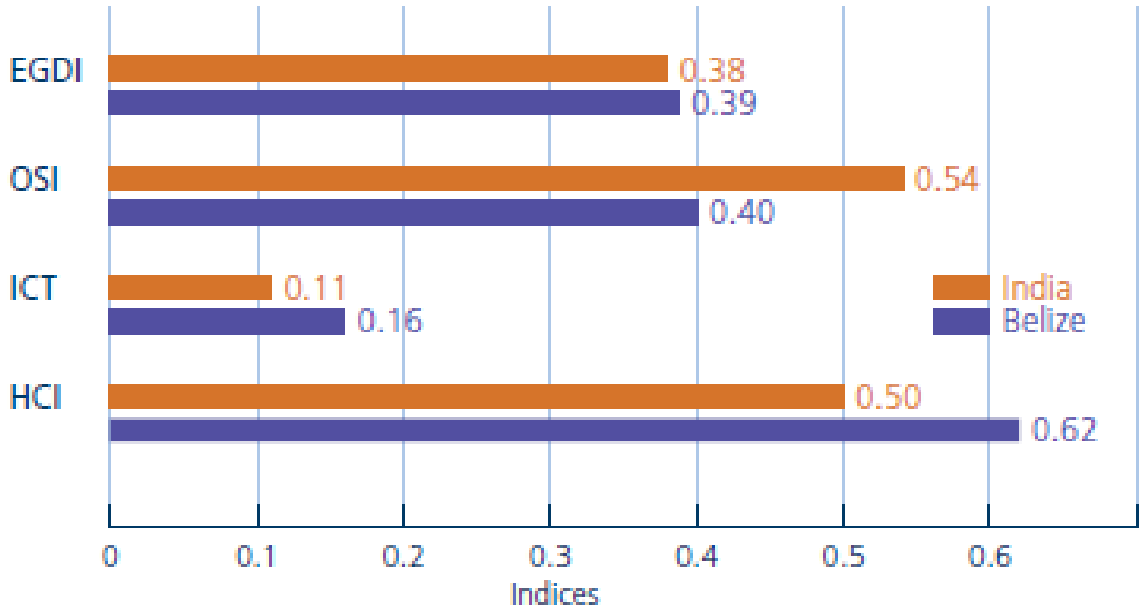
development, a short review of hypothesises would be an effective measures to justify them properly. Indeed, the arguments of all hypothesizes are already testified through twelve research questions using several anecdotal and statistical data of various individual and organizational research works, including UN E-Government Survey 2010 and 2010, Human Development Index 2013, Corruption Perception Index (CPI) 2012 and 2013, The Golobal Information Technology Report 2013, Measuring the Information Society (ITU, 2012), and crucial discussion of literature review part in global context. In summarizing formate hypothesis 1,2,and 3 argus that, an e-PSD system provides the guarantee of accountable and transparent services (H1), which improves the quality of decentralization and good governance (H2), and eventually it elevates the level of socioeconomic development(H3). As these three claims are interconnected, so for the sake of coherence illumination, all three hypothesizes would be justified together through the specific country case studies. As it is cited earlier, here the country cases of India, Korea, and China have been utilized in testifying the hypotheses.

4.2.1. Republic of India : Case Studies and Hypotheses Test

India is the seven largest countries by area with over 1.2 billion people and the most populous democracy in the world has the tremendous progress in the way to be an economic powerhouse in recent decades. Its continued development of socioeconomic indicators, for example, in GDP ($1.8 trillion, 2012), HDI (136) and governance, especially in e-government (EGDI:125) made this country more promising to the world community. Though “Lack of access to both ICT and education infrastructure in the developing countries is a major constraint

on e-government development(UN E-Government Survey 2012).” But some e-government initiatives of this country have been created exemplary instances in enhancing greater access of mass people to modern education, public health, agribusiness, and livelihoods developments

Figure 14: India, advancing in e-government development



Source : UN E-Government Survey 2012.

through accountable and transparent electronic public service delivery systems. “India has about 4000 times the population and about 130 times the area of Belize. Moreover, it has only about one quarter of the Gross National Income of Belize. As such, the effort required by India to provide e-government services is far greater than that of Belize (UN E-Government Survey 2012)”. Yet, the country has advanced in e-government development strategies (Figure-14). A country like India, where a significant portion of its total population lives in extreme poverty and where there is severe resource scarcity, e-PSD system is proven as one of the best service delivery mechanisms in providing improved public services, and ensuring citizens' rights and proper resource allocation. This country have been practicing decentralized local government system since its independence, its reputation in democratic governance is well known throughout

the world. In spite of this, the country could no free from the curse of sever inequality, less transparency, accountability, and corruption (CPI 94/2013) in its public sector management, which is infested with many institutional and cultural problems in macro, meso, and micro levels. Among the problems, ensuring transparent, effective public service delivery is one of the major concerns in local and central governments public sector management. To minimize these problems the country has been launched e-government strategies in its many public sectors, especially in sectors where there is a large population engagement (for example, *digitized land management in Karnataka state*) and achieved a remarkable progress which have enhanced the quality of accountability, transparency, openness, citizen participation, and responsive governance in decentralized local governments and as well as central government.

A research article on Assesssing the Impact of E-Government: A Study of Projeccts in India has succuessfully revealed the impacts of e-government (e-PSD) on cost to the client of getting access in public services, clients' perception about the quality of services and governance, and in a limited form, cost-benefit analysis of project implementing agencies. This research was conducted on 08(eight) e-government projects in India's three important states (Karnataka, Andhra Pradesh, and Gujarat) which are recognized as ICT hubs (For project details, please see Annex-2). All the projects, including 1. Bhoomi, land related online record of right,tenancy, and crop certificate (RTC) delivery projects; 2. Kaveri (Karnatak Valuation and E-Registration), online land registration process in 201 sub-registrar's office; 3. Khajane, networking and digitization of all treasuries across the Karnataka in order to ensure accountable, transparent, convenient payment of salaries, contractors' bills, and social welfare and retirement pension allowances; 4. CARD (Computer Aided Administration of Registration Depatment), it is almost similar with Kaveri, online registration of property transfer or purchase deeds, the issue of non-

encumbrance certificate, and previously registered deeds through 387 sub-registat's office in Andhra Pradesh; 5. eProcurement, online tendering for goods and services; 6. eSeva, one stop service centers delivered 135 services ; 7. AMC (Ahmedabad Municipal Corporation) Civic Centers, mainly delivers three services : annual collection of property tax, issue of birth and death certificates, and shop licenses; and 8. Computerized Inter-State Check Posts, to fix the levy fines for overloading and over-dimensioning of commercial vehicles electronically are surveyed randomly using several survey methods like MAREVA (A Method of Analysis and Value enhancement), WiBe Economic Efficiency Assessment methodology, and the eGEP measurement framework. During the research, the researchers Subhsh C. Bhatnagar and Nupur Singh examined the services quality, customer satisfaction, perceptions about services through direct interviewing, analyzing, and observing the data before and after launching the e-government projects. They got positive impacts of ICT on minimizing corruption, cost-effective, transparent service delivery, reducing the wasting time and errors, improved office management and good-governance, which supports all the hypothesis of this thesis.

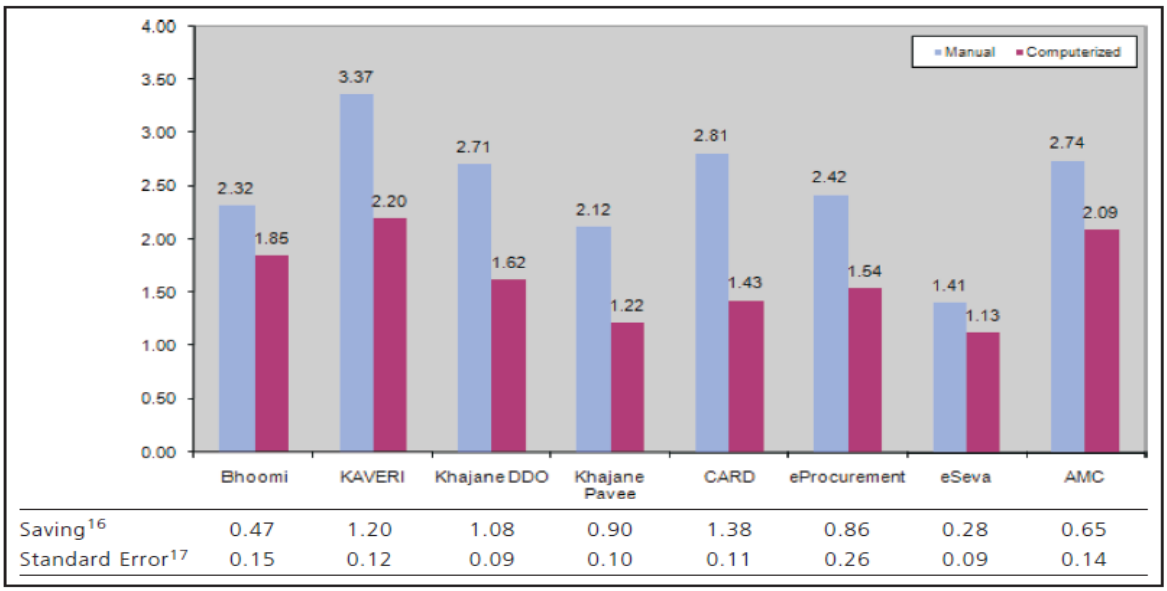
The projects have been covered a variety of delivery modes, services, and clients both in rural and urban areas (G2C). It has covered government to business (G2B). Both public and private organizations offered these services through either responsive webportals (eProcurement project) or many digitized service delivery counters throughout the states. This research assessed the impacts on service cost, quality governance, and overall customer satisfaction.

a. Users Cost-benefit

One remarkable progress has been identified in this research work, that all eight projects dramatically reduced the number of trips (Figure-15) in order to complete all transactions for a service. Automated mechanism, up to date data, and quicker decision process made these

things more convenient and accountable compared to manual systems. Reduction of trips reduced the traveling costs in most of the projects. Generally 30-60% waiting time has been reduced (Figure-16), even in eProcurement, no waiting time is required as transactions are completed through responsive webportal. It minimized the wage lost of many service seekers who are employed in any organizations or who conducts day to day business, and increased the opportunity cost by reducing travel and waiting time of service seekers.

Figure 15: Number of Trips

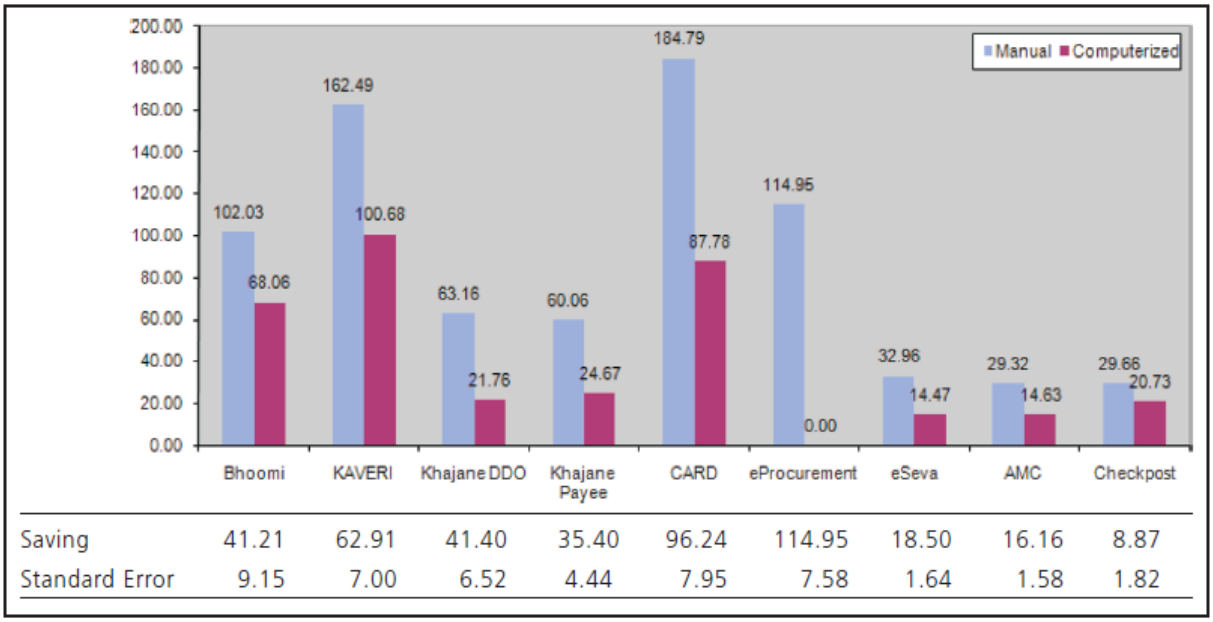


	Bhoomi	KAVERI	Khajane DDO	Khajane Pavee	CARD	eProcurement	eSeva	AMC
Saving[16]	0.47	1.20	1.08	0.90	1.38	0.86	0.28	0.65
Standard Error[17]	0.15	0.12	0.09	0.10	0.11	0.26	0.09	0.14

(NB : "*A paired t-test was used to assess whether the difference between the number of trips in the computerized and manual systems was significantly different. Test results indicate that the differences were significant at the 99% confidence interval in all eight projects.")*
Source: Research Article, Assessing the Impact of E-Government: A Study of Projects in India.[62]

[62] Subhash C. Bhatnagar and Nuper Singh, Research Article, Assessing the Impact of E-Government: A Study of Projects in India, Indian Institute of Management, Ahmedabad, India, Volume 6, Number 2, Summer 2010, 109–127. http://itidjournal.org/itid/article/viewFile/523/231

Figure 16: Waiting Time (minutes)



	Bhoomi	KAVERI	Khajane DDO	Khajane Payee	CARD	eProcurement	eSeva	AMC	Checkpost
Saving	41.21	62.91	41.40	35.40	96.24	114.95	18.50	16.16	8.87
Standard Error	9.15	7.00	6.52	4.44	7.95	7.58	1.64	1.58	1.82

(NB: "*A paired t-test was used to assess whether the difference between the waiting time in the computerized and manual systems was significantly different. Test results indicate that the differences were significant at the 99% confidence interval in all projects.")*
Source: Research Article, Assessing the Impact of E-Government: A Study of Projects in India.[63]

b. Users Satisfaction about quality of services

Users' perception about the services depends on its quality, transparency and productivity. Corrected documentary services, timely and convenient payment or allowance and impartial service delivery create more value compared to faulty services. Among the eight projects, according to this research work, seven projects have been highly appreciated by customer satisfaction, especially eSeva and Bhoomi, showed much improvement in service quality. To evaluate the quality of services, in this research, the rate of error in documents that were reported by the respondents were taken into account. Error in documents diminishes its value and legibility. In manual service delivery system citizens frequently suffered from this problem which has almost disappeared in computerized systems. Moreover, reduction in

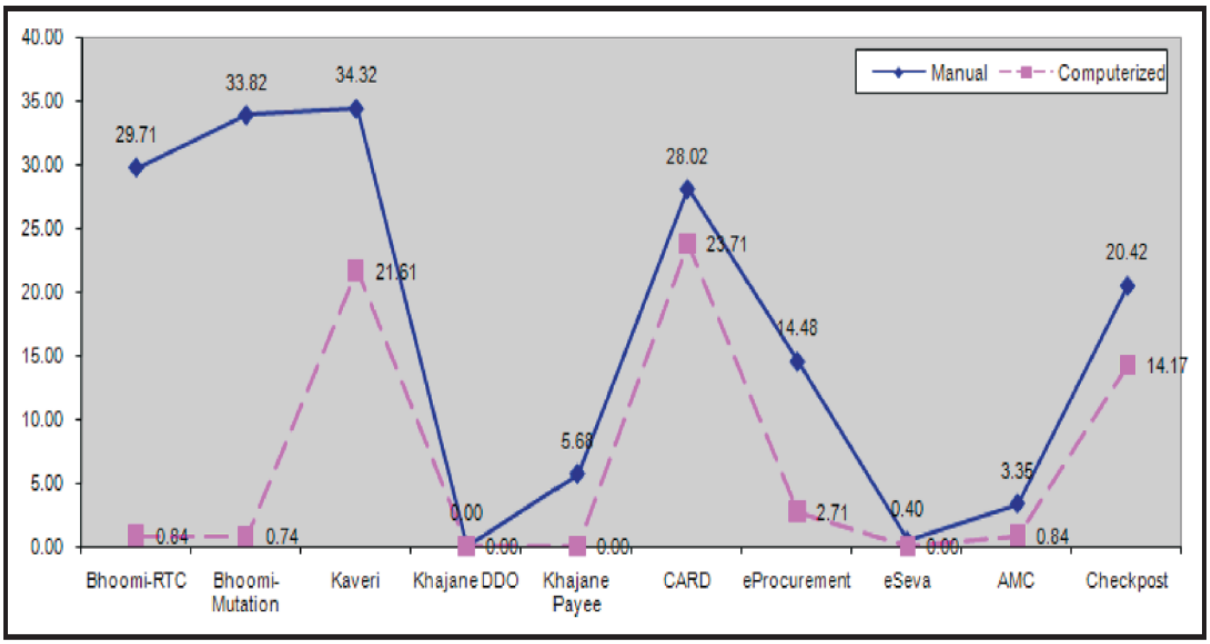
[63] ibid

errors, saves additional trips and transportation cost, which enhances the productivity of time in their day to day livelihoods activities. Thus, these projects almost achieved the satisfaction of citizens.

c. Governance and Corruption

Electronic service delivery systems showed tremendous progress in minimizing corruptions in the above mentioned projects. The degree of giving bribes has remarkably declined. Among the eight projects where there was a severe allegation of corruptions before launcing digital service delivery systems, in four projects the allegation of corruption has almost eliminated or significantly reduced (Figure:17). For example, before e-PSD system, 30% of service seekers were paying bribes, while in electronic service delivery system, it

Figure 17. Proportion Paying Bribes (percentage).



Source: Research Article, Assessing the Impact of E-Government: A Study of Projects in India

has been reduced to less than 1% or in some cases it becomes free from corruption. Almost similar improvement happened in eProcurement project. In contrast, the another project

KAVERI, which is not fully digitized, the level of satisfaction and corruption had no change, moreover this research identified in some cases it has been increased. According to this research, the main difference of Bhoomi (low or zero corruption) and KAVERI is the application of ICT, one is fully digitzed and another one is partially digitized. Indeed, effective digitalization and simple transaction process helped the Bhoomi to ensure corruption free service delivery.

Where the corruption is low or zero, accountable and transparent services are ensured, errors in services are minimum or null, the situation is suitable for ensuring good governance. After completion of the projects the overall governance rating was found comparatively higher than non-automated systems. There were notable development in transparency, fairness, and openness almost on every project. Considering the people's satisfaction levels, error free services, cost-effective benefits, and wasting time and transportation cost, this research work argued and proved that electronic service delivery system plays a significant role in enhancing the quality of governance. Finally, less or not corrupted, accountable, and transparent governance improves the condition of socioeconomic development. Here, one thing is very important, as it has been discussed that India has the reputation of effective democracy with decentralized local governments, yet it's local governments were not efficient in providing public services. As a result, people were deprived of their legal rights. Depending on these projects, these findings prove that only decentralization could not capable to bring the central government services to the local community, it requires effective institutional reforms, for example e-PSD, in governments service delivery mechanism in order to ensure public services to deserving citizens. It is one of the proofs of H1,H2,and H3 of this thesis which claim same.

d. Overall Clients' perception on each project

In this research work, respondents were asked to rank the best performing projects among the eight projects. According to the common perception citizens chose Bhoomi, Khajane, eProcurement,and eSeva as very successful projects because of its delivery efficiency, responsiveness, accountability, and transparency. They emphasized on "a) transactional efficiency; b) improved governance, including corruption; and c) quality as measured by error rate and convenience"[64] depending on the project natures. It indicates that citizens' expectation is always for better public services, whether it is manual or digital, if it is provided properly. And it is already proved that e-public service delivery is more efficient to mitigate these demands of citizens than manual service delivery system.

Citizen centric service design and delivery, simplest and responsive transaction process attract citizen more in digitized service delivery systems. To engage the all stakeholders and minimized the digital divide problems, a careful analysis of services is essential, focusing on citizens exact demand, cultural behavior, and institutional frameworks. In most cases, e-PSD system reduces the cost of services, save time and money regarding waiting and transportation, enhances credibility of public services, constrains corruption, creates the simplest business process. For example, in the above mentioned, discussed projects, "the cost of accessing services was reduced because the number of trips that were needed to be made to the concerned officials saw a significant reduction, and the waiting time came down by nearly 50%. Corruption was significantly reduced or eliminated in five projects. Quality of service delivery and governance was also perceived to have improved significantly with computerization in most cases. Many developing countries recognize the importance of improving governance for attaining higher

economic growth and attracting direct investments. E-government has the potential for lowering bribery, provided that the necessary process reforms are undertaken"[65] and eventually it ensures socioeconomic development.

4.2.2. Republic of Korea : Case Studies and Hypoteses Test

Korea is the global leader of ICT penetration and online public service delivery. According to the UN E-Government Survey 2012 the country was discharging its 87% public services through online and **ranked first among all UN member countries in 2010 and 2012** in the "e-Government Development Index" and "e-Government Participation Index." Korea's "Smart e-Government Strategies" helped the countries to be a global leader both in e-governance and global economy. It's innovative public service management, social welfare management,and transparent, responsive and swift electronic service delivery systems are being recognized as best practices in the world. Many e-Government and m-Government mechanisms of Korea have been exported to other countries, especially in developing or least developed countries in order improve their socioeconomic development.

[64] Subhash C. Bhatnagar and Nuper Singh, Research Article, Assessing the Impact of E-Government: A Study of Projects in India, Indian Institute of Management, Ahmedabad, India, Volume 6, Number 2, Summer 2010, 109–127. http://itidjournal.org/itid/article/viewFile/523/231
[65] Ibid.

Table 5: Development Stages of E-Government in Koreas

Development Stages of E-Government in Korea

Stages	Major Actions
Inception (mid 1980s~mid 1990s)	– Building 5 National Basic Information Systems (NBIS) – Act on Computer Network Expansion and Usage Promotion (1987)
Foundation (mid 1990s~2000)	– Building foundation for high-speed information and communications and promoting the Internet – Enacting the Framework Act on Informatization Promotion (1995)
Launch (2001~2002)	– Carrying out 11 major initiatives for e-government – Enacting the Act on E-Government (2001)
Diffusion (2003~2007)	– Carrying out 31 roadmap projects for E-government – Laying the groundwork for linking and integrating multiple government departments and agencies
Convergence (2008~present)	– Establishing Master Plan for National Informatization (2008) – Carrying out tasks (12) for e-Government based on the principles of openness, sharing and cooperation
Smart Gov (2011~present)	– Establishing 'Smart e-Government Plan' as a blueprint for future e-Government (2011~2015)

Source : e-Government of Korea, Best Practices, Ministry of Public Administration and Securities.6.

According to the UN E-Government Survey, Korean "Government's main website has developed into an integrated portal where citizens can find almost every service they want, on both national and local levels. The main government portal is a gateway to services through multiple channels, by theme and subjects; citizens can also have a customized channel by inputting their own age, gender and services of interest. Back-office integration across many

departments brings together a powerful search engine offering, advanced categorizing function, which can list results by websites, services, and news, including at the local level."[66] 20 e-government practices, including Government Integrated Data Center(GIDC), Electronic Custom Clearance System (UNI-PASS), and Digital Budget & Accounting System (dBrain).are recognized as best e-government practice cases in Korean government's website (http://korea.go.kr/eng/sub/about_egov02.jsp). Though all of the e-government cases are characterized for accountable and purposeful service delivery, which entirely supports the hypotheses of this thesis, yet here, National Disaster Management System (NDMS), SOS Public Relief Service, and Civil Service Portal cases are discussed as exemplary e-PSD systems.

National Disaster Management System (NDMS)

This fully ICT based disaster management system is designed to address the information asymmetry problem during any crisis or disaster. It includes personal necessities, for example information of the nearest hospital or fire service stations to social calamities, and provides informative supports to central and local governments in stages of prevention, preparation, response and recovery connecting citizens or service seekers through 119 emergency call, a hotline telecommunication. NDMS desimminates 223 real-times disaster management information within a very short period, which was managed by 43 institutions and maintained manually before launching this electronic disaster management system. The one of the major benefits of this system, callers or service seeker locations are automatically identifies that helps the concern organizations or agencies to provide quick service delivery.

[66] UN E-Government Survey 2012, E-Governmnet for the people, Department of Economic and Social Affairs, United Nations, New York, 2012, 24.

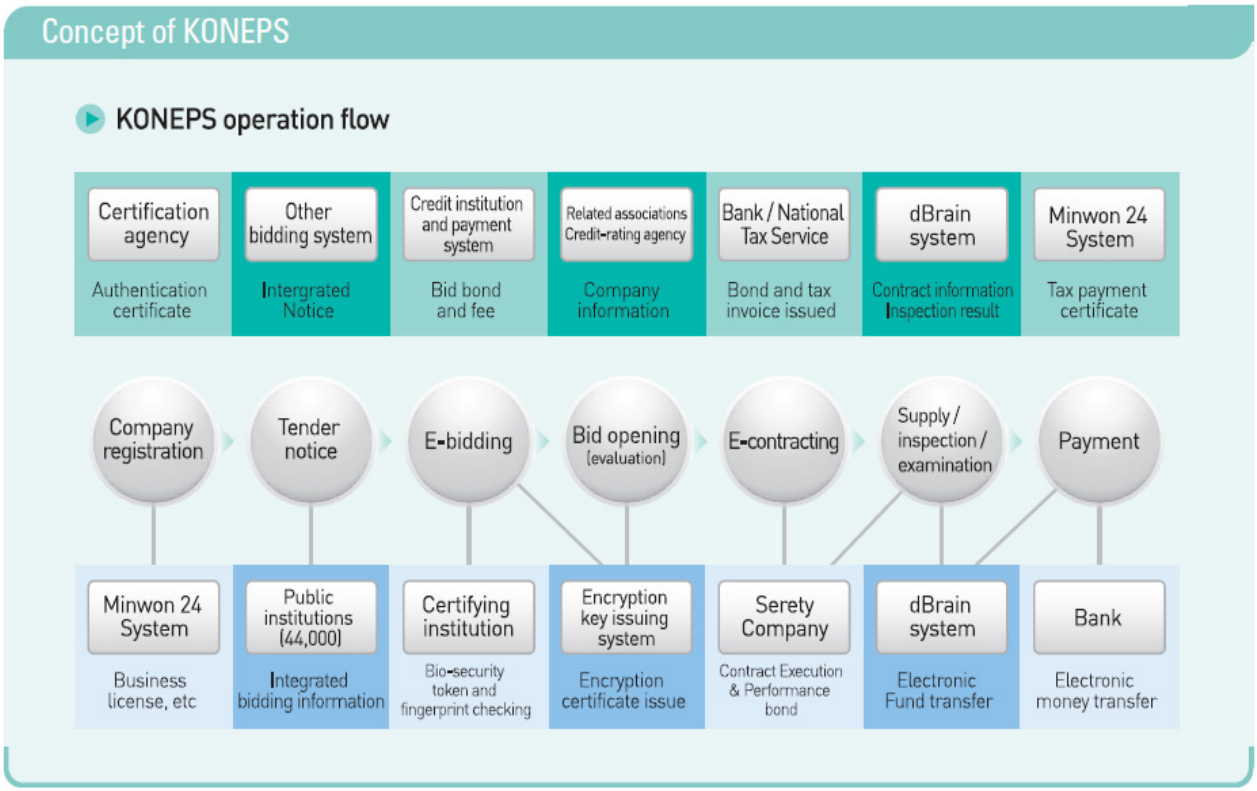
A specially designed mobile phones for elderly people called 'Anshim-Phone' are used in this award winning ('Best Practice' by the Asian Conference on Disaster Reduction (2006)) mechanism to address problems of vulnerable groups including senior citizens and foreigners. According to the government website, one statistic shows, in 2011, this system decreased the amount of KRW39.4 billion of fire damage by improving its response time (only 2 minutes) and disseminating information properly. It takes only one minute to propagate disaster status information to 4,000 institutions, which alerts those agencies to be prepared to handle the disaster efficiently. Now this system has been implemented in Mozambique in order to improve their disaster management capacity. It proofs the efficiency of an e-PSD system in effective public sector management and socioeconomic development (H3).

Korea Online E-Procurement System (KONEPS) (www.g2b.go.kr)

It is another award winning (UN Public Service Award (2003)) innovative electronic service delivery system that created a transparent, accountable, and 24 hours mechanism in procurement sectors. Not only in developing, even in developed countries, ensuring effective and transparent public procurement is a great concern. Like other countries, Korea has successfully utilized its e-government efforts in procurement system and minimized or eliminated all types of illegal activities. The entire procurement process, for example supplier registration, bidding, contracting, inspection, payment and others is completed Korea Online E-Procurement System. KONEPS (Figure 18) act as a single window, where all bidding information of all public institutions is disclosed and all public organizations can participate in bidding with a one time registration process through this mechanism.[67] This one stop procurement service system

[67] e-Government of Korea, Best Practices, Ministry of Public Administration and Securities.24. http://korea.go.kr/eng/sub/about_egov02.jsp.

Figure 18 : Concept of Korea Online E-Procurement System (KONEPS)



Source: e-Government of Korea, Best Practices, Ministry of Public Administration and Securities.

connects more than 120 external systems of government institutions in order to provide efficient and accurate information using latest RFID-based management system through online enabled mobile phones and other electronic devices.

"The E-procurement market in Korea has become one of world-class E-procurement market, were about 44,000 public institutions and 220,000 suppliers participate in, with a total transaction volume amounting KRW64 trillion annually."[68] According to the government website, contract processing numbers (per person) have been increased about 5 times, from 208 in 1997 to 960 in 2011 after launching this e-procurement system, similarly the procurement

[68] Ibid,25.

integrity level increased in 2011 by 25% from 6.8 points (2002) to 8.52 points (2011) (http://korea.go.kr/eng/sub/about_egov02.jsp). It has been blocked illegal bidding attempts using Fingerprint E-bidding System , minimized face to face contacts, enhanced transparency and integrity. It's simplified procedure made a remarkable annual saving of KRW8 trillion in time, transportation cost and others, both in public (KRW1.4 trillion) and private (KRW6.6) sectors (as studied by Hanyang University) that eventually improves the situation of socioeconomic development. Hence, this case study also justify the claims of hypothesis H1,H2, and H3.

Civil Service Portal (Minwon24 www.minwon.go.kr)

This innovative electronic service delivery system demonstrates the effectiveness of online services. Citizens or service seekers can apply around 3,000 types of civil services through online without having to visit government officials. Required 1,200types of documents are available for any online service application, among them 83types of documents can be directly printed at any convenient places and time. 82 types of documents including copies of resident registration and vehicle registration are provided free of cost or at discount rates. More than 5,000 types of civil services' information, including military service certificates, moving-in notification,certificate of automobile tax payment, certificate of local tax payment and certificate of license tax payment is available on this web portal. Service seekers have the 24 hours easy access in this transparent and responsive site. This site also disseminates the information regarding social welfares and vulnerable groups of people like as disabled persons in a very simple way through one stop process, which plays a pivotal role in socioeconomic development (H3). To address the language barrier, 15 types of services regarding immigration and staying in Korea are being delivered for foreigners in five languages including English.

Figure 19: Gradual development of Minwon 24 services

- Minwon24 service use

(Unit: 1,000)

Year	2007	2008	2009	2010	2011
Number of applications	30,124	53,503	63,131	62,347	68,261
Number of issuances	7,223	10,945	16,244	21,106	28,244
Number of Views	1,014	1,769	3,943	5,262	5,950

Source: *e-Government of Korea, Best Practices, Ministry of Public Administration and Securities.*

Since its inception the number of subscribers on this site is gradually increasing. In 2008 its subscribers were only 3.59 million, just over 03 years in 2011 it has increased about 3 times (9.21 mil). It indicates an effective online service enhances people's participation in government activities or decision making process and it is used as a mean of citizen's personal or social development tools. Moreover, this type of online services, disseminate the right information purposefully that help people to be aware and sensitized against any illegal practice (H1) in the society. Thus, in the long run it improves the quality of governance (H2).

These three dynamic case studies illuminate the potential of e-PSD in ensuring transparency, accountability, openness, people's participation, and cost-effective services

throughout the community people or service seekers without any discrimination. Most of all required administrative and social services are available in online service delivery systems. As a result, people can easily participate in the governmetd decision making process through a single window based online services. For example, a program 'ePeople,' which is "connected to all administrative institutions to provide comprehensive civil services and receive public suggestions. This channel also provides real-time public hearings and receives public opinions on certain issues, which are reflected in policy-making on a real-time basis."[69] Hence, online service initiatives ensured comparatively better resource allocations and good governance.

[69] Ibid, 07.

Chapter – V

5.1. Limitations of the Study

To justify the hypotheses, this thesis mostly depends on secondary data, UN E-Government Survey-2012, several successful case studies, and anecdotal or qualitative evidences; in some cases which is not sufficient to draw a conclusive proof. For example, to measure of good governance and socio economic development does not depend on only accountable and transparent service delivery system, it is just one of the crucial factors of it. So, there is a huge scope of further detail survey of the impacts of ICT in good governance and socioeconomic development, using both qualitative and quantitative survey methods.

5.2. Conclusion:

According to the UN E-Government Survey 2012, the current trend of e-government strategy is to move from an existing " decentralized single-purpose organization model of e-government to an integrated unified whole-of-government model" for the betterment of the people. This strategic shifting is revealing more capabilities of ICT in improving the management capacity framework, individual performance, strengthening of institutional linkage, connecting all required departments and divisions, and governance system, which eventually ensure better public service management. The success of e-service delivery mostly depends on its design, citizen centric approaches, understanding the stakeholders' demands, effective monitoring, evaluation, and continuous updating. In low income countries, it could be one of the better alternative options to allow private sectors to invest in ICT sectors, develop and manage electronic services until achieving required competencies of local authorities. To minimize

digital divide, efficient use of mobile governance could be effective by implementing essential content/services in local languages using simplest procedures. In order to face multifaceted challenges, policy makers should more careful about the services cost effectiveness and accessibility, so that incumbents get services at their convenient time and places. In this thesis, it has been justified that e-PSD enhances transparency and accountability more when the supply procedure is more simple. Complex procedures and engagement of more people in service providing stages, creates the probability of corruption and faulty deliveries that ultimately diminish the value of e-PSD system.

The main purpose of this study is to justify the importance of e-PSD system in enhancing integrity in a decentralized local government. Does it make any positive change compared to manual service delivery system? As it is discussed, one of the main agenda of decentralization, is bring the services or governance of central government nearer to local people. But manual systems or local governments are mostly infested with several cultural and institutional problems, including nepotisms, inefficient management capacity, lack of logistics and manpower. Hence, e-PSD system is one of the best efficient tools to minimize these social problems. In the literature review and analysis part, especially case studies part it has been justified by several anecdotal and statistical evidences that an e-PSD system is more efficient than non-automated delivery systems in ensuring accountability and transparency. It engages more people with government decision making process and empowers them with the required information; creates openness and responsiveness in governance. It has also been illuminated that efficient service delivery systems (e-PSD) enhance the quality of resource allocation and effectiveness of decentralization, which ultimately improves the quality of governance and socioeconomic status.

APPENDICES

6.1.1. Mobile applications addressing accountability, transparency and participation

Country	Project	Description
Citizen-to-government interaction	2888 (Kenya)	An SMS service that allows Kenyans to send information, suggestions, complaints etc. via SMS to number 2888, the Office of Public Communications. The aim is to increase citizen-to-government communication and sensitize the government spokesperson to the priorities of Kenyans. The service will also help in tracking and apprehending corrupt officials. The service was highly promoted during the food crises in 2009 as a way to ease communication. It was launched in June 2005. www.communication.go.ke/
	e-Service Delivery Project (Kenya)	Information on progress of identity card (text 2031) and status of passport (text 2032). The government and Kenya's ICT Board will expand this service to cover other key areas of service delivery such as land and health and are working with a company which is digitizing content for varies ministries of the government. The e-Service Delivery Project is run by the Ministry of Migration and Directorate of e-Gov. www.e-government.go.ke/
Disaster and crises management	Ushahidi (multiple countries)	The Ushahidi platform developed in Kenya is used all over the world for different cases of good governance related intervention. The crowd-sourcing tool was originally developed and used for post-election monitoring in Kenya 2007/8. Ordinary citizens can report incidents using multiple channels such as the web, emails, SMS and Twitter. Cases are then verified and mapped. Ushahidi is a good example of crowd-sourcing and how mobile phones provide a good complement to government lead governance by adding the dimension of quick participation and action regarding certain issues. So far the platform has been used mainly during emergencies like natural disasters and man-made crises but also for election monitoring and citizen participation. It islike BungeSMS mentioned below and Mi Panamá Transparente in Panama. The latter project (implemented by the Panaman chapter of Transparency International and the International Centre for Journalism amongst others) provides the opportunity to complain about crime in general and corruption cases in particular (see www.mipanamatransparente.com). www.ushahidi.com/
Monitoring attendance and absenteeism	CU@SCHOOL (Uganda)	Recent research indicates that primary school teachers in a number of African countries are absent from school 15–25 percent of the time and that many of those in school are not found teaching, i.e. low effort (World Bank 2010). The organisation Twaweza, in collaborating with SNV Uganda, tries to address this problem. The project facilitates the monitoring of teacher and pupil attendance and absenteeism in primary schools by using an SMS based information system. The project will pilot an SMS application that generates frequent and detailed overviews of teacher and pupil attendance in 100 primary schools, selected in 2 districts. The information will make the dynamics around teacher absenteeism transparent and will inform district and sub-district government officials, well as non-state actors at (sub) district level, so that they take appropriate short, medium and long term action, as. http://twaweza.org/
Mobilisation and citizen-to-government interaction	BungeSMS (Kenya)	Empowers citizens to influence local governance in their constituency through the use of SMS and the Web. It intends to strengthen citizen-to-government (bottom-up) communication in governance. An SMS to a Member of Parliament (MP) is sent to a designated number and routed to the BungeSMS website. On the BungeSMS website, it is mapped onto Google Maps using the

		Ushahidi platform. Run by Made In Kenya Network. Send SMS to 3454. www.bungesms.com
Accountability	Budget Tracking Tool (Kenya)	The Budget Tracking Tool is a collaborative platform for grass roots communities to actively engage in public resource management. It enables citizens to monitor and track both disbursements and utilisation of development funds: projects funded by Constituencies Development Fund (CDF, www.cdf.go.ke/), Local Authority Transfer Fund (LATF, www.localgovernment.go.ke/), Women's Fund and Youth Fund. The tool can be accessed via the Web and by SMS by sending a text message to 7002, e.g. constituency#project (westlands#water). It can also be used for feedback in the format #constituencyname#projectname#comments. The tool has been developed by the Social Development Network and designed by Infonet. www.sodnet.org www.opengovernance.info
Monitoring election fraud and malpractices	Ugandawatch 2011 (Uganda)	Ugandawatch 2011 is run by Democracy Monitoring Group (DEMGroup, www.demgroup.org), which is a consortium of four civil society organisations that have come together to contribute to freer, fairer, transparent and credible elections in Uganda. The members of DEMGroup are Uganda Joint Christian Council (UJCC), Action for Development (ACFODE), Transparency International Uganda (TIU), and the Centre for Democratic Governance (CDG). UgandaWatch 2011is an independent hotline where citizens can report any problems they face with the electoral process. SMSs are sent to 6090 for the cost of 100UGX. There are 6 channels: 1) Refusal to register, 2) Voter registration is not accessible, 3) Wrong voter registrations, 4) Gender issues, 5) Money and politics, 6) Violence and intimidation. The service is 'Powered by Managing News. Fuelled by Mountbatten. Managed by DEMGroup.' Besides following up these issues with the responsible organisations involved (e.g. EC), they also make reports available on their website. The number to SMS is 6090 and costs 100UGX. Works on all networks. http://www.ugandawatch2011.org/
	Miscellaneous short codes (Kenya, Tanzania, Uganda)	Even though designed for voice they are worth mentioning: regional numbers are 112 for emergency/police/SOS, 114 for fire and 115 for ambulance. In Kenya and Tanzania there are some designated short codes for 'Crime Stoppers' (111) and 'Anti-corruption' (113). In Tanzania, if you call 113 you will reach the Prevention of Corruption Bureau. In Uganda, one can leave anonymous complaints on a special hotline (347387) to the Inspector General of the Government (IGG) 'for rapid response to complaints' (IGG, 2009). Kenya Anti-Corruption Commission (KACC) has a similar system in place.

Source : TI 2010 (SPIDER ICT4D Series | Increasing transparency and fighting corruption through ICT, 55-56)

6.1.2. **List of Eight Projects for Detailed Study (Case Studies of India)**

Project Description	Launch Date and Type
KARNATAKA	
1. Bhoomi (http://www.revdept-01.kar.nic.in/)	
Online issue of a record of right, tenancy, and crop certificate (RTC), a document required (one or two times a year) for availing crop loans from banks or as surety for bail, and filing of requests for mutation for effecting changes in land records in Karnataka through 203 kiosks.	February 2001 G2C
2. KAVERI—Karnataka Valuation and E-Registration (http://www.karigr.org/)	
Key services delivered by 201 sub-registrar's offices in Karnataka are the following: online registration of property sale/purchase deeds, issue of non-encumbrance certificates, and issue of copies of registered deeds. Such transactions are done two or three times in a lifetime, when property is purchased, transferred, or sold.	December 2003 G2C
3. Khajane	
Networking and computerization of all treasuries across Karnataka. Treasuries make payments (such as salaries to staff, payments to contractors, and social welfare and retirement pensions to civil pensioners), accept receipts on behalf of the state government, maintain accounts of these transactions, and submit the accounts to the accountant general of the state.	November 2002 G2G
ANDHRA PRADESH	
4. CARD–Computer Aided Administration of Registration Department (http://www.igrs.ap.gov.in/)	
Online registration of property sale/purchase deeds, issue of non-encumbrance certificate, and issue of copies of previously registered deeds through 387 sub-registrar's Offices in Andhra Pradesh. Such transactions are done two or three times in a lifetime, when property is purchased, transferred, or sold.	November 1998 G2C
5. eProcurement (http://www.eprocurement.gov.in/)	
Online tendering for goods and services by government departments and agencies in Andhra Pradesh. More than 32,000 tenders were processed through the eProcurement platform in 2008–09, with an average of three bids received per tender.	January 2003 G2B
6. eSeva (http://esevaonline.com/)	
One-stop service centers delivering 135 services from central, state, and local governments, as well as public utilities. Used monthly by 3.1 million citizens at 275 locations across 190 towns.	August 2003 G2C
GUJARAT	
7. Ahmedabad Municipal Corporation (AMC) Civic Centers (http://www.egovamc.com/)	
16 civic centers of AMC primarily deliver three services: annual collection of property tax, issue of birth and death certificates, and issue of shop licenses. About 1.25 million transactions are processed through the civic centers annually.	September 2002 G2C
8. Computerized Inter-State Check Posts	
10 computerized check posts use electronic weigh bridges to levy fines for overloading and over-dimensioning of commercial vehicles passing through them, inspect vehicles to check for damaged headlights and non-standard license plates, and verify essential documents. More than 16 million commercial vehicles pass through these check posts annually.	March 2000 G2B

Source: Research Article, Assessing the Impact of E-Government: A Study of Projects in India.[70]

[70] Subhash C. Bhatnagar and Nuper Singh, Research Article, Assessing the Impact of E-Government: A Study of Projects in India, Indian Institute of Management, Ahmedabad, India, Volume 6, Number 2, Summer 2010, 109–127. http://itidjournal.org/itid/article/viewFile/523/231.

ENDOTES (6.2)

1. Shahzada M Akram, Tanvir Mahmud, Iftekharuzzaman, December 18, 2007; Integrity in Humanitarian Assistance: Issues and Benchmarks.

2. Soonhee Kim, Management Strategy for Local Governments to StrengthenTransparency in Local Governance, Good Governance Research-1,UNPOG PublicationCopyright: United Nations, 2009,7.

3. Decentralization in Client Countries: An evaluation of World Bank Support, 1990-2007, Independent Evaluation Group. XI, 04. http://lnweb90.worldbank.org/oed/oeddoclib.nsf.

4. Yamini Aiyar, Why decentralization matters , Accountability Initiative, research and innovation for governance accountability, India, , Posted on 21-05-2013, http://www.accountabilityindia.in.

5. Good Governance and Human Rights. United Nations Human Rights, Office of the High Commissioner for Human Rights. http://www.ohchr.org/EN/Issues/Development/GoodGovernance/Pages/GoodGovernanceIndex.aspx.

6.Regina Birner, Improving Governance to Eradicate Hunger and Poverty, 2020 FOCUS BRIEF on the World's Poor and Hungry People, 2007 International Food Policy Research Institute. http://www.ifpri.org/sites/default/files/publications/beijingbrief_birner.pdf

7. Mercy Corps, Guide to Good Governance Programming, http://www.mercycorps.org/sites/default/files/mcgoodgovernanceguide.pdf

8. Bertot, J.C., Jaeger, P.T., & McClure, C.R. (2008). Citizen-Centered E-Government Services: Benefits, Costs, and Research Needs. The Proceedings of the 9th Annual International Digital Government Research Conference: 137-142. Montreal, Canada, May 18-211, 2008.

9. UN Chronicle : Andreea Stoiciu,The Role of e-Governance in Bridging the Digital Divide, Vol. XLVIII No. 3, 2011, October 2011. http://unchronicle.un.org/article/role-e-governance-bridging-digital-divide/

10. Wise Geek, What is socioeconomic development? http://www.wisegeek.com/what-is-socio-economic-development.htm.

11. Accountability in Governance, http://siteresources.worldbank.org/PUBLICSECTORANDGOVERNANCE/Resources/AccountabilityGovernance.pdf.

12. James L. Creighton, The Public Participation Handbook: Making Better Decisions Through Citizen Involvement, Published by John Wiley & Sons, Mar 21, 2005, Business & Economics 304.

13. 2010 Mapping of UNDP E-governance Activities,www. undpgov.org/mapping/2010.

14. OECD/International Telecommunication Union (2011), M-Government: Mobile Technologies for Responsive Governments and Connected Societies, OECD Publishing. http://dx.doi.org/10.1787/9789264118706-en.

15. ITU, Measuring the Information Society 2012, CH-1211 Geneva Switzerland, 1. http://www.itu.int/en/ITUD/Statistics/Documents/publications/mis2012/MIS2012_without_Annex_4.pdf

16. OECD/International Telecommunication Union (2011), M-Government: Mobile Technologies for Responsive Governments and Connected Societies, OECD Publishing. http://dx.doi.org/10.1787/9789264118706-en.

17. Ibid.

18. Ibid, 19.

19. Ibid,25.

20. Ibid,28.

21. Ibid.68.

22. Ibid, 119-150.

23. Leebrian Ernest Gaskins, “The effect of Information and Communication Technology (ICT), diffusion on corruption and transparency (a global study).” published in May 2013 and submitted to Texas A&M International University, USA.

24. Ibid,141.
25. Ibid,142.
26. Ibid, 148.
27. Ake Gronlund, Rebekah Heacocks & David Sasaki, Johan Hellstrom, Walid Al-Saqaf, “Increasing Transparency & Fighting Corruption through ICT, Empowering people & communities,” SPIDERICT4D Series no.3,2010.
28. Ibid, 18-19.
29. Ibid, 20.
30. Ibid, 21.
31. Pathak, R. D. Singh, G., Belwal, R., Naz, R. & Smith, R. F. I. (2008). E-governance, corruption and public service delivery: A comparative study of Fiji and Ethiopia, JOAAG, Vol. 3. No.1.
32. ITU, Measuring the Information Society 2013, Annex 3. Statistical tables of indicators used to compute de IDI,CH-1211 Geneva Switzerland, 228-231. http://www.itu.int/en/ITUD/Statistics/Documents/publications/mis2013/MIS2013_without_Annex_4.pdf
33.Transparency International, Mapping Transparency, Accountability and Integrity in Primary Education in South Africa, 2011 Transparency International, 5. http://www.un.org/en/ecosoc/newfunct/pdf/luxembourg_tisda_south_africa_report_web.pdf
34. Omar Azfar et al, DECENTRALIZATION, GOVERNANCE AND PUBLIC SERVICESTHE IMPACT OF INSTITUTIONAL ARRANGEMENTS, A REVIEW OF THE LITERATURE, IRIS Center, University of Maryland, College Park, USA, September 1999,4. http://siteresources.worldbank.org/INTINDONESIA/Resources/Decentralization/Lit_Review_IRIS.pdf.
35. ADB, Asian Development Outlook 2013 Update Governanace and public service delivery, 2013 Asian Development Bank, ISBN 978-92-9254-268-9 (Print), 978-92-9254-269-6 (PDF), Publication Stock No. FLS136033-3. http://www.adb.org/publications/asian-development-outlook-2013-update-governance-and-public-service-delivery
36. ADB, Asian Development Outlook 2013 Update Governanace and public service delivery, 2013 Asian Development Bank, ISBN 978-92-9254-268-9 (Print), 978-92-9254-269-6 (PDF), Publication Stock No. FLS136033-3. http://www.adb.org/publications/asian-development-outlook-2013-update-governance-and-public-service-delivery
37. PSRC, The road ahead for public service delivery, Delivering on the customer promise. http://www.iccs-isac.org/en/pubs/the_road_ahead_for_public_service_delivery.pdf
38. Municipality of Dordrecht, Mark Voogd, E-Service Delivery A manual for delivering E-services as a local government in the digital information society, 2007 VNG International, The Hague, the Netherlands, 40. http://www.vng-international.nl/fileadmin/user_upload/downloads/publicationsAndTools/E-Service_Delivery.pdf
39. Kautalya, & Rangarajan, L. N. (1992). The Arthashastra. New Delhi, India: Penguin Books India.
40. Soper, D. S. (2007). ICT investment impacts on future levels of democracy, corruption, and egovernment acceptance in emerging countries. Paper presented at the 13th Americas Conference on Information Systems (AMCIS), Keystone, CO.
41. Lala Camerer, Poverty and Corruption in South Africa: Government Corruption in Poverty Alleviation Programmes, ISS Monograph No. 15, Costly Crimes, September 1997. 5-6, http://www.casac.org.za/?wpfb_dl=71.

42. Vito Tanzi, Corruption Arround the World : Casues. Consequences, Scope, and Curse, IMF Working Paper, Fiscal Affaires Department, May 1998, 14. http://www.imf.org/external/pubs/ft/wp/wp9863.pdf.

43. Vinod, H. D. (1999). Statistical analysis of corruption data and using the Internet to reduce corruption. Journal of Asian Economics, 10(4), 591-603. doi: 10.1016/s1049- 0078(00)00034-8.10.

44. Ibid.

45. MS Iqbal, Can E-governance restrict the Relationships between Stakeholders of Corruption? An Empirical Study of a Developing Country, Korea University, South Korea, http://www.idec.gr/iier/new/CORRUPTION%20CONFERENCE/Can%20Egovernance%20restrict%20the%20Relationships%20between%20Stakeholders%20of%20Corruption-%20Iqbal%20_.%20Sohel.pdf

46. Mistry and Jalal, An empirical analysis of the relationship between e-governmnet and corruption, The International Journal of Digital Accounting Research Vol. 12, 2012, pp. 145 – 176, ISSN: 1577-8517. http://www.uhu.es/ijdar/10.4192/1577-8517-v12_6.pdf.

47. Ibid.

48. Shrish and Thompson, Performance Impacts of E-Government: An International Perspective, conducted, NUS Business School, National University of Singapore,The Tenth Pacific Asia Conference on Information Systems (PACIS 2006). http://www.pacis-net.org/file/2006/1149.pdf.

49. Dr. P. McCabe, BOLMAN AND DEAL'S FOUR-FRAME ANALYSIS: CASE STUDY, January 2003, http://en.convdocs.org/docs/index-39189.html.

50. Ibid.

51. Francisco Magno and Ramonette Serafica, Information Technology for Good Governance, http://unpan1.un.org/intradoc/groups/public/documents/apcity/unpan002708.pdf

52. Zsolt Nyiri, DECENTRALIZATION AND GOOD GOVERNANCE: TEN YEARS OF HUNGARIAN EXPERIENCE, University of Connecticut, USA. http://unpan1.un.org/intradoc/groups/public/documents/nispacee/unpan005561.pdf

53. UN E-Government Survey 2012, E-Governmnet for the people, Department of Economic and Social Aff airs, United Nations, New York, 2012.37.

54. **ADB,** Empowerment and Public Service Delivery in Developing Asia and the Pacific, 2013 Asian Development Bank, ISBN 978-92-9254-043-2 (Print), 978-92-9254-044-9 (PDF),Publication Stock No. RPT135565-3,44. http://www.adb.org/publications/empowerment-and-public-service-delivery-developing-asia-and-pacific

55. Wiki Books,E-government/E-Government and Human Development, http://en.wikibooks.org/wiki/E-government/E-Government_and_Human_Development. Accessed January 20, 2014.

56. Ibid.

57. UN E-Government Survey 2012, E-Governmnet for the people, Department of Economic and Social Aff airs, United Nations, New York, 2012.37.

58. Ibid.

59. United Nations Statistics Division, Population Registers. http://unstats.un.org/unsd/demographic/sources/popreg/popregmethods.htm#1

60. Unique identification Authority of India, Planning Comission, Government of India. http://uidai.gov.in/what-is-aadhaar.html

61. UN E-Government Survey 2012, E-Governmnet for the people, Department of Economic and Social Aff airs, United Nations, New York, 2012.37

62. Subhash C. Bhatnagar and Nuper Singh, Research Article, Assessing the Impact of E-Government: A Study of Projects in India, Indian Institute of Management, Ahmedabad, India, Volume 6, Number 2, Summer 2010, 109–127. http://itidjournal.org/itid/article/viewFile/523/231

63. Ibid.

64. Subhash C. Bhatnagar and Nuper Singh, Research Article, Assessing the Impact of E-Government: A Study of Projects in India, Indian Institute of Management, Ahmedabad, India, Volume 6, Number 2, Summer 2010, 109–127. http://itidjournal.org/itid/article/viewFile/523/231

65. Ibid.

66. UN E-Government Survey 2012, E-Governmnet for the people, Department of Economic and Social Affairs, United Nations, New York, 2012, 24.

67. e-Government of Korea, Best Practices, Ministry of Public Administration and Securities.24. http://korea.go.kr/eng/sub/about_egov02.jsp

68. Ibid, 25.

69. Ibid, 07.

70. Subhash C. Bhatnagar and Nuper Singh, Research Article, Assessing the Impact of E-Government: A Study of Projects in India, Indian Institute of Management, Ahmedabad, India, Volume 6, Number 2, Summer 2010, 109–127. http://itidjournal.org/itid/article/viewFile/523/231

BIBLIOGRAPHY (6.3)

ADB, "Asian Development Outlook 2013 Update: Governance and Public Service Delivery," October 2013.**http://www.adb.org/publications/asian-development-outlook-2013-update-governance-and-public-service-delivery.**

Aroon Manoharan, Kent State University, USA and Marc Holzer Rutgers University-Campus at Newark, USA: Active Citizen Participation in E-Government: A Global Perspective; Published in the USA by Information Science, http://www.igi-global.com.

ADB EconomicsWorking Paper Series, Guo Xu, Development through Empowerment: Delivering Effective Public Services – a Literature ,Review, No. 382 | December 2013, Asian Development Bank, 6 ADB Avenue, Mandaluyong City,1550 Metro Manila, Philippines, www.adb.org.

Ananya Raihan, *Access to Information for Improvement of Rural Livelihood Experience from Nilphamari, Bangladesh,* Development Research Network (D.Net), ISBN: 984-70002-0016-7, 2007; Web: www.dnet.org.bd.

Beñat Bilbao-Osorio, Soumitra Dutta, and Bruno Lanvin, Editors, "The Global Information Technology Report 2013 Growth and Jobs in a Hyperconnected World", World Economic Forum Geneva Copyright © 2013 by the World Economic Forum and INSEAD.

Benjamin A. Olken & Rohini Pande, 2012. "Corruption in Developing Countries," Annual Review of Economics, Annual Reviews, vol. 4(1), pages 479-509, 07 http://www.nber.org/papers/w1739

Capgemini, IDC, Rand Europe, Sogeti and DTi, Digitizing Public Services in Europe: Putting ambition into action, 9th Benchmark Measurement | December 2010, European Commission, Directorate General for Information Society and Media, Unit C.4 Economic and Statistical Analysis. file:///C:/Users/Sky/Downloads/DigitizingPublicServicesinEuropePuttingambitionintoaction-thBenchmarkMeasurement.pdf

CPI 2012 and 2013, Transparency International, www.transparency.org/cpi.

CASCA(Council for the Advance of the South African Constitution), The Impact of Corruption on Governance and Socio-economic Rights, December 9, 2011,Rondebosch,CAPE TOWN 7701. http://www.casac.org.za/?news=the-impact-of-corruption-on-governance-and-socio-economic-rights.

Daniel Treisman, THE CAUSES OF CORRUPTION: A CROSS-NATIONAL STUDY, Published in *Journal of Public Economics*, 76, 3, June 2000, pp.399-457. www.sscnet.ucla.edu/polisci/faculty/**treisman**/Papers/**causes**.pd.

Digital Divide Institute, http://www.digitaldivide.org/countries/bangladesh/bangladesh.htm.

DIGITAL REVIEW of 2009–2010 AsiaPacific, Editor- Shahid Akhtar and Patricia Arinto, Orbicom and the International Development Research Centre 2009. http://www.digital-review.org/uploads/files/pdf/2009-2010/4th_edition_prelim.pdf

Foster, A. and M. Rosenzweig 2001. "Democratization, Decentralization, and the Distribution of Local Public Goods in a Poor Rural Economy." Working Paper, Brown University, http://adfdell.pstc.brown.edu/papers/democ.pdf.

Francisco Magno and Ramonette Serafica, Information Technology for Good Governance. http://unpan1.un.org/intradoc/groups/public/documents/apcity/unpan002708.pdf.

Global Information Society Watch 2013: Women's rights, gender and ICTs, Editor Alan Finlay, Published by APC and Hivos 2013. www.gis**watch**.org/**2013-womens-rights-gender-and-icts**.

Improving Local Service Delivery for the MDGs in Asia: The Philippines' Case. A Joint Project of the Philippine Institute for Development Studies (PIDS) and United Nations Children's Fund (UNICEF), Final Draft, 15 June 2009. http://www.unicef.org/eapro/7_Philippines_Decentralization_and_Local_Service_Delivery.pdf.

IMF, Bangladesh: Poverty Reduction Strategy Paper, March 2013, IMF Country Report No. 13/63, 700 19th Street, N.W. Washington, D.C. 20431, www.**imf**.org/external/pubs/ft/scr/2005/cr05410.pd

Institute for Development Studies (PIDS) and United Nations Children's Fund (UNICEF), Improving Local Service Delivery for the MDGs in Asia: The Philippines' Case, FINAL DRAFT,15 June 2009.

IRIS Center, Omar Azfar, Satu Kähkönen, Anthony Lanyi, Patrick Meagher, and Diana Rutherford, DECENTRALIZATION, GOVERNANCE AND PUBLIC SERVICES THE IMPACT OF INSTITUTIONAL ARRANGEMENTS, University of Maryland, College Park, September 1999. http://siteresources.worldbank.org/INTINDONESIA/Resources/Decentralization/Lit_Review_IRIS.pdf

ITU, Electronic Government for Developing Countries, August 2008, ICT Applications and Cybersecurity Division (CYB) Policies and Strategies Department Bureau for Telecommunication Development International Telecommunication Union Place des Nations 1211 Geneva 20, Switzerland.

www.**itu**.int/**ITU**-D/cyb/app/docs/**e**-gov_for_dev_**countries**-report.pdf.

ITU, Measuring the Information Society 2013, International Telecommunication Union Place des Nations, CH-1211 Geneva Switzerland. www.itu.int/en/ITU-D/.../mis2013/MIS2013_without_Annex_4.pdf

Junaid Ahmad, Shantayanan Devarajan, Stuti Khemani, and Shekhar Shah, Decentralization and Service Delivery, World Bank Policy Research Working Paper 3603, May 2005. http://elibrary.worldbank.org/doi/pdf/10.1596/1813-9450-3603.

Jeong, Kuk-Hwan (2006). E-government: The Road to Innovation: Principles and Experiences in Korea, Seoul, Korea, Gil-Job-E Media, March, xii+197.

Jean Paul Simon, The ICT Landscape in BRICS Countries: Brazil, India, China; European Commission, Joint Research Centre(JRC), and Institute for Prospective Technological Studies (IPTS), Edificio Expo. c/ Inca Garcilaso, 3. E-41092 Seville (Spain) , EUR 24933 EN – 2011. publications.jrc.ec.europa.eu/repository/bitstream/.../1/jrc66110.pdf.

Jamshed J. Mistry and Abu Jalal, An Empirical Analysis of the Relationship between e-government and Corruption, The International Journal of Digital Accounting Research Vol. 12, 2012, pp. 145 – 176, ISSN: 1577-8517,2012. http://www.uhu.es/ijdar/10.4192/1577-8517-v12_6.pdf

Khosrowpour, Mehdi. Practicing E-government: A Global Perspective. Hershey, PA: Idea Group Pub. 2005. Pranab Bardhan and Dilip Mookher jee, Decentralization and local governance in developing countries: a comparative perspective; MIT Press JS 113 .D35 2006.

Luis Rodríguez-Domínguez, Isabel María García Sánchez, and Isabel Gallego Álvarez, From Emerging to Connected E-Government: The Effects of Socioeconomics and Internal Administration Characteristics, University of Salamanca. Spain.,The International Journal of Digital Accounting Research Vol. 11, 2011, pp. 85 - 109 ISSN: 1577-8517. http://www.uhu.es/ijdar/10.4192/1577-8517-v11_5.pdf

Liliana Proskuryakova, Gulnara Abdrakhmanova, Hans Pitlik, PUBLIC SECTOR E-INNOVATIONS, E-GOVERNMENT AND ITS IMPACT ON CORRUPTION, National Research University Higher School of Economics (HSE). SERIES: SCIENCE, TECHNOLOGY, INNOVATION, WP BRP 04/STI/2013. www.hse.ru/pubs/share/direct/document/75932071.

M. Sohel Iqbal, Can E-governance hold back the Relationship between Stakeholders of Corruption? An Empirical Study of a Developing Country. Journal of Economics and

Business , Vol. XIII – 2010, No 2 (83-106), http://www.u-picardie.fr/eastwest/fichiers/art88.pdf

Marc Holzer, Byong-Joon Kim, *Building good governance : reforms in Seoul*, National Center for Public Productivity : Seoul Development Institute, JS 50 .B93 2002.

MOPAS, e Government of Korea Best Practices, Ministry of Public Aministration and Security, The Republic of Korea. http://korea.go.kr/eng/sub/about_egov02.jsp

Neupane, Soar, Vaidya, & Yong, *ROLE OF PUBLIC E-PROCUREMENT TECHNOLOGY TO REDUCE CORRUPTION IN GOVERNMENT PROCUREMENT*, 2012 International Public Procurement Conference, August 17-19, Seattle, Washington. http://eprints.usq.edu.au/21914/1/Neupane_Soar_Vaidya_Yong_PV.pdf.

Nirvikar Singh, Professor of Economics, *INFORMATION TECHNOLOGY AND INDIA'S ECONOMIC DEVELOPMENT.* University of California, Santa Cruz Santa Cruz, CA 95064, USA, Revised, July 2002. http://econ.ucsc.edu/.

OECD/International Telecommunication Union (2011), *M-Government: Mobile Technologies for Responsive Governments and Connected Societies*, OECD Publishing. http://dx.doi.org/10.1787/9789264118706-en.

OECD/International Telecommunication Union (2011), *M-Government: Mobile Technologies for Responsive Governments and Connected Societies*, OECD Publishing. *http://dx.doi.org/10.1787/9789264118706-en*

Phythian, Michael J; Taylor, William G K, *Progress in electronic service delivery by English District Councils*, The International Journal of Public Sector Management; 2001; 14, 6/7; ProQuest Central Basic, 569.

"RETHINKING GOVERNANCE" HANDBOOK, An Inventory of Ideas to Enhance Participation Transparency and Accountability, The University of Victoria's Centre for Global Studies. http://www.globalcentres.org/html/docs/Inventory.pdf.

Robert Schware, Information Technology and Public Sector Management in Developing Countries: Present Status and Future Prospects, Published in the Indian Journal of Public Administration, October, 2000.

Ravindra Kumar Verma, and Archana Kumari, e-Governance at Grassroots Level in South Asia: A Study of Citizen-centric e-Panchayats in India, *Asia-Pacific Journal of Rural Development Vol. XX, No. 1, July 2010* http://www.cips.org.in.

Soonhee Kim: A Case study of local e-government performance in South Korea: do leadership and management for results matter? International Public Management Review, electronic Journal at http://www.ipmr.net. Volume 10 · Issue 1·2009.

Soonhee Kim, Management Strategy for Local Governments to Strengthen Transparency in Local Governance, Good Governance Research-1, UNPOG Publication, Copyright: United Nations, 2009United Nations, 2009.

Soonhee Kim and Jooho Lee, Citizen Participation and Transparency in Local Government: An Empirical Analysis, Paper Prepared for the 2nd Global Conference on Transparency, June 7-9, 2012, Utrecht University, Netherlands. http://www.transparencyconference.nl/wp-content/uploads/2012/05/Kim-Lee.pdf

Shyamal Das,Ashraf Esmail, and Lisa A. Eargle; ARE THE ECONOMIC REFORMS REAL DEVILS?: A CROSS-NATIONAL COMPARISON OF THE ROLES THAT ECONOMIC REFORMS, SOCIOECONOMIC RESOURCES, VALUES, AND CULTURE PLAY IN SHAPING CORRUPTION LEVELS IN DEVELOPING COUNTRIES, CMI, Making Institutions work for the poor? Annual Conference of the Norwegian Association for Development Research CMI….Bergen 5-7 November 2007. http://www.cmi.no/nfu/2007/?workshop-13-measuring-corruption.

Subhash C. Bhatnagar and Nupur Singh, Research Article, *Assessing the Impact of E Government: A Study of Projects in India,* Adjunct Professor Indian Institute of Management Ahmedabad, India. http://itidjournal.org/itid/article/view/523.

TIB, Corruption in Service Sectors: National Household Survey 2012. http://www.ti-bangladesh.org.

The Global InformationTechnology Report 2013 : Growth and Jobs in a Hyperconnected World, Editors-Beñat Bilbao-Osorio, World Economic Forum, Soumitra Dutta, Cornell University, and Bruno Lanvin, INSEAD; World Economic Forum Geneva. www3.weforum.org/docs/WEF_GITR_**Report_2013**.pdf.

The Global Competitiveness Report 2013–2014, Editor-Professor Klaus Schwab, World Economic Forum, Geneva. http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2013-14.pdf

United Nations, E-Government Survey 2010**,** Leveraging e-government at a time of financial and economic crisis, United Nations,New York, 2010.

United Nations,E-Government Survey 2012, E-Government for the People, United Nations, New York, 2012.

United Nations, Compendium of Innovative E-Government Practices , Volume IV and V , Department of Economic and Social Affairs Division for Public Administration and Development Management United Nations Publication, ST/ESA/PAD/SER.E/186 New York, 2013. http://workspace.unpan.org/sites/Internet/Documents/Compendium%20Vol%20V.Final%20for%20Publication-Dec24-2013-ER-ML.pdf

United Nation, World Economic Situation and Prospects 2014, New York, 2014. www.un.org/en/development/desa/policy/wesp/wesp.../wesp**2014**.pdf

UNDP, Joern Altmann,Ledivina Cariño,Richard Flaman,Manfred Kulessa,and Ingo Schulz, The UNDP Role in Decentralization and Local Governance : A JOINT UNDP–GOVERNMENT OF GERMANY EVALUATION, Evaluation Office, 2000, One United Nations Plaza, New York, NY 10017, USA. http://web.undp.org/evaluation/documents/decentralization_final_report.pdf

UNDP, Human Development Report 2013, The Rise of the South: Human Progress in a Diverse World, United Nations Development Programme, 1 UN Plaza, New York, NY 10017, USA. hdr.**undp**.org/en/content/**human-development-report-2013.**

Whasun Jho and Kyong-jae Song, Governance in the Information Age: A Comparative Analysis of e-Governance in Major Asian Countries, Korea observer : a quarterly journal.- Seoul : Acad., ISSN 0023-3919, ZDB-ID 417968. - Vol. 38.2007, 1, p. 127-161. http://www.econbiz.de/Record/governance-in-the-information-age-a-comparative-analysis-of-e-governance-in-major-asian-countries-jho-whasun/10003468392

Zsolt Nyiri, DECENTRALIZATION AND GOOD GOVERNANCE: TEN YEARS OF HUNGARIAN EXPERIENCE, University of Connecticut,341 Mansfield Road, U-24, Room 137, Storrs, CT 06269-1024, USA. www.nispa.org/news/nyiri.rtf.