

E-government initiatives in Bhutan: Government to Citizen (G2C) service delivery initiative – A case study

Sithar Dorji
Masters of Arts in Public Policy

This thesis is presented for the Masters Degree of *Public Policy*
of Murdoch University.

I declare that this dissertation is my own account of my research. It contains as its main content, work, which has not been previously submitted for a degree at any university.

Date: *18/07/2012*

Signed:

COPYRIGHT ACKNOWLEDGEMENT

I acknowledge that a copy of this thesis will be held at Murdoch University Library.

I understand that, under the provisions of sections 51.2 of the Copyright Act 1968, all or part of this thesis may be copied without infringement of copyright where such a reproduction is for the purpose of study and research.

This statement does not signal any transfer of copyright away from the author.

Signed:

Full Name of Degree: Master of Public Policy

Thesis Title: E-government initiatives in Australian
Government-to-Citizen (G2C) Service
Delivery initiative - A case study

Author: Sithar Dorji

Year: 2012

Acknowledgement

I wish to express my most sincere gratitude and appreciation to all those who have provided me with guidance, co-operation, encouragement and support throughout the entire process of writing my thesis.

First of all, my deepest gratitude and thanks goes to my supervisor, Dr. Yvonne Haigh, without whose guidance, encouragement, support and constructive suggestions, I would not have completed my thesis.

Secondly, I am also extremely indebted to my colleagues at the Ministry of Information and Communication, Bhutan, for providing me with necessary information to accomplish my thesis.

Last but not the least, I am grateful to my wife, Pema Ngaden and two daughters, Kuenzang Dolkar Dorji and Pelden Dolma Dorji for their sincere encouragement and moral support in carrying out this work.

Table of Contents

Introduction	1
Section One: E-government and Public Service Delivery	4
• Background on e-government.....	4
• Definition and concept.....	6
• E-government development model/Stages of e-government development	7
• Types of e-government and its benefit	10
• Barriers for implementation of e-government	14
Section Two: E-government and Policy Transfer	20
• Concept and definition of policy transfer	20
• Why transfer of policy and how it happens	23
• Policy transfer and failure.....	26
Section Three: E-government in Bhutan	30
• Bhutan: An overview	30
• Government to Citizen (G2C) service delivery initiatives- A Case Study	33
- Policy and regulatory environment.....	36
- Telecommunication and ICT infrastructure	40
- Application and content.....	43
- Users ability to use ICT facilities	45
Section Four: Conclusion and way forward	47
Reference	51

Introduction

Since the second half of 20th century the world has witnessed unprecedented waves of public sector reforms that are global in nature and scope (Miller 2005); this is commonly referred to as New Public Management (NPM) (Hood 1991; Tolofari 2005; Atreya 2002). The advent, adoption and spread of public sector reforms in both developed and developing nations was mainly driven by the quest for overcoming the problems of the traditional bureaucratic model of public administration, which is often perceived as too big, expensive and inefficient in delivering public services (UNECA 2003; Tolofari 2005; Larbi 1999; Bonina and Cordella 2008). In other words, the main objective of New Public Management (NPM) was to create more efficient, effective, transparent, accountable and responsive public sector in delivering public services (Atreya 2002; de Araújo 2000). Hence, countries around the world have initiated various innovations and initiatives in an effort to revitalize their public administration and one such initiative is the use of Information Communications Technologies (ICT) in public sector as a tool to deliver services in more efficient and effective way (UN 2008).

The implementation of e-government initiatives has taken high priority on the policy agenda of most governments in developed as well as in developing nations around the world as a way towards improving the effectiveness and efficiency in public service delivery (Haldenwang 2004). Although, the use of ICT in the field of public administration promises significant potential benefits in enhancing public service delivery, numerous studies have surprisingly revealed that developing countries have experienced higher rate of failure than developed countries in implementing e-government initiatives (Dada 2006; Syamsuddin 2011). The failure according to Heeks (2002, p-1) is mainly because most, if not all, of the e-government initiatives in developing countries are predominantly based on an “imported

concept and imported designs” that has its origin in developed countries with a difference in context and realities from developing countries (Heeks 2002). Yet, the increasing trend in adoption of e-government in all UN member states (UN 2012) indicates that the incidence of higher rate of failures has not stopped developing countries from adopting the e-government initiatives as part of their concerted efforts towards implementing public administration reform.

Like any other developing country, Bhutan too has joined the global trend in adopting e-government initiatives in its effort to improve the public service delivery. Under the ‘Accelerating Bhutan’s Socio-Economic Development’ (ABSD) initiatives, in 2010, Bhutan embarked on an ambitious plan of providing 110 (out of 200 identified) Government-to-Citizen (G2C) services online through the one-window facility in the Community Centers by end of 2011 (Saraswati 2010; Wangchuk 2010). Among others, the main objective of G2C initiative is to improve citizens’ accessibility to services and reduce service delivery time by automating service delivery process through use of ICT and making services available online (G2C-RGoB 2010). However, given global experience of higher failure rate of e-government initiatives, the question is, whether G2C e-government initiatives in Bhutan would realize its objective and contribute to improved public service delivery, especially in the rural areas? This paper argues that despite the strong government commitment and effort in implementing e-government services, G2C e-government initiative is an over ambitious project in terms of what it can deliver, and there are many issues at the implementation level that need to be addressed for realization of its objective. As the success or failure of e-government adoption is influenced by various factors, this paper tries to justify the above argument through analysis of G2C e-government initiative in Bhutan in the context of four

key factors - policy and regulatory environment; telecommunication and ICT infrastructures; application and content; and users ability to use ICT facilities.

This paper is presented in four sections. The first section provides discussions on e-government, its concept, benefits and barriers that hinder its effective implementation and realization of its objectives. The second section reviews literature on policy transfer for a better understanding of why e-government initiatives, as imported idea and concept, may fail to realize its objectives in developing countries. Also, to establish the understanding of why countries around the world look abroad for policy solution to domestic problem. The third section focuses on the analysis of e-government initiatives in Bhutan - a case of G2C initiative. Finally, the last section provides summary by way of conclusion and some recommendations for the future.

Section One: E-government and Public Service Delivery

Background on e-government

The tremendous advancement of Information and Communication Technologies (ICT) and its deployment in public sector has played a critical role in governments' effort to implement public sector reforms (Yong and Koon 2003). Some scholars argue that the use of ICT in public sector under the 'banner' of e-government as the second revolution in public management after NPM. ICT seeks to "transform not only the way in which most public services are delivered but also the fundamental relationship between government and citizen" (Saxena 2005, p-498). There are other however, who consider e-government as a sub-set and enabler of public sector reform (Baptista 2005; Yong and Koon 2003). As the aim of both NPM and e-government initiatives is to improve the efficiency and effectiveness of public sector in delivery public services, the two movements are seen as mutually reinforcing, rather than being two separate reforms in public sector (Criado, Hughes, and Teicher 2002). To put it differently, adoption of e-government in public sector is mainly associated with enabling the expansion and deepening of reforms initiated under NPM (Navarra and Cornford 2005).

According to Howard (2001, p-6), "e-Government [is] a natural evolution of service delivery method" as a "respond[se] to changes in the broader economy and society". Like any other managerial concept and practice in public administration, the concept of e-government has its root in the private sector's adoption of e-business and e-commerce (Moon 2002). Hence, the shift towards e-government is characterized by transformation of government-centric delivery of public services to more proactive and responsive citizen-centric system (Karunasena and Deng 2012), where the government information and services are made available online through the use of technology (Gang 2005). Further, West (2004, p-16)

argues that, unlike conventional system of service delivery, e-government is a “nonhierarchical, nonlinear and available 24 hours a day, seven days a week”, which enables citizens to obtain information and services at their own convenience of time and location. Thus, e-government is seen as promising way of improving public service delivery (West 2004) and considered as ‘an engine of development’ for the people (UN 2012), as a result of which, e-government has gained increasing currency on policy agenda of many countries around the world, including Bhutan.

Today the total expenditure on IT worldwide is estimated at \$3.6 trillion (Katre and Clemmensen 2011). Further, the world has witnessed improvement in e-government index over the years, thus reflecting the progress in provision of e-government services in various countries (UN 2012). However, despite the progress in global e-government index, there still remains imbalance in the digital divide and progress in implementation of e-government initiatives between developed and developing countries (UN 2012). For instance, UN e-government survey 2012 shows that all top 20 countries in e-government rankings are high-income developed countries, with Republic of Korea leading the rank followed by Netherlands, United Kingdom and Denmark respectively (UN 2012). Further, implementation of e-government initiatives in developing countries are characterized by higher rate of failure (Dada 2006; Syamsuddin 2011). The imbalance in e-government initiatives in developing countries is associated with infrastructure, institutional, financial and regulatory barriers, among others (UN 2012). Nonetheless, lured by its potential benefits, developing countries are putting their concerted efforts to initiate e-government and as a result, today, all 193 UN member states have put in place the e-government initiative and are in various stages of providing online services (UN 2012). Thus, making e-government a global phenomenon (Schuppan 2009).

Definition and concept

While e-government has become a major reform buzzword and important policy agenda pursued by most governments around the world, the concept itself remains ambiguous with no single standard definition to represent what it exactly mean (Yildiz 2007; Verdegem and Verleye 2009; Ndou 2004; Rokhman 2011; Basu 2004; Moon 2002). Yildiz (2007, p-655) argues that e-government is a concept that is interpreted and understood in many different ways, thus resulting in multiple meanings depending on the type of technologies used, the focus and purpose it intends to achieve, the stage of implementation, and benefits expected. UN-ASPA (2002), for example, defines e-government as “utilizing the internet and the world-wide-web for delivering government information and services to citizens”. This definition limits the scope of e-government to the delivery of government information and services to that of internet and web-based system and ignores multi-channel approach to e-government service delivery. However, Criado, Hughes, and Teicher (2002, p-4) goes on to include other technologies and channels for e-government services such as telephony, SMS-messaging, interactive voice response system and digital television, etc., besides the internet and web-based system. Yet, this definition too is very narrow as it focuses only on technological aspects of e-government.

On other hand, OECD (2003, p-23) defines e-government as “[t]he use of information and communication technologies, and particularly the internet, as a tool to achieve better government”. The focus of this definition is to achieve improved efficiency and effectiveness of government in delivering its services through use of ICT. Likewise, the World Bank’s definition of e-government emphasizes more on fostering relationship and interaction between government, citizens, business, within government through use of ICT to achieve efficient, transparent, responsive government for better delivery of government

services (www.worldbank.org). However, both of these definitions reflect the expectation of desired outcomes rather than on the use of particular technologies and tools, hence, ignoring the important aspect of technologies (Scholl 2003).

E-Government, according to Ndou (2004), is a multidimensional and complex concept, and the lack of inclusive definition often results in narrow conceptualization that hinders the achievement of range of opportunities offered by e-government. He further asserts “the reasons why many e-Government initiatives fail [to achieve its objective] is related to the narrow definition and poor understanding of the e-Government concept, processes and functions” (2004, p-3). Therefore, the successful implementation of e-government system requires a clear understanding of the concept and its characteristics in order to be able to design appropriate strategies (Bigdeli and de Cesare 2011).

E-government development model/Stages of e-government development

The shift from conventional government to e-government in delivering public service is not an easy and straightforward process (Siddiquee 2005; Markellos et al. 2007). Instead, it is an evolutionary process that involves structural transformation in terms of organization, policies, strategies and relationship between government and citizens (Layne and Lee 2001; Siddiquee 2005). Various theories and models have emerged since the advent of e-government concept which helps to explain the growth, development and process of e-government; this is commonly referred to as ‘maturity models’ (Nasr and Galal-Edeen 2012). The proliferation of different model suggests the existence of wide range of perspective and the lack of a universally accepted framework for e-government development (Mukabeta, Owei, and Alexander 2008; Markellos et al. 2007). In general, all models outline the stages of transformation in the process of e-government development. However, Coursey

and Norris (2008, p-523) asserts that most models are “partly descriptive, partly predictive, and partly normative”, which tends to “promote e-government sales (“more technology is better”) rather than unbiased theory building”.

According to Layne and Lee (2001), the development of e-government takes place in four phases, such as cataloguing, transaction, vertical integration, and horizontal integration. The first stage involves making an online presence of government institutions through website development and displaying information such as reports, publications and other government information. At this stage citizens can only view information and download some forms but there is no opportunity for interaction between government and citizens as only one-way communication is possible (Layne and Lee 2001, p-126-128). In the second stage, the creation of interactive interface between government and citizens takes place. This stage not only enables citizens to carry out online transaction, it also allows two-way communication thereby facilitating citizen’s interaction with government and take active role rather than being passive receiver of services (Layne and Lee 2001, p-128-129). Third and fourth stage is more of transformation of government services rather than automation of services. The focus at third stage is integrating government functions at different levels of government, such as local and state government (Layne and Lee 2001, p-129-132). Finally, the fourth stage involves integrating different functions and services from separate systems, thus providing citizens with a unified and seamless service (Layne and Lee 2001, p-132-134).

Another model of e-government development is one suggested by United Nations and American Society for Public Administration (UN-ASPA 2002). This model outlines five phases of e-government development, such as emerging, enhanced, interactive, transactional, and seamless or fully integrated stage (UN-ASPA 2002). Emerging stage is marked by

online presence through establishment of website and providing limited information (UN-ASPA 2002, p-16). In enhanced stage, websites becomes more dynamic providing more organized, specialized, and updated information (UN-ASPA 2002, p-17). In both first and second stages, communication remains one-way and no interaction between government and citizens is possible. The third stage is where the interaction between government and citizen takes place, besides facilities like downloading forms and submitting documents online (UN-ASPA 2002, p-17-19). In fourth stage citizens are enabled to undertake online transactions (UN-ASPA 2002, p-19-20). Finally, the last stage is where all the government services are linked so that one can have access to all kinds of service from one point, such as one-stop portal (UN-ASPA 2002, p-20-21). Although UN-ASPA's model seems to be more detailed one, it is very similar to that of Layne and Lee's model. The only difference between the two models is that in the case of UN-ASPA's model what Layne and Lee refer to as cataloguing stage is split into two stages such as emerging and enhanced stages, and the transaction stage in to interactive and transactional stages. Also, Layne and Lee's vertical and horizontal integrations are combined under seamless or fully integrated stage in UN-ASPA's model (Yildiz 2007).

Other models have been developed, these refer to Gartner's four-stage model which includes web presence stage, interaction stage, transaction stage and transformation-personalized stage; Deloitte's six stage model consisting of information publishing stage, two-way transactions stage, multi-purpose portals stage, portal personalization stage, clustering of common services stage, and full integration and enterprise transformation stage; and Moon's five stage model which consists of one-way communication stage, two-way communication stage, service and financial transaction stage, vertical and horizontal stage, and political participation stage (Nasr and Galal-Edeen 2012; Mukabeta, Owei, and Alexander 2008).

While different models depict the different maturity level at various stages, Nasr and Galal-Edeen (2012) note that all models seem to intersect at online presence, interaction and transaction stages. Further, Coursey and Norris (2008, p-524) argues that "... although the models differ somewhat in their nomenclature, they are highly similar in predicting the progressive development of e-government from a basic presence on the Web to results that can only be considered quite extraordinary - seamless, joined-up government, and transformation".

The common drawback of all models is in assuming the development of e-government as a linear and progressive transition from one stage to another (Mukabeta, Owei, and Alexander 2008), and it fails to take into account or ignores the possibility of barriers that might arise in the process of adoption (Coursey and Norris 2008). Further, Yildiz (2007, p-652) argues that the models that emphasize on chronological or linear order of e-government development may not be applicable in developing countries "as those countries have a chance to learn from the e-government successes and failures of developed countries" and carry out various stages of e-government development simultaneously without having to go through fixed sequence of stages.

Types of e-government and its benefit

Although the e-government objectives pursued by governments around the world might vary from one another, in general, it revolves around improving internal administration, provision of quicker services and better access to public information, improve relationship between government and citizens (also business) and foster active citizens' participation in decision making process (ITU 2008; Verdegem and Verleye 2009; Nagi and Hamdan 2009). Hence, e-government is said to generates various benefit for both government and citizens (Gallego-

Álvarez, Rodríguez-Domínguez, and García-Sánchez 2010). However, for effective implementation of e-government services and to realize the potential benefits, it is essential for three main domains of e-government are in place: e-administration - automation and computerization of internal administrative functions to support e-services; e-services and e-citizens - services made online electronically and users ready to use e-services; e-society - connection and interaction among various groups (Ndou 2004).

E-government applications are usually categorized into four types based on the focus for end users, such as: Government-to-Citizen (G2C), Government-to-Business (G2B), Government-to-Government (G2G) and Government-to-Employee (G2E) (Evans and Yen 2006; ITU 2008; Nagi and Hamdan 2009; Alshehri and Drew 2010; Deep and Sahoo 2011). In addition, Fang (2002), suggest four more categories of e-government application, such as: Citizen-to-Government (C2G), Business-to-Government (B2G), Government-to-Nonprofit (G2N), Nonprofit-to-Government (N2G). The difference in the categorization of e-government services suggested by other writers and Fang is that the later explicitly separates the two-way relationship between government and different end-users and points out the potential linkage between government and non-profit organizations which is overlooked by others.

The common type of e-government applications and its associated benefits are listed below:

Government-to-Citizen (G2C): The main focus of the G2C e-government application is to facilitate instant and convenient access to government information and services by citizen from anywhere, at anytime through online (Alshehri and Drew 2010). This approach of e-government application is more citizen-centric, where the content of the services delivered online is organized around citizens' need (ITU 2008). Further, as G2C initiatives provides

the potential for overcoming time and locational barriers, Nagi and Hamdan (2009) claims that it helps in generating equality among citizens in accessing government information and services regardless of their background and geographical location. Likewise, evolution in technology offers potential for new services to emerge, which would ultimately improve the quality of service delivered (Alshehri and Drew 2010). Also, G2C provides online forum for citizens' participation in decision-making and democratic process, thus empowering citizens (ITU 2008; Verdegem and Verleye 2009; Nagi and Hamdan 2009). Further, the opportunity for citizens to participate in decision-making and the regular sharing of information online by government helps ensure accountability and transparency, thus it helps in generating citizens' trust towards government (UNESCO 2005; Alshehri and Drew 2010; Ndou 2004). In addition, provision of services online also saves cost for citizens in accessing services and for government in delivering public services (Ndou 2004). For instance, Singapore has realized about USD 14.5 million saving in benefits as a result of adoption of online service delivery (Gupta, Dasgupta, and Gupta 2008).

Government-to-Business (G2B): G2B e-government application is aimed at facilitating interaction and exchange of services and information between government and private sector (ITU 2008). This approach generates benefits to both government as well as the private sector. The G2B e-government application enables government to carry out online transaction, such as e-procurement, which not only improves government's access to markets for goods and services, it also reduces time and cost in processing procurement (ITU 2008). For the private sector it servers as important point for obtaining information on policy, regulations and other essential information required for business, and also enables them to avail online services such as applying for new or renewing business licenses, filing taxes, and so on (Alshehri and Drew 2010).

Government-to-Government (G2G): The objective of G2G e-government application is to improve inter-government coordination and cooperation for efficient service delivery through information sharing and streamlining procedures to eliminate redundancy and duplication of work among government agencies (Evans and Yen 2006). Further, the cooperation and coordination among various government agencies enables a single access point for service delivery (Ndou 2004). As G2G e-government service seeks to enhance the system and procedures in delivering services, it is considered as the backbone of all e-government services (Seifert 2003).

Government-to-Employee (G2E): This e-government approach is aimed at establishing and enhancing relationships among employees within the government to bring about internal efficiency of an organization in delivering services (Nagi and Hamdan 2009). G2E provides opportunity for employee for online learning, online-training, and also facilitate knowledge sharing among employee (Alshehri and Drew 2010). Further, it enables employee to have easy access to information such as government policies, rules and regulation of on compensation, leave, benefits, etc. (Ndou 2004).

Besides the above benefits, Ndou (2004) claims that the use of ICT in general and e-government in particular generates both pressure as well as opportunity for network creation and community building among the various groups in the society, which is one important aspect of overall development and sustainability of e-government. However, it is argued that perceived benefit of e-government do not result solely from the application of ICTs in public sector, but it is part of broader reforms in public sector (World Bank 2004).

Barriers for implementation of e-government

Despite various potential benefits associated with e-government, Alshihhi (2006, p-v) asserts that significant barriers are faced at the implementation level irrespective of “how advanced or modest a country is in terms of ICT infrastructure and deployment”. These barriers are said to arise from external and internal context within which e-government takes place and hinders the effective adoption and realization of its anticipated benefits (Lau 2003; Ndou 2004; Khalil 2011; Ebrahim and Irani 2005). Lau (2003), argues that e-government does not exist and operate in vacuum; rather it is embedded in the overall environment of public administration, thus the ultimate success or failure of e-government initiatives remains limited to the external determinants, such as level of infrastructure, policy, regulations, budget, etc. The internal barriers are associated with difficulty in ensuring common understanding of vision, goal, and objectives of e-government within and across the levels of government which results in lack of cooperation and coordination among and within agencies (Lau 2003; Mohammad, Almarabeh, and Ali 2009).

Literature provides various categories of barriers to implementation of e-government. For instance, Lam (2005, p-518-522) points out four barriers to e-government adoption such as, strategy, technology, policy and organizational. On other hand, Vassilakis et al (2005, p-42) group barriers of e-government implementation under five groups which includes legislative, administrative, technological, cultural, and social. Further, Alshehri and Drew (2010, p-38-40) identifies nine barriers to implementation of e-government such as, ICT infrastructure, privacy, security, policy and regulation, lack of qualified personnel and training, lack of partnership and collaboration, digital divide, culture, and leaders and management support.

Infrastructures, such as adequate and reliable telecommunications network (fixed and mobile), internet connectivity, other ICT infrastructure (intranet, extranet, Local Area Network) and access points (one-stop shops or single window service point, kiosks, etc.) are the main foundations and prerequisite for all e-government applications (Ebrahim and Irani 2005). Ndou (2004, p-12) claims that “internetworking is required to enable appropriate sharing of information and open up new channels for communication and delivery of new [online] services”. Further, Sharma and Gupta (2003) suggests the need for strong telecommunication and ICT infrastructures for successful transition to e-government services. However, there exists a huge gap in availability of basic telecommunications and ICT infrastructure in many parts of the world, both within as well as across the boundary (Jaeger and Thompson 2003). This gap is mainly because of huge investment required for setting up telecommunication and ICT infrastructures together with high operational and maintenance cost on one hand, and the financial constraint faced by government in meeting the demand for high investment on other hand (Ebrahim and Irani 2005). Hence, the difficulty in ensuring adequate, appropriate and reliable infrastructures is recognized as one of the main barriers for effective implementation of e-government application (Ndou 2004; Alshehri and Drew 2010).

Establishing e-government infrastructures is one issue, but access to those services by citizens is another issue altogether, which is more difficult to address than the infrastructure issue (Kaaya 2004). The issue of access is associated with that of digital divide. According to Sipior and Ward (2005, p-137), “the digital divide is arguably the single largest, segregating force in today’s world”. The digital divide represents the gap in opportunity between those who have access to ICT and those who do not, and between those that use and do not use ICT even if easily accessible (Gauld, Goldfinch, and Horsburgh 2010). This situation or gap

results form unequal opportunity to access the benefit of ICT as a result of lack of infrastructure (no coverage of telecommunication and ICT infrastructure), geographical location, income, race and ethnicity, lack of necessary skills, low literacy rate, slow adoption of technology, etc. (Alshehri and Drew 2010; Helbig, Gil-García, and Ferro 2005; Bhuiyan 2011). While e-government is about improving service delivery through the use of ICT, the lack of access to and inability to use ICT facilities by end users/citizens does not guarantee benefit of service enhancement and greater service choice provided online (Lau 2003). Hence, the digital divide which hinders citizens' access to the benefit of online services remains to be one of the most important barrier to implementation of e-government (Alshehri and Drew 2010; Lau 2003).

Another challenge in successful implementation and rollout of e-government initiatives is ensuring privacy and security of online services (Layne and Lee 2001; Alshehri and Drew 2010; Ebrahim and Irani 2005; Lau 2003). While privacy is about maintaining level of confidentiality, security is about protection of information and systems against accidental or intentional disclosure, unauthorized access, unauthorized modification and destruction (Basu 2004; Alshehri and Drew 2010). In the process of online information sharing and transaction, concerns arises among the users that their privacy and security of important information may be lost through website tracking, disclosure or mishandling of private information (Alshehri and Drew 2010). Ebrahim and Irani (2005, p-604) maintains that “e-government is considered to only succeed when all its participants –including government agencies, private business and citizens-feel comfortable using electronic means to carry out private and sensitive transaction”. Hence, ensuring privacy and security through appropriate policy and infrastructure (digital signature) is an important aspect of generating confidence and trust among user in the use of e-government services (Basu 2004; Layne and Lee 2001; Lau

2003). However, Alshehri and Drew (2010, p-39) argue that “no security system is perfect and that all can eventually be overcome” the issues of security and privacy in online services delivery. Therefore, the concern for privacy and security among the users is the greatest challenges for successful implementation of e-government.

The absence of appropriate policies and regulations concerning the use of online services also hinders the adoption of e-government initiatives. The transition from paper based to online electronic services demands the formulation of new as well as an adjustment in existing policies, rules and regulations, and laws to incorporate issues relating to “electronic signature, electronic archiving, freedom of information, data protection, computer crime, intellectual property rights and copyright issues” (Ndou 2004, p-13). Lau (2003) argues that “the introduction and uptake of e-government services and processes will remain minimal without a legal equivalence between digital and paper process”. Although, as of 2006, 29 out of 30 OECD countries have passed the legislation recognizing digital signature, very little have moved beyond pilot face (OECD 2008). Moreover, many other countries, especially developing countries, still do not have laws on e-government (Ndou 2004; Alshehri and Drew 2010). Further, the legal requirement for physical presence and physical inspection hinders the online service delivery (Vassilakis et al. 2005).

Li (2003, p-50) suggests that the key conditions for driving forward e-government are a clear vision, strong leadership and rigorous implementation process, which all depends on existence of clear policy directives and framework. According to Lam (2005), the absence of appropriate policies and regulation is because e-government is a relatively new phenomenon and policies and regulations are still evolving. Moreover, as “e-government has the potential to affect a large number of citizens”, it needs careful consideration before implementation,

thus taking time in coming up with appropriate policies and regulations (Lau 2003, p-522). Nonetheless, absence of appropriate policies and regulation hampers the effective implementation of e-government.

Developing and ensuring e-government content and application that is consistent with citizens' expectation and requirement is yet another challenge faced in effective implementation of e-government initiatives (Mundy and Musa 2010; Lau 2003). Verdegem and Verleye (2009) argues that development and implementation of most earlier e-government initiatives around the world have been primarily guided by supply-oriented approach, rather than demand or users' need. Although, the recent trends in e-government initiatives have shifted towards more citizen-centric approach, understanding the need, expectation and preference of citizens still remains greatest challenge in developing appropriate contents and application of e-government services (Lau 2003). Moreover, most features and content of websites through which online services are delivered do not support the needs of disabled people (Parajuli 2007). Similarly, especially in developing countries, the language use for online content is mostly in English, which serves only minority of the population (Kaaya 2004). Hence, ensuring appropriate content and applications that support need for various groups of citizens remains the main challenge for e-government implementation.

Qualified human resource with appropriate skills and knowledge are essential requirement for designing, developing, maintaining ICT infrastructure as well as managing and producing online services (Alshehri and Drew 2010). Lack of human resource with ICT skills and knowledge in government agencies, especially in developing countries, is the main problem in implementing e-government initiatives (Ndou 2004). Training and education programs are

essential for building human resource capacity, but the rapid changes in technology and practices pose challenge in ensuring required skills and knowledge of staffs in the government agencies to keep up with changes (Alshehri and Drew 2010).

To sum up, theoretically e-government promises various benefits, but in reality, the global experiences reveals that it is much harder and more complex to realize such promises. The successful implementation of e-government entails overcoming numerous barriers, which are not only of technological but also of organizational, regulatory, and human aspects, etc. (Ndou 2004).

Section Two: E-government and Policy Transfer

There has been increasing evidence that demonstrates interest in transferring policies from developed to developing countries (Chulajata and Turner 2009). While these may indicate mixed results, there is significant interest in the adoption of e-government strategies in developing countries. It is therefore pertinent to consider the concept of policy transfer to better understand why developing countries are increasingly adopting e-government initiatives. Moreover, understanding of the concept of policy transfer will be helpful in exploring the viability and usefulness of e-government initiatives in enhancing public service delivery in developing countries. Thus, this chapter seeks to look at the concept and definition of policy transfer, why and how transfer of policy occurs and why some policies fails when transferred from one jurisdiction/context to another.

Concept and definition of policy transfer

With increases in economic and social integration taking place throughout the globe as a result of globalization, many countries now share similar problems in many fields (Newmark 2002). In an effort to design appropriate domestic solution for policy problems, policy makers in both developed and developing nations have “sought to learn from what they regard as more efficient and effective practices of other countries” (Turbin 2001, p-96). Thus, academics and policy makers have increasingly given importance to the explanation of why and how policies move from one jurisdiction to another. The concept of policy transfer was first provided by Rose (1993) and later expended by Dolowitz and Marsh (1996) and others.

Policy transfer, according to Dolowitz and Marsh (1996, p-344), is “a process in which knowledge about policies, administrative arrangements, and institutions in one time and/or

place is used in the development of policies, administrative arrangements, and institutions in another time and/or place”. They also argue that transfer of policy not only takes place between nations but also occurs within regions, states and localities of same nation. Likewise, Rose (1993) further claims that policy transfer involves drawing lessons from past experience in designing solutions for current problems. Policy transfer does not confined to ‘policy’ alone. In general, the potential objects of transfer includes policy goals, policy content, policy instrument, institutions, ideologies, attitudes and ideas, and also the negative lessons that exist across the different jurisdiction or in different point of time as identified by Dolowitz and Marsh (1996; 2000).

Accordingly to Randma-Liiv and Kruusenberg (2010, p-4) transfer of policy is not a “all or nothing affairs”, and argue that in the process of transfer the question of “how much to transfer is always present”. Different terminologies are being used in various literature to explain the process and degree of transfer, such as lesson drawing, copying, emulation, hybridization, inspiration, diffusion, etc. and the use of terminologies varies in terms of focus and the degree of transfer involved (Newmark 2002). Copying involves importing and adopting policies that exists elsewhere without making any adjustment, whereas emulation involves borrowing the knowledge and idea of policy, which is adopted and implemented after making necessary adjustment to suit in the domestic context (Newmark 2002). Hybridization and synthesis involves combining two or more component of policy from different places, such as adopting policy idea from one country and adopting policy implementation tool from another country (Newmark 2002). On the other hand, inspiration stimulates the creativity of policy after examining problems in a different setting or context (Dolowitz and Marsh 2000).

Lesson drawing involves examining what has been done elsewhere to solve similar problems, so that lesson and idea can be borrowed for designing the solution to domestic problems (Rose 1993; Stone 1999). Since lesson drawing can be either positive as well as negative, it is not necessary that lesson drawing bring about policy adoption or behavior change (Rose 1993; Dolowitz 1998). Positive lesson drawing occurs when the policy makers look for successful solution that have been implemented elsewhere, whereas negative lesson drawing occurs when the policy makers learn from the mistake of others or the past happenings and avoid doing same thing (Stone 1999).

Despite different terminologies being used to explain the process and degree of transfer, all of these terms are concerned with the spread of ideas, knowledge and lessons from one jurisdiction to another or more specifically from the point of origin to the point of recipient to be used for policy development. However, the question of how much to transfer and what to transfer depends on the type of issue considered and at what stage of policy cycle the transfer takes place (Evans and Davies 1999; Randma-Liiv and Kruusenberg 2010). Take, for example, at the agenda setting stage, copying might be more practical, whereas at policy formulation and implementation stage, copying or combining several different strategies or programs may be more applicable (Dolowitz and Marsh 2000).

While policy makers in different nations appear to draw on the experience of other nations in formulating domestic policy, Dolowitz and Marsh (2000) uphold that the process of policy transfer is not a new concept. Correspondingly, James and Lodge (2003) maintain that lesson drawing is not that different from the conventional policy making term 'rational policy making' which draws lessons from the past and looks for any available information in order to inform decisions. Nonetheless, Dolowitz and Marsh (2000) claim that there has been

an increase in occurrence as well as significance of policy transfer in policy-making due to advances in all forms of communication technology and increasing integration as a result of globalization. These changes have facilitated easy access to and faster transfer of policies across boundaries.

In general, the transferability of policy from one jurisdiction to another largely depends on the characteristic of the policy, universality of policy issues, and the context in which the policy is being transferred. It is observed that the less complex the policy is, it is more easily transferable to new place and settings. This is because the less complex policy are easy to understand and implement. Likewise, policy that is designed to solve the issue which is universal in nature becomes more transferable than the policy that is designed to addresses a specific issue (Swainson and de Loe 2011). On other hand, transferability of policy is more likely in the case of similar political, economic, social, cultural, and institutional and resource capacities of two countries (Linos 2006).

Why transfer of policy and how it happens

The literature on policy transfer highlights various reasons that lead to transfer of policy from one jurisdiction to another, such as the advancement in all forms of communication technology, which makes it easier to look for solutions abroad; the forces of globalization and increasing economic integration, which brings in similar problems in different nations; to gain inspiration and to learn from each other and come out with solution to the problem (Dolowitz and Marsh 2000; Newmark 2002; Rose 1993; Dolowitz and Marsh 1996).

Further, Stone (1999) points out that the time required and cost involved in designing the solution to a problem from scratch also encourages policy makers to look for a solution for a

similar problem across borders. However, the general conditions commonly causing the transfer of policy seem to be when policy makers do not have past experience and capacity to design solution for a specific problem, in which case, learning from abroad becomes most appropriate and cost-effective way to deal with the problem (Rose 2005; Dolowitz and Marsh 1996). Thus, according to Sharman (2010) it becomes more relevant, particularly for the developing countries to look abroad for “quick-fix solutions” to domestic problems in the light of resources constraint and capacity to carry out research.

It is important to understand that transfer of policy does not happen in a vacuum. To put it another way, transfer of policy takes place either under voluntary or coercive conditions. According Dolowitz (1997) voluntary transfer of policy happens when there is dissatisfaction with the existing domestic policy or there is a need for solution to the emerging problems at home, which cannot be found within the domestic policy area. In such cases, the policy makers voluntarily search for existing solutions abroad to seek ideas to improve the domestic policy or design policy solution for emerging problems (Dolowitz 1997; Bennett 1991). In contrast to the voluntary transfer, the transfer of policy occurs when particular nation or entity is forced to adopt policy by another nation or entity; is termed as coercive transfer and can be in the form of direct or indirect coercion. Although forceful transfer of policy is a rare phenomenon, it however occurs due to the influence and interventions of international organizations, such as World Bank, IMF, and so forth, where the member states are forced to pursue similar policy (Dolowitz 1998). In fact, as pointed out by Dolowitz and Marsh (1996), coercive transfer of policy usually takes place as a results of interdependence and shared common externalities among nations that necessitate common solution.

In addition to the above, there is a situation where some nations are sometimes compelled to adopt the policy from abroad in order to avoid falling behind other nations who have already adopted the policy (Dolowitz 1998). This type of transfer is referred to as ‘indirect coercive transfer’ by Dolowitz and Marsh (2000) where adoption of policy from abroad appears to be voluntary, but in reality it is necessitated by a particular situation. For instance, despite the lack of capacity and means to make beneficial use of potential promises of e-government system, adoption of e-government strategies by South African countries suggest the pressure to join global trend, which is driven by “the advances made in e-government implementation [and its benefit] in developed countries” (Mukabeta, Owei, and Alexander 2008, p-762), beside the citizens’ demand for efficient service delivery.

The transfer of policy involves agents, which play a crucial role in the process of transfer. Dolowitz and Marsh (2000) have identified nine agents who are involved in the process of policy transfer; these includes: elected officials, political parties, bureaucrats, pressure groups, policy entrepreneurs and experts, transnational corporations, think tanks, supra-national governmental and nongovernmental institutions and consultants. The role of politicians is crucial in policy transfer as they are the ones who provide the direction and endorses the adoption of policy in their jurisdiction. The bureaucrats are responsible for gathering and analyzing the information about policy content and communicating it to politicians for endorsement and implementation. Similarly, the policy entrepreneurs through their pressure, knowledge on particular policy issue and their vested interest in certain policy matter influence the decision of policy transfer (Evans and Davies 1999). The non-governmental organization, on other hand, plays a very vital role in facilitating transfer of policy, especially at the early phase of policy transfer. Through their strong advocacy on particular issues, they shape the public opinion on the policy issue and influence the policy

agenda setting (Dolowitz and Marsh 2000). Besides others, media plays another critical role in the transfer of policy. The media sources serves as the channel through which policy information is transferred from one place entity to another by providing comparison and drawing lesson, which shapes the decisions of the policy makers and influence the public opinion (Stone 1999).

Given the difference in motives, capacity, intention and the role of the various agents, the degree of transfer, type of transfer and how it is transferred would greatly depends on who and what type of agents are involved and at what stage of process (Evans and Davies 1999; Randma-Liiv and Kruusenberg 2010). For instance, the politicians who tend to look for an immediate solution for a problem might resort to directly importing and adoption, whereas bureaucrats, on the other hand, might consider drawing lesson and coming out with a mixture of best practices. However, it is important to realize that various agents involved in transfer of policy are not ‘mutually exclusive’ as one or more of same agents can be involved in various stages of transfer process (Randma-Liiv and Kruusenberg 2010).

Policy transfer and failure

Theoretically, policy transfer tends to provide ‘quick-fix solution’ to emerging domestic problem and leads to better policy outcomes at a lower cost, but in practice, the assumption that successful implementation of policy in one nation will suit or produce similar result in other nations does not hold true (Martínez n.d.). Thus, Dolowitz and Marsh (2000) maintain that the success or failure of policy that is being transferred depends on how well the policy is adapted. Accordingly, they suggest three situations that lead to failure in the transfer of policy, such as, uniformed transfer, incomplete transfer and inappropriate transfer.

Uniformed transfer of policy is a situation where the country that borrows the knowledge of policy, institutions, idea, etc. from other country do not have adequate information about what is being transferred and how it functions in the country of origin (Dolowitz and Marsh 2000). Failure to comprehend the difference in problem definition and policy objective perused in different countries often results in transferring policy solution that is designed to achieve one purpose in originating country to serve other in the borrowing country. In such a situation, the objective, focus and target group of policy in originating country becomes incompatible with that of borrowing country's objective and focus, which results in unsuccessful transfer and implementation of policy. While there are instances where policy may be transferred successfully even if the problem it addresses are not similar in the two countries or different objectives are being pursued, Mossberger and Wolman (2003) argues that it still limits the ability to learn from the experience of policy originating country and forecast the outcomes and impact that the policy would result.

Likewise, incomplete transfer of policy happens when the key element of the policy that is being transferred is not incorporated due to lack of motivation or capacity of the borrowing country (Dolowitz and Marsh 2000). As implementation of policy requires varying level of institutional arrangement and resources, the success or failure of policy transfer largely depends on the capacities (institutional as well as resources) of different countries to implement and administer the policy. Hence, Swainson and de Loe (2011) observe that it is more likely that transfer of policy would be successful if two countries have comparable level of capacities, where as in the case of different capacities between two countries, even the most desirable policy would fail as the capacity required to implement the policy would be beyond the capacity of the borrowing country. Although the difference in capacity is more visible in the case of transfer between developed and developing nations, the transfer of

policy from developed to developing countries has played an important role in transferring best practices and “know-how” that helps in bringing about development (Turbin 2001).

Further, inappropriate transfer of policy is associated with the failure to take into account the socio-cultural, economic, political, ideological and institutional capacity difference between the policy originating country and policy destination country (Dolowitz and Marsh 2000). Generally, political ideology, institutional setup, people’s participation, role of government, public opinion, and implementation, are shaped by the socio-cultural values and tradition of that particular country. As such, the policies that are developed within the socio-cultural context of originating country, cannot be readily apply to other country which do not share the same values and cultural patterns (Mossberger and Wolman 2003). Drawing from experience of establishment of the Vanuatu Ombudsman’s Office in the early 1990s in Pacific islands states, Barcham (2003) suggests the option of transferring policies and programs among developing countries rather than from developed to developing countries to minimize the problems of contextual misfit and policy failure. Although in such case failure arising due to disparity in state capacity can be minimized, nevertheless, issue of socio-cultural misfit may still exist in case of different cultural region among the developing nations (Barcham 2003). Hence, Swainson and de Loe (2011) highlights the importance of considering the difference in social-cultural values while transferring policy objects from other jurisdictions to minimize the ‘misfit’ and reduce the chances of policy failure.

From the discussions above, it can be concluded that the forces of globalization coupled with insufficient domestic capacity, resources and time are the factors that necessitate policy makers, particularly in developing countries, to look for policy solutions across the national boundary. Hence, the concept of e-government, which has its origin in developed countries,

has been widely adopted by most developing countries around the world as a tool for improving public service delivery (Schuppan 2009). As UN-CSTD (1997, p-7) points out that “although the costs of building national information infrastructures and joining the global information infrastructure [and e-government initiatives] are high, the costs of not doing so are likely to be much higher”, the adoption of e-government in most developing countries is seen as more of a pressure to keep up with advances in technologies and its implementation made in developed countries (Mukabeta, Owei, and Alexander 2008; Miyata 2011). Thus, this phenomenon explains the trend in adoption of e-government initiatives in developing countries based on the experience and designed of developed countries.

Further as has been noted that a particular policy, which is successfully implemented in one country does not necessarily produces similar outcomes in other country. The successful transfer and implementation of policy depends on how well it fit or corresponds to the socio-cultural, economic, political, ideological and institutional settings of the policy borrowing country. Accordingly, Ndou (2004, p-8) argues that although the “benefits assured by use and application of e-government in developing countries are the same as those in developed countries”, many developing countries fails to realize the potential benefit as a result of differences in resources and capacities required for successful implementation of e-government initiatives (Ndou 2004, p-8). Thus, the likelihood that developing countries may be successful in implementing e-Government for efficient service delivery initiatives goes far beyond just learning and adopting the strategies from abroad.

Section Three: E-government in Bhutan

Bhutan: An overview

Bhutan is a small and landlocked country located between India and China (Tibet) with a total area of 38,394 square kilometers. It is one of the most rugged terrains in the world with elevations ranging from 160 meters to more than 7000 meters in height above the sea level and about 70.5 percent of total land is covered with forest (NSB 2011). The total population of Bhutan is estimated at 708,265 of which 69 percent of population lives in rural area (GNHC 2010). With its GDP measured at US\$ 1800 in 2008 (IMF 2010), Bhutan falls in the list of forty-eight countries designated as 'least developed countries' by United Nations (UNCTAD 2011). Although a modernization agenda started since early 1960s by opening up to the outside world after long self-imposed isolation (Mathou 2000), Bhutan is still remains largely an agrarian economy. Bhutan made a final transition from being absolute monarchy to a parliamentary democracy in 2008 with the adoption of Constitution which marked the far-reaching reform in political and administrative field in the country (GNHC 2011b).

Unlike in other countries around the world, policy formulation and development process in Bhutan are guided by the unique philosophy of Gross National Happiness (GNH). The concept of GNH as a development philosophy was first declared by the fourth King in 1972 which highlights the national happiness as more important than Gross Domestic Product (GNP) (Ura et al. 2012). However, it should be made clear that the concept of GNH does not reject economic growth as being unimportant, rather it considers economic development (GDP) as one aspect, among others, for achievement of overall development (Planning Commission 1999). Hence, GNH is a concept that emphasizes holistic outcomes of development, one that places people at the center of development and locate human happiness and well being at the core of the development equation (GNHC 2011a).

The concept of GNH is supported by four key aspects of policy areas referred to as ‘pillars’ of GNH, such as socio-economic development, environmental preservation, cultural promotion, and good governance (GNHC 2011a; Wangchuk 2008). Of four pillars, one corresponds to that of internationally pursued goal of ‘instituting good governance’ (O’Flynn and Blackman 2009), which in Bhutanese case is seen as the outcome of transparency, accountability, efficiency and effectiveness in provision of public services, and people’s participation in decision making (GNHC 2011a). In Bhutan the government’s thrust and commitment for enhancing service delivery is enshrined in Vision 2020 which was endorsed in 1999 (Planning Commission 1999). Enhancing service delivery is all about taking government service closer to people in terms of access and quality (Ura et al. 2012). In its effort to improve service delivery, the Royal Government of Bhutan (RGoB) has recognized ICT as a key enabler for public service delivery and tool to improve livelihood in rural communities (MoIC 2006 a). Further, the report of the government ‘Good Governance Plus 2005’ reiterates the important roles of ICT in enhancing good governance (MoIC 2007).

The history of ICT in Bhutan dates back to the establishment of first analog telephone network in 1963. It was only in 1998 that a fully digital national telecommunication network was established connecting all the twenty districts headquarters and major towns in the country (MoIC 2007; NSB 2011). In keeping with the changing technology and also to meet the growing demand of customers, the first cellular mobile service in the country was introduced in 2003 (Dorji 2010). Currently there are two cellular mobile service providers - B-Mobile, a subsidiary of Bhutan Telecom Ltd. and Tashi-Cell, a subsidiary of Tashi Info-Comm Ltd., however, Bhutan Telecom Ltd. is the sole provider of fixed-line telecommunication service in the country (MoIC 2012 a). In terms of physical coverage, all 20 districts and 205 gewog (group of villages) now have access to cellular mobile services

(MoIC 2012 a). The mobile and fixed line service penetration rate in the country as of 2011 stands at 68.4 per 100 inhabitants and 3.8 per 100 inhabitants respectively (MoIC 2012 b).

Although computers were first introduced in the country in the early 1980s, its applications and use remained limited until the introduction of internet and world wide web in 1999 (Tobgay and Wangmo 2008). Since then, internet usage has increased significantly with the penetration rate recorded at 19.8 per 100 inhabitants as of 2011 and there are four internet service providers in the country (MoIC 2012 b). Besides, being late starter in the field of ICT, Bhutan has initiated various efforts to reap the benefit of ICT and its application as development tool, such as establishment of Ministry of Information and Communications in 2003 to oversee the development of ICT in the country, formulation and adoption of Bhutan Information and Communications Technology Policy and Strategy (BIPS) in 2004, enactment of Bhutan Information, Communications and Media Act in 2006, formulation and implementation of broad band master, etc. Further, ICT was mainstreamed into all sectoral development programmes in the government as a effective tool for service delivery and enabling achievement of other development goals (MoIC 2006 a).

Among others, one of the most notable government efforts in the use of ICT as a tool for enhancing good governance and public service delivery is the implementation of e-government initiatives. The hosting of Bhutan portal (www.bhutan.gov.bt), development of websites in all ministers, and the development of e-applications such as Security Clearance System, Government Intranet Solution, Health System, Agricultural Informatics System, and Education Admission System and Registration and Licensing Information System (RaLIS) are some of the e-government initiatives started after the formulation of BIPS (MoIC 2007). The most recent e-government initiative undertaken by government is the implementation of

Government-to-Citizen services project aimed at taking the government services closer to people through online and empowering them with up to date information (MoIC 2012 a).

Government to Citizen (G2C) service delivery initiatives- A Case Study

Accelerating Bhutan's Socio-Economic Development (ABSD) project was launched in 2010 to speed up the pace of socio-economic development in the country towards the achievement of the goal of self-reliant by 2020 and to establish sound foundation for democracy (GNHC 2010). Among others, improving efficiency and effectiveness in public service delivery is one of the main objectives of ABSD. In Bhutan, there are over 200 services that government provides to citizens through 10 ministries, 12 agencies and 20 districts (G2C-RGoB 2010). The public service delivery in Bhutan is characterized by lengthy procedure, numerous formalities, and more bureaucratic process that results in longer lead-time and limited access (GNHC 2010; G2C-RGoB 2010). Further, the present service delivery system is seen as inefficient utilization of resources (including human resources) making provision of public service more expensive. For instance, 50% of the tenth five-year plan outlay is budgeted for public administration and service delivery (GNHC 2010). On the service receiver's end, most people are unaware of the procedure, requirements, from where to avail the particular service or information, which further delays the process in availing services (G2C-RGoB 2010). Also, the difficult geographical terrain has hindered the reach of government services especially in the rural pockets of the country (GNHC 2010).

The above challenges have necessitated government to look for innovative solutions to improve the delivery of public services in the fastest and most efficient way. Accordingly, the Government-to-Citizen service delivery initiative was started in 2010 under the ABSD project with the signing of compact between Prime Minister and the Cabinet Secretary

(Pelden 2010). While the G2C initiatives are implemented through cross sectoral project team, the e-government Council comprising of Committee of Government Secretaries are responsible for monitoring the performance of implementation (G2C-RGoB 2010). The signing of the compact and the involvement of all government secretaries in the overall implementation of the project suggests the full commitment of government in improving the service delivery through G2C initiative.

The main objectives of G2C initiative are as follows:

Improving accessibility to services: The G2C initiative is aimed at replacing the present model of service delivery, which is based on “many doors, one service” by “many services, one door” model through automation of all identified government services in online format, which can be availed by citizens from anywhere and at anytime (G2C-RGoB 2010, p-2). Further, in rural communities the access to services will be made available within a maximum of one day’s reach from citizen’s location by setting up of community centers equipped with ICT facilities (G2C-RGoB 2010).

Reduce service delivery time: It is aimed at reducing the service delivery time by about 70% through rationalization and simplification of service delivery process and system in the government. Also, through online feedback/complaints system it is aimed at establishing efficient, transparent and accountable service delivery system. Thus, reducing the service delivery time (G2C-RGoB 2010).

Human resource: Finally, through automation of services it is aimed at achieving the best-in class ratio of civil servants employed in government organizations for provision of service to that of population (G2C-RGoB 2010).

In order to achieve its objective, the G2C initiative aims at using ICT tools in providing all government services online and through one-window facility in the community centers in rural areas (GNHC 2010; G2C-RGoB 2010). Improving access and efficiency in services delivery through use of ICT makes sense, especially in remote part of country, where physical accessibility to government services is a big challenge due to geographical terrain. However, Ndou (2004, p-1) points out that ICT in general may be an enabler, but on other hand, “it should also be regarded as challenge and peril in itself”. Hence, the numerous limitations within the ICT sector in terms of infrastructure, connectivity, institutional and human capacity (MoIC 2007) might deter the successful implementation of G2C initiatives and achievement of its objective.

Although numerous initiatives have been undertaken by government in making services online, as of June 2012, only 22 government services (out of 110 targeted by end of 2011) are available online. The remaining 43 services, for which the developments of applications have been completed, are yet to be implemented due to technical and administrative issues (MoIC 2012 a). Further, these online services are made available in the rural community in only 23 Community Centers (CCs) as of December 2011 out of the targeted 205 CCs due to lack of internet connectivity and electricity supply in rest of the centers (MoIC 2012 a). Hence, the G2C initiative has made very little progress in meeting its target since its inception.

While no study has been carried out so far on the impact of such system, the media report indicates that implementation of G2C initiative is faced with issue of coordination and duplication of work, which hampers the effective delivery of services. For instance, the implementation of online passport application system is aimed at reducing the issuance of

passport from seven days to three working days and also to do away with the people having to come all the way to Ministry of Foreign Affairs (MFA) headquarters by enabling people in the rural community to apply online from community centers. However, MFA is faced with the problem in verifying census data maintained by Ministry of Home and Cultural Affairs which has instead prolonged the issuance of passport more than expected (Pamo 2012). Further, as e-government is a concept that has its origin in developed country, experience from other developing countries shows that they have failed to realize the benefit of such tool as a result of difference in resources, institutions and other capacities required for effective implementation (Ndou 2004). Hence, it could be argued that Bhutan being a developing country and faced with many limitations like any other developing country might also suffer from same experience in implementation of e-government initiatives.

Therefore, to establish the understanding of whether G2C e-government initiatives in Bhutan would realize its objectives and contribute to improved public service delivery, especially in the rural areas, four key factors which influence the effective implementation of e-government initiatives are provided below:

Policy and regulatory environment

While the conducive policy environment for improving public service delivery originates from the country's development philosophy of GNH which takes people at the center of all development efforts, and the Vision 2020 (Planning Commission 1999), no comprehensive policy on use of ICT as a development tool existed until the formulation and adoption of Bhutan Information and Communications Technology Policy and Strategies (BIPS) in 2004 (Tobgay and Wangmo 2008). The BIPS document states the following vision for ICT sector:

“With people at the center of development, Bhutan will harness the benefits of ICT, both as an enabler and as an industry, to realise the Millennium Development Goals and towards enhancing Gross National Happiness” (RGoB 2004, p-5).

Accordingly, BIPS document emphasizes on three main policy objectives such as, to use ICT for good governance; to create a Bhutanese Info-culture; and to create a “High-Tech Habitat”. Hence, BIPS provides the basis for use of ICT as a development tool in general and for public service delivery in particular as it clearly spells out the use of ICT in good governance. Further, it emphasizes on building the ICT infrastructure, human capacity, and development of content and application, which is the key success factor for the implementation of e-government.

The enabling policy environment for implementation of e-government also derives from the 10th five year development plan, which recognizes ICT as “an enabler of economic growth and a means of poverty alleviation” (GNHC 2009, p-84). With respect to ICT sector, the 10th five year plan has set out three main objective such as, developing ICT infrastructure capable of delivering e-services to all Gewogs (groups of villages); provide community level access to basic ICT services; and promote ICT industry growth. Further, improving public service delivery is a recurrent theme of the 10th five-year plan (GNHC 2009). Hence, it provides clear policy direction for the implementation of e-government initiatives.

Similarly, the ICT roadmap formulated in 2011 provides holistic approach to development ICT in the country. In keeping with the changing time and the technology, the roadmap has revised the ICT vision to focuses more on human capital investment and reinforces important role of ICT in enhancing good governance and socio-economic development (MoIC 2011a). Further, the roadmap sets out policy on ‘whole-of-government’ mindset, which is aimed at

integrating services, infrastructure (e.g. servers) and data management (e.g. common/central data management) in various government agencies to avoid duplication and to facilitate easy sharing and transfer of information and data (MoIC 2011a). Thus, this policy document provides basis for coordination, collaboration and sense of shared mission among various agencies, which is important for successful implementation of e-government initiative.

The policy on information sharing, which was issued in 2006, provides guidelines and mechanism for sharing information among government agencies, between government agencies and citizens, and among citizens (MoIC 2006 b). As one of the objectives of G2C e-government initiative is to facilitate easy access to government information, the information sharing policy provides sound basis for implementation G2C initiative. However, information to be shared is not limitless as there is certain information that cannot be shared freely, such as ones that are related to security, law and order of the country, and privacy of users (MoIC 2006 b). Hence, it could be argued that even in presence of sound policy, the extent to which access to information will remain limited to ones that are non-confidential and defining what is confidential and what is not itself is a debatable issue.

Although above policies provides favourable environment for using ICT as a development tool and adoption e-government initiatives, Barkenbus (1998, p-6) argues that “policies themselves are not self-executing and that the elaboration and setting forth of policy mark just the beginning, not the end, of a full policy cycle”, in other words, this process requires committed drivers to implement it. In Bhutan, notwithstanding the government commitment, which is mirrored in comprehensive policies in ICT sector, the lack of institutional capacity (budget as well as human resource) is seen as the greatest challenge in implementing and operationalization of policies (MoIC 2011a). In such situation, the realization of objectives of G2C would be difficult.

With regard to the regulatory environment, Bhutan Information, Communication and Media Act (ICMA), which was enacted in 2006 provides the legal basis for the regulation of ICT and media sector in the country. The preamble of the Act clearly sets out its objective in relation to ICT and media as under:

“An Act to provide for a modern technology-neutral and service sector-neutral regulatory mechanism which implements convergence of information, computing, media, communications technologies and facilitates for the provision of a whole range of new services; to implement new information and communications technology (ICT) and media policy, particularly to emphasize the Government’s priority to information, communications and media industry, as an industry in itself and an important enabler for other areas of human activity, thus promoting universal service to all Bhutanese, especially in the remote and rural areas of the country....., and to encourage and facilitate an increased use of ICT for new e-services and to effectively regulate the activities related to cyberspace and media operations, including their unwanted contents” (RGoB 2006, p-1).

While the provisions related to digital signature, online privacy and cyber security exist under the ICMA, there is still no legal framework to authenticate digital signature or regulations dealing with cyber issues in Bhutan (Jurmi and Wangchuk 2009). As noted in the earlier section of this paper that privacy and security are the two aspects of online service delivery and information sharing which determines the confidence and trust among users in the use of e-government services (Basu 2004; Layne and Lee 2001; Lau 2003), it could be argued that the absence of such regulations would be a great challenge in successful implementation of G2C service in Bhutan. Further, the absence of legal framework to recognize and authenticate the digital document and signature would still require submitting and maintaining record document in hardcopy, thus defeating the objective of online service delivery.

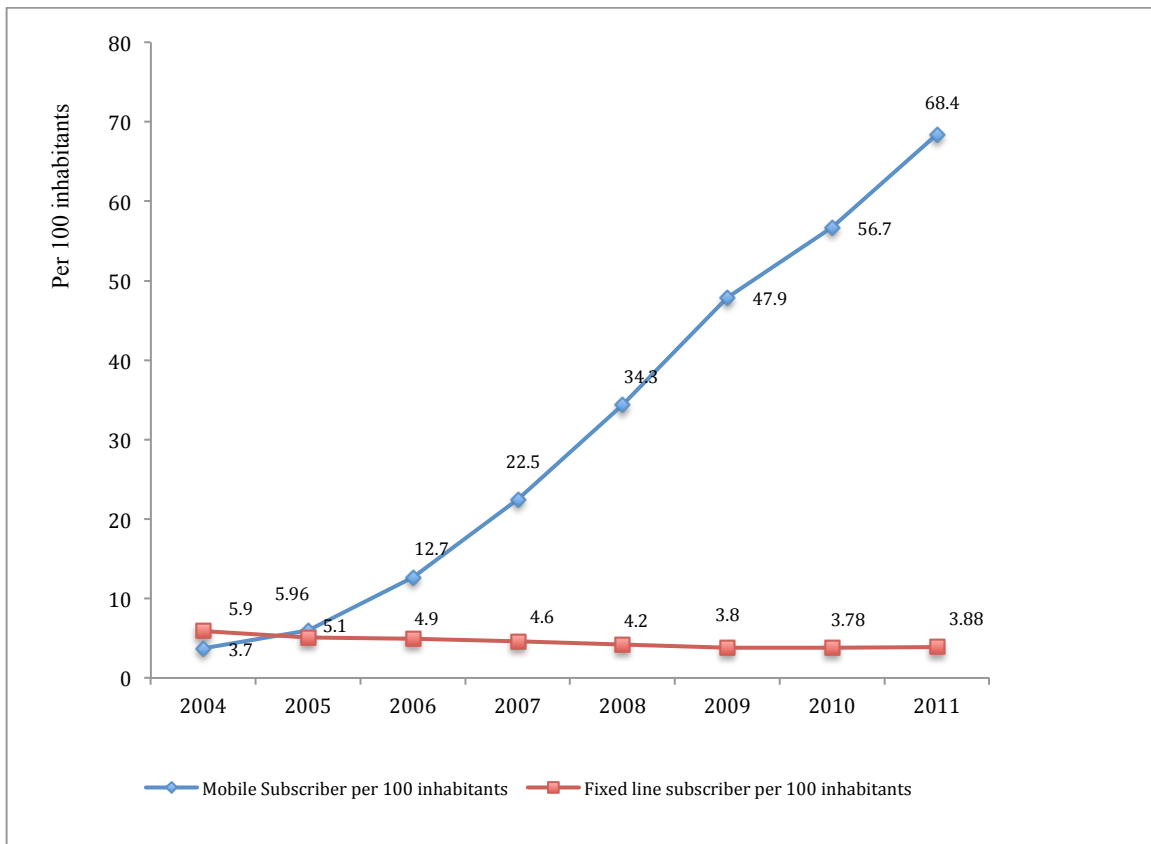
Telecommunication and ICT infrastructure

As outlined in earlier section, the difficulty in ensuring adequate, appropriate and reliable telecommunication and ICT infrastructure is one of the barriers in successful adoption of e-government initiatives, especially in developing countries. Hence, the success of G2C initiative in Bhutan would, to great extent, depend on the existing telecommunication and ICT infrastructure and its capacity.

Bhutan has made significant progress in terms of telecommunication and ICT infrastructure since the start of first telephone network in the country. Today, the national backbone transmission network comprise of optical power ground wire (OPGW), digital microwave radio, Very Small Aperture Terminal (VSAT) and Satellite Earth Station (MoIC 2007). On the international front, Bhutan has established second international Gateway at Gelephu on March 2012 in addition to existing gateway at Phuentsholing to improve the reliability of internet connection in the country (MoIC 2012 a).

In terms of telecommunication network, all 20 districts and 199 out of 205 gewog centers are currently connected with national fixed-line telecommunication network and all districts and gewogs with mobile network (MoIC 2012 b). The graph-1 below illustrates the fixed-line and mobile penetration rate in the country.

Graph -1: Mobile and fixed line service penetration rate 2004-2011

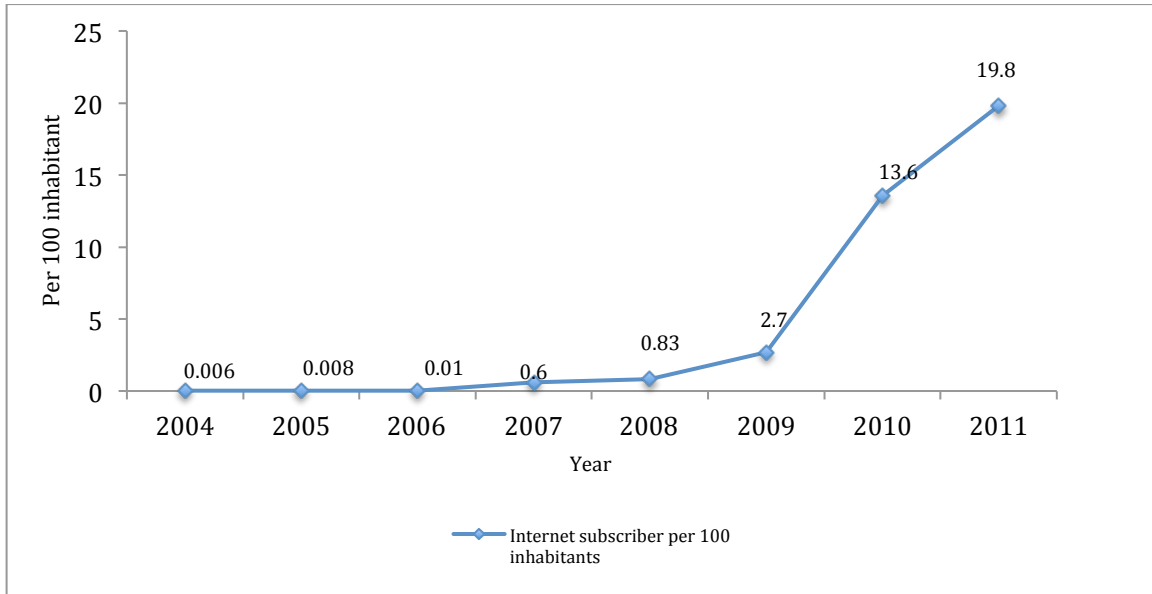


Source: Annual Info-Comm. and Transport Statistical Bulletin 2012

Although the mobile penetration rate has drastically increased over the last few years, the fixed line penetration rate has declined. The decline in fixed line usage is compensated in the increase in mobile usage (MoIC 2012 b). However, a study conducted by International Telecommunication Union (ITU) on the ‘emerging mobile apps opportunity’ in Bhutan reveals that the mobile penetration rate falls behind almost all developing countries in Asia, except from Bangladesh (ITU 2012). Further, progress report of ministry of information and communications points out that there are still 195 villages and numerous shadow areas within the villages are yet to be connected and achieving 100 percent coverage remains challenge and may not be possible any time soon (MoIC 2012 a).

In terms of internet connection and usage, Bhutan has seen significant increase over a decade of its introduction as illustrated by graph-2. A sharp increase in internet penetration rate is witnessed since 2009.

Graph -2: Internet service penetration rate 2004-2011



Source: Annual Info-Comm. and Transport Statistical Bulletin 2012

However, the table-1 below reveals that the internet connection is limited by the coverage of telecommunication (fixed & mobile) network and also the services are mostly concentrated in capital city and other district headquarters. Hence, the G2C initiative, which intends to use internet (web based) to reach out public services to rural and remote villages online remains a great challenge in absence of internet coverage in those places. Further, Bhutan currently has only 622 Mbps of international internet bandwidth, with 155 Mbps added in July 2012 (Dorji 2012). The absence of robust and sufficient high bandwidth connectivity would also seriously impede the delivery of online services.

Table-1: Internet service providers, type of internet services and coverage

Internet service provider (ISP)/operator	Type of services provided	Coverage
Druknet, BTL	Lease line and Dial-up internet connection	Nation wide where fixed-line telephone is available
	Fixed-line broadband	Selected places
	EDGE/GPRS (mobile internet)	All places where mobile service is available.
	3G	3 districts (Thimphu, Paro & Chhukha)
TashiCell	EDGE/GPRS (mobile internet) and lease line	18 districts
Samden Tech	Lease line connection	Thimphu (capital city)
Drukcom	Lease line connection	Thimphu (capital city)

Source: Annual Info-Comm. and Transport Statistical Bulletin 2012

To enhance the national backbone network, government is in final stage of implementing National Broadband Master Plan Project, which is scheduled for complementation by end of 2013 (MoIC 2012 a). It is expected to establish high-speed fiber optics network in all 20 district and 201 gewogs once the network has been laid, but its timely completion depends on the implementation of rural electrification project as it involves the stringing of optical fiber on Bhutan Power Corporation's transmission network (MoIC 2012 a). Also, the lack of clear policy guidelines on broadband would constraint the government from leveraging on the infrastructure once established to realize the objective of last-mile connectivity (MoIC 2011a).

Application and content

The Department of Information Technology and Telecom (DITT) in coordination with the relevant departments have developed various e-applications for online service delivery, since the conception of e-government system in Bhutan (MoIC 2007). Further, DITT has developed a generic e-platform system to enable and facilitate agencies to develop their own

online service delivery system with minimal effort yet maintaining standard across the agencies (MoIC 2012 a). However, all e-applications developed so far are web application and government is yet to consider the mobile application for online service delivery (ITU 2012). Given the low computer penetration rate (40,000 computer as of 2011) (ITU 2012) and limited internet coverage and bandwidth in the country, unless multi-channel access and applications are considered, the objective of enhancing access and reach especially in rural community would be a challenge.

Moreover, as Yong (2004, p-7) argues that “simply providing convenient or low-cost access will not entice citizens to go onto the internet if there is little online content in the local [national] language”, the success of G2C e-government initiatives would to great extent depend the availability of online services in language the most people understands. For instance, in China the increase in number of websites in Chinese language saw a growth in internet users from 9 million in 1999 to about 80 million in 2003 (Yong 2004). Although, government is undertaking various initiatives such as localizing operating system (Debian Dzongkha Linux) and developing other applications (e.g. optical character recognition system, text-to speech synthesis, word segmentation, etc.), the computing capacity in local language remains at very initial stage (MoIC 2012 a). Except for few websites such as Bhutan Broadcasting Service (<http://www.bbs.bt/news/dzongkha/>) and Dzongkha Development Commission (<http://www.dzongkha.gov.bt/IT/index.html>) almost all websites and contents in Bhutan are in English language. Even the G2C web portal (<http://www.citizenservices.gov.bt>) is in English language with some information translated into national language. Thus, unless government promotes online content in local language, the benefit of online information sharing and services would be limited to those who can read, write and understand English language.

Users ability to use ICT facilities

Implementation of e-government initiative and its success is not totally guaranteed by having infrastructure, application and systems, and the content in placed. The ability of user (the ultimate consumer) to access and use such facility plays important part. The ability to use ICT facilities and services provided online depends on the digital literacy and skills of the users (de Jager 2008). Although information on digital literacy in Bhutan is not available, the ‘Vision for Information Society’ published by ministry of information and communications reveals that Bhutan suffers from low digital literacy even within the government agencies that hampers the implementation of e-government initiatives (MoIC 2010). The report states that “ MOIC’s experience, even by testing these systems [e-government applications] in the ministry itself, is that low digital literacy, the absence of a computer-based work culture, and traditional mindsets, will be problems” (MoIC 2010, p-12). Given the low literacy rate in rural areas (Mehta 2007) and low ICT penetration rate in the country (MoIC 2011b), one can only expect low digital literacy among rural population.

Government has initiated various initiatives aimed at building skills and digital literacy in the country, such as incorporation of ICT into education curriculum, establishing formal diploma and degree courses in ICT (Jurmi and Wangchuk 2009), and education and training initiatives for civil servants (MoIC 2011a). The largest ICT skill-building project in the country with a budget outlay of Nu 2,052.696 million was launched in 2010 to be implemented within five-year time frame. The project aims at training all government officers (senior, mid-level managers and professionals) and local leaders, teachers, youths, entrepreneurs and children in rural community (MoIC 2011a). However, apart from the ITU’s project where 20 rural women were trained in Punakha on use of ICT in 2010 (Atipayakoon 2012), there has been no major initiatives undertaken by government to build

ICT skills and capacity for the rural population other than students and local leaders in the communities. Thus, it could be argued that in view of low digital literacy coupled with absence of government effort in building ICT skills and capacity of rural population, the G2C e-government initiative would not guarantee much benefit in rural communities.

Section Four: Conclusion and way forward

E-government as a tool for improving the effectiveness and efficiency in public service delivery has gained considerable importance in both developed and developing countries, including Bhutan. The main emphasis of e-government is to enhance instant and convenient access to government information and services by citizen from anywhere, at anytime through online. Although, e-government offers a range of potential benefits, experiences from around the world reveal that implementation of e-government is faced with various challenges, which are not only of technological but also organizational, regulatory, and human aspects. Moreover, e-government with its origin in developed countries, the issues arising out of the contextual misfit, while implemented in developing countries, overshadows the potential benefits of e-government. The literature on policy transfer suggest that it is over-simplistic to consider that there can be a 'one-size-fits-all' solution to a problem and simply transferring of policy solution from developed country to developing country would not guarantee promising result due to the difference in context and realities. Hence, the potential benefits of e-government can only be realized in developing countries if certain minimum preconditions exist in the country or such gaps are adequately taken into consideration during implementation.

In its efforts to improve the public service delivery, Bhutan has also joined the global trend in adoption of e-government system. However, given the global experience of higher failure rate of e-government, a question asked at the start of this research was whether G2C e-government initiative in Bhutan would realize its objective and contribute to improved public service delivery. Accordingly, four key factors that influence the effective implementation of e-government were examined. Based on the analysis and discussions, the following conclusions were drawn.

With the launching of citizen service portal and making various service available online, G2C service delivery initiative in Bhutan is making its way through. However, with only 22 government services made online as of June 2012 against the target of 110 services to be made available online by end of 2011, it can be concluded that the progress in implementing G2C initiative has been rather slow. The technical, administrative and connectivity issue explains the delay in progress.

With various policies on the use of ICT as a development tool in placed, it can be concluded that there is a sound policy environment supporting the implementation of G2C initiatives. Further, the compact between prime minister and cabinet secretary, and the involvement of all government secretaries in monitoring the implementation progress of G2C project suggest the strong commitment of government in adoption of G2C initiatives. However, the presence of sound policy and strong government commitment is not matched by the equivalent institutional capacity at the implementation level to operationalize the policy objective. Further, besides ICMA 2006, which provides legal basis for regulation of ICT and its usage, there are no specific regulation pertaining to online privacy, cyber security and digital signature. This gap remains to be the greatest setback for the successful implementation of G2C e-government services.

Although, Bhutan has made significant progress in terms of telecommunication network coverage, achieving universal connectivity remains to be a greatest challenge given the geographical terrain and high investment cost. Further, as G2C initiative in Bhutan is particularly focused on web based online service delivery system, the limited internet connection coverage coupled with lack of sufficient high bandwidth connectivity is a serious challenge that impede implementation of G2C initiative. As of now, government is yet to consider the other channel for online service delivery, such as mobile application.

Despite various initiatives and efforts, computing capacity in local language is still at the initial stage in Bhutan. This greatly hampers the development and ensuring e-government content in local language. Similarly, the low digital literacy and ICT skills among the general population in the country pose additional challenges in provision of online services.

Finally, in view of the above conclusion, the core argument of this paper is that despite the strong government commitment and effort in implementing e-government services, G2C e-government initiative is an over ambitious project in terms of what it can deliver, and there are still a series of issues at the implementation level that need to be addressed for realization of its objective. Accordingly following policy recommendations are made for effective implementation of G2C initiative:

- Since telecommunication network and ICT infrastructure serve as a critical backbone for e-government agenda, government should work towards ensuring reliable and adequate network infrastructure aimed at universal connectivity in terms of both telecommunication and well as internet connection.
- Government should consider putting in place the regulations with regard to online privacy, security and digital signature to facilitate online service delivery and also to encourage people to switch to an online mode of using government services.
- As only few websites can be seen which are published in the local language, Dzongkha, government should consider building computing capacity in local language and promote local content.

- As the ultimate success of e-government would depend on the users ability to use ICT tool and access online services, government should consider creating awareness and building ICT skills and digital literacy among general population in addition to human capacity development in government offices.

Reference

- Alshehri, Mohammed, and Steve Drew. 2010. E-Government fundamentals. In *IADIS International Conference ICT, Society and Human Beings*, edited by G. Bradley. Freiburg, Germany: IADIS International Association for Development of the Information Society [<http://www98.griffith.edu.au/dspace/handle/10072/37709?show=full%5D>.]
- Alshihhi, H. 2006. Critical Factor in the Adoption and Difussion of E-government Initiatives in Oman, School of Information Systems, Faculty of Business and Law, Victoria University. [<http://vuir.vu.edu.au/483/1/01front.pdf>]
- Atipayakoon, Wisit. 2012. Background Paper. In *ITU Asia-Pacific Regional Development Forum- "ICT for Sustainable and Inclusive Development"*. Bangkok, Thailand.
- Atreya, Binod. 2002. The applicability of New Public Management to developing countries: A case from Nepal, School of Management, Faculty of Business and Law, Victoria university of Technology, Melbourne, Australia. [http://vuir.vu.edu.au/15559/1/Atreya_2002compressed.pdf%5D]
- Baptista, Manuel. 2005. e-Government and State Reform: Policy Dilemmas for Europe. *The Electronic Journal of e-Government* 13 (4):167-174.
- Barcham, Manuhua. 2003. South-South policy transfer: the case of the Vanuatu Ombudsman's Office. *Pacific Economic Bulletin* 18 (2):108-116.
- Barkenbus, Jack. 1998. Expertise and the Policy Cycle. Knoxville, TN, USA: Energy, Environment and Resources Center, The University of Tennessee. [<http://www.gdrc.org/decision/policy-cycle.pdf>]
- Basu, Subhajit. 2004. E-Government and Developing Countries: An Overview. *International Review of Law Computers & Technology* 18 (1):109-132.
- Bennett, C. 1991. What is policy convergence and what causes it? *British Journal of Political Science* 21 (2):215-233.
- Bhuiyan, Shahjahan H. 2011. Modernizing Bangladesh public administration through e-governance: Benefits and challenges. *Government Information Quarterly* 28:54-65.
- Bigdeli, Alinaghi Ziaee, and de Cesare, Sergio. 2011. Barries to e-Governmnet Service Delivery in Developing Countries: The Case of Iran. In *Emerging themes in Information System and Organization Studies*, edited by A. Carugati and Rossignoli. New York: SPi Publisher Service.
- Bonina, Carla M., and Cordella, Antonio. 2008. The new public management, e-government and the notion of 'public value': lessons from Mexico. Paper read at SIG GlobDev's First Annual Workshop, at Paris, France. [<http://www.globdev.org/files/24-Paper-Bonina-The%20New%20Public%20Mgt-Revised.pdf>]
- Chulajata, Issariyaporn, and Turner, Mark. 2009. What happnes when policies are transferred? The privatisation of the telephone organization of Thailand. *International Journal of Asia-Pacific Studies (IJAPS)* 5 (1):33-53.

- Coursey, David, and Norris, Donald F. 2008. Models of E-Government: Are they correct? An Empirical Assessment. *Public Administration Review* 68:523-536.
- Criado, J. Ignacio, Hughes, Owen, and Teicher, Julian. 2002. E-Government and Managerialism: A Second Revolution in Public Management. In *6th International Research Symposium on Public Management, 8-10 April, 2002*. University of Edinburgh.
[\[http://www.uam.es/personal_pdi/derecho/icriado/PDF/CriadoHughesTeicher6IRSPM2002Management.pdf\]](http://www.uam.es/personal_pdi/derecho/icriado/PDF/CriadoHughesTeicher6IRSPM2002Management.pdf)
- Dada, Danish. 2006. The failure of E-government in developing countries: A literature review. *Electronic Journal of Information Systems in Developing Countries* 26 (7):1-10.
- de Araújo, J.F.F.E. 2000. Improving public service delivery: the crossroads between agencification and traditional bureaucracy. In *The International Research Symposium on Public Management IV*. Rotterdam.
[\[http://repositorium.sdum.uminho.pt/bitstream/1822/4544/1/VersãoFinalDefinitiva.pdf\]](http://repositorium.sdum.uminho.pt/bitstream/1822/4544/1/VersãoFinalDefinitiva.pdf)
- de Jager, Arjan. 2008. E-governance in the Developing World in Action: The case of DistrictNet in Uganda. *The Journal of Community Informatics* 4 (2).
- Deep, Manisha K, and Sahoo, Gadadhar. 2011. m-governance for better G2C service. *Journal of Internet Banking and Commerce* 16 (1):1-6.
- Dolowitz, David, and David Marsh. 1996. Who Learns What from Whom: a Review of the Policy Transfer Literature. *Political Studies* XLIV:343-357.
- Dolowitz, David P. 1997. British Employment Policy in the 1980s: Learning from the American Experience. *Governance* 10 (1):23-42.
- Dolowitz, David P. 1998. *Learning from America: Policy Transfer and the Development of British Workfare State*. Brighton: Sussex Academic Press.
- Dolowitz, David P., and David Marsh. 2000. Learning from Abroad: The Role of Policy Transfer in Contemporary Policy-Making. *Governance* 13 (1):5-23.
- Dorji, Gyalsten K. 2012. Druknet expands international bandwidth. *Kuensel*
[\[http://www.kuenselonline.com/2011/?p=33527%7D.\]](http://www.kuenselonline.com/2011/?p=33527%7D.)
- Dorji, Tshering Cigay. 2010. History of Telecommunications in Bhutan. In *Bhutan Telecom News*. Thimphu: Bhutan Telecom Ltd. [\[http://www.druknet.bt/forms/Newsletter1.pdf\]](http://www.druknet.bt/forms/Newsletter1.pdf)
- Ebrahim, Zakareya, and Irani, Zahir. 2005. E-government adoption: architecture and barriers. *Business Process Management Journal* 11 (5):589-611.
- Evans, Donna, and Yen, David C. 2006. E-Government: Evolving relationship of citizens and government, domestic, and international development. *Government Information Quarterly* 23:207-235.
- Evans, Mark, and Davies, Jonathan. 1999. Understanding Policy Transfer: A Multi-Level, Multi-Disciplinary Perspective. *Public Administration* 77 (2):361-385.
- Fang, Zhiyuan. 2002. E-governmnet in Digital Era: Concept, Practice, and Development. *International Journal of the Computer, The Internet and Management* (2):1-22.

- G2C-RGoB. 2010. Taking Services to the Citizens. Thimphu: G2C Project Office
[\[http://www.g2c.gov.bt/sites/default/files/documents/G2C_insert_English_Dzongkha_final.pdf\]](http://www.g2c.gov.bt/sites/default/files/documents/G2C_insert_English_Dzongkha_final.pdf)
- Gallego-Álvarez, Isabel , Rodríguez-Domínguez, Luis, and García-Sánchez, Isabel-María. 2010. Are determining factors of municipal E-government common to a worldwide municipal view? An intra-country comparison. *Government Information Quarterly* 27:423-430.
- Gang, Song. 2005. Transcending e-Government: a Case of Mobile Government in Beijing. In *The First European Conference on Mobile Government*. Brighton
[\[http://unpan1.un.org/intradoc/groups/public/documents/apcity/unpan034655.pdf\]](http://unpan1.un.org/intradoc/groups/public/documents/apcity/unpan034655.pdf)
- Gauld, Robin, Goldfinch, Shaun, and Horsburgh, Simon. 2010. Do they want it? Do they use it? The ‘Demand-Side’ of e-Government in Australia and New Zealand. *Government Information Quarterly* 27:177-186.
- GNHC. 2009. Tenth Five Year Plan 2008-2013: Volume 1-Main Document. Thimphu: Gross National Happiness Commission.
[\[http://www.gnhc.gov.bt/wp-content/uploads/2011/10thplan/TenthPlan_Voll_Web.pdf\]](http://www.gnhc.gov.bt/wp-content/uploads/2011/10thplan/TenthPlan_Voll_Web.pdf)
- GNHC. 2012. *Accelerating Bhutan’s Socio-Economic Development*
[\[http://www.gnhc.gov.bt/absd/?page_id=25%5D\]](http://www.gnhc.gov.bt/absd/?page_id=25%5D). Gross National Happiness Commission, Royal Government of Bhutan 2010 [cited 28 June 2012].
- GNHC. 2010. Population Perspective Plan. Thimphu: Research and Evaluation Division, Gross National Happiness Commission, Royal Government of Bhutan.
[\[http://www.gnhc.gov.bt/wpcontent/uploads/2011/publications/population/Population%20Perspective%20Plan.pdf\]](http://www.gnhc.gov.bt/wpcontent/uploads/2011/publications/population/Population%20Perspective%20Plan.pdf)
- GNHC. 2011a. Tenth Five Year Plan (2008-2013) Mid-Term Review Report. Thimphu: Gross National Happiness Commission, Royal Government of Bhutan.
[\[http://www.gnhc.gov.bt/wp-content/uploads/2011/07/MTR_book_final.pdf\]](http://www.gnhc.gov.bt/wp-content/uploads/2011/07/MTR_book_final.pdf)
- GNHC. 2011b. Turning Vision into Reality: The Development Challenges Confronting Bhutan - Eleventh Round Table Meeting. Thimphu, Bhutan: Gross National Happiness Commission, Royal Government of Bhutan.
[\[https://www.gnhc.gov.bt/wp-content/uploads/2011/07/RTM_Text_Final15July2011.pdf\]](https://www.gnhc.gov.bt/wp-content/uploads/2011/07/RTM_Text_Final15July2011.pdf)
- Gupta, Babita, Dasgupta, Subhasish, and Gupta, Atul. 2008. Adoption of ICT in a government organization in a developing country: An empirical study. *Journal of Strategic Information Systems* 17:140–154.
- Haldenwang, C.von. 2004. Electronic Government (E-Government) and Development. *The European Journal of Development Research* 16 (2):417-432.
- Heeks, Richard. 2002. eGovernment in Africa: promise and practice. In *iGovernment working paper series, paper no. 13*. Manchester: Institute for Development Policy and Management, University of Manchester.
[\[http://www.sed.manchester.ac.uk/idpm/research/publications/wp/igovernment/documents/igov_wp13.pdf\]](http://www.sed.manchester.ac.uk/idpm/research/publications/wp/igovernment/documents/igov_wp13.pdf)
- Helbig, Natalie C, Gil-García, J. Ramón, and Ferro, Enrico. 2005. Understanding the Complexity in Electronic Government: Implications from the Digital Divide literature. In *Eleventh Americas Conference on Information Systems*. Omaha, NE, USA.

[\[http://www.enricoferro.com/office/research/amcis2005_final.pdf\]](http://www.enricoferro.com/office/research/amcis2005_final.pdf)

- Hood, Christopher. 1991. A Public Management for all Seasons? *Public Administration* 69 (1):3-19.
- Howard, M. 2001. e-Government Across the Globe: How Will 'e' Change Government. *Government Finance Review* 17 (4):6-9.
- IMF. 2010. Bhutan: Poverty Reduction Strategy Paper—Joint Staff Advisory Note. Washington, D.C: International Monetary Fund.
[\[http://www.imf.org/external/pubs/ft/scr/2010/cr10181.pdf\]](http://www.imf.org/external/pubs/ft/scr/2010/cr10181.pdf)
- ITU. 2008. Electronic Government for Developing Countries. Geneva, Switzerland: International Telecommunication Union.
[\[http://www.itu.int/ITU-D/cyb/app/docs/e-gov_for_dev_countries-report.pdf\]](http://www.itu.int/ITU-D/cyb/app/docs/e-gov_for_dev_countries-report.pdf)
- ITU. 2012. Bhutan Project Report on Emerging Mobile Apps Opportunity. International Telecommunication Union.
- Jaeger, Paul T, and Thompson, Kim M. 2003. E-government around the world: Lessons, challenges, and future directions. *Government Information Quarterly* 20:389-394.
- James, Oliver, and Lodge, Martin. 2003. The Limitations of 'Policy Transfer' and 'Lesson Drawing' for Public Policy Research. *Political Studies Review* 1:179-193.
- Jurmi, Kuenga, and Wangchuk, Sangay. 2009. '.bt' Bhutan. In *Digital Review of Asia Pacific 2009-2010*, edited by S. Akhtar and P. Arinto. Canada: SAGE Publications.
- Kaaya, Janet. 2004. Implementing e-Government Services in East Africa: Assessing Status through Content Analysis of Government Websites. *Electronic Journal of e-Government* 2 (1):39-54.
- Karunasena, Kanishka , and Deng, Hepu. 2012. Critical factors for evaluating the public value of e-government in Sri Lanka. *Government Information Quarterly* 29:76-84.
- Katre, Dinesh , and Clemmensen, Tokil. 2011. Human Work Interaction Design for e-Government and Public Information Systems-Editorial. *International Journal of Public Information System* 3:101-104.
- Khalil, Omar E.M. 2011. e-Government readiness: Does national culture matter? *Government Information Quarterly* 28:388-399.
- Lam, Wing. 2005. Barriers to e-government integration. *Journal of Enterprise Information Management* 18 (5/6):511-530.
- Larbi, George A. 1999. The New Public Management Approach and Crisis States. Geneva, Switzerland: United Nations Research Institute for Social Development (UNRISD).
[\[http://www.pogar.org/publications/other/unrisd/dp112.pdf\]](http://www.pogar.org/publications/other/unrisd/dp112.pdf)
- Lau, Edwin. 2003. Challenges for E-government Development. In *5th Global Forum on Reinventing Government*. Mexico: Organization for Economic Co-Operation and Development (OECD).
[\[http://unpan1.un.org/intradoc/groups/public/documents/un/unpan012241.pdf\]](http://unpan1.un.org/intradoc/groups/public/documents/un/unpan012241.pdf)
- Layne, Karen, and Lee, Jungwoo. 2001. Developing fully functional E-government: A four stage model. *Government Information Quarterly* 18 (2):122-136.

- Li, Feng. 2003. Implementing e-government strategy in Scotland: current situation and emerging issues. *Journal of Electronic Commerce in Organizations* 1 (2).
- Linos, Katerina. 2006. When do Policy Innovation Spread? Lessons for Advocates of Lesson-Drawing. *Harvard Law Review* 119:1467-1478.
- Markellos, Konstantinos, Markellou, Penelope, Panayiotaki, Angeliki, and Stergiani, Eirini. 2007. Current State of Greek E-Government Initiatives. *Journal of Business Systems, Governance and Ethics* 2 (3):67-88.
- Martínez, Carlos C. n.d. Absorbing and Implementing a Best Practice: Issues of Local Capacity and Environmental Suitability and Sustainability In *Experts meeting on "Approaches and methodologies for the assessment and transfer of best practices in governance and public administration"*. Spain.
[\[http://unpan1.un.org/intradoc/groups/public/documents/un/unpan030445.pdf\]](http://unpan1.un.org/intradoc/groups/public/documents/un/unpan030445.pdf)
- Mathou, Thierry. 2000. The politics of Bhutan. *Journal of Bhutan Studies* 2 (2):252-262.
- Mehta, Sanjeev. 2007. Inter-Regional Variations in the Inequality and Poverty in Bhutan. *Journal of Bhutan Studies* 16:38-83.
- Miller, Karen. 2005. *Public Sector Reform; Governance in South Africa*. Aldershot: Ashgate Publishing Limited.
- Miyata, Mayumi. 2011. Measuring impacts of e-government support in least developed countries: a case study of the vehicle registration service in Bhutan. *Information Technology for Development* 17 (2):133-152.
- Mohammad, Hiba, Almarabeh, Tamara, and Ali, Amer Abu. 2009. E-Government in Jordan. *European Journal of scientific Research* 35 (2):188-197.
- MoIC. 2006 a. Technical Guidelines on Information and Communications Technology (ICT) for Preparation of the Tenth Five Year Plan (2008-2013). Thimphu: Ministry of Information and Communications, Royal Government of Bhutan. [\[http://www.moic.gov.bt/tg.pdf\]](http://www.moic.gov.bt/tg.pdf)
- MoIC. 2006 b. Policy Guideline on Information Sharing. Thimphu: Ministry of Information and Communications, Royal Government of Bhutan. [\[http://www.moic.gov.bt/pdf/infoshare.pdf\]](http://www.moic.gov.bt/pdf/infoshare.pdf)
- MoIC. 2007. Information, Communications and Transport Sector in Bhutan- As special Report. Thimphu: Ministry of Information and Communications.
[\[http://www.moic.gov.bt/pdf/moicreport.pdf\]](http://www.moic.gov.bt/pdf/moicreport.pdf)
- MoIC. 2010. A Concept whose time has arrived- Vision for Information Society: Bhutan in the 21st century. Thimphu: Ministry of Information and Communications.
[\[http://www.moic.gov.bt/pdf/Vision%20for%20information%20Society.pdf\]](http://www.moic.gov.bt/pdf/Vision%20for%20information%20Society.pdf)
- MoIC. 2011a. Bhutan ICT Roadmap. Thimphu: Ministry of Information and Communications, Royal Government of Bhutan.
- MoIC. 2011b. Annual Info-Comm and Transport Statistical Bulletin (2nd Edition). Thimphu: Ministry of Information and Communications, Royal Government of Bhutan.
[\[http://www.moic.gov.bt/Statistical/Annual%20InfoComm%20and%20Transport%20Statistical%20Bulletin.pdf\]](http://www.moic.gov.bt/Statistical/Annual%20InfoComm%20and%20Transport%20Statistical%20Bulletin.pdf)

- MoIC. 2012 a. Four Years progress report 2008/09-2011/2012. Thimphu: Ministry of Information and Communications, Royal Government of Bhutan.
- MoIC. 2012 b. Annual Info-Comm. and Transport Statistical Bulletin (3rd Edition). Thimphu: Ministry of Information and Communications, Royal Government of Bhutan.
[\[http://www.moic.gov.bt/Statistical/Annual%20InfoComm%20and%20Transport%20Statistical%20Bulletin.pdf\]](http://www.moic.gov.bt/Statistical/Annual%20InfoComm%20and%20Transport%20Statistical%20Bulletin.pdf)
- Moon, M. Jae. 2002. The Evolution of E-Government among Municipalities: Rhetoric or Reality? *Public Administration Review* 62 (4):424-433.
- Mossberger, Karen, and Wolman, Harold. 2003. Policy Transfer as a Form of Prospective Policy Evaluation: Challenges and Recommendations. *Public Administration Review* 63 (4):428-440.
- Mukabeta, Blessing Maumbe, Owei, Vesper, and Alexander, Helen. 2008. Questioning the pace and pathway of e-government development in Africa: A case study of South Africa's Cape Gateway project. *Government Information Quarterly* 25 (4):757-777.
- Mundy, Darren, and Musa, Bandi. 2010. Towards a Framework for eGovernment Development in Nigeria. *Electronic Journal of e-Government* 8 (2):148-161.
- Nagi, Eman Al, and Hamdan, Mohammad. 2009. Computerization and e-Government implementation in Jordan: Challenges, obstacles and successes. *Government Information Quarterly* 26:577-583.
- Nasr, Akram Ali Othman, and Galal-Edeen, Galal Hassan. 2012. Proposed Development Model of E-government to Appropriate Cloud Computing. *International Journal of Reviewa in Computing* 9:47-53.
- Navarra, Diego. D., and Cornford, Tony. 2005. ICT, Innovation and Public Management: Governance, Models & Alternatives for e Government Infrastructures. In *European Conference of Information Systems*. Regensburg, Germany.
- Ndou, Valentina (Dardha). 2004. E-Government for Developing Countries: Opportunities and Challenges. *The Electronic Journal on Information Sysyes in Developing Countries* 18 (1):1-24.
- Newmark, Adam J. 2002. An Integrated Approach to Policy Transfer and Difussion. *Review of Policy Research* 19 (2):151-178.
- NSB. 2011. Statistical Yearbook. Thimphu: National Statistics Bureau, Royal Government of Bhutan. [\[http://www.nsb.gov.bt/pub/syb/syb2011.pdf\]](http://www.nsb.gov.bt/pub/syb/syb2011.pdf)
- O'Flynn, Janine, and Blackman, Deborah. 2009. Experimenting with organisational development in Bhutan: A tool for reform and the achievement of multi-level goals? *Public Administration and Development* 29 (2):133-144.
- OECD. 2003. OECD e-Government Studies: The e-Government Imperative. Paris, France: Organization for Economic Co-operation and Development.
- OECD. 2008. Making Life Easy for Citizens and Businesses in Portugal- Administrative Simplefication and E-Government: OECD Publishing.
[\[http://www.oecd.org/dataoecd/37/23/42600869.pdf\]](http://www.oecd.org/dataoecd/37/23/42600869.pdf)

- Pamo, Tshering. 2012. Glitch in system fails passport application. *Kuensel* [/http://www.kuenselonline.com/2011/?p=3919%5D](http://www.kuenselonline.com/2011/?p=3919%5D).
- Parajuli, Jitendra. 2007. A Content Analysis of Selected Government Web Sites: a Case Study of Nepal. *Electronic Journal of e-Government* 5 (1):87-94.
- Pelden, Sonam. 2010. E-governance taking shape. *Bhutan Observer* [/http://www.bhutanobserver.bt/e-governance-taking-shape/%5D](http://www.bhutanobserver.bt/e-governance-taking-shape/%5D).
- Planning Commission. 1999. Bhutan 2020: A Vision for peace, Prosperity and Happiness. Thimphu: Planning Commission, Royal Government of Bhutan. [\[http://www.gnhc.gov.bt/wp-content/uploads/2011/05/Bhutan2020_2.pdf\]](http://www.gnhc.gov.bt/wp-content/uploads/2011/05/Bhutan2020_2.pdf)
- Randma-Liiv, Tiina, and Kruusenberg, Riin. 2010. West-East policy transfer: motives, scope, role models and agents. In *IRSPM Conference- Panel 7: International policy Learning and Transfer in Public Administration*. Berne.
- RGoB. 2004. Bhutan Information and Communications Technology Policy and Strategies (BIPS) Thimphu: Royal Government of Bhutan. [\[http://www.moic.gov.bt/pdf/bips.pdf\]](http://www.moic.gov.bt/pdf/bips.pdf)
- RGoB. 2006. Bhutan Information, Communication and Media Act 2006. Thimphu: Royal Government of Bhutan. [\[http://www.bicma.gov.bt/ACT/English.pdf\]](http://www.bicma.gov.bt/ACT/English.pdf)
- Rokhman, Ali. 2011. E-Government Adoption in developing Countries; the Case of Indonesia. *Journal of Emerging Trends in Computing and Information Sciences* 2 (5):228-236.
- Rose, Richard. 1993. *Lesson-Drawing in Public Policy-A guide to learning across time and space*. Chatham, New Jersey: Chatham House, Inc.
- Rose, Richard. 2005. *Learning from comparative public policy. A practical guide*. London: Routledge.
- Saraswati. 2010. On how to stay at Gasa and Write an Exam in Phunakha. *Bhsuness Bhutan* [/http://www.businessbhutan.bt/?p=1923%5D](http://www.businessbhutan.bt/?p=1923%5D).
- Saxena, K. B. C. 2005. Towards excellence in e-governance. *The International Journal of Public Sector Management* 18 (6/7):498-513.
- Scholl, H. J. 2003. E-government: A Special Case of ICT-enabled Business Process Change?. Paper read at 36th Hawaii International Conference on System Sciences (HICSS-36), at Hawaii.
- Schuppan, Tino. 2009. E-Government in developing countries: Experiences from sub-Saharan Africa. *Government Information Quarterly* 26:118-127.
- Seifert, Jeffrey W. 2003. A Primer on E-Government: Sectors, Stages, Opportunities, and Challenges of Online Governance. US: United States Congressional Research Service. [\[https://www.fas.org/sgp/crs/RL31057.pdf\]](https://www.fas.org/sgp/crs/RL31057.pdf)
- Sharma, Sushil K., and Gupta, Jatinder N. D. 2003. Building blocks of an e-government--a framework. *Journal of Electronic Commerce in Organizations* 1 (4):34
- Sharman, J.C. 2010. Dysfunctional Policy Transfer in National Tax Blacklists. *Governance* 23 (4):623-639.

- Siddiquee, Noore Alam. 2005. Innovations in Governance and Service Delivery: E-Government Experiment in Malaysia. In *Network of Asia-Pacific Schools and Institutes of Public Administration and Governance (NAPSIPAG) Annual Conference*. Beijing, China.
[\[https://www.napsipag.org/pdf/EGovernment_Malaysia.pdf\]](https://www.napsipag.org/pdf/EGovernment_Malaysia.pdf)
- Sipior, Janice C, and Ward, Burke T. 2005. Bridging the Digital Divide for e-government inclusion: A United States Case Study. *The Electronic Journal of e-Government* 3 (3):137-146.
- Stone, Diane. 1999. Learning Lessons and Transferring Policy Across Time, Space and Disciplines. *Politics* 19 (1):51-59.
- Swainson, Rebecca, and de Loe, Rob C.. 2011. The importance of context in relation to policy transfer: a case study of environmental water allocation in Australia. *Environmental Policy and Governance* 21 (1):58-69.
- Syamsuddin, Irfan. 2011. Evaluation of E-government Initiatives in Developing Countries: An ITPOSMO Approach. *International Research Journal of Applied and Basic Sciences* 2 (12):439-446.
- Tobgay, Sonam, and Wangmo, Kencho. 2008. Can ICT (Internet) overcome the natural geographical barriers of Bhutan in developing the nation? *International Journal of Education and Development using Information and Communication Technology* 4 (4):148-158.
- Tolofari, Sowaribi. 2005. New Public Management and Education. *Policy Futures in Education* 3 (1):75-89.
- Turbin, Jill. 2001. Policy borrowing: lessons from European attempts to transfer training practices. *International Journal of Training and Development* 5 (2):96-111.
- UN. 2008. UN E-Government Survey 2008: From E-Government to Connected Governance. New York: United Nations Department of Economic and Social Affairs.
[\[http://unpan1.un.org/intradoc/groups/public/documents/un/unpan028607.pdf\]](http://unpan1.un.org/intradoc/groups/public/documents/un/unpan028607.pdf)
- UN. 2012. United Nations E-Government Survey 2012: E-Government for the people. New York: United Nations Department of Economic and Social Affairs.
[\[http://unpan1.un.org/intradoc/groups/public/documents/un/unpan048065.pdf\]](http://unpan1.un.org/intradoc/groups/public/documents/un/unpan048065.pdf)
- UN-ASP. 2002. Benchmarking E-government: A Global Perspective. New York: United Nations American Society for Public Administration.
[\[http://unpan1.un.org/intradoc/groups/public/documents/un/unpan021547.pdf\]](http://unpan1.un.org/intradoc/groups/public/documents/un/unpan021547.pdf)
- UN-CSTD. 1997. Information and Communication Technologies for Development-Working Group Report. Geneva: United Nations-Commission on Science and Technology.
[\[http://unctad.org/en/docs/ecn16_97d4.en.pdf\]](http://unctad.org/en/docs/ecn16_97d4.en.pdf)
- UNCTAD. 2011. The Least Developed Countries Report: The Potential role of South-South Cooperation for Inclusive and Sustainable Development. Geneva: United Nations.
[\[http://unctad.org/en/docs/Idc2011_en.pdf\]](http://unctad.org/en/docs/Idc2011_en.pdf)
- UNECA. 2003. Public Sector Management Reforms in Africa: Lesson Learned. Addis Ababa, Ethiopia: United Nations Economic Commission for Africa.
[\[http://uneca.africa-devnet.org/files/public_sector_mangt.pdf\]](http://uneca.africa-devnet.org/files/public_sector_mangt.pdf)

- UNESCO. 2005. E-Government Toolkit for Developing Countries. New Delhi: UNESCO Asia-Pacific Regional Bureau for Communication and Information.
[\[http://unesdoc.unesco.org/images/0013/001394/139418e.pdf\]](http://unesdoc.unesco.org/images/0013/001394/139418e.pdf)
- Ura, Karma, Alkire, Sabina, Zangmo, Tshoki, and Wangdi, Karma. 2012. A Short Guide to Gross National Happiness Index. Thimphu: The Center for Bhutan Studies.
[\[http://www.grossnationalhappiness.com/wp-content/uploads/2012/04/Short-GNH-Index-edited.pdf\]](http://www.grossnationalhappiness.com/wp-content/uploads/2012/04/Short-GNH-Index-edited.pdf)
- Vassilakis, Costas, Lepouras, George, Fraser, John, Haston, Simon, and Georgiadis, Panagiotis. 2005. Barriers to Electronic Service Development. *E - Service Journal* 4 (1):41-63,101-102.
- Verdegem, Pieter, and Verleye, Gino. 2009. User-centered E-Government in practice: A comprehensive model for measuring user satisfaction. *Government Information Quarterly* 26:487-497.
- Wangchuk, Lily. 2008. *Facts About Bhutan-The Land of Thrunder Dragon*. first ed. Vol. 1: Absolute Bhutan Book.
- Wangchuk, Samten. 2010. Taking it to the people. *Kuensel*.
<http://www.kuenselonline.com/2011/?p=14436>.
- West, Darrell M. 2004. E-Government and the Transformation of Service Delivery and Citizen Attitudes. *Public Administration Review* 64 (1):15-27.
- World Bank. 2004. Building blocks of e-government: Lessons from developing countries. *Prem Notes, Public Sector* (91),
<http://siteresources.worldbank.org/EXTEGOVERNMENT/Resources/premnote91.pdf?resourceurlname=premnote91.pdf>.
- Yildiz, Mete. 2007. E-government research: Reviewing the literature, limitations, and ways forward. *Government Information Quarterly* 24 (3):646-665.
- Yong, James SL. 2004. Promoting citizen-centered approaches to e-Government Programmes-Strategies & Perspectives from Asian Economies. In *Second APEC High-Level Symposium on e-Government*. Acapulco, Maxico. [\[http://www.egov-in-asia.com/egov-2/cms_data/egov-paper-for-apec.pdf\]](http://www.egov-in-asia.com/egov-2/cms_data/egov-paper-for-apec.pdf)
- Yong, James SL, and Lim Hiap Koon. 2003. e-Government: Enabling Public Sector Reform. In *E-government in Asia: Enabling Public Service Innovation in the 21st Century*, edited by J. Yong. Singapore: Times Media.