

Challenges and Successes of E-Government Development in Developing Countries: A Theoretical Review of the Literature

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Abstract: Electronic government (e-Gov) is the innovation of the 21st century. This is because many governments around the globe are reforming their service delivery system via the use of Information and Communications Technologies (ICTs) to attain greater efficiency in public sector. The potential benefits of e-Gov were echoed by stakeholder and supranational bodies like United Nations, World Bank, International Monetary Fund, just to name a few. Developed countries have started reaping the fruit of ICTs in government service delivery while developing nations are stagnant with structural and sustainable failures of information systems in general. However, this study argued that some success stories are registered with regards to e-Service delivery in some developing countries and lesson needs to be learned from it—Singapore, Egypt and Chile can best this argument. Using explanatory method, data has been collected for this study from secondary sources.

Keywords: e-Government, Developing countries, e-Readiness, Information and Communications Technologies

I. INTRODUCTION

Electronic government (shortly e-Gov) has been one of the buzzword of recent times. In fact, e-Gov is the innovation of the 21st century. This is because many governments around the globe are reforming their service delivery system via the use of Information and Communications Technologies (ICTs) to attain greater efficiency in public sector. To aid our understanding of e-Gov, it is worthwhile to note that e-Gov is not purely a project centered on technology and cannot succeed with technology per se. Electronic government is not simply a matter of giving government officials computers or automating old practices (info Dev, 2002). While e-Gov aimed at modernizing and reforming public administration (for example, see, Azab et al., 2009; Becker et al., 2004; Al-Khouri, 2011), the promises would be of great benefit to world governments.

The purpose of this study is to evaluate implementation challenges and successes of e-Gov development in developing countries—a theoretical review of the literature. Generally, most of the problems in developing nations center on adoption of these new technologies and unwillingness of bureaucrats to accept new innovations.

In a digital world, information-based economy, governments must modernize to survive. If they don't, they face becoming

irrelevant. In democratic societies, when a government becomes irrelevant, it loses its effectiveness to govern. This technological revolution is no longer an option but a necessity for world governments for better governance and economic development. Big governments are characterized with wastefulness, ineffectiveness, coupled with bureaucrats' unwillingness to open and give information (Stahl, 2005).

A reminder that this paper is divided into two main parts (excluding the introduction). The first part shall explore implementation challenges of e-Gov and the second section will evaluate success stories of e-Gov development in developing countries. The paper is concluded with some policy recommendation.

II. ANALYSIS OF THE CHALLENGES AND FAILURES OF E-GOVERNMENT IN DEVELOPING COUNTRIES

A few scholars have discussed e-Gov issues in developing countries and provide an alternative framework for its successful implementation. For instance, Heeks (2002) used design-reality framework to examine the failures and successes of e-Gov services in developing countries. The study by Nkohkwo and Islam (2013) assessed the implementation challenges of e-Gov initiatives in Sub-Saharan Africa. However, this study tries to fill part of the void in previous research by theoretically analyzing e-Gov successes and failures in developing nations and learning from the success stories of other developing countries.

Electronic government is often heralded as a way forward for governments around the world to achieve efficiency and better service delivery to both citizens and businesses. This has made e-Gov not just an option but a necessity for countries aiming for better governance. This is because the benefits of adopting e-Gov are enormous: efficiency and effective government, greater participation, transparent government, better services delivery, reduction of massive corruption just to name a few. However, despite these promises, e-Gov implementation still pose a threat in most developing countries more so in Africa. Analysis of the reasons behind success and failure of e-Gov projects is still an interesting domain of investigation (Elkadi, 2013).

Scholarly investigations on e-Gov have focused primarily on the impacts and outcomes of ICTs for the private sector (Ndou

2004) and the public sector has been sidelined because it tends to lag behind in the process of technology adoption and business reinvention. Developing nations are beginning to acknowledge the significance of ICTs in government and private sector despite the challenges it faced in adoption of ICTs (Heeks, 2002; Thomas et al., 2004; InfoDev, 2004).

Although e-Gov is a global phenomenon, simply transferring ICT solutions and related organizational concepts from developed to developing countries seems inappropriate. Arguably, e-Gov is an imported concept based on imported designs and it is diffusing slowly within Africa and other developing countries due to inadequate e-Readiness for e-Gov (Heeks, 2002; Schuppan, 2008). Similarly, inadequate infrastructure, low literacy, poor economic development, and differing of cultural factors are prevalence in developing nations (Rorissa and Demissie, 2010). Most, if not all, currently published e-Gov initiatives and strategies are based on successful experiences from developed countries, which may not be directly applicable to developing countries (see, Chen et al., 2006; Mutula, 2013) due to socio-cultural, political and economic factors.

It appears that evaluating e-Gov success or failure pose many difficulties. Heeks (2002), “laments that the first difficulty is the subjectivity of evaluation. The second difficulty is the timing of evaluation—today’s information system success may be tomorrow’s information system failure, and vice versa” (Heeks 2002). To some scholars, the benefits of technological innovations allow overcoming the inefficiency, achieving optimal governance results, providing new opportunities for NGOs, businesses and public institutions interaction, governance transparency, clearer decision-making (Saparniene, 2013), cost saving, greater accountability of the government, increasing efficiency, ensuring shorter processing time, reducing corruption among the government employees, lowering the administrative burden and improving constituency participation (Finger and Pécoud 2003).

Although, much of the literature see IT as an instrument of administrative reform and that IT has the potential for dramatically changing organizations (see, Torres et al., 2005). However, Kraemer and King (2003) argued even more strongly than before that IT is not a catalyst for administrative reform in government. They contend that pro-IT proponent never backed their argument: “Proponents of the reform position recognize this point, but they respond with the claim that the potential of IT is not being realized because top managers fail to utilize the technology properly: they fail to “distribute” the technology efficiently, “empower” lower level staff, “re-engineer” the organization along with computerization efforts, and become hands-on “knowledge executives” themselves” (Kraemer and King, 2003:6).

Most of the challenges developing countries encounter is poor coordination among various government institutions regarding the inadequacy of ICT policies and master plans to guide investments (Gichoya, 2005). Another challenge that every

government face in implementing successful e-Gov is the citizens’ acceptance and usage. Therefore, educating and training of the citizens on e-Portal services must not be overlook to avert this challenge (Sarrayrih and Sriram, 2015).

Heeks (2001) contends that countries faced a number of challenges. First, the strategic challenge of ICT infrastructure: the pre-conditions for e-Governance and secondly, the tactical challenge of closing design—reality gaps: adopting best practice in e-Governance projects in order to avoid failure and to achieve success. Heeks (2001) further documented that surveys of e-Governance initiatives in developing countries are incredibly rare and it needs to be addressed coupled with sustainability failure—an initiative that succeeds initially but then fails after a year or so.

Evans and Yen (2006), opined that Africa has what it takes to develop e-Gov but at the present is greatly affected by the digital divide. There is a huge disparity between rural communities and urban centers in terms of having access to internet and other ICTs (Evans and Yen, 2006: 225). Similarly, Nkohkwo and Islam’s (2013) research findings show that ICT infrastructure, human resources, legal framework, internet access, the digital divide, and connectivity are among the most common challenges to the successful implementation of e-Gov in Sub-Saharan African countries.

Ran Kim (2012) reported that setting up the right institutions presents a major challenge for many countries, including countries already experiencing some success in e-Gov. Most are still seeking the appropriate institutional solution. Institutional arrangements profoundly influence technology and its application in governments; that is, e-Gov, and the way governments provide services, interact with their citizens and deliver for stakeholder value. He further argues that e-Gov development typically takes place within countries’ existing institutions and institutional arrangements; including particularly, the positioning of e-Gov leadership and responsibilities within public sector institutions.

Heeks and Santos (2009) argued that poor adoption rates could be blamed for some e-Gov project failures. e-Gov systems therefore face enforcement challenge. They explained further by arguing that e-Gov adoption involves two groups of actors with potentially differing interests—that is, innovation designers and bureaucrats. Literature on e-Gov adoption in developing countries in general and specifically in African and Arab countries cite frustrating stories of systems failure (Al Athmay et al., 2013:89).

Again, another fundamental challenged facing the adoption of e-Gov in developing countries especially those in Africa is the issue of trust. In their study on e-Gov utilization services, Carter and Bélanger’s (2005) findings indicate that “perceived easeof use of e-Services, compatibility and trustworthiness in the systems are significantpredictors of citizens intention to use an e-Gov service”. Similarly, Meftah et al. (2015) contend

that there is strong evidence of a significant relationship between culture, awareness and trust and adoption of e-Gov.

Al Athmay et al. (2013) outlined some challenges face by developing Arab countries in the adoption of e-Gov. Among the challenges include lack of proper government information, poor marketing of e-Gov services, inadequate coordination, and poor evaluation of e-Gov projects (Al Athmay et al. ,2013:87-8). Similarly, Ndou (2004) corroborates that developing nations have limited capacity coupled with political, social and economic constraints (Ndou, 2004:16).

Most of the scholarly research conducted on e-Gov failures concludes that one of the major reason why most e-Gov project failed in developing countries is because of the wide gap between the ICT design and the reality of the system. There are managerial deficiency and poor structures, staffing, and less-serious gaps around some of the e-Gov system components (see, Lessa et. al 2012; Heeks 2002; Dada 2006). Dada (2006) recommended for further research to this effect in developing countries.

Studies indicate that most e-Gov initiatives in developing countries fail in some way (see, Ndou, 2004; Dada, 2006). According to a study carried out by Heeks (2003), “35% of e-Gov implementations in developing/transitional countries can be classified as total failures (project never started or started but immediately abandoned) and 50% are partial failures (major goals are not attained and/or there are undesirable outcomes)”.

According to Gao and Gunawong (2014), many e-Gov projects are very complex, involving multiple tasks, such as constructing a large-scale ICT infrastructure, restructuring public activities, and providing broad ranges of public services. Due to these complexities, e-Gov projects are generally at risk of having undesirable objectives. In essence, e-Gov failure is a widely existing but poorly understood phenomenon due to implementation challenges.

Corruption is among the serious contextual constraints that face e-Gov success in both developed and developing nations. Although corruption exists in all countries but its intensity differs from country to country. Regrettably, it is most common in third world nations. Similarly, Andersen and Rand (2006) argued that ICT could be effective in the fight against corruption.

Heeks (2002) opines that the high rate of e-Gov initiative failures could be due to poor Information System (IS) in developing countries. There is a high rate of IS failures in developing countries and we should seek answers to understand ‘why’. These project failures are an issue due to opportunity cost which are often high in developing world (Heeks, 2002:103). Similarly, Dada (2006) also argues that it is not just e-Gov application, but IS in general fail in developing countries. Many of the failures of e-Gov could be blamed to the model borrowing of information system from the developed nations to developing countries without

considering impeding factors such as economic, cultural, infrastructural, political and social.

In his study on e-Gov failures, Dada (2006), concludes that the expectations attach to e-Gov applications were unrealistic and as such leads to failures. However, it appears that Dada (2006) overlook cultural, political, and economic factors that might have led to failures of e-Gov project, coupled with the various e-Gov policies across different countries. Besides, there are some success stories of e-Gov as in Korea, Singapore, Kingdom of Bahrain etc.

The UN report quotes Garner Research statistics that indicate e-Gov projects fail at the rate of 60%. Evans and Yen (2006) asserted that there are specific reasons that the failure rate for projects may be high in government applications, such as governments do not have the ability to adapt as private organizations do, the political environments shift rapidly and can be difficult for government program to have a completely transparent structure. Richard Heeks (2003) who conducted a comprehensive research on why e-Gov project fail in developing countries noted that failures come at a high price for the world's poorer countries. He argues that they try to implement big projects at the same time which often leads to failure. Heeks (2003) therefore recommends the adoption of 'KISS': Keep it Small and Simple (Heeks, 2003:11).

III. ANALYSIS OF E-GOVERNMENT SUCCESSES IN DEVELOPING COUNTRIES

Although most e-Gov projects in developing countries failed to meet their intended goals, however, some e-Gov projects have equally flourished in developing countries too. For example, Brazil, India, Singapore, Chile, etc have registered some success stories. e-Gov can make a valuable contribution to development. Information technology is a catalyst for administrative reform in developing countries. For example, Singapore though limited in natural resources but exploit the potentials of ICTs in transforming hereconomy and hence national development (Chua, 2012).

Evans and Yen (2006) applaud Singapore and Chile for their success stories in e-Gov development in their respective regions. Singapore provides lot of online transaction and information for citizens and businesses. Equally, Chile is also commended for its online transaction ability as well as the ability to make bids and solicitations for contracts (Evans and Yen, 2006:222). These enhances participation in government and also improved relations among governments, businesses and citizens.

As a nation-state, Singapore has transformed in to a small smart city, well-informed, and well-wired public. It is interesting to note that Singapore have a stable and committed government that aimed at harnessing the potential of ICT to benefit thepublic. Singapore’s success can be blamed on the policies and strategies adopted by thegovernment coupled with effective evaluation held at specific interval (Ke, 2004). Ojo (2014) also did an extensive research on e-Governance

grass root development in Nigeria, and concludes that, e-Governance allows effective participation of the local people. Al Athmay et al. (2013) also asserted that the success of e-Gov from Gulf nations is due to infrastructure, education, citizen-friendly portals and online applications coupled with government commitment (Al Athmay et al. ,2013:84).

Heeks (2001) hails the Chilean tax return model as a great success. The system is a great success as it reduces costs and increased speed and accuracy of service. Citizens find the system easier, faster, and more accurate than traditional paper-based services which is time consuming. Whereas processing a tax return had previously taken 25 working days ... the new online package was delivering online assessments in just 12 hours (Heeks, 2001:11). Again, previous research has shown that e-Gov success depends on adoption of e-Services and several factors influenced citizens to adopt ICTs and other e-Services. These include usefulness, trust, data security, internet safety (see, Carter and Belanger, 2003; Huang et al. 2002; Hung et al. 2006).

There is need to set out a robust plan and strategy, and learn from success stories. These will be of great essence for the adoption of e-Gov. It is also important to conduct periodic evaluations to understand how citizens perceive e-Gov from different perspectives such as usefulness and ease of use (Davis, 1985, 1989), and satisfaction (DeLone and McLean, 1992) of e-Services.

Azab et al. (2009) in their article on assessing e-Gov readiness in Egypt, recommend that in order to reach success in applying e-Gov, public agencies should realize the importance of the integration and transformation between all e-Gov building blocks: IT strategy, processes, technology, and people. Wang and Liao (2008) argued that information quality, system quality, service quality, use, user satisfaction, are all valid measures for e-Gov success.

IV. CONCLUSION

Digital government is the innovation of the 21st century and its importance in transforming the way government does business cannot be over emphasized. e-Gov is a necessity for world governments that are soliciting for better governance and economic development. Although e-Gov systems are many, but not all are created equal. Many are limited in terms of comprehensive approaches for a successful e-Gov program. In some, the problem of good internet facility, low ICT literacy, inadequate political will, and digital divide are all constraints that affects the development of e-Gov.

e-Gov is a tool to improve the performance of public sector by enhancing accountability, transparency, effective and efficient services delivery to the public. The potential benefits are huge for socio-economic development of developing countries. However, much of its benefits are farfetched. Lack of political will, inadequate bureaucratic support, poor e-Readiness, lack or poor data quality and websites that are rarely updated could be blamed for massive e-Gov project failures. These and

many others are huge barriers to e-Gov development in developing nations especially those in Africa.

Developing nations have the potential to developed their e-Gov services and they just need to learned from the experiences of developed countries and from their own failures. I have long argued that failure is not that bad but failing to learning from it is bad. It is important to note that model borrowing from developed countries to developing nations is good only if it factors or consider social, economic, cultural and institutional settings of developing countries.

We might have recommended for a holistic and integrated policy approach. e-Gov policies must be based on citizen-centric approach and these policies must be guided with comprehensive masterplan guide. Regular and periodic evaluation of e-Gov projects is a necessary condition for success. Developing nations needs to improved their websites, regulate and update it frequently, data quality, coupled with system quality are all necessary factors recommended. The development of e-Gov is related to several issues and we therefore recommend for future research on sustainability of e-Gov project and the impact factor level in developing countries.

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