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Transition to e-government in Developing countries: The Case of Driver and Vehicle Licensing Authority (DVLA) e-Service Smart City Initiatives in Ghana

Joseph Kofi Wireko & Knud Erik Skouby

Abstract

Most developing countries, especially in Africa are fighting corruption as a major barrier to development, and e-government is seen as a new way of addressing it. Besides generally being recognized as cost-efficient, e-government is thought to reduce corruption through increased transparency, better accountability and, the disappearance of the "middle-man" in the acquisition of public services by the citizenry. This paper discusses the extent to which this has been achieved in Ghana by analyzing the implementation of e-government service of the Driver and Vehicle Licensing Authority (DVLA) of Ghana using the "stages of growth" mode from socio-technical perspective. The outcome of the analysis suggests that the e-government service implementation by DVLA is still at its basic and rudimentary stage (Catalogue stage) and continuous presence of the "middle-man," high level of corruption, lack of transparency, accountability and trust in the acquisition of services provided by the Authority. The DVLA can still benefit from e-government if it commits to full implementation.

Key words: Corruption; E-government; E-service; Internet; Website

1. Introduction

Governments in most developed countries have – to varying degrees - incorporated information and communication technologies (ICTs), particularly the internet, in the government service delivery process, to provide the citizens, businesses and other government agencies with convenient access to government information, services and opportunities. Governance through ICTs increase quality and efficiency of government services and operations in terms of cost reduction, transparency, reduction in corruption, accountability and improved decision making (Gohar, 2011) However, ICTs initiatives in the form e-government (EG) have not always been successful in developing countries, partly due to the complex nature of EG, unavailability of resources, socio-cultural and other several challenges that need to be addressed before the benefits of EG can be fully realized. The high failure rate of many EG (and information systems) is often due to considering information technology and for that matter, EG as a tool instead of as socio-technical system; with an objective of delivering a sound technical system without taking into consideration the necessary organizational and social environment in which the technical system must operate (Gohar, 2011). Dawes (2009) asserted that in addition to tools and technologies, governments must take into account values and policies, and human, organizations, institutional and societal factors; an infrastructure that suit future EG. Therefore we consider Socio-

Technical Theory (STT) as a base for analyzing the Driver and Vehicle licensing Authority (DVLA) e-government implementation.

E-government is defined as the practice of employing communication technologies such as the internet, mobile and telephone to provide public service to citizens, businesses and other government agencies (Gohar, 2011). While ICT is not a magic bullet when it comes to ensuring greater transparency and less corruption, it is generally and empirically accepted that it has a significant role to play as a tool in fighting corruption and improving service delivery (Gronlund, 2010). By facilitating the collection of digital footprints and audit trail which increase the opportunity to hold individuals accountable and subsequently increase the possibility to detect corrupt practices, ICT has the potential to change peoples' behavior. Through the automation of processes it is possible to significantly reduce opportunities for corruption by removing human agents at data collection and service delivery points. When governments do not have the capacity and the will to remove the opportunities for corruption, adding external pressure in the form of ICT empowerment (e-government) and involve citizens in the policy process become a workable alternative.

Corruption has been defined as the abuse of entrusted power by political leaders or a bureaucracy for personal gain or specific group interest and can mean not only financial gain but also non-financial and that corruption can take place both offline and online (UN, 2010). The Global Integrity Index (2013) measures corruption in terms of its opposite; i.e. factors that contribute to reducing corruption such as the existence of citizens access to key anti-corruption mechanisms. Measuring corruption is a very difficult task and even though it may be incomplete, it is important for understanding some of the factors that contribute, facilitate or fail to prevent corruption and hence the need to take some action (Gronlund, 2010). .

Several studies have attempted to unravel what causes corruption. Klitgaard (2008) proposed a causal model based on principal-agent-client relationship and found out that corruption arises due to problem of asymmetric information and incentives, namely; Information monopoly, operation in discretion and a lack of accountability. Transparency International (TI) in 2004 introduced the element of "ethical ambience" into the model. This removes the possibility of the civil servant acting on his or her personal discretion and thereby effectively removing the agent out of the principal-agent model (Rumel, 2013). Even though there may be the possibility of shifting the exercise of discretion to other places in the service process for example where users are illiterate or do not have access to a computer and hence are unable to use the service directly themselves they may resort to manual assistance in the back office where civil servants may find room for discretion. Implementing e-government services creates openness of processes, unrestricted access by the public and transparency of rules and processes for complaints handling. Studies have shown that the greater the access to information, the lower the corruption levels (DiRienzo et al., 2007).

Different approaches to e-government development have been proposed. In a study based on observations and experiences of e-government initiatives in USA, Lyane and Lee (2001) developed a four-stage model outlining the structural transformations of governments as they progress toward electronically-enabled government and how the Internet-based government models become amalgamated with traditional public administration.

The initial stage of e-government implementation is an evolutionary phenomenon that focuses on establishing an on-line presence for the government or the entity. In the second stage called "transaction", the e-government initiatives focus on connecting the internal government system to on-line interfaces allowing citizens to transact with government electronically. The focus of this stage consists of putting live database links to on-line interfaces, so that, for example, citizens may renew their licenses and pay fines on-line. Citizens are able to contact one point of government and complete any level of governmental transaction—a "one-stop shopping" concept eliminating redundancies and inconsistencies in information for citizens. Citizens move from a passive to active role by conducting transactions online. The Vertical integration is the third stage where local, state and federal governments are connected for different functions or services of government while the horizontal integration stage is integration across different functions and services. Systems in both agencies talk to each other or work from the same database. This reduces response times for the agency and is clearly a response to a "citizen-customer" demand.

2. Analysis of DVLA Online Presence and Service Acquisition Procedures

The Driver and Vehicle Licensing Authority (DVLA) in Ghana is a semi-autonomous public sector organization under the Ministry of Transportation established by Act 569 of 1999.The mandate of the Authority provided in the DVLA Act is to promote good driving standards, ensure safety of vehicles and pedestrians on the roads through the issuance of licensing and road worthy certificates respectively to drivers and vehicles. One of the major responsibilities of the Authority is to ensure that driver licenses and road worthy certificates; which give the legal rights to persons to drive and a vehicle to be on the road are properly acquired so as to ensure safety on our roads. But in recent times the authority has come under severe criticism to the extent that the public has lost confidence in their services. The DVLA has been accused of corruption in several areas of its responsibilities

The carnage on the roads, especially in developing countries have left many children and other dependents of victims destitute. Companies, businesses and state institutions have lost competent employees due to the carelessness of drivers. Research has shown that human error accounts for over 80% of all fatal and injury crashes (Mayo County, 2016).

In Ghana where 90% of transportation is by road (IBM, 2013), the case is worse. In 2012, 3,149 serious injuries and 250 deaths were recorded in Accra alone and in 2013, there were 10,242 accidents involving 16,242 vehicles with 1,539 deaths and 1,944 pedestrians knock downs in the country. These accidents were mostly caused by human errors due to lapses and corruption in the acquisition of driver license and road worthy certificates of vehicles (Ghana News Agency, Oct 14, 2014). With such carnage on the road, there is the need for effective measures by all relevant stakeholders to check and curb these incidents by ensuring that no careless drivers with poor driving skills and road un-worthy vehicles get onto the roads to cause mayhem.

Through a network known as the "Goro boys" (errand boys) at the authority's premises, one can 'purchase' a driver's' license or be issued with a road-worthy certificates for defective vehicles in a record short time without undergoing through any mandatory checks and review, while those who go through the normal process and procedures take several months to obtain one. These "Goro boys" with the collusion of some of the DVLA officials sideline all the mandatory requirements for acquiring the licenses even when the necessary equipment, infrastructure and facilities have been provided or available. They also indulge in the issuance of fake certificates and licenses, extort moneys and create congestion, long queues and waiting times in the acquisition of both driver's license and road worthy certificates. The operations and effectiveness of DVLA came into disrepute when an under-cover investigative journalist revealed massive corrupt practices across all the offices of the authority. The journalist report showed how corruption was so pervasive in DVLA to the extent that officials were caught openly taking and accepting bribes with impunity (GNA, April 2014). The net effect is that careless; inexperience and human "killers" and rickety cars are thrown onto the streets engendering quality of life for the citizens.

Following these challenges and revelations, the DVLA in 2009 started the implementation of electronic service portal (e-government) and later the introduction of electronic roadworthy certificates with the view to curbing corruption, congestion and introducing transparency in the acquisition of driver license and road worth certificates for vehicles. The introduction of e-services was to create a business-friendly environment by streamlining the interaction and improving the interface between government and citizens and create "customers online" and "not in line" at DVLA premises with the view to reducing corruption and improving the Authority's service delivery. As part of the efforts in addressing the unwarranted accidents on the roads by checking the issuance of fake licenses to drivers and certificates to defective vehicles, DVLA has introduced certain key activities and processes in acquiring the licenses and road worthy certificates to be done online with the view to removing the human intervention. Secondly through a legislative reform by Parliament DVLA has made it compulsory for every driver in Ghana to take an eye test, at least once every two years and the eye testing equipment installed in all the DVLA regional or district offices to facilitate easy testing. Applying for the service can now be done online before going for the test. Mandatory tests (re-tests)

for all drivers – both in the theory and practice of driving – during the acquisition and renewal stages are to be taken and now done online (computer based tests).

In terms of functionalities, the DVLA portal contains several elements that are catalogue in nature. The various services that the Authority provides have been listed and organized into its three main core services (categories) namely; Vehicle licensing, Driver licensing and other services. Each of these categories is further sub-listed to indicate the various activities or services that clients (citizens) can apply or access. For example, in the case of Vehicle Licensing category, sub-services such as new registration, renewals, vehicle transfer, International Vehicle permit, road worthiness etc. are listed. These sub-listings explain what each service is about, the policy, requirement, and the process one needs to go through as well as the official fees and charges involved (if any) in acquiring the service. The site also provides the option for individual and businesses to apply for services online by downloading forms. There is information on news and publications of the Authority and their regional office locations throughout the country where one can go in person to conduct business.

The website is however suffering from lack of maintenance. Several information posted appeared to be outdated and have not been updated for a long time as it could be seen from the date stamp in some instances. An email sent by the authors in March 2016 has since not received any response at the time of filling this article. There are also the list of partners and accredited private garages for vehicle inspection and road worthy certificate renewal, approved private Driving schools, Customs Excise and Preventive services, Road and Safety Commission etc. are also provided. These are mere information given out without any online linkage to the respective partners' websites to complete or access a transaction. The elements that characterize the transaction stage are very limited and almost unavailable on the DVLA portal. For example, there is no possibility to apply and pay for services online. You can only log-in to create an account and download forms to fill in off line. Filling in forms and paying online are not available as the system is not connected to any working or live database. Citizens are therefore unable to renew their licenses or pay fines on-line. Paying for and taking online theory driving test is also unavailable online for applicant to take the test at anywhere and anytime except by going to certain designated places or to the Authority's premises.

The vertical integration elements of an e-government service is visibly absent on DVLA portal. Information and activities are provided as stand-alone without any linkage to any government or stakeholders' e-service. For example, the regional license databases are separate from each other and not synchronized electronically at the national level. One cannot access any regional or district database information during application process but to go to the premises in person to conduct business. The DVLA portal currently lacks the functionalities for verifying other related pre-qualification documents such as online checking for proof of payment of customs and taxes electronically by connecting to the databases of the respective servers. Another challenge of the

DVLA website is the fact that currently it does not have the ability to link to the national criminal database that could check for any serious traffic offence during vehicle registration and driver license renewals. This barrier creates an avenue for corruption and the ability to detect evasion of arrests and taxes as these would have to be done manually and in person with the law enforcement agencies.

The absence of vertical integration of the system makes it impossible for back-to-back access to the full complements of service provided by DVLA. For example, in a fully functional website a citizen would file for a driver's license at any DVLA regional or district location, the local server will then access the state or regional database to check to retrieve corresponding records such as the Tax identification Number (TIN) or VAT number from the Internal Revenue Services (IRS), propagate changes, and calculate the total license fee and provide varieties of payment options online for the convenience of the citizen to pay. This will effectively reduce the avenue for discretion, monopoly and waiting time and queuing at the Authority's offices. Such linkages are unavailable on the authority's website. The absence of these functionalities encourages the presence of the "goro boys" and corruption because applicants are unable to have back-to-back service.

3. Implementation Limitations and Future Work

This paper analyzed the implementation of DVLA e-government service as an attempt and effort in addressing the various corrupt practices, complaints and inefficiency within the organization. The DVLA website, after many years of the initiative is very basic and simple, a symptomatic of an e-government in its elementary stage of development that lacks the capacity to effectively check corruption in the acquisition of driver and vehicle licensing services. The DVLA has merely established a departmental "presence" as opposed to providing service access points to customer. The current state of DVLA e-government service does not address the challenges confronting it as well as the needed reforms to control and prevent the 'purchase' of drivers' licenses and issuance of road-worthy certificates to defective vehicles, impossible. The DVLA online presence bears the basic characteristics as described by Layne and Lee (2001). It is one-way and non-transactional in nature, offering static information about agencies, services, and their activities and provides downloadable forms to applicants. It is nowhere near the second stage of e-government development where there is two-way and transaction phase that allow citizens to have secure access to online database and provides them with the options to pay taxes, fines, apply for ID cards etc.

In addressing these challenges, it is the contention of the authors that the following issues are fundamental for DVLA to address as they seek to evolve into efficient and effective e-government service provider in support of citizen's demands: (1) political and management leadership support and (2) privacy and security (3) partnership and collaboration

3.1 Political and Management leadership

Strong political leadership is critical to the success of e-government because it ensures the long-term commitment of financial resources, personnel and technical expertise in the design, development and implementation of e-government projects. Strong leadership means garnering support for the projects at all levels of government, involving the public and meeting their needs and expectations. It also requires a comprehensive strategy that is not only benchmarked on global best practices, but also sensitive to existing political and economic conditions/realities.

The Leadership of DVLA and with the support of government must develop an information awareness campaign both within the bureaucracy and the public. This is to break any resistance that may occur out of fear that the automation of certain government processes and transactions will result in their replacement or loss of their jobs, loss of responsibility, or loss of "extra" income derived from bribes or unofficial payments. It could also arise from unfamiliarity with and fear of technology. Thus, it is important to make the staff and the citizens understand the what, why and how of new projects. Government and the leadership of DVLA must make the effort to explain the changes, get employees involved by soliciting input, identify the pockets of resistance within these agencies or organizations and devise a plan to overcome them.

Political and Management leadership must create the capacity-building and measures to develop a culture of continuous learning within the Authority. Training and re-tooling to equip the DVLA staff for e-government is important. Through capacity-building measures, the staff will understand why and how the e-government (ICT) will revolutionize their work and their productivity hence encourages them. Capacity-building is more than just being able to use technology in day-to-day work processes, but also equipping and enabling the bureaucracy to handle information, make decisions, adapt to change and develop new competencies.

3.2 Privacy and Security

One of the critical obstacles militating against the benefits of e-government service is the citizens' concern on privacy and confidentiality of the personal data they provide in accessing e-government services (Khajuria and Sørensen, 2015). To attract and sustain the continuous use of the authority's website as a "one stop shop" and as a tool in removing the monopoly and discretionary barriers, the DVLA must implement strong technical solutions and establish transparent procedures for users to access services online. Privacy and confidentiality has to be highly valued in establishing and maintaining the DVLA web sites.

Data should be collected in a secure fashion, privacy notices on web sites made mandatory and independent. For example, privacy awareness tools on the site for users to see the sites (third party sites) they visit, detect and stop third party trackers from secretly tracking users will engender confidence in users on the site (Sørensen et. al., 2015). Protecting the privacy of citizens and assuring them that their personal information will not be compromised is critical in e-government as many users regard privacy a central element when they use online services.

3.3 Partnership and Collaboration

E-Government projects are, more often than not, long-term endeavors, requiring large capital infusion in software, hardware, infrastructure and training. The DVLA is late in its implementation of e-government service and needs to leap-frog in order to move beyond its current catalogue stage of e-government to a more advanced level of transaction and integration. It must consider going into public-private partnerships to scale up its activities and implementation and acquire access to competencies available in the private sector. For example, the authority can engage private entities that have data integrity such as the banks and insurance companies in using bank cards and thumb-print verifications to access or apply for services online. The Gh-link bank card is one of such cards which is functional on most of the banks' platforms in Ghana and therefore can be used on all of the ATMs of the affiliated banks Users can even log in via thumb print authentication on some ATMs which eliminate the possibility of fraud and impersonation at the Authority's offices and locations. It will also prevent the issuance of certificates and licenses to absent applicants. Hence a key element in dis-intermediating or removing the human agent in the transaction process online. Furthermore having strategic collaborations with some identified private partners will not only address the resource constraints but also expand the access and the credibility of the e-government service. Merely appealing to DVLA staff and officials; and the public without any effective technical and independent intervention will not yield the needed results as was reported by a journalist after the under-cover documentary of the corrupt practices of the Authority reported in the media nationwide:

> *…they were still willing and ready to assist any individual who expressed interest in acquiring a license without having to undergo any rigorous processes…the activities of the 'Goro boys' at the DVLA's Kumasi office continued unabated, in spite of the call on the public to desist from using their services. It was business as usual (Ghana web, 2012)*

Even though, recent attempts by DVLA to partner with certain private entities have generated a lot of public procurement procedure challenges and have rather led to another level of delays in issuing and renewing of licenses and certificates, collaborating with a third party will go a long way in dis-intermediating unscrupulous people along the value chain in acquiring driving license and road worthy certificates for vehicles. Cooperation, rather than competition, with the private sector can

facilitate effective e-government. Government can encourage private sector investment by complementing and supporting private sector efforts rather than duplicating them.

4. Conclusion

E-government is much more than a tool for improving cost-quality ratios in public services. It is an instrument of reform and a tool to transform government. Thus, e-government is not only about automation of existing procedures but also on changing the way in which government conducts business and delivers services. This paper analyzed DVLA implementation of e-governmental service as one of the key measures in combating corruption and poor service delivery. The DVLA e-government website was found to be still in its basic and simple stage (catalogue stage) after many years since its introduction.

Notwithstanding the numerous implementation challenges facing DVLA, It is clear that e-government has many advantages to offer and that with strong political and management leadership, the government and the Authority stand to benefit enormously. Some of these critical issues are non-technical in nature but with wider impact and will require comprehensive planning. Increased access to information and transparency in government processes leads to greater accountability and transparency, as online or computerized processes remove discretion from government officials and provide watchdog groups and senior government officials with a mechanism to monitor potential corruption and abuses by lower level government officials.

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