

## E-Governance and Online Public Service: The Case of a Cyber Island

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### Abstract

One of the central research questions emerging from the favorable and critical views on eGovernance is how such a new mode of governance has impacted on service delivery in the public sector. This dimension is crucial, because what matters most is whether the adoption of eGovernance has been able to improve service delivery, one of the core functions of Governments — based on quality, processes and operations. This article explores these issues by analyzing a specific eservice (online application for learner's licence) provided by the Government of Mauritius, a country which represents one of the leading advocates of eGovernance in Sub Saharan Africa. The results from the survey undertaken indicate that the most important effect of eGovernance on the application for learner's license is speeding up of processes and better quality of service in terms of responsiveness and reliability but not in terms of access and security. As far as the process is concerned eGovernance has lead to personalized service but has not covered all the physical aspect of the service. In terms of operations the resulting effect was the modernisation of the service.

**General Terms:** Human Factors, Reliability, Security

**Additional key Words and Phrases:** e-Governance, service delivery, Mauritius

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### 1. INTRODUCTION

The actual trend today is towards simultaneous globalisation and localisation and as such the State is increasingly torn apart between the global and the local, especially in the case of one of its core functions that is service delivery. Service delivery is indeed more and more taking place below and above nation-state levels, mainly because the (private) operators delivering such services are in the process of restructuring at these levels. Moreover due to the fact that service delivery in the public sector is increasingly being outsourced or subcontracted, it requires a complex governance structure. Such trends have contributed to even bigger pressure on the State to improve service delivery to citizens and increased the acceptance that achieving excellence in customer service is just as critical for the public sector as it is for private companies. As a result in many parts of the world Governments are having recourse to eGovernance to achieve this goal.

Egovernance is a new term in a family of a rapidly expanding vocabulary of e-prefixed terminologies reflecting the expanding role of ICT in society. It has its origins in the emergence of Internet-based

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applications that enable electronic delivery of information and services in both business and government. There are various definitions of e-governance but for the purpose of this paper the term eGovernance is defined as the process of using information technology for automating both the internal operations of the government and its external interactions with citizens and other businesses. The three main target groups that can be distinguished in e-governance concepts are government, citizens and businesses/interest groups. The external strategic objectives focus on citizens and businesses and interest groups, the internal objectives focus on government itself.

### 1.1 Purpose

With the above discussion in mind, the purpose of this paper becomes: assessing the impact of eGovernance through eservice on service delivery.

In order to gain knowledge necessary for accomplishing the stated purpose, the following research questions will be looked into.

#### 1. How eservice has affected quality of service delivery?

More specifically the quality effects are assessed in terms of:

- reliability
- responsiveness
- access
- ease of use
- attentiveness
- credibility
- security

#### 2. How eservice has influenced the process of service delivery?

As far as the processes are concerned, the effect of eGovernance will be examined in the following ways:

- attending to the relationship between the administration and the citizen at the transaction level.
- drawing the State closer to the market

#### 3. How eservice has impacted on the operation of service delivery?

Finally the operation effects will be assessed in terms of:

- bringing Government closer to citizens
- modernising Public Services
- reducing opportunities for trivial fraud at different point of service delivery
- increasing mechanisms to construct more accountability and transparency in the Public Sector

## 2. LITERATURE REVIEW

The cyber-optimists believe that eGovernance holds great promise for the delivery of many types of public services from housing and welfare benefits to community health care and the electronic submission of tax returns, reconnecting official bureaucrats with citizen/customers\*. The Internet can serve multiple functions: disseminating information about the operation of government as well as public services, facilitating public feedback mechanisms like emails to government agencies, enabling more direct participation into the decision making process including consultation exercises at local level, and providing direct support for the democratic process, such as the efficient administration of electoral registration or online voting†. There is widespread concern that the public has lost faith in the performance of the core

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\* See Stavros Zouridis and Victor Bekkers. 2000. 'Electronic Service Delivery and the democratic relationships between government and its citizens.' In Jens Hoff, Ivan Horrocks and Pieter Tops. Eds. *Democratic Governance and New Technology*. London: Routledge; Rob Atkinson. 2000. 'Creating a Digital Federal Government.' *IMP: Information Impacts Magazine*. October. [www.cisp.org/imp](http://www.cisp.org/imp).

† See Elisabeth Richards. 1999. 'Tools of Governance' and Eileen Milner. 1999. 'Electronic Government: More than Just a Good Thing?' In *Digital Democracy: Discourse and Decision Making in the Information Age*. Ed. Barry N. Hague and Brian D. Loader. *International Journal of Computing and ICT Research*, Vol. 3, No. 2, December 2009.

institutions of representative government, and it is hoped that more open and transparent government and more efficient service delivery could help restore public confidence\*. In developing societies, the Internet can potentially help with the multiple challenges facing the effective delivery and administration of basic government services such as health and education, especially given the global reach that the technology provides, connecting medical professionals, local officials and university teachers in Oslo, Cambridge and Geneva with those in Nepal, Bangalore, and Havana.

Egovernance makes information available on government operations and public services, facilitates public feedback or reaction and allows more direct participation by the ordinary citizen in decision-making [Heeks, 2001b; Norris, 2001]. The eGovernance movement not only promises higher quality and better delivery of services and a greater realization of entitlements, it also claims to offer stronger bonds between public servants and citizens based on transparency and accountability [Heeks, 2001a].

Schware [2000] emphasizes that eGovernance provides equal access to government and speedy and transparent responses from public servants. In addition, eGovernance provides a wider opportunity for public servants to interact directly with the public in the process of receiving feedback from citizens and responding to their queries and complaints through electronic means. For Ghere and Young [1998], public agencies now have to justify their decisions based on feedback from the people and conduct their business in public. The main rationales behind opting for eGovernance are that eGovernance will reduce costs and delays in delivering services, expand citizens' access to public sector information, reinforce innovation in public agencies, increase transparency and public accountability, weaken authoritarian tendencies and strengthen civil society and democracy [Pardo, 2000; Heeks, 2001a; Norris, 2001].

However the cyber pessimists believe that the use of IT in governance may worsen inequality in access to government services due to the lack of an adequate infrastructure, unequal ownership of computers, language constraints, and so on [UNDP, 1999; Singh, 2000; Levine, 2001]. There is also a concern that eGovernance may disempower citizens by individualizing them, eroding their common bonds and endangering their privacy [Ghere and Young, 1998; Wachbroit, 2001]. For the critics, instead of a citizen-administration relationship based on equality and accountability, eGovernance may strengthen a top-down bureaucratic process by posting information about the structures and functions of public agencies and reinforcing the existing mode of interaction through documents and reports [Norris, 2001].

Moreover it is argued that eGovernance may not only increase the power of bureaucratic experts in relation to elected political leaders, it may also lead to the politicization of the overall bureaucracy. If the information-expert bureaucrats become too influential in relation to elected political representatives, it may undermine their accountability to these elected politicians. In other words, under eGovernance, the nature of the relationship between politicians and public servants may have changed from one based on neutrality and accountability to one of a fused power structure with the dominance of bureaucrats empowered by information expertise. In this regard, Daly [2000] makes a general observation that the use of the internet in governance has enhanced the dominance of *nomenklatura* over the state.

In line with the common optimist picture of eGovernance, it is pointed out that in India, compared to the previous citizen-administration relations characterized by bureaucratic rigidity, long delays, unnecessary complexity and public suffering, this relationship under e-governance is now characterized by higher speed, greater access, less cost and less public harassment [Pardo, 2000; Budhiraja, 2001].

An OECD study of eGovernance, based on a series of interviews with information specialists, public officials and the policymaking community in eight post-industrial societies in 1996-7, found that digital technologies like email have had greater impact in the dissemination of information to senior

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NY: Routledge; Christopher Weare, J. Musso, M.L. Hale. 1999. 'Electronic democracy and the diffusion of municipal web pages in California.' *Administration & Society*. 31(1): 3-27; Chris C. Demchak, Christian Friis, Todd M. La Porte. 1998. 'Configuring Public Agencies in Cyberspace: Openness and Effectiveness.' [www.cyprg.arizona.edu/Tilburg98F.htm](http://www.cyprg.arizona.edu/Tilburg98F.htm); Jerry Mechling. 1994. 'A Customer service manifesto: using IT to improve government services.' *Government Technology*. 1:S27-33; Dan Jellinek. 2000. 'E-Government - Reality or Hype?' *IMP: Information Impacts Magazine*. October. [www.cisp.org/imp](http://www.cisp.org/imp)

\* Pippa Norris. 1999. *Critical Citizens: Global Support for Democratic Governance*. Oxford: Oxford University Press; C. Thomas. 1998. 'Maintaining and restoring public trust in government agencies and their employees.' *Administration and Society*. 30: 166-193.

decision-makers and policy elites, although even here traditional channels remained most popular, including press releases, official Gazettes and face-to-face meetings.

The studies conducted by the Center for Electronic Governance at Indian Institute of Management, Ahmedabad, indicate that the governments are enthusiastic in adopting e-governance. There are many examples of e-governance projects, which have won international and national awards. However any government services need to be re-engineered to benefit from the emerging ICTs. There is an inherent distrust in citizens on the service delivery mechanisms. This image needs to be improved with confidence building measures.

Shackleton et al [2004] examined the current status of Australian local government electronic service delivery and explored the appropriateness of current e-Business maturity models for evaluating the progress local governments are making towards electronic service delivery. Their research involved an evaluation of local government websites and a detailed case study of one local council. The results indicate that apart from Web based information provision, little progress has been made in the transition to electronic service delivery in most areas of local government.

Wadia [2000] mentioned that in India, e-governance creates an avenue for its citizens to communicate with top political leaders and local ministers through such tools as video-conferencing, online grievance channels and complaint cells. In her comparative studies based on the Inter-Parliamentary Union list, Norris [2001] observes that there are 98 countries in which the national parliaments have their own websites; of these the most comprehensive ones are from Scandinavia, Western Europe and North America.

Moreover she found that among the developing countries, the website of the Indian Parliament ([alfa.nic.in](http://alfa.nic.in)) is quite comprehensive. It encompasses a list of basic information regarding the House of People (Lok Sabha) and the Council of States (Rajya Sabha). The menu includes such items as parliamentary activities, parliamentary committees, budget matters, national constitution, legislative acts, Prime Minister's office, web addresses of all ministries and states, bulletins and publications, economic surveys, citizen services, and profiles and speeches of parliamentary members. It also provides an option for citizens to send feedback and suggestions through email. The Prime Minister's Office also has a website, which provides information regarding his policy initiatives maintains an option for surveying opinion regarding current political issues and offers opportunities for the public to send queries and comments. These online sources of information and avenues for public expression are supposed to be more conducive to a stronger relationship between citizens and politicians.

Heeks [1998b] found that out of 400–500 software export firms in India, the top 20 firms were responsible for 70 percent of all exports. Geographically, most of the 558 Indian software company headquarters are located only in few large cities: 152 in Bangalore, 122 in Mumbai, 93 in Chennai, 86 in Delhi, 34 in Hyderabad, 27 in Calcutta, 22 in Pune, and remaining 22 in all other cities. These unequal structures of IT resulting from policies pursued under e-governance, thus, imply greater economic and geographical divides in India.

### 3. OVERVIEW OF THE MAURITIAN CASE

Mauritius has exciting plans for becoming an information society or, in its own words, a Cyber Island\*. The concept of building an information economy goes back to the early 1990s†. However it is only recently that top-level commitment backed by funding for specific ICT projects has given Mauritius a new momentum. This is manifested in the government's intention to make Information and Communication Technology the fifth pillar of the Mauritian economy alongside sugar, Export Processing Zones, financial services and

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\* "Apart from infrastructure development, which is well underway, we need to focus on three other critical factors for transforming Mauritius into a Cyberland. These are human resource development, telecoms connectivity and access to computers at home." <http://www.cdacindia.com/html/pdf/pmspeech.pdf>.

† For example a National Seminar on Information Technology was held in December 1993 and a joint National Computer Board - World Bank report entitled Information Technology and the Competitive Edge was issued in June 1995. See <http://www4.worldbank.org/afr/poverty/pdf/docnav/02375.pdf>. [Accessed 21 July 2004]. A National Information Technology Strategy Plan was issued in 1997. See <http://ncb.intnet.mu/ncb/nitspl/>.

tourism. Thus, a key ingredient for the development of an information society -high-level government recognition and support -is present.

The Government of Mauritius realizes that the historical perception of public service is characterized by queues and slow procedures. It is keen to overcome that stereotype by using ICTs to offer “efficient, effective and citizen-focused public services 24 hours a day, 7 days a week.”\* One step in that direction beginning in 1996, has been putting all ministries online with web sites containing information about their work, including legal texts, publications, events, services available to the public and contact details. A growing number of government departments provide downloadable forms online, adding to convenience for citizens. Over 100 forms were available in early 2003 including applications for passports and driving licenses and tax and business registration forms. Public administration web sites — including the 26 ministries and over 80 governmental bodies — are linked through the Government of Mauritius web portal [[www.gov.mu](http://www.gov.mu)].

Several interactive government services are available mainly targeted at the business community. These include TradeNet, introduced back in 1994. The system allows import and export businesses to submit declarations and other documents electronically to the Customs and Excise Department. Another example is the Contributions Network Project, available since January 2002, allowing companies to file taxes online. Mauritius is now moving towards a higher level of achieving its vision of around the clock availability of all government services for citizens through several e-government initiatives and projects. This involves making the transition from static web sites to fully integrated transactional services. EGovernment would be accessible from a variety of access points including traditional counter services, as well as the Internet, kiosks and call centres. Perhaps the most visible government initiative is the Cyber City project. The project is expected to have a spill over effect and spread ICT throughout Mauritius, from the Cyber Tower, to the Cyber City and finally to the Cyber Island [<http://e-cybercity.mu>].

The E-government Task Force, chaired by the Minister of Information Technology and Telecommunications, has been charged with overseeing implementation of the eGovernment programme. A concept paper lays out the vision, objectives and benefits of e-government and sets the deadline of 2005 for having all government services online. Key players to implement the programme are the Central Informatics Bureau and Central Information Systems Division working with a Chief Information Officer in each ministry.

The eGovernment programme consists of a number of projects of which three main ones are currently being implemented: Government Online Centre (GOC), Government Intranet System and E-government: Online Delivery Services. The heart of the system is the GOC. The total budget for implementing GOC is Rs 40 million for the next two years. A tender for Phase I was launched in January 2003. This phase will develop an E-Centre and Government Portal. Phase II of the project will focus on disaster recovery and Phase III will be a Government Call Centre to handle queries. Moreover, the National ICT Strategic Plan 2007-2011 of the government sets out the Government’s vision to make ICT the fifth pillar of the economy by increasing ICT contribution to GDP and building collaborative ventures in the field of ICT with countries of the region. This new plan also includes programme monitoring indicators and milestones that will ensure right track is followed in achieving ICT targets. To realise the above vision the Plan scales up Mauritius in terms of five strategic trust areas namely providing support to legal, institutional and infrastructural framework related to ICT, promoting e-business adoption, accelerating ICT adoption in society, transforming the island into an ICT expertise hub in the region to take up leadership roles and finally becoming an investment nucleus for ICT and thus emerging as a global point of reference for offshore services in the fields of ITS and ITes [<http://ncb.intnet.mu/mitt/ministry/ICT/cpaper.htm>].

#### 4. METHODOLOGY

The core concept underlying all research is its methodology as it controls the study, dictates the acquisition of the data, and arranges them in logical relationships. For the purpose of this research, data was mainly collected through survey. Personal interviews were not used due to high costs involved and no response problems. This project uses semi-structured type of interviews conducted via the administration of questionnaires. Moreover to avoid misunderstandings and errors the questionnaires were administered

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\* EGovernment Task Force. Available at:<http://ncb.intnet.mu/mitt/ministry/ICT/cpaper.htm>.

personally and the respondents were assisted in 'creole', their native language. Different websites of eservices of government have also been used as secondary data.

The eservice chosen for case study analysis is the: online application for a Learner's Driving License. To apply for a Learner's License the registered applicant needs to fill in the online Learner's Driving License form, which is then electronically submitted to the Traffic Branch Section of the Police Force for processing. The targeted population for this project consists of adults, that is, above 18 years of age but below 60 years, as they represent the people who will normally apply for driving license. Out of a targeted population of approximately 745,653 (based on 2000 Census from Central Statistical Office), 200 adults were randomly chosen to fill the questionnaires. The questionnaires were distributed on a pro-rata basis across the different districts and equally between males and females given that each gender group represents around 50% of the targeted population.

The questionnaires were designed in such a way that it can answer the questions set out under the statement of problem. Questions were designed to gauge people's views on how the application for learner's license online has impacted on service delivery in terms of the quality effects [Yang, 2001], process effects [Ciborra, 2005] and operation effects [Riley, 2003 and Saxena, 2005].

When the draft questionnaires were ready, they were pre-tested through consultation with members of the public. The questionnaires had to be pilot-tested to check the grammar, wording, sequencing, layout and estimated rate of response. Tests were carried out with a group of 5 persons from the public.

## 5. RESULT FINDINGS

About quality, the respondents describe that the supporting and interface cover the service very well and is quite fast, but however have a medium level as the information they provide is static. Alongside the online service does not cover all the physical service. So if someone wants to know some information about specific aspects, it is necessary to go to the office. Moreover they said that an information contact number is available where one can ask what one wants but if someone needs to contact personally with an individual involved in the register one will have to go to the physical place. This variable goes against the expectations of Yang [2001] as easy-to-follow catalogues, site navigability and concise and understandable contents.

According to the responses obtained one of the most critical reasons for e-governance being less effective is the problem of citizens' access to the available information sources such as the internet. Infrastructure such as availability of computers, electricity and telephone is not a problem in the islands. The major problem is the low rate of internet connectivity, though price is not a major hindrance in this context. Another barrier may be the lack of trust in terms of security on the part of users. However in Mauritius there are laws against electronic fraud, such as the Computer Misuse and Cybercrime Act 2003 and the Data Protection Act 2004 so that this fear may be reduced by a change in attitude and culture.

In addition, the dominance of English on the internet constrains the access of non- English-speaking population. Thus they recommend that in order to strengthen the citizen-administration relationship, many state governments have taken other measures such as the introduction of local languages onto their websites. Alongside they argue that a more mature site would enable a user to seek support for a service product or service without having to wait until the office concerned is opened and this is not the case with this eservice. Services such as the ability to track the progress of application, a common over-the-counter query, were not available on the site. In this regard, the Internet was used conservatively, as predicted, to replicate existing channels for the publication and distribution of official documents like reports, providing information through different channels, rather than to 'reinvent government', to rethink the nature of the relationship between departments and the public, or to open bureaucratic organizations to interactivity with customer-clients.

They stated that, not only clickable feedback and email options are needed but it also important to assess the actual quantity of feedback and suggestions and the frequency at which public officials genuinely respond to them. An important consideration in this regard, according to them, is how relevant the online discussion items and information sources are to the needs and interests of various segments of the population in Mauritius.

Concerning reliability in punctual delivery of the service, the majority of respondents identify it as being of low level. About responsiveness to citizens within a promised time frame, only a minority of the respondents agree that the eservice has catered for this aspect. With regards to ease of access to the International Journal of Computing and ICT Research, Vol. 3, No. 2, December 2009.

representatives of the service, most respondents identify it as low level, since one has to go physically to have access directly to representatives.

Related to ICT process, the respondents say that ICT itself and customized services is totally reviewed I this site because users can check in a personalized way with a code and password. These variables correspond to Surjadjaja et al. [2003] as a development of a self-service experience as well as the functionality of the ICT as a way to offer personalized services. Moreover based on the responses, in terms of E-transactions the site is not clear because one can fill in directly in the site but will have to submit the papers and certificates needed in the physical office. The respondents do not consider the possibility of e-transaction suggested by Ciborra [2005] as one of the most interesting in this eservice.

According to operations, all aspects as e-consultation, closer Government and modernization service are more or less enclosed in this eservice. This is connected to Saxena [2005] variables as communication between public servants and citizenry.

## 6. CONCLUSION

The purpose of this study was to contribute to a better understanding of the effect of eGovernance via the introduction of a specific eservice (application for learner's licence) on service delivery in the Mauritian Public Sector. Through the use of a case study we have tried to yield sufficient information in order to provide answers to the research questions posed. The research findings indicate that eGovernance has improved service delivery of that specific eservice in terms of clearer information, better quality, modernized and personalized service and speedy process. However the eservice still has certain weaknesses in terms of double processes (physical and online), wrong communication and lack of options for feedback. It must be noted that this study has been limited to investigating the Mauritian Government in the fast movement of eGovernment and hence no real generalisable conclusions can be drawn from that specific setting.

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