

Factors for Success and Failure of e-Government Projects: The Case of E-Government Projects in Uganda

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Abstract

This paper a discussion of factors for success and failure of e-government projects based on a study of sample projects that have so far registered either partial or total success. The paper also discusses key strategies from recommendations of participants from the studied projects and existing literature that e-government projects can benefit from for higher levels of success.

Categories and Subject Descriptors

H.4.m [Information Systems Applications]: Miscellaneous – E-government

General Terms

Design, Management

Keywords

E-government, E-government success, E-government Failure, Uganda, Developing Countries, ICT4D

1. INTRODUCTION

E-government is the use of information and communication technologies (ICTs) to improve the activities of public sector organisations (Heeks, 2003). According to Kelleher and Peppard (2009), e-government services are government deeds, efforts or performances whose deliveries are mediated by information technology. E-government brings with it the promise of greater efficiency and effectiveness, less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions of public sector operations in all countries including developing countries like Uganda. Therefore integration of ICT into service provision for government undertakings is key to the implementation of the mandate offered by the citizenry. For this reason, an increasing number of e-government projects are being implemented in both developed and developing countries. However most implementations of e-government projects in developing countries have been reported either partial or total

failure.

According to Heeks (2003), most implementations of e-government in developing countries fail, with 35% being classified as total failures and 50% as partial failures. Ray (2011) noted that there is a 70% failure rate of information systems in developing countries.

Several factors have been given for such failures ranging from social, political, economic and technical factors. Heeks (2003) noted that e-government services in developing countries fail mainly due to the big difference between system designs and the realities of the environment where they are supposed to be used. Heek's view is that development of information systems in developing countries lacks enough attention to the environment and characteristics of the people supposed to use the systems. This is because of the reality gaps brought about by changes from Information, Technology, Processes, Objectives, Staff, Management and the Dimensions (ITPOSMO) that do not match the realities in developing countries. Ray (2011) noted that failures are due to lack of proactive user engagement in system development and deployment processes. Ray (2011) adds that central to e-government success and failure is the amount of change between the 'where we are now' and 'where the e-government project wants to get the organization/country. For Burke (2010), the high rates of failure are a result of lack of information literacy and skills that obstruct the use of electronic resources. According to Eynon (2007), the gaps created by culture and technology widen the gaps between expectations and realities in developing countries. Hossan, Habib and Kushchu (2010) attributes such failures majorly to; lack of internal political desire, inadequate technological infrastructure and lack of overall vision/strategy. Rajapkase, Vyver and Hommes (2012) identified contractual problems, weak leadership, level of staff integration between client government department and contractor, implementation approach—full versus modular and trust from the citizenry/users.

The above studies and others have also proposed factors to mitigate the failure factors for more e-government success.

Heeks (2003) recommends legitimising and mapping current reality, customisation to match realities, client—vendor relationship management, modularity and incrementalism, Hybrids' and 'tribrids', and reality-supporting not rationality-imposing applications. Rajapkase, Vyver and Hommes (2012) suggest committed leadership and staff, having the same staff throughout the project and introducing computerization gradually same as incrementalism proposed by Heeks (2003).

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ICEGOV2013, October 22-25, 2013, Seoul, Korea

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Hossan, Habib and Kushchu (2010) recommend a combination of; drive for reform from outside government, e.g. civil society, drive from key government officials for reform and for achievement of e-government goals; overall vision and master plan for good governance and for e-government, seeing IT as the means not the end, and integrating IT with broader reform objective; good planning and consideration of risk, good monitoring and control, good organisation of resources, and well-managed partnerships between public agencies, and public-private entities. Others given include: use of incentives to create commitment to and ownership of e-gov projects, stakeholder involvement to build support and minimise resistance leading to designs that meet real user needs and match real user contexts; an incremental/piloting approach with feasible objectives and quick, scalable outcomes; presence of the necessary skills and knowledge, especially within government itself and adequate technological infrastructure (Almarabeh & Abuali, 2010, Wahid, 2011, Syamsuddin, 2011).

In Uganda, a considerable number of e-government projects have been implemented and others are still being implemented. Of these projects, some are perceived a success while others as a failure. However, information about projects that have succeeded and those that have failed has not been systematically collected, analysed and published. Current perceptions of success or failure are based on hearsay, speculation and subjective media reports. Such information cannot be relied upon to inform design of new projects and improve ongoing ones.

This paper presents a review of the status of e-government implementation in Uganda, factors for success and failure of E-government projects in Uganda based on 4 e-government projects that have been largely perceived a success. Analysis of e-government projects that have been perceived a failure is not covered because implementers of such projects were not willing to participate in the study at the moment. This will be followed up as part of future work. The paper also discusses key strategies from recommendations of participants from the studied projects and existing literature that design of new e-government projects and implementation of existing projects can benefit from for higher levels of success.

2. METHODOLOGY

To accomplish the objectives of this study, the following methods were used:

Desk research: Desk Research is the term used for the identification and analysis of information that has already been compiled and published (Willis, 2008). We used this method to collate and/or synthesize existing data, information and research on E-government implementation in Uganda from journal and conference papers, websites of government institutions including those implementing the projects studied e-government project presentations and reports, etc.

Interviews: For each project studied, two staff, one oriented to IT and another one focused on business were interviewed in particular; the IT Manager and Business Manager. The interviews whether the project was a total success or partial success), factors responsible, what could have been done differently for a better result and strategies that institutions

implementing e-government projects can adopt to increase the success rate of e-government projects in Uganda.

Cross case/content analysis: Most of the data collected was of qualitative nature hence it was analysed using cross case/content analysis methodology to examine themes, similarities, and differences across the feedback obtained.

3. FINDINGS

This section summarizes the results obtained. This covers the e-government projects covered and their host institutions, success/failure rating for each project, factors for the success or failure rating, what could have been done differently for a better result and key strategies to increase the success rates. Below, we present results obtained for each subsection.

3.1 E-Government Projects Covered and their Host Institutions

The e-government projects covered include:

E-Tax- implemented by Uganda Revenue Authority (URA). The aim of this project is to make it more convenient and less costly for tax payers to pay their taxes. This is a web based platform through which citizens can access different tax related services without going to the premises of URA. Implementation of this project has greatly improved bureaucracy previously associated with tax payment, improved efficiency and effectiveness in tax payment, led to increase in tax collections and reduction in forgery of tax documents.

Friend a gorilla - implemented by Uganda Wild Life Authority (UWA). The aim of this project is to raise awareness about the plight of gorilla conservation in Uganda, raise funds for gorilla conservation and raise the profile of Bwindi Impenetrable Forest, the habitat for the mountain Gorillas as a world heritage site. The project has greatly improved Uganda Wild Life Authority's google rankings and more people especially the international community now associate the mountain gorillas with Uganda as opposed to Rwanda and DRC as was the case before. In addition, many people friended gorillas online raising over 17,000 USD for the conservation campaign.

E-water billing - implemented by National Water & Sewerage Corporation (NWSC). The aim of this project was to open more payment channels for NWSC customers to enable them pay more conveniently and promptly. This project has helped reduce time taken by citizens to pay their water bills because they receive them by email and mobile phone text messages and have an option to pay using mobile money or the bank. Mobile money users prefer to pay using the mobile money option. The stress of queuing in NWSC offices to receive or pay bills has significantly reduced. There has also been reduction in the man power required to run NWSC activities.

Students' Information System - implemented by Uganda Management Institute. The aim of this project is to have one central point for managing all information about students. With such a system, the Institute can easily know at the click of a button any information concerning its students such as what course a student is taking and how far they have gone, status of fees payment, their marks, etc.

3.2 Success/Failure Rating for E-Government Projects Studied

Participants from each studied project were asked whether they considered their project a total success or partial success. From the feedback obtained, E-tax and E-water billing projects have been successfully implemented whereas Friend a Gorilla and Student Information System have been partially successful. Reasons for the rating of each project are discussed in the next two sections.

3.3 Factors for the Success of E-Government Projects

The following factors were given as responsible for the success of the e-government projects studied:

- Support from top management: All projects studied reported that support from top management was one of the factors that led to their success. At National Water and Sewage Corporation, participants in the interview noted that top management not only bought into the idea but supported the idea all the way from development and deployment to training of end users. The IT Manager said “ *for the e-water billing project to succeed, our top management not only bought into the idea but supported it all the way throughout development and deployment and training of users*”. The Manager, Medium Tax Office, URA said: “ *one of the key factors for the success of our e-tax project, was dedicated senior management support which appointed a project team and allowed them to train, obtain required project management skills and drive the project*”.
- Skilled staff is another factor that led to the success of e-government projects: At National Water and Sewage Corporation, at the beginning of the e-water billing project, the IT department was equipped with skilled staff that developed from scratch the entire concept, followed it through the development life cycle until they delivered a working system. On the E-Tax project, staff were taken abroad for training on how to implement and sustain the project.
- Enabling supporting infrastructure: Existing infrastructure that can facilitate the implementation of projects was critical to the success of the e-government projects. The success of the NWSC e-water billing project was aided by the new mobile money financial service that was working well for majority of the population including the unbanked. The other supporting infrastructure included; E-banking platforms, SMS platforms, etc). This provided an already acceptable e-payment platform that was greatly needed to support a successful implementation of the project.
- Good Project Management Practices: two projects reported that they practiced good project management principles such as time and efficient resource management. According to the Commissioner, IT Services for URA, the E-tax project team religiously adhered to project management principles namely: managing time, scope, and resources while ensuring quality.
- Clear change management strategies: The projects also reported that they had clear change management strategies that helped them get stake holders accept the project as their own as well as accept the consequences. This was achieved through among others marketing the project’s benefits to individual departments, the whole organization, end users and other stakeholders.

- Using Information Technology as a business enabler rather than an end in itself. In URA, the e-tax project took more than 3 years preparing and using business experts within the organization to define business needs before documenting the IT needs. The business needs drove the requirements for IT needs and Business needs to-date continue to drive improvement in the e-tax system to meet stakeholders’ expectations.
- Doing Business process re-engineering before automation: Projects that achieved total success also carried out business process re-engineering before automation. They reported that this helped them to limit automation to routine activities hence avoiding automating non-value adding processes.
- Other factors that facilitated success of the e-government projects were:
 - Giving decision making powers to the project teams: In URA, the e-tax Project steering committee which comprised of Business managers was given decision making powers for the project to avoid delays caused by bureaucracy.
 - Involving all key stakeholders in planning, development, testing and rollout of the solutions in order to cater for their expectations.

3.4 Factors for the Failure of E-Government Projects

The following factors were given to have led to partial failure of the projects studied that reported partial failure.

- Incomplete implementation: One of the reasons given for partial failure of some projects was incomplete implementation of project components. The Friend a Gorilla project did not achieve total success because some of the planned functionalities of the Friend a Gorilla website were not implemented such as virtual tracking, online sale of gorilla related promotional materials and SMS based friending. As a result, the project did not create as much awareness as was anticipated in the source markets plus the non- traditional markets like Asian countries. Uganda Management Institute’s Student’s Information System partially failed because the finance module though vital for management of information about students was never included in the initial requirement’s specification for the system. This later affected the project’s effectiveness and has since stalled its completion.
- Less involvement of end users: Some projects did not adequately involve end users in the design and implementation of the projects. For example, although the e-water billing project was conceived for the customer’s convenience, there was minimal involvement of customers during design and development. As a result, there is a general feeling among customers that they have lost touch with NWSC because cash offices were closed and customers no longer make payments at any physical office. More involvement of customers could have resulted in a more acceptable solution that does not completely alienate end users from contact with the service provider or created more acceptance of the current solution among the end users.
- Other common factors for failure of e-government projects in Uganda given include;

- Political interference: many government projects are influenced by political interests. It is common to find political appointees as the people heading such projects. Such people can easily be manipulated to suit political interests of the appointing authority.
- Corruption: It is common for projects to lose their funds through unclear circumstances. Sometimes funds get diverted to non-project work.

3.5 Recommended Key Strategies

IT Managers and Business Managers of projects that were covered in the study gave the following strategies as some of the key factors that can increase success of E-government projects implementation in Uganda and other developing countries:

- Strong support from top management: Top management should be involved and supportive right away from inception to implementation and roll out of the e-government solution. This not only ensures logistical support but also ensures alignment of the project to the strategic goals of the institution and makes it easy to get the buy in of all staff, customers and other stakeholders. Rajapkase, Vyver and Hommes (2012) noted that for e-government projects to succeed there is need for leadership to take responsibility for major initiatives.
- Using IT as a business enabler rather than putting it at the Centre. A number of Information systems projects in developing countries focus more on technology than the business need it is supposed to support. This results into a solution that is not well aligned to the business needs. To avoid this problem, the e-tax project took more than 3 years preparing and using business experts within the organization to define business needs before documenting the IT needs. According to Ray (2011), central to e-government success and failure is the amount of change between the 'where we are now' and 'where the e-government project wants to get the organization/country. 'Where we are now' means the current realities of the situation. 'Where the e-government project wants to get us' means the model or conceptions and assumptions built into the project's design.
- Customer-centric projects: E-government projects should not just focus on increasing efficiencies of internal working of departments but also to serve the customer/clients better.
- Involve all stakeholders in planning and formulating the projects: For the Students' information system for Uganda Management Institute, requirements analysis and design left out the finance team which later made the system less useful and stalled its completion. The Assistant Registrar noted that the inclusion of the finance team in the initial system design would have guided inclusion of the finance function in the terms of reference for the contractor hence reducing cost and delays in completing the project. At the time of the study, the Institution was looking for funds to pay the contractor to add the finance component to the system. Ray (2011) noted that there is a 70% failure rate of information systems in developing countries due to lack of proactive user engagement in system development and deployment processes. Wahid (2011) noted that stakeholder involvement builds support and minimizes resistance leading to designs that meet real user needs and match real user contexts.
- Skilled staff: Heeks (2003) noted that IT designers understand technology but not the realities of government. Public officials and politicians understand the realities of

government but not the technology. To close these gaps, projects need to develop and use 'hybrid' professionals, who understand both perspectives. Heeks (2003) calls them 'tribrids' because they combine three aspects: understanding the technology and the business of government and the role of information in government.

- KISS-Keep it simple and small: Scoping is a good project management practice which contributed to the success of some of the studied projects. E-government projects should avoid trying to change too many things at once. This helps retain the same information, same processes, same management systems and structures, etc., but merely change them from manual to computerised operations. Rajapkase, Vyver and Hommes (2012) called this gradual implementation-introducing computerization gradually while Heeks (2003) called the approach incrementalism.
- Good contract Management: Clear definition of contracts such that the scope and cost are clear and terms of extra work and penalties for underperformance are spelt out. Participants from Uganda Management Institute (UMI) recommended this strategy
- Training and user education for target users. Study participants also recommended comprehensive user education and training to those that will use the system or will be affected by the system.

4. CONCLUSION

Further work will study failure factors for projects that have been perceived a total failure.

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