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Towards a Shared Services Model to support e-Government implementation in Developing Countries: Findings from Liberia

Completed research paper

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Abstract

The e-Government program in many developing countries is an emerging concept and at the formative stage. This paper focuses on Liberia, a developing country in sub-Saharan Africa faced with many challenges impeding government efforts to harness ICT to deliver quality services. Key among the challenges is the fragmentation of government information systems causing inoperability among government ministries and agencies. This paper describes a project in which we develop a shared services model to transform e-government implementation in Liberia by determining key services that will allow the government to share and leverage finite ICT resources. Few academic studies have been carried out to investigate approaches and ways of combining e-government services in order to implement shared services in a developing country. Through a case study approach, we propose electronic government services that have the potential to promote Shared Services Model implementation in sub-Saharan African countries.

Keywords: Shared Services Model, e-Government, Liberia, case study.

1 Introduction

Governments around the world are adopting programs and strategies for digital transformation for a variety of reasons, one of which is cost savings. Many government services and processes are rapidly changing to digital services. There is a global movement for effective and efficient digital services in government. Despite high expectations about digital services, there is little empirical evidence on how developing countries are implementing these digital services.

Governments in sub-Saharan Africa are considering the adoption of a Shared Services Model (SSM) as public issues become increasingly complex. As governments continue to be under increased scrutiny to improve efficiency and be ever more vigilant with their use of public funding, they are increasingly adopting alternative models and approaches to providing services (McQuestin and Drew 2019). Shared services have been widely spread in the government and private sectors. Unlike outsourcing, shared service is the standardization and consolidation of common functions across the multiple organizations to reduce information process duplication and increase information and knowledge sharing (Wang and Wang 2007).

This case study focuses on the implementation of an SSM by the government of Liberia (GOL). Although SSM has gained increasing adoption in the last decade and has become widespread among large organizations in developed countries, it is new in Liberia. The Government of Liberia's commitment to advancing the digital economy is evidenced in their five-year development strategy, titled the Agenda for Transformation (Rodriguez 2017). The strategy aims to improve the standard of living through increased productivity and high-wage jobs (Shilue and Fagen 2014). As part of that strategy, the GOL seeks to optimize information and all aspects of government including human resources, finance, and information technology (IT) to achieve and accelerate its vision and strategy. The GOL believes that IT should be utilized to move into the era of Digital Economy that is aimed at demystifying the role of Government, simplifying procedures, bringing transparency, accountability, and making credible timely information available to all citizens, and at the same time providing services in an efficient and cost-effective manner.

Liberia's current IT capacity is not adequate to support the reform initiatives called for in the Agenda for Transformation and e-Government strategy. Achieving those goals will require new solutions and tools within government, along with changes to the governance structures and ways in which IT investments are made and services are delivered. The forces of change confronting GOL public services are intense. Social and demographic changes, coupled with a significant step up in public expectations, are driving an increase in demand for services. At the same time, financial constraints are applying pressure to service provision. An SSM could play a large part in meeting that challenge. Shared service has proven to be a key element when it comes to increasing government efficiency by collaboration (Corradini et al. 2018).

Currently, the IT function is decentralized across all government departments. Ulbrich (2003) describes wholly owned systems as an "unaffordable luxury". The various government departments and local authorities could benefit from economies of scale if IT resources including systems, infrastructure, personnel, operations and functions were pooled, which would result in considerable savings while maintaining service quality.

To fulfil this aim the research question was formulated as:

What are the critical e-government services that promote shared services model in Liberia?

This paper is structured into eight sections. The first section provides the introduction, the second section provides the theoretical background followed by the third section which addresses the research design methodology. The fourth section presents the five guiding steps for SSM and section five presents highlights from GOL current state assessments. This is followed by section six which discusses Liberia SSM future state. Section seven is the discussion and section eight presents the conclusion.

2 Theoretical Background

The term 'shared services' refers to combining or consolidating services within a corporation (Schulz et al. 2009). It represents an evolution of the traditional organizational models to service operations such as human resources, finance, purchasing, accounting and IT, as well as numerous others (Richter and Brühl 2017). Sharing of services provides new opportunities to small governments to access and use IT effectively and optimize the capacity of their IT infrastructures efficiently (Janssen and Wagenaar 2004).

The theoretical motivation of the shared services concept is not new and is closely related to outsourcing literature (Baldwin et al. 2001; Lacity et al. 1996). Other organizations have adopted shared services models and much can be learned from their experience. Gould and Magdieli (2007) stated that more than 30 percent of the U.S. Fortune 500 companies that have implemented a shared service framework reported cost savings of up to 45 percent. However, poorly designed and implemented shared services may result in lower quality, even higher costs and a decrease in service value (Hofman and Meijerink 2015; Janssen and Borman 2010; Miskon et al. 2011).

Hashim et al. (2017) posit that realizing shared services is a complex and challenging endeavour where success can be elusive. Knol et al. (2014) further state that the decision to establish shared services is often made without understanding the implementation process. In a time of extreme austerity, Government priorities of low-income sub-Saharan countries have shifted to other areas of the economy leaving minimal funds for IT expenditure. It is therefore important to investigate the concept of SSM to support the various e-government initiatives.

2.1 Shared Services in e-Government

There is increasing interest from many countries to implement shared services in e-government. E-government is one of the sectors that is implementing shared service in order to improve the quality of services and minimize the cost and risk in delivering services for its users (Hafizi et al. 2014). Over the years, the shared service model has shown cost savings, service enhancement and business process improvement for the private sector (Soalheira 2020).

The demand for shared service especially in e-government indicates that most government respondents believe that shared service will help government achieve their objectives (Pentyala and Jaipal 2018). Whether for cost saving, improvisation of service quality, transfer of information and skills, enhancement of decision-making, or others, government needs to think about the advantage of using shared service (Tammel 2017).

There is very little evidence of approaches and ways of combining e-government services in order to implement shared services. In fact, many developing countries are being encouraged by their donor partners to use shared service to lower cost of delivering government services online.

2.2 E-Government Development in Liberia

In 2014, the Government of Liberia developed a document to serve as a guide to the government and donor community for the implementation of electronic government "e-Government" in Liberia. The document called "e-Government Strategy document (2014-2018)" is closely aligned with the Agenda for Transformation.

The e-Government Strategy for Liberia is focused on ensuring effective delivery of government services to citizens and businesses (USAID 2014). The strategy outlines an approach to enable transformation of the delivery of public services by providing citizens and business with more convenient, affordable and effective access to trusted government information and services. It aims to improve the availability and quality of government services and to provide greater opportunities for participation in democratic institutions and processes.

The Liberia e-Government Strategy can be summarized as: "Delivering efficient, effective and trusted government services conveniently to Citizens as Customers" (USAID 2014). The strategy sees an opportunity to improve the traditional delivery of services by the public sector. Recipients of the services are seen as "customers" and not just beneficiaries i.e. looking at citizens and businesses as customers with unique needs and requirements.

The Chief Information Officers (CIO) Council of Liberia, which is a body consisting of all the IT heads from the government departments, believes that establishment of SSM capabilities may allow the Government to fully leverage its limited IT resources.

3 Design and Methodology

The research is conducted using two study methods which are survey (quantitative) and focus group discussions (qualitative). Both methods are used to obtain a richer and more in-depth understanding of the Liberia context. The survey helped to identify government services which are essential to the government IT practitioners.The focus group discussion was used to further understand the factors identified from the perspective of the IT practitioners of the Liberia Ministries and Agencies. The technique used in the focus group discussion is the Nominal Group Technique (NGT) which is a method

for group brainstorming that encourages contributions from everyone (Gallagher et al. 1993). The research seeks to satisfy two aims, namely addressing or solving a 'real world issue' or problem and contributing to the development of theory (Adelman 1993; Lewin 1946). This research involves 90 IT practitioners across 43 Ministries and Agencies of Liberia.

Reflective Practitioner method is chosen for this study because the research aims to contribute to the real-world situation of the e-government actors of Liberia to gain feedback from their understanding in an immediate problematic situation.

Kemmis (2006) described quality practitioner research as not just a matter of technical excellence but "a matter of addressing important problems in thought and actions, in theory and practice". Groundwater-Smith and Mockler (2005) argued that practitioner research should be "collaborative in its nature and transformative in its intent and action".

The e-government project in Liberia is considered a complex phenomenon in terms of the size of the project, the budget assigned to it, the great variety of stakeholders and the effect of success or failure of the project on the citizens and country as a whole. The use of triangulation, which is an advantage of using mixed methods, allows the researcher to use several means to collect, verify and validate data.

This study seeks to assess e-government in Liberia by getting an indepth understanding regarding IT practitioners perception of the implementation of e-initiaitves. Yin (2017) posits that case study as a research strategy allows the researcher to gain holistic and meaningful characteristics of real-life events-such as, organizational and managerial processes, societal change and this affords the researcher the opportunity to answer "how", "why" or "what" questions raised by his study.
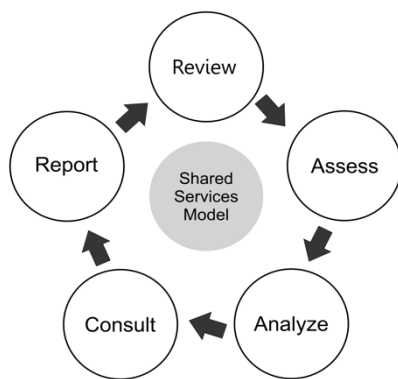

Based on these assertions this case study proposes five common sense guiding steps, applied them, analysed the data, created a roadmap and proposed critical success factors to investigate the implementation of e-government in Liberia. Since e-government is still at the formative stage in Liberia, this approach allows the researchers to be integrally involved with the e-government stakeholders and actors of Liberia in designing, planning, implementing, measuring, and recording e-government initiatives.

The guiding steps are shown in Figure 1. It is important for GOL to understand its current state of IT, the shortcomings and opportunities for improvement, and develop options and alternatives for future implementations.

Figure 1. Five (5) Guiding Steps for Shared Services Model (developed for this research)

3.1 Data Collection Procedure and Analysis

Data collection is done through both primary and secondary sources. Primary data sources included focus group discussions and online surveys which were administered to 90 key IT practitioners of the MACs leading the delivery of e-services in Liberia. Secondary data sources were mainly Liberia e-government project reports, technical documents, and annual reports of previous USAID Liberia projects.

Data analysis procedures used in this study were drawn from the outline of Creswell and Clark (2007): preparing data for analysis, exploring the data, analysing the data, representing the data analysis, and validating the results. The quantitative and qualitative data generated from the research methods used in the study were analysed separately and then integrated for a complete picture. In this study the analysis of data was done through activities such as, collecting relevant data, organising, inter-relating various sources of information, attributing meanings to the data, and building a readable story. Below is a list of analysis methods used in this research and description:

Survey Analysis: The responses from questionnaires were exported from the online survey tool (LimeSurvey) to Excel® format (.xlsx) for coding and analysis. Frequencies were used to describe how the respondents gave each response.

Focus group discussion analysis and Semi-structured interviews: For the purpose of this study the following meetings were conducted: 3 workshops to gain stakeholders' inputs and conduct assessments. Over 100 meetings across 34 MACs within the GOL to conduct assessments and understand the current ICT landscape within the MACs. 10 meetings with private sector organizations to understand their capabilities and how they currently engage with the GOL. 2 meetings with IT training institutions to understand their capabilities, curricula and plans for the future. The focus group participants were chosen from the survey respondents who had agreed to participate in the follow up study. The FGDs were audiotaped and the researcher transcribed the recordings.

Observation Analysis: The observation took place at the MACs who have deployed a form of electronic service. The researcher conducted a structured observation using codes and a scale. The researcher begun by reading the situation at the MACs as a text, the behaviour of the IT practitioners was systematically classified into distinct categories. The categories were coded against a scale in order to ensure the data collected can be easily counted.

Documentation Analysis: The document analysis began with the identification of themes emerging from the e-government project documents in Liberia. The goal was to create categories through which the implementation of e-government can be translated into a storyline. The analysis included the collection of Liberia e-government documents from 2003 and organizing them on the basis of the time of the occurrence of the event and accompanying themes. This enabled the researcher to construct a history of how GOL e-government initiatives have evolved. The identified themes were then joined to what has been identified in survey, focus group discussions and observations and inter-linkages built across all themes.

4 Five (5) Guiding Steps for Shared Services Model

4.1 Step 1: Review

At the inception of the SSM project, a desk review was conducted by the first author who is an IT consultant for the USAID e-Government project in Liberia. The objective of the desk review was to understand the current state of IT within the GOL and various government departments in order to generate a summary report. The following key documents were included in the review:
- e-Government Strategy (2014-2018);
- Telecommunications Act of Liberia 2007;
- Agenda for Transformation (2012-2017).

Desk research was also conducted to review government IT initiatives from other West and East African countries (Rwanda, Ghana, and Sierra Leone) to gain insight into the challenges they faced while implementing IT systems, and how they were able to overcome those challenges. Another summary report was generated. These two summary reports gave a high-level of picture of status of Liberia e-government program compared to similar programs in other African countries.

4.2 Step 2: Assess

The second step focused on conducting assessments to understand the current state of IT within the GOL To accomplish this, two sets of IT assessments were developed based on Bui et al. (2003) e-readiness framework and conducted (i.e. online survey of 90 IT practitioners) to understand the current IT use and levels within the various government departments:
- Department-Level Assessments: These assessments included IT competency assessments, IT procurement assessments, and IT skills identification assessments conducted in 30 of the 43 selected government departments;
- IT Unit-Level Assessments: These assessments focused on IT competency assessments and IT skills identification assessments within a sample of eight selected government departments categorized as small, medium and large.

4.3 Step 3: Analyse

The analysis step focused on conducting both quantitative and qualitative data analysis of the department and IT level assessments. Data analysis included distributional information (percentiles and frequency). Additional in-depth manipulation of data was conducted to identify trends and outliers within the data. The analysis helped to depict the current state of IT in Liberia. A report was developed which was presented to the Ministry of Post and Telecommunications and USAID Liberia.

4.4   Step 4: Consult

The consultation step involved hosting of IT workshops and consultative discussions with key stakeholders in IT development in Liberia. At the meetings, the data from the current state of IT based on the analysis of the eight government departments, the proposed recommendations and alternatives were presented to the Liberia CIO Council.

Over the course of this project, the consultants held ICT workshops and consultative discussions with key stakeholders in ICT development:
   • Three workshops to gain stakeholders' inputs and conduct assessments;
   • Over 100 meetings across 34 MACs within the GOL to conduct assessments and understand the current ICT landscape within the MACs;
   • Ten meetings with private sector organizations to understand their capabilities and how they currently engage with the GOL.

4.5   Step 5: Report

The reporting step provided a compilation of findings and a roadmap of SSM application activities for consideration by GOL. The outputs of this study are the Current and Future State reports to the Ministry of Post and Telecommunications of Liberia which is the ministry mandated by law to drive e-Government in Liberia.

5   Highlights from GOL current state assessments

Based on the findings from the reviews and assessments, it is evident that while the departments within GOL do have some IT skillsets which have been useful to promoting IT activities in Liberia, there are gaps in skills that if filled, would be useful to promote e-Government, and attain efficiencies.

The challenges were analysed according to the analysis approaches presented in Section 3.1.1. The following categories were developed:
   • Structure, staffing and professional leadership;
   • Communication and collaboration within IT Units and across government departments;
   • Equipment, facilities and Information Management Systems; and
   • Policy, legal and funding.

A summary of the categories and the key challenges is presented in Table 1.

Category	Key Challenges
Structure, staffing and professional leadership	Government departments operate as silos
	Ineffective use of resources of time, human capital and knowledge
	Lack of clearly defined IT units with a defined organizational and reporting structure and centralized or professional leadership
	Limited core expertise to effectively support the future e-Government program.
Communication and collaboration within IT units and across government departments	Lack of lateral collaboration
	Lack of clearly defined and communicated IT or e-Government vision
	Limited IT awareness and the overall impact IT could have within departments
	Inconsistent and disjointed use of IT across/within departments
Equipment, facilities and information management systems	Disproportional levels of advancement in the IT devices and equipment across government departments
	Staff use personal equipment with the GOL documents and no backup
	Lack of streamlined procurement of IT equipment and services
	Limited availability of support services
	Lack of clearly defined Service Level Agreements
Policy, legal and funding frameworks	Lack of a clearly defined policy framework to enable resource sharing and collaboration across government departments
	Legal implications to resource sharing
	Legal implications to the office of the CIO and coordinating efforts
	Lack of clearly defined funding mechanisms

Table 1. GOL e-Government challenges

6 Future State: Liberia Shared Services Model (SSM)

The global IT landscape has transformed in recent years: new capabilities such as cybersecurity, automation, cloud solutions, artificial intelligence, blockchain etc. are required to address current and emerging challenges. The Chief Information Officer (CIO) has the responsibility to lead the Government IT strategy to provide system-wide assurance, enable integrated digital service delivery with shared services being a key component of that strategy.

This GOL SSM road map is proposed to set out an action plan to transform service delivery through digital self-service channels to unlock the full economic potential of the Government's information holdings. It proposes an exit from owning and operating commodity technology assets in favour of a services-based model. The GOL SSM road map consists of ten key services, activities and/or functional units that allow the Government to share and leverage finite IT resources across the various departments. These key services are discussed below.

6.1 Shared Data Centre

The newly established Shared Data Centre will house GOL mission-critical and medium-risk systems and servers, consolidated into a secure central location adequately provisioned with power, network infrastructure, data services, and IT skilled personnel.

A key feature of the shared data centre is backup, redundancy and disaster recovery planning. The primary purpose of a data backup is to recover data after its loss, be it by data deletion or corruption. Data loss is a common experience of computer users. Unfortunately, many government departments have not implemented a comprehensive backup process to protect against the loss of data. That results in a significant risk exposure if data is lost which could have an impact on the productivity of a unit and/or an individual. The SSM with the establishment of the Shared Data Centre would allow all mission-critical application servers and fileservers to be backed up daily with full redundancy.

6.2 "One-Government" Email System

Email is the primary business tool for both internal and external communications and as a result should be treated with the same level of attention given to formal/official letters and memos. Currently, most government officials and civil servants use their personal email address systems for official government correspondence. A whole-of-government email and calendaring service would consolidate the variety of email services across Liberian Government departments.

The service is underpinned by a central identity management platform which enables secure, seamless, multi-agency access to central services. However, the departments will be given a delegated administration console to allow the designated administrator of that respective organization to administer all the customers under their domain, providing the organization with the independence to manage their respective accounts.

6.3 Government e-Portal

GOL plans to implement a government service portal (e-portal) as a single web gateway or web site (e.g. www.eliberia.gov.lr) through which all stakeholders could gain access to required government services, information, data, systems, and processes. The website of all government entities would be linked to the portal and used for a "one-stop" shop. The stakeholders of the Government would include citizens, business, departments, donors & international partners, foreign investors, and business partners (vendors and suppliers). Government e-Portals have been shown to provide many benefits that include:
- Saving of time due to provisioning of services through a single window;
- Simplification of procedures;
- Better office and records management due to automation;
- Reduction in red-tape and corruption;
- Improved work handling capacity of civil servants;
- Improved communications with stakeholders; and
- Increased productivity of government processes & operations (Almazan and Gil-García 2008; Huang 2007; Rodriguez Bolivar et al. 2007).

A key component of the eLiberia portal is the Help Desk to centrally manage, organize and archive support requests and responses, leading to better customer support. The system is hosted at the shared data centre. This approach is aligned to the GOL e-Government strategy which guides that all government services should be hosted within one integrated infrastructure for effective monitoring, maintenance and support.

6.4   Government Electronic Directory (e-Directory)

The development of an e-Directory of public servants could be extremely useful and informative to civil servants and the public in general. Currently, it is extremely difficult to identify the head of a particular department or unit in government due to the high turnover of skilled professionals in government. In most cases, it is necessary to rely on personal relationships or networks to source contact information such as names, telephone numbers, email addresses, location and title. Information in the e-Directory would be supplied by individual departments and updated by data administrators within each government department.

The Human Resource Units could be responsible for content management of the e-Directory. The e-Directory could be a component of the e-portal providing citizens, businesses and foreign investors with relevant contact information of government managers and senior employees.

6.5   IT Procurement Services

The objective is to consolidate the procurement of IT, including hardware, software, and services. By leveraging the Government's purchasing power and buying common hardware and software products in volume, cost savings can be realized. Eliminating duplication of hardware and standardizing on hardware and software requirements would improve security and reduce risks related to vulnerabilities. Also, a standard operating environment reduces costs for support and maintenance.

6.6   National Repair Centre

Currently, the repair of computer hardware is decentralized and every government department has its procedure/process. Some departments hire hardware technicians to repair equipment, while others contract the work to 3rd-party service providers. In many cases, the departments may not have qualified technicians to support their hardware or they may hire an unqualified service provider.

The Project Management Office (PMO) could establish a National Repair Centre that would service all government computer hardware. This would ensure that there is a controlled procedure where a qualified technician diagnoses the equipment to determine the fault. The PMO could establish arrangements with certified 3rd-party service providers to perform the actual servicing of computer equipment at various government departments. The establishment of the repair centre would extend the lifespan of the computing hardware and result in more timely and accurate repairs.

6.7   Anti-Virus Administration

In today's information technology world, viruses, and related threats are a significant issue. They are the cause of the loss and corruption of data, services, and productivity. An essential shared service is a centrally-managed, enterprise grade-antivirus system that combines anti-virus, anti-spyware, and intrusion prevention technologies to stop and remove malicious software.

6.8   IT Advisory and Consulting Services

IT management is a non-core, enabling function in every government department. The CIO and PMO can offer a wide range of consulting and advisory services to departments, helping them to improve their performance and operations. IT Advisory Consulting Services could include:
   •   Policies and Standards Management - Recommending national IT policies to the CIO Council for review and approval. Development and institutionalization of standards;
   •   Compliance reviews of IT Policies and Standards;
   •   Compliance and Risk Management - Assisting government departments in addressing the challenge of managing IT risks in a way that is in line with their business strategy. Conducting IT risk assessment through to review of controls systems, applications and processes;
   •   Technology Advisory Services - Technology and operational strategy; business processes and organizational design; design and implementation of performance improvement and security enhancements;
   •   Project Management Support – Assisting the MACs in planning, organizing, and controlling resources, procedures and protocols to achieve project goals and objectives;
   •   Training and Development: Organization, coordination and delivery of quality and specialized capacity building trainings, workshops and seminars.

6.9   Pooling Human Capital Resources
In an environment such as Liberia where ICT technical skills are scarce, the government is at a disadvantage when hiring because of the low salary scale of civil servants. The only realistic options

available to government entities are hiring contractors or an ICT consulting firm. When ICT functions are outsourced, challenges have to be considered – sustainability and knowledge transfer. The issue of sustainability arises because of the high cost of maintaining a consultant or firm over an extended period of time. In cases where a contractor or firm is hired, there is the issue of knowledge transfer at the end of the project. In many cases, there is no one technically competent to transfer critical knowledge to.

The pooling of finite ICT human capital resources becomes a viable alternative to addressing this issue. Currently, ICT human capital resources are siloed within and across the MACs and most of the MACs do not have ICT personnel with the skills and expertise to fully implement and manage ICT projects of varying sizes. The government can implement measures or arrangements that would allow various entities to share and pool ICT human capital resources. ICT human resources can be temporarily "loaned out" for a particular project or consolidated into a centralized technical unit that supports ICT programs and projects across the government.

In order to implement an effective human capital resource pooling arrangement, the MACs may need to develop new ways to coordinate and cooperate on the use of ICT resources. Central to this concept is the GOL CIO regime and, more importantly the CIO Council.

6.10 ICT Donor-Working Group

This working group is intended to bring together key GOL stakeholders and donors to dialogue and consider the whole of Government IT requirements and challenges. Initial IT infrastructure investments in Liberia are primarily supported by donors, with the Government responsible for sustaining these investments into the future. The formulation of ICT Donor Working Group would help consolidate funds for ICT projects from USAID, UNDP, World Bank etc. and ensure collaboration and learning among the donor community.

7   Discussion

The Government of Liberia envisages its IT future as information-centric rather than the technology-centric model of today, transcending government department boundaries to deliver smarter stakeholder-centred (citizens & business) services. Although in the developed world SSM has been gaining popularity during the last 10 years, in Liberia, the Government is still asking if it is even possible for government to provide shared services. The quest towards SSM for e-government in most sub-Saharan African countries has just commenced.

This case study demonstrates that it is possible to develop an SSM roadmap in Liberia and proposes a set of critical success factors. The GOL has a significant opportunity to leverage IT as a catalyst for transforming government operations. The proposed service areas discussed in this case study have the potential to promote efficient and effective use of e-government in Liberia. The ten key services put forward in this case study exemplify an SSM implementation in sub-Saharan African countries.

Implementing SSM is a major e-government approach that can help governments derive significant benefits such as reduced cost of delivering e-government services, improved service quality, and a stronger and efficient government-wide enterprise environment. Identification of critical success factors will assist the GOL to avoid the experience of other organizations that failed to achieve the desired results from shared service operations. This case study could help e-government practitioners to consider the key services outlined in this paper as a starting point to their SSM journey. While the precise strategy and technological tools will largely depend on the context of each country, these recommendations can help practitioners and decision-makers to strike the right balance.

The study is currently limited to the perspectives of IT practitioners in Liberia, there is a need for inclusion of viewpoints from IT practitioners of other developing countries. The findings of this study based on one case alone are not enough to demonstrate that the ten key services apply to every developing country. Nevertheless, the authors believe that many of the suggestions made can be transposed to a broader context.

Answering the Research Question

What are the critical e-government services that promote shared services model in Liberia?

Through an empirical investigation using a five-step approach we have identified ten key government services and functional units that will allow GOL to share and leverage finite IT resources across government MACs.

8 Conclusion

In this paper, we presented the necessity and plan for GOL to re-organize its ICT competences and resources to adopt new emerging technologies to modernize their service delivery to better serve their stakeholders. The paper further focused on understanding the current state of ICT within the GOL and advising on the components of a possible improvement strategy linking it to the GOL SSM road map which consists of ten key services that will allow the government to share and leverage finite IT resources across the ministries and agencies. Although there are many ways of implementing shared services, the approach discussed in this paper can help governments in developing countries leverage ICT for more effective governance.

Currently, Liberia has recently commenced its SSM journey; it is expected that as GOL CIOs gain more experience, the centralized services will be expanded to other government support functions such as HR, Procurement, Payroll and Legal. Finally, to monitor progress of SSM in Liberia following the implementation of the e-government services mentioned in this case study, it will be essential to compare outcomes of government service delivery and performance pre- and post-implementation. This case study aims to propose electronic government services that have the potential to promote SSM implementation in sub-Saharan African countries.

8.1 Theoretical and Practical Implications

For theory, the study contributes to theory and the IS community by extending existing literature on SSM to e-government implementation in developing countries in sub-Saharan Africa. The study introduces 10 key e-services to leverage on in SSM. The study therefore responds to the claim that there is not enough literature on shared services implementation in Africa.

For practice, this study will help government IT practitioners and decision makers to recognize key government IT services they need implement in order to successfully deploy shared services in the context of a post-war developing country.

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