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AN OVERVIEW OF E-GOVERNMENT STRATEGY IN SUDAN

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ABSTRACT: *The explosive entry of technology into everyday life have changed how people live, work, how companies do their daily business and how governments serve their people. With the help of IT, governments are realizing that, by applying the same principles and technologies that are fueling e- business revolution, they can achieve similar transformation. The result is the emergency of e-governments. This paper will focus on e-government in Sudan. It will provide the general overview of e-government, its importance, types, stages and challenges facing this country in managing e-government. Finally, the study recommended that proper orientation should be given to E-Government adoption and development in Sudan.*

KEYWORDS: E-government, Sudan, E-government challenges in Sudan, Stages of E-government.

INTRODUCTION

Governments around the world are recognizing the value of e-Government. Properly designed and implemented, e-Government can improve efficiency in the delivery of government services, simplify compliance with government regulations, strengthen citizen participation and trust in government, and yield cost savings for citizens, businesses and the government itself. Not surprisingly, therefore, policymakers and managers are looking to adopt e-Government in countries around the world - ranging from the most developed to the least developed.

E-government provides delivery of public services in a much more convenient and cost-effective way, offering huge opportunities to improve public sector efficiency. However, the process of change also gives rise to new challenges and difficulties, especially in developing countries, where many initiatives have not been successful. This is as a result of the massive deficiencies in basic infrastructure, human capacity and financial resources, along with the attendant political and cultural constraints .Sudan elaborated a strategy for e-government in 1997 with specific attention to developing a telecommunications infrastructure. The government of Sudan creates a council for information co-ordination to co-ordinate the E-Government strategy. Most recently, Sudan has started elaborating an action plan to guide the implementation of the actions in the strategy. Despite the support of the private sector, the biggest challenge remains lack of funding for E-Government

development (High level Seminar on Measuring and Evaluating E-Government, 2007, Dubai).

LITERATURE REVIEW

Defining e-Government

E-Government (short for electronic government, also known as e-gov, Internet government, digital government, online government, or connected government) consists of the digital interactions between a government and citizens (G2C), government and businesses/Commerce (G2B), government and employees (G2E), and also between government and governments /agencies (G2G) (Jeong, 2007).

This digital interaction consists of governance, information and communication technology (ICT), business process re-engineering (BPR), and e-citizen at all levels of government (city, state/province, national, and international).

The United Nations defined E-government as ' E-Gov Strategies' (or Digital Government) is defined as 'The employment of the Internet and the world-wide-web for delivering government information and services to the citizens.' (United Nations, 2006; AOEMA, 2005) .

In other words E-government describes the use of technologies to facilitate the operation of government and the dispersement of government information and services. E-government, short for electronic government, deals heavily with Internet and non-internet applications to aid in governments. E-government includes the use of electronics in government as large-scale as the use of telephones and fax machines, as well as surveillance systems, tracking systems, and even the use of television and radios to provide government-related information and services to the citizens.

Advantages of E-government Implementation

Advantages and benefits of e-government implementation are the same for both developed and developing countries .However, e-government applications have many benefits for citizens, business and government entities. E-government applications allow people, businesses, and government sectors to access to available government information 24 hours a day, 7days a week, which improves the quality of these services (Ndou.V, (2004). According to implementation of e-government will reduce cost and levels of organizational processes by streamlining and re- organizing operating procedures. Moreover, the using of e-government systems will improve the performance of government agencies and that it will deliver the public service effectively and efficiently for all customers(Rubin.B and Wang.H (2004)). In addition, (Cohen.S, and William.W,(2002),declared that e-government has great benefits regarding economizing and improving of governments service operations, including efficiency, reduced transactional costs, increase the transparency and increased services for citizens. Furthermore, (NOIE,(2003)) identifies e-government benefits as follows:

- reduction of customers' and organization's time, effort and costs.
- improvement of service delivery and citizens' satisfaction.

• increase of users' ICT skills , internet knowledge and computer usage.
• creation of new business and work opportunities.

To conclude, it is clear that implementation of e-government not only saves resources, effort and money but it can also extensively increase service quality levels and reducing time spent in government departments (Seifert.W and Bonham.G,(2003)).

STAGES OF E-GOVERNMENT

The implementation of e-government has several stages. This section reviews the stages of the implementation of e-government as obtained from the existing literature. It includes research done by United Nations (2001) and World Bank (2002).

UN/ ASPA Study – Five Stages of E-government Model

In (United Nations Division for Public Economics and Public Administration. (2001)) study "Benchmarking E-government: A Global Perspective, Assessing the Progress of the UN Member States" identifies the five stages for quantifying progress of e-government. Study identifies e-government stages as representative of the government's level of development based primarily on the content and deliverable services available through official websites.

Stage 1: Emerging: An official government online presence is established through a few independent official sites. Information is limited, basic and static.

Stage2: Enhanced: Government sites increase; information becomes more dynamic. Content and information is updated with greater regularity.

Stage 3: Interactive: Users can download forms, e-mail officials, interact through the web and make appointments and requests.

Stage 4: Transactional: Users can actually pay for services or conduct financial transactions online.

Stage5: Seamless: Full integration of e-services across administrative boundaries. Total integration of e-functions and services across administrative and departmental boundaries.

World Bank study - Three Phases of E-government Model

To assist decision and strategy makers in devising their own plans and initiatives, (Center for Democracy and Technology,(2002))"divides the process of e-government implementation into three phases. These phases are not dependent on each other, nor need one phase be completed before another can begin, but conceptually they offer three ways to think about the goals of e-government".

Publish: Publish sites seek to disseminate information about government and information compiled by government to as wide an audience as possible. In doing so, publish sites serve as the leading edge of e-government.

Interact: Interactive e-government involves two-way communications, starting with basic functions like email contact information for government officials or feedback forms that allow users to submit comments on legislative or policy proposals.

Transact: Allowing citizens to obtain government services or transact business with the government online. A transact web site offers a direct link to government services, available at any time. Transact sites can enhance productivity in both the public and private sector by making processes that require government assistance or approval simpler, faster, and cheaper".

DISCUSSION

Stages of e-government structure in Sudan

In Sudan e-government master plan there are three phases summarized as fellow (National Information Center,(2009)):

The First Phase 2006 and Before

- The establishment of the National Telecommunications Authority and the National Information Center.
- Drafting of the Twenty-Five-Year National & Federal Strategy (2007-2031).
- LAN Set-up in most of the government units
- A number of initiatives were taken by government institutions to publish web-sites and internal system.

The Second Phase 2009-2011

- Drafting Information Strategy 2007-2011
- Ratification on Law of electronic transactions and Law of electronic crime.
- Leave the general plan addressed
- Endorsement of thee E-Government Master plan.
- Development of national standards
- Establishment of National Information Security
- Establishment of national and states Data Centers
- E-mail system and automation
- Development of Sudan E-Services Portal and Sudan Information Portal and set-up
- the states data centers.
- Implementation of ERP Systems
- Document management system
- Establishment of RND Centers.
- Social Security Number
- Company's Unified Number
- Digital Signatures
- National Information Data Base
- University Network
- LAN Set-up in federal ministries and state ministries.
- Special other projects owned by some government institutions'.
- Gradual compulsory implementation of E-mail exchange in all governments'
- institutions.

The Third Phase 2012-2016

- Information Strategy 2012-2016
- Set national Data Centers.
- E-Government Continuity Plan
- GIS Center
- Connecting citizen services with the national security number
- University Network – Electronic Contents (Part II)
- Connecting Companies with the Unified Company Code.
- Other special projects for specific government organizations.

Current Status of E-government in Sudan

According to UN report on E-Government development index and world E-Government development ranking in the years 2012 and 2014 Sudan index in the year of 2012 was 0.2610 and the world ranking 165. In the year of 2014 the index was 0.2606 and world ranking 154 .According to these figures it seem clear that Sudan has move ahead slowly while most countries in the same region has increased their E-Government value such as Tunisia Algeria and Morocco. The adaptive challenges of E-Government go far beyond technology; they call for organizational structures and skills, new form of leadership, transformation of public-private partnerships (United Nations Public Administration Country Studies (UNPACS), 2014).

E-Government Challenges in Sudan

There are several challenges that can delay progress towards realizing the promise of e-government in Sudan. The variety and complexity of e-government initiatives implies the existence of a wide range of challenges and barriers to its implementation and management.

ICT Infrastructure

ICT infrastructure is recognized to be one of the main challenges for e-government. Internetworking is required to enable appropriate sharing of information and open up new channels for communication and delivery of new services. For a transition to electronic government, an architecture providing a uniform guiding set of principles, models and standards, is needed. The implementation of the whole e-government framework requires a strong technology infrastructure. In order to deliver e-government services, government must therefore develop an effective telecommunication infrastructure (Sharma.S and Gupta.J,(2003)

Security

Security of an information system means protection of information and systems against accidental or intentional disclosure to unauthorized access, or unauthorized modifications or destruction (Layton.T,(2007)). It refers to protection of the information architecture including network, hardware and software assets and the control of access to the information itself. Security can be classified into two elements: network security and documents security. It should include maintenance and e-infrastructure protection in the form of firewalls and limits

on those who have access to data. Furthermore, the use of security technology, including digital signatures and encryption, to protect user IDs, passwords, credit card numbers, bank account numbers, and other such data being transmitted over the Internet and stored electronically is essential to fulfilling security goals in e-government applications (Z.Fang.Z,(2002)).

Privacy

Privacy and security are critical obstacles in implementation of e –government. Privacy refers to the guarantee of an appropriate level of protection regarding information attributed to an individual (Basu.S, (2004)). Government has an obligation to ensure citizens' rights regarding privacy, processing and collecting personal data for legitimate purposes only. Concerns about website tracking, information sharing, and the disclosure or mishandling of private information are universally frequent. There is also the concern that e-government itself will be used to monitor citizens and invade their privacy. Both technical and policy responses may be required when addressing the privacy issue in an e-government context. In addition, there is a need to respond effectively to privacy issues in networks in order to increase citizen confidence in the use of e-government services. Citizen confidence in the privacy and careful handling of any personal information shared with governmental organizations is essential to e-government applications.

Lack of Qualified Personnel and Training

Another major challenge of an e-government initiative can be the lack of ICT skills. This is a particular problem in Sudan, where the constant lack of qualified staff and inadequate human resources training has been a problem for years. The availability of appropriate skills is essential for successful e-government implementation. E-government requires human capacities: technological, commercial and management. Technical skills for implementation, maintenance, designing and installation of ICT infrastructure, as well as skills for using and managing online processes, functions and customers, are compulsory. To address human capital development issues, knowledge management initiatives are required focusing on staff training in order to create and develop the basic skills for e-government usage.

Policy and Regulation Issues

Implementation of e-government principles and functions requires a range of new rules, policies, laws and governmental changes to address electronic activities including electronic archiving, electronic signatures, transmission of information, data protection, computer crime, intellectual property rights and copyright issues. Dealing with e-government means signing a contract or a digital agreement, which has to be protected and recognized by a formalized law, which protect and secure these kinds of activities or processes. In Sudan, e-business and e-government laws are not yet available. Establishing protections and legal reforms will be needed to ensure, among other things, the privacy, security and legal recognition of electronic interactions and electronic signatures.

Leaders and Management Support

E-government implementation needs the support from the highest level of government for successful implementation. Top management support refers to the commitment from top management to provide a positive environment that encourages participation in e-government applications. Therefore, it plays a significant role in the adoption and implementation of e-government.

Digital Divide

The digital divide refers to the gap in opportunity between those who have access to the Internet and those who do not. Those who do not have access to the Internet will be unable to benefit from online services. In the case of the digital divide, not all citizens in Sudan currently have equal access to computers and Internet, whether due to a lack of financial resources, necessary skills, or other reasons. In fact, computer literacy is required for people to be able to take advantage of e-government applications.

Government should train its employees and citizens in basic skills of dealing with the computer and Internet in order to let them participate in e-government development applications. In addition, this lack of access among vulnerable or low-income citizens prevents them from being able to make use of those services provided specifically to them.

RECOMMENDATIONS AND FUTURE RESEARCHES

The following recommendations can assist government leaders in Sudan with building the capabilities and resources to design, implement and maintain e-Government :

1- Understand the needs of all segments of public to make sure the e-Government system genuinely assists each citizen to fulfill his or her human development needs; and, enable citizens to participate in the design of e-Government services.
2- Use well established system development practices to carry out the day-to-day activities of developing, implementing and maintaining e-Government services
3- Create a learning organization where employees are encouraged to participate in developing and managing e-Government services.
4- Develop ICT capabilities focusing on building a suitable ICT infrastructure to sustain long-term investments in e-Government, nurturing the development of human capital within the government to use ICTs for e-Government, and facilitating the skills of employees to develop and manage partnerships with private sector firms and other possible partners.
5- Provide a secure experience for web visitors by developing an e-Government security and disaster recovery plan.

CONCLUSION

In conclusion e-Government is about transforming the way government interacts with the governed. The process is neither quick nor simple. It requires a coherent strategy, beginning with an examination of the nation’s political will, resources, regulatory environment, and ability of the population to make use of planned technologies. The success of e-Government

requires fundamentally changing how government works and how people view the ways in which government helps them. In this paper we saw that Sudan is facing a lot of challenges to work on implementing E-governance system. We identified a number of challenges faced at both government and citizens' level. From a citizen's perspective, some social issues will impede citizens from using E-government services, while from the government's viewpoint financial and political constraints are the key challenges for implementing E-governance. The social issues are further compounded by technical complexities such as, the need of a strong ICT infrastructure and the demand to integrate business processes and technology across different government agencies to facilitate the efficient and effective delivery of e-services. By implementing E-governance in different agencies of the government and the public sectors, we can reduce corruption and strengthen democracy. This study also suggested some specific recommendations to overcome the challenges for implementation of E-governance system in Sudan.

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