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Government to E-government to E-society

S. Jayashree and G. Marthandan
Faculty of Management, Multimedia University, Cyberjaya, Malaysia

Abstract: Governments worldwide are faced with the challenge of transformation and the need to reinvent government systems in order to deliver efficient and cost effective services, information and knowledge through information and communication technologies. The e-government presents a tremendous impetus to move forward in the 21st century with higher quality, cost-effective, government services and a better relationship between citizens and government. One of the most important aspects of e-government is to transform the physical society into e-society where the citizens will have seamless interaction with the Government on its functions and services. This study outlines different structures of models that have base in different countries. An insight into various structure of e-government has thrown the strength and weakness of each of the structure and that paved way for coming out with a new modified model with practical approach. The model was identified after analyzing other e-government models that are in existence. This identified model goes through different progressive stages and each stage adds some core value to the effective adoption of e-government practices leading to an e-society. This model may provide right direction to the users. It is an excellent area with booming opportunities for the researchers.

Key words: E-government, e-society, models, transformation, transaction, web presence

INTRODUCTION

The waves of e-government are rising through public organizations and public administration across the world. More and more governments are using information and communication technology especially internet or web-based network, to provide services between government agencies and citizens, businesses, employees and other nongovernmental agencies. The e-government tries to provide services to citizens and businesses anytime, anywhere. It attempts to reach out to every person and business, even in remote areas. It wants to operate seamlessly among government departments and agencies. It tries to enhance operational efficiency and productivity. It wants to have real time information on hand to make decisive decisions.

The e-ASEAN Task Force explains that e-government is important for developing countries as e-Government supports good governance, which may promote progress in developing countries. The democratic, business and governmental aspects of governance are simplified and improved by cutting costs and providing better services to citizens and businesses. Transformation within the three major authorities of government may be expected, namely: political, economic and administrative.

The e-business and e-commerce are subsets of e-government. The e-government presents a tremendous

impetus to move forward in the 21st century with higher quality, cost effective, government services and a better relationship between citizens and government.

This study outlines different potential models that are adopted in an e-government system which is useful in defining the scope of e-government studies with an attempt to come up with a suggestive new model. Ultimately as e-government continuum leads to organizational transformation, public agencies begin implementing e-government and governance initiatives, organizational performance will be improved and services delivery will be better equipped to interact with citizens and provide services over the Internet.

Definition of E-government: Gartner (Baum and Di Maio, 2000) defines e-government as the continuous optimization of service delivery, constituency participation and governance by transforming internal and external relationships through technology, the Internet and new media.

The e-government allows businesses to transact with each other more efficiently (B2B) and brings customers closer to businesses (B2C), e-government aims to make the interaction between government and citizens (G2C), government and business enterprises (G2B) and interagency relationships (G2G) more friendly, convenient, transparent and inexpensive. Electronic Business (e-business) refers to a broader definition of Electronic

Commerce (e-commerce), not just buying and selling but also servicing customers and collaborating with business partners and conducting electronic transactions within an organizational entity. As Information Technology (IT) advances dramatically with new features and capabilities, it is moving away from the data processing era to a strategic Information Systems (IS) era, finding a solid berth in enterprises, governments and other organisations (Marthandan and Tang, 2010a).

In technology, e-government and e-commerce all represent the introduction of technological innovations. However, unlike e-Commerce, e-government is usually defined as the use of technology to enhance information sharing, service delivery, constituency and client participation and governance by transforming internal and external relationships. This includes transactions between government and business, government and citizen, government and employee and among different units and levels of government. The favourable characteristics inherent in the Internet such as speed, user-friendliness, low cost and wide accessibility (Salwani *et al.*, 2009) enable the governments to adopt and move towards e-Government.

E-government and E-governance: E-governance is beyond the scope of e-government. While e-government is defined as a mere delivery of government services and information to the public using electronic means, e-governance allows citizen direct participation of constituents in political activities going beyond government and includes E-democracy, E-voting and participating political activity online. So, most broadly, concept of E-governance will cover government, citizens' participation, political parties and organizations, Parliament and Judiciary functions.

Research problem: E-government has different business models with its own advantages and disadvantages with its own features and services that can be offered to the society. The society is always worried about the service delivery by e-government systems and hence the expectation is very high. As many models are available, it becomes very difficult for the governments to select a specific model which has maximum benefits. In this digital era a standardized e-government model is needed to cope with the tremendous and continuous changes in the dynamic ICT environment.

Objectives of the research: E-Government represents a great wave of technological innovation as well as government invention offering wide potential to reshape the public sector and build relationships between citizens

and the government. It acts as an effective tool with much new technological advancement offering quick solutions. E-government practices are becoming more popular and hence lot of researchers have come up with many models with its own pros and cons with wide differences. In this research our objective is to evaluate various existing models and to come up with a simple and integrated model which can be standardized and adopted by any government.

E-GOVERNMENT STAGE MODELS AND THEIR CHARACTERISTICS

The e-government cannot be thought of as a one-step process or implemented as a single project. It is evolutionary in nature, involving multiple stages or phases of development. This section summarises the stages of e-government development by comparing and contrasting the work one by the United Nations, the World Bank, the Gartner Group, e-ASEAN Task force and individual researchers (Hiller and Belanger, 2001; Layne and Lee, 2001; Moon, 2002). These entities represent some of the finest analytical work on the subject. These models are discussed in the following subsections.

World bank-3 stage model:

- **Publish:** Publish implementations of e-government diverge widely in their design and content, but developing nations generally can start the process of e-government by publishing government information online, beginning with rules and regulations, documents and forms
- **Interact:** E-government has the potential to involve citizens in the governance process by engaging them in interaction with policymakers throughout the policy cycle and at all levels of government. Strengthening civic engagement contributes to building public trust in government
- **Transact:** Governments go further, by creating websites that allow users to conduct transactions online. Potential cost savings, accountability through information logs and productivity improvements will be important drivers

UN's five-stage model: The United Nations and American Society for Public Administration (UNASPA, 2001) suggested an e-government model with five stages which are as follows:

- **Emerging presence:** A single or a few independent government web sites provide formal but limited and static information

- **Enhanced presence:** Government web sites provide dynamic, specialized and regularly updated information
- **Interactive presence:** Government web sites act as a portal to connect users and service providers and the interaction takes place at a more sophisticated level
- **Transactional presence:** Users have the capability to conduct complete and secure transactions, such as renewing visas, obtaining passports and updating birth and death records through a single government web site and
- **Seamless or fully integrated presence:** Governments utilize a single and universal web site to provide a one-stop portal in which users can immediately and conveniently access all kinds of available services

Gartner's four-stage model: Gartner and others (Baum and Di Maio, 2000) had proposed a four-stage model, which are as follows:

- **Web presence:** In this stage, agencies provide a web site to post basic information to public
- **Interaction:** In this stage, users are able to contact agencies through web sites (e.g., e-mail) or do self-service (e.g., download document)
- **Transaction:** In this stage, users (including customers and businesses) can complete entire transactions (e.g., license application and procurement) online and
- **Transformation:** In this stage, governments transform the current operational processes to provide more efficient, integrated, unified and personalized service

E-ASEAN task force model: Association of Southeast Asian nations task force considered the teledensity and the personal computer penetration as important factors for e-government to work and hence include them as one of the criteria in their four stage model (AOEMA).

- Emerging (<5% teledensity and <1% PC penetration)
- Evolving (5-10% teledensity and 2-5% PC penetration)
- Embedding (20-40% teledensity and 5-10% PC penetration)
- Extending (>40% teledensity and >20% PC penetration)

Deloitte's six-stage model: Deloitte and Touche (2001) had proposed a six-stage model as described below:

- **Information publishing/dissemination:** Governments provide users with increased access to information

- **Official two-way transaction:** Agencies are used to provide interaction between governments and users by using information and communication technologies such as digital signatures and security keys
- **Multi-purpose portals:** Governments utilize a single portal to provide universal service across multiple departments
- **Portal personalization:** governments enable users to customize portals according to their own desires
- **Clustering of common services:** Governments enhance collaboration and reduce intermediaries (between operational processes) in order to provide a unified and seamless service and
- **Full integration and enterprise transaction:** an ideal vision in which governments provide sophisticated, unified and personalized services to every customer according to their own needs and preferences

Layne and Lee's four-stage model: Layne and Lee (2001) regarded e-government as an evolutionary phenomenon and proposed a four-stage model. The four stages are:

- **Catalogue:** This stage delivers some static or basic information through web sites
- **Transaction:** This stage extends the capability of catalogue and enables citizens to do some simple online transactions such as filling government forms
- **Vertical integration:** This stage initiates the transformation of government services rather than automating its existing processes. It focuses on integrating government functions at different levels, such as those of local governments and state governments
- **Horizontal integration:** This stage focuses on integrating different functions from separate systems so as to provide users a unified and seamless service

Hiller and Belanger's five-stages and Moon's five-stage model: Hiller and Belanger (2001) identified a five-stage model-information, two-way communication, transaction, integration and participation. Despite some minor differences in phrasing, Moon (2002) adapted Hiller and Belanger (2001) five-stage model. Moon (2002) model consists of the following:

- **Simple information dissemination (one-way communication):** This is the most basic form of e-government, which disseminates information by simply posting it on the web sites
- **Two-way communication (request and response):** Interaction occurs between governments and users. This also known as synchronous and asynchronous communication theme

- **Service and financial transaction:** Transactions occur both between governments and individuals (e.g., obtaining visa) and between governments and businesses (i.e., ordering office facilities)
- **Vertical and horizontal integration:** This is similar to the last two stages in Layne and Lee (2001) four-stage model. This stage refers to integrating separate systems at different levels (vertical) and from different departments (horizontal)
- **Political participation:** Promotion of political participation through services such as online voting and surveys. In this research, we aim to combine these models into a synthesized model. A synthesized model provides a common framework for future research in this area and a common point of reference

Keng Siau and Yuan Long’s synthesizing e-government stage model:

- **Web presence:** In this stage, governments typically post simple and limited information through their web sites, such as the agency’s vision and mission, office hours, contact information and official documents
- **Interaction:** This phase provides simple interaction between the governments and the users. This includes basic search engines, e-mail systems, as well as official form downloads
- **Transaction:** This phase enables users (including both individual citizens and business) to conduct complete online transactions
- **Transformation:** This stage moves towards transforming the way that governments provide services. The transformation involves both vertical (i.e. governments in different levels) and horizontal integration (i.e., different departments or governments in different locations)
- **E-democracy:** E-government gradually changes the way in which people make political decisions

ANALYSIS

Meta-synthesis is a research method used to produce interpretive translations and theories by integrating and comparing the findings or metaphors of different qualitative studies (Beck, 2002). Meta-synthesis focuses on qualitative studies, which might not necessarily involve a large literature base and it consist of the seven steps namely identifying the research question, identifying relevant literature, literature review, determining how the studies are related, translating them into one, synthesizing the translations and finally presenting the findings (Noblit and Hare, 1988).

Several models have been studied and pros and cons of each model have also been evaluated. Most of the models confer with first four stages viz., Web presence, interaction, transaction and transformation. While most of them stop at that stage (Siau and Long, 2005) included e-democracy as the fifth stage of e-government into enable the citizens to participate in the political decisions. E-democracy is considered as part of e-governance and not necessarily part of e-government. Hence our research focus was to come up with some new findings based on the model identified by Siau and Long (2005). This model is basically based on Gartne’s four stage model with a fifth stage namely e-democracy. We made an attempt to bring in more insights with new additions and identified e-society to be the outcome of any e-government model if they are applied in the right way. This model does not exclude any element in the society. It includes the social, economic, legal, political, demographic, global and technological factors that are seen in the environment. E-society also includes all these factors. E-government with its proper application can make it a reality. When we look at the evolutionary phase it is similar to other models but finally results in an e-society to capture the vision and ideas of e-government. Figure 1 shows the newly suggested model.

Web presence: The government makes its presence by offering information to the citizens, which was hitherto available only at the designated places and at designated times. However the citizens are not empowered to respond to government at this stage. Citizens are considered as mere information consumers at this stage.

Interaction: From the static stage the government enters into dynamic stage. Simple interaction between the government and the citizen starts at this stage. From mere consumer of information, the citizen is now able to respond to government actions and reactions.

Transaction: At this stage the users are matured enough to transact with the government in the form of paying taxes and duties, filing of returns, obtaining licenses etc. The security and privacy part of the government and citizens are taken care at this stage.

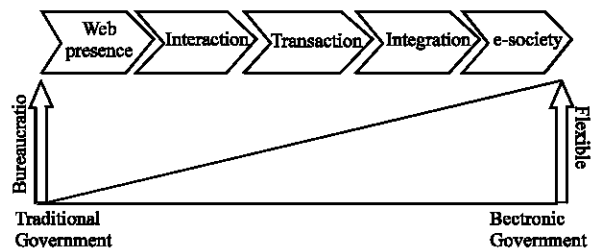


Fig. 1: Simple integrated model for e-government

Integration: This stage involves both internal and external integration. For external interfaces, governments build a single and unified portal providing integrated and seamless services instead of separate and distributed services. To achieve this aim, governments should initiate an internal integration to re-engineer existing processes by reducing bottlenecks and intermediaries.

E-society: The integration process when it is reaching its maturity leads to the emergence of e-society. The e-Society can be broadly defined as one that uses digital media in most relationships: peer to peer (personal communications, business to business purchases etc.); government to other (government online); other to government (voting/governance); peer to other (business to consumer, etc.). Electronic government is very flexible when compared to the traditional government which is highly bureaucratic in nature leading to undue delay. So, e-society will be ideal for the people with better ways provided by e-government with the use of information and technologies in Public Administration combined with organizational changes and new skills which help to improve the public service and democratic processes.

Government-an enabler of E-society: In most of the developing countries the Government acts as an enabler of e-society. Citizens and society generally participate in the construction of e-government as part of a broader process of constructing e-society. The government, meaning the State or the public sector, can substantially help e-Government initiatives by stimulating e-Society activities for the country's national development as a whole. E-government focus aspect in E-government partnership is the processes and structures that define the relationship between central government and local governments, between organizations and departments or agencies and also define the relationship between government and the employees. Societal value does not necessarily come from a particular department from an organisation while implementing IT with Internet, but could be many times more from the integration of functional area or strategic government units (Marthandan and Tang, 2010b)

The e-society may include e-business, e-health services, e-payments, e-procurement, e-education, e-banking, e-democracy, e-parliament, e-ministries, e-billing etc. e-business is the processes that deal with the relationship between governments, markets and the private sector. E-citizens define the relationship between governments and citizens and also the relationship between countries and International institutions. Broadly speaking, transformation initiatives actually contribute to

good governance. They go beyond G2C and even C2G interactions and they also encompasses C2C vis-à-vis their governments and the governance processes. Thus, ultimately, the whole exercise expands into e-Society realms.

CONCLUSION AND RECOMMENDATIONS

After a thorough and systematic analysis we have come up with an effective model which will add more value to the e-government practices making it a real success. The critical success factors of e-government are, a clear vision and goal with excellent leadership. Government should take measures to bring in public awareness about the benefits of e-government and its adoption which will lead to a successful e-society. High degree of citizen's participation makes it a real success. The support services should be very good and authentic. Trust should be developed and government should promote excellent telecommunication services at an affordable cost. This model may provide right direction to the users. It is an excellent area with booming opportunities for the researchers. They can adopt this model and apply it to different countries to ascertain its feasibility. The public should recognize the far-reaching potential of e-government by focusing on using ICTs to transform the structures, operations and the culture of government. Government should give priority to online services. Particular attention should be given to the economies of scale that might be leveraged through having a common payroll, financial management and human resource management systems. Working with the private sector is a key feature of almost all activity that involves deploying the potential of ICTs to bring about improved government performance. Government websites should show citizens that their involvement matters by developing feedback mechanisms and encouraging their use. More research studies are needed to cope with the fast changing ICT environment so that e-government projects define its goals on the local, regional and national level in clear formats.

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