



The Success Model of Evolution from Government to E-governance

Sundresan Perumal^{1*}, Premma Rajarethinam¹ and Zulikha Jamaluddin¹

ABSTRACT

As the world is streaming into the electronic world there are still huge communities which don't understand the revolution of government which already switch into the era of e-government. There are still a huge community which till now does not understand what is actually e-government and e-governance. And at the same time they don't understand what is actually the transmission between the old government and the new e government framework model. The actual positive idea to develop this model is to understand the e-governance better and at the same time this will avoid from possible problem during the period of transition. Towards introducing the new model we also will identify new model we also will identify few unique cases of e-government. As fast as WWW (World Wide Web) concern it grows beyond the limitation line, this made a considerable attention to be focused on the adoption of web-based technology to the business to business (B2B) and business to consumer (B2C) sector. As the heat of this sector goes on another few are also entering into the picture whereby involving government such as government-to business (G2B) and government to citizen (G2C) this wont be a shocking if the government whether local, regional, national, or even supranational have been slower to clamber onto the web enabled bandwagon. The concepts of the traditional government are more conservative entity, slower to change into new initiatives, than operators in the commercial fields.

Keywords: WWW - World Wide Web, G2C – government to citizen, B2B – business to business, B2C – business to consumer.

1. Introduction

As the world is streaming into the electronic world there are still huge communities which don't understand the revolution of government which already switch into the era of e-government. Even this happen but it is leak of a great model which can explain the transition from a manual government to the great tremendous e-government process. As fast as WWW (World Wide Web) concern it grows beyond the limitation line, this made a considerable attention to be focused on the adoption of web-based technology to the business to business (B2B) and business to consumer (B2C) sector. As the heat of this sector goes on another few are also entering into the picture whereby involving government such as government- to business (G2B) and government to citizen (G2C) this wont be a shocking if the government whether local, regional, national, or even supranational have been slower to clamber onto the web enabled bandwagon. The concepts of the traditional government are more conservative entity, slower to change into new initiatives, than operators in the commercial fields. Due to this consideration e-government movement is now building with a number of national governments taking extensive measure to engage the extreme transformation of their portfolio. In this paper we are going to look and illustrate a transition model from the traditional government to e-

¹ Faculty of Information Technology, University Utara Malaysia 06010 UUM Sintok Kedah Malaysia
^{*}Corresponding Author: (Phone: +60-19-4444636; Email: sundresan@hotmail.com)

government process. The actual positive idea to develop this model is to understand the e-governance better and at the same time this will avoid from possible problem during the period of transition. Towards introducing the new model we also will identify new model we also will identify few unique cases of e-government. In this paper we are going to look at how does “Improved public management” and at the same time how e-government is implemented in various communities worldwide. Then we are bringing in 3 model of e-government maturity as well as strategic alignment model of Henderson and Venkodraman (1993), from the previous reading we fill further up the exploration of the transition process of government to e-government, this will also implication’s on the model introduced. The focus of e-government is directed into the web technology. If we look at few years back there is no literature standing on the area of public management (Bevir et al., 2003) and the reinvention of government that in many ways lay’s the groundwork for the e-government initiatives that were to follow. The was a idea submitted by Osbourne and Gaebler (1992) to consider citizen’s as a customer and the entire government service should be focus on customer’s need’s. But mintzberg (1996) have come out with another powerful point challenging Osbourne and Gaebler saying that we does not need to call citizen as customer because customer buy product’s, clients buy service but citizen have rights and the priority for them is more than a customer or client in the government sector. This does not mean’s that the necessary to reinvent government is not there, but the limit extent to which the nomenclature of B2C relationship parallel that of G2C relationship.

The stereotypical image of a Government is of a slow-moving bureaucracy, unwilling or unable to change and years behind other industry sectors in its use of new technology and new business models (Accenture, 2000). In this model, citizens and businesses engage with government in many areas, creating vast amounts of paperwork – an inconvenient and confusing process. Stereotypes are by nature unspecific – there are always exceptions. Yet the image here is one that will be familiar to many citizens who do not have access to an e-government.

A public sector organization planning to adopt an e-government initiative and formulate its IT strategies must evaluate its business models and select appropriate technology solutions that deliver on central government policy. Although there are significant differences in the composition of organizations, there are a number of technologies and systems infrastructure that many organizations need to adopt in common to provide facilities for the integration of their systems in a way that enables them to build a platform for sharing their knowledge resources. For example, an e-government portal requires a common and integrated architecture framework that allows different organizations, provinces, and municipalities to share and exchange data, independent of formats, devices and underlying architecture (Sharma and Gupta, 2002). Therefore, organization must have a clear understating of architecture frameworks from both the technical and information management level. The e-government architecture defines the standards, infrastructure components, applications, technologies, business model and guidelines for electronic commerce among and between organizations that facilitates the interaction of the government and promotes group productivity. Since e-government is a relatively new research area, its architecture and adoption strategy have not been widely discussed. Therefore the concepts from other relevant areas such as e-business, e-services, and e-commerce notwithstanding, a number of studies have discussed the architecture or components of e-government, such as Cabinet Office(2000), Heeks (2001), Sharma and Gupta (2002), Office of Information Technology (2001) and Daniels (2002). However, these studies did not address the aspect of business management model and how it is aligned with the IT infrastructure. Since e-government goes beyond the IT infrastructure, the significance of integration technologies have been discussed and classified under the e-business layer section since these technologies and approaches are often and need to be used in e-government projects.

2. Framework Layers of E-government

The reason is that they are designed to support e-business and e-commerce applications. The framework is structured into four layers connected through two-direction arrows which present the hierarchical level of

e-government implementation and portray the logical connection of each relevant layer that allow two-way transmission of data and services. The top level of the framework represents the access layer that illustrates who might use the government services and what are the channels of access. Throughout these channels, the e-government portal should integrate all government information and services from disparate departments and Organizations, which represent the e-government layer. In connection to the e-government layer, the e-business layer is emerged to manipulate and integrate government data sources across government bodies and make information and services available to the e-government portal in real-time. In the bottom level of the framework, the ICT infrastructure of e-government should be built to reach out all parts of government and hence, support the e-government operation and provide Effective and reliable e-government services. This section now discusses the architecture that forms the framework of e-government architecture project. *Figure 1 show the architecture framework of e-government which is divided into our Layers: access layer, e-government layer, e-business layer, and infrastructure layer.*

Early adopters of web-enabled technology applications tended to automate existing business processes, with little redesign or innovation. Typical approaches involved automation of the front-end web presence so as to spark e-commerce activity, but failed to integrate and redesign the business as a whole in order to make it truly web-centric. The same was true of early e-government initiatives – there was a scramble to get as many services or web pages up with little regard to quality, service level or appropriateness for the citizenship. However, as Burn and Robins observe, “Government is not just about putting forms and services online. It provides the Opportunity to rethink how the government provides services and how it links them in a way that is tailored to the users’ needs”. This rethinking must necessarily include disavowal of the “build it and they will use it” mentality that infiltrates much web-enabled thinking. The failure of many dot.coms to garner business, and indeed the proverbial failure of the horse to drink the water proffered, should alert governments to the risk that e-government initiatives may also go hideously wrong. Consequently, “government must develop a far more sophisticated view of the people it is there to serve and devolve real power as an integral part of its approach to e-government And provide more freedom of information” (Burn and Robins, 2003). If the governments can achieve this radical new conception of their role, then there is the potential for e-government to transform “not only the way in which most public services are delivered, but also the fundamental relationship between government and citizen. This implies, of course, not only e-government but also e-governance – if real power is really to be devolved to citizens. There are many opportunities for e-government applications, whether they involve the provision of information, handling complaints and queries electronically, processing applications for permits/licenses electronically, paying taxes, duties, and fees electronically.

3. The Limitation of E-government

Themistocleous and Irani (2001) and Shung and Seddon (2000) propose a model to classify the limitation that derived from IT infrastructure such as ERP. These models are considered adaptable for the classification of e-government limitation, since the main purposes of e-government adoption is to automate business processes and integrates IT infrastructures in public sector organizations. *Figure 2 analyses e-government limitation and then classifies them accordingly in order to provide a comprehensive insight to those barriers restricting the adoption of e-government.* Many e-government initiatives are in their strategic phase of implementation (infancy), however, some key problems and limitation are already beginning to emerge. There are a number of limitations experienced in public sector organizations that prevent the realization of anticipated benefits and degrade successful adoption of e-government projects. This section analyses and summarizes the limitation of e-government adoption experienced in public sector organisations. Technology itself would not guarantee success with e-government but, it is necessary that any e-government initiative must ensure that it has sufficient resources, adequate infrastructure, management support, capable IT staff, and effective IT training and support. Despite the cost of IT going down, an adequate IT infrastructure still represents the key limitation for e-government adoption. The infrastructure is composed of hardware and

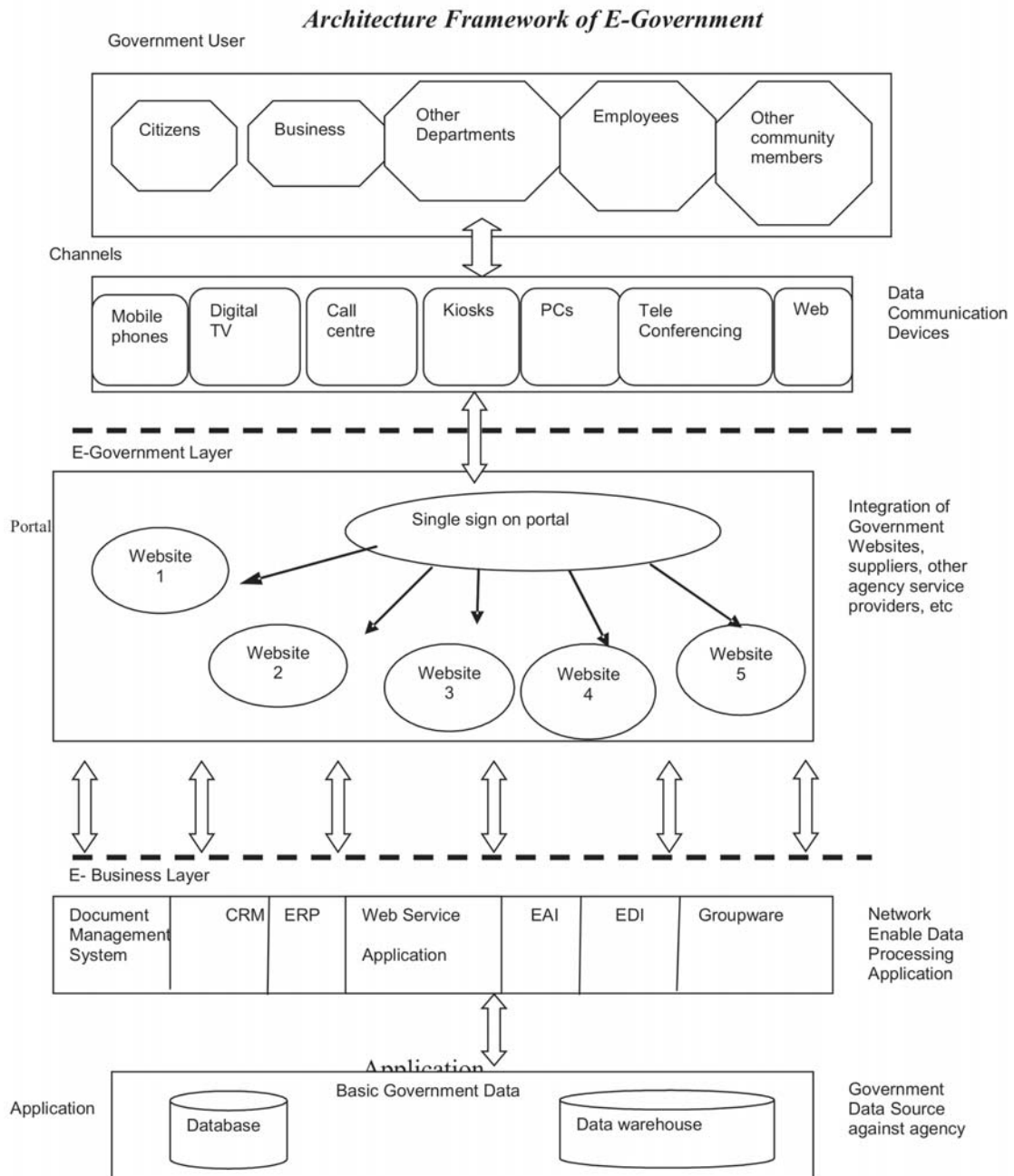


Fig.1: Architecture Framework of E-Government

software that will provide secure electronic services to citizens, businesses, and employees. Bonham et al. (2001), Bourn (2004), Dillon and Pelgrin (2004), McClure (2000) and National Research Council (2005), in their research, agree that governments view a lack of technical infrastructure as a significant barrier to the development of government organizations' capabilities to provide online services and transactions. They

also agree that unreliable IT infrastructure in public sector organizations will Degrade e-government performance. Practically, Layne and Lee (2001) and Dillon and Pelgrin (2002) emphasize the importance of network capacity and communication infrastructure layer) as an important foundation for integrating information systems across Government organizations. It should be in place before e-government services can be offered reliably and effectively to the public (McClure, 2000). Therefore, the key to success in an e-government strategy is to implement an adequate IT infrastructure that will support a users' experience of easy and reliable electronic access to government. For example, as discussed in earlier section, intranet and extranet should be maintained in public sector organization to provide reliable groundwork for required information systems and applications. As *Figure 2 illustrates, many examples of limitation exists that associate with IT infrastructure*, and as discussed in earlier section that LAN, reliable server, and internet connections are important to build a strong foundation for e-government infrastructure. A barrier frequently cited is the need to ensure adequate security and privacy in an e-government strategy (Daniels, 2002; James, 2000; Joshi et al., 2001; Lambrinouidakis et al., 2003; Layne and Lee, 2001; Sanchez et al., 2003). Bonham et al. (2001) and Gefen et al. (2002) agree that one of the most significant limitations for implementing e-government applications is computer security, privacy and confidentiality of the personal data. One of the sophisticated applications of e-government is e-voting, which uses electronic ballots that allow voters to transmit their vote to election officials over the internet. This application requires extensive security approaches to secure the voting process and protect the voter personal data. In addition, government organizations at all levels use, collect, process, and disseminate a wide range of sensitive information on personal, financial, and medical aspects. Hence, IT departments in organizations should aware that security and privacy are not only critical for the availability and delivery of government services but also to build citizen confidence and trust in the online services and transactions

Open the transition process from the government to e-government transition process offers the government a unique opportunity to enhance not only their operational transparency, clarity of purpose and responsiveness to citizens (Marche and McNiven, 2003), but also their own internal efficiency and effectiveness, important concerns in times of economic downturn and increasing public pressure for internal accountability. However, achieving transparency requires significant "internal process redesign that hides the internal complexity of transactions" (Marche and McNiven) from citizens who really don't care which department provides a particular service, or who they are paying, so long as they can get it. This transparency is likely to increase citizen empowerment they will be able to access information of their own choosing, rather than merely accepting whatever explanation is provided (if any) by the (in)competent authorities. There are both similarities and differences between .com and .gov, both of which bear closer attention. Individual B2C customers will have a general experience of the 24/7 world where they can do anything, any time and anywhere. As citizens, it is likely that they will expect a similar level of service from e-government a one-stop shop service that is simple and capable of personalization .Achieving such a service requires changes in the way government functions it needs significant inter-departmental cooperation. Citizens are more likely to develop loyalty towards those e-government portals that are citizen-centric, that are designed to address their needs. The Australian Centrelink.gov.au is a good example of an early portal that did integrate across agencies within government. A key difference between e-government and e-business concerns loyalty businesses have tried to develop customer loyalty with customer relationship management (CRM) so as to encourage customers to return time and again to buy their services or products. So long as customers need to buy, they may indeed return.

However, with e-government, loyalty is rather different. E-governments should encourage digital loyalty, i.e. the preference of citizens to use digital services over other forms (e.g. counter, mail, fax, telephone), since digital services should be much cheaper to provide. Yet at the same time, since governments by definition operate as a monopoly, they may perceive that they don't need to spend extra effort to compete with other providers. That said, some government services such as the Post Office (not a government service in all countries) may well face private-sector competition in the form of courier and parcel delivery firms, so it

Analyses of e-government Limitation Concept

Dimension	Examples
IT skills	Lack of IT training programmes in government Shortage of well-trained IT staff in market Lack of employees with integration skills Developing web site by unskilled staff Unqualified project manager Shortage of salaries and benefits in public sector Flow of IT specialist staff
Operational cost	Cultural issues Resistance to change by high-level management Time consuming for reengineering business process in public organizations Operational cost Main supply come from central government Shortage of financial recourses in public sector organizations High cost of IT professionals and consultancies IT cost is high in developing countries Cost of installation, operation and maintenance of e-government systems Cost of training and system development
IT infrastructure	Shortage of reliable networks and communication Inadequate network capacity or bandwidth Lack resources standards and common architecture policies and definitions Existing systems are incompatible and complex Existing internal systems have restrictions regarding their integrating capabilities Lack of integration across government systems Integration technologies of heterogeneous databases are confusing Lack of knowledge regarding e-government interoperability High complexity in understanding the processes and systems in order to redesign and integrate them Lack of enterprise architecture Availability and compatibility of software, systems and applications
Organizational	Lack of coordination and cooperation between departments Lack of effective leadership support and commitment amongst senior public officials Unclear vision and management strategy Complex of business processes Politics and political impact
Operational Cost	Main supply come from central government Shortage of financial recourses in public sector organizations High cost of IT professionals and consultancies IT cost is high in developing countries Cost of installation, operation and maintenance of e-government systems Cost of training and system development.
Organizational	Lack of coordination and cooperation between departments Lack of effective leadership support and commitment amongst senior public official's Unclear vision and management strategy Complex of business processes Politics and political impact

Fig. 2: Analyses e-government Limitation

is unwise to assume absolute monopoly status. At a higher level, a government can also be considered to be in competition (e.g. for investment or human resources) with neighboring governments, whether in nearby cities, regions or countries. In this sense, Singapore and Hong Kong compete with each other for international business: the quality and extent of their e-government services are part of the competitive environment. Nevertheless, e-government services should be designed so as to help citizens get in, find their information or transact their business, and then get out as efficiently as possible. It is useful here to refer to “stickiness”. In an e-business context, “stickiness” suggests keeping a customer on a web site as long as possible, in the

hope that the customer will buy something. In consequence, web sites are often designed to be maximally sticky. In contrast, few e-government web sites need such levels of adhesiveness. In most cases, it is more appropriate that the citizen can easily access the service, complete a transaction, and get out. This suggests that optimal stickiness rather than maximal stickiness is desirable.

4. E-government maturity models

Accentor started its annual surveys of e-government development in 2000, characterizing e-government progression via a multi-stage “publish, interact, transact” model. Later, the model was extended to incorporate the notion of the transformation of government – redesigning processes so as to put the citizen at the centre (Accenture, 2004). This transformation involves structural and cultural change within government. In 2003, the model was further revised to five stages:

- (1) Online presence;
- (2) Basic capability;
- (3) Service availability;
- (4) Mature delivery; and
- (5) Service transformation.

Considering the transitions between stages, Accenture (2003) commented we find that at the start of each stage countries make large steps and, often, rapid development. As each plateau is approached, the limitation to further progress become apparent and the rate of development slows. In moving to the highest stage of e-government (i.e. service transformation), Canada demonstrated its ability to apply leading-edge practices, such as involving customers in service development and identifying/focusing on high-value services. A similar staged development model was articulated by Chen (2002), who argues that e-government delivers its content and services through the continuum of the four levels of interaction:

- *By enabling information search by citizens via the internet;*
- *By evolving into providers of two-way communication services such as simple groupware functionalities like web forms, e-mail and bulletin boards;*
- *By facilitating transaction services for businesses and citizens; and by transforming practices and services from government to the agents and the community (e.g. e-voting or opinion poll).*

He further argues that most e-government initiatives are moving upwards in the continue. Both these development models focus on the service delivery or “e-commerce” side. However, another transformation model (Hodgkinson, 2002) suggests that e-government progresses through a learning curve for its back-end (e-business) activities, similar to the learning curve of data processing maturity of a six-stage growth model proposed by Nolan (1979). While these staged models tend to help identify “where you are”, they usually fail to “guide you to the next stage”. This requires a more comprehensive maturity model, such as Galliers and Sutherland’s (1991) six-stage model (i.e. adhococracy, starting the foundations, centralized dictatorship, democratic dialectic and cooperation, entrepreneurship opportunity, and integrated harmonious relationships), which associates the characteristics of each of the stages with the seven “S” framework (i.e. strategy, structure, systems, staff, style, skills and super-ordinate goals). Similarly, the strategic alignment maturity matrix proposed by Luftman (2000) consists of five conceptual levels (i.e. initial, committed process, established focused process, improved/managed process, and optimized process) and six IT business alignment maturity criteria (i.e. communication, competency/value measurement, governance, partnership, scope, and architecture and skills). As Hodgkinson (2002) observes, reports from various knowledge management initiatives suggest that islands of automation can exist long after databases have been established within the various agencies, and that cultural issues will hinder interoperability long after technological interoperability has become feasible. In the end, mature e-government is characterized by high levels of capability and performance on multiple dimensions. Performance dimensions include the government’s ability to offer the vast maturity of suitable services with an e-delivery option, and a large number of citizens and organizations making use of

them. Capabilities include the ability to share data and information across government units, reduce process times through workflow and ERP systems, and the ability to capture and share knowledge of government employees. It also includes the ability to assess performance, through monitoring systems such as a balanced scorecard. A mature e-government will also differ from a less mature one in other areas, such as IT management by senior CIOs, an effective management structure, regular planning and re-engineering activities to determine areas for improvement and making the changes to capitalize on the improvement potential, and by an IT (ICT) architecture that fosters integration, enables government-wide standardization, and offers the above-mentioned performance.

5. E-governance and E-government

There is an important distinction to be made between “government” and governance”. Government is the institution itself, whereas governance is a broader concept describing forms of governing which are not necessarily in the hands of the formal government. Corporate governance, for example, refers to how the private sector structures its internal mechanisms to provide for accountability to its stakeholders: while government may be involved in this through company law, there are aspects which it does not control. According to Keohane and Nye (2000): By governance, we mean the processes and institutions, both formal and informal, that guide and restrain the collective activities of a group. Government is the subset that acts with authority and creates formal obligations. Governance need not necessarily be conducted exclusively by governments. Private firms, associations of firms, nongovernmental organizations (NGOs), and associations of NGOs all engage in it, often in association with governmental bodies, to create governance; sometimes without governmental authority.

6. E-governance in developing Countries

Implications of e-governance are slightly different for developing countries. Whereas Public sector reforms or the NPM movement in industrialized countries was internally Driven (as in the UK, USA, etc.), in most developing countries the public sector reforms Were externally driven, through the World Bank and other donor institutions (McGill, 1997) in some countries such as Turkey, there were no pressures to accept these reforms (Sozen and Shaw, 2002). Consequently, in spite of economic restructuring in many developing countries, such as India, public administration in developing countries still continued to remain highly bureaucratized and extremely centralized (Saxena, 1996). Another difference between e-governance in industrialized and developing a country is in the available ICT infrastructure. The e-governance movement in industrialized countries was largely triggered by the availability of internet technology, through which it became possible to access government agencies remotely and inexpensively. But, for their internal operations, government organizations were already using ICT-based systems. However, in the case of developing countries, ICT use in the public sector was very small, and therefore they had poor ICT infrastructure, if any (Bhatnagar and Bjorn-Andersen, 1990; Yong, 2003). Consequently for developing countries, e-government’s first stage was the

Computerization of internal operations and services. Thus, for many government departments, “e-governance” was a significant, expensive, infrastructural change, as they had to plan switching from totally paper-based systems and services to totally computer- and internet-based systems and services. But e-governance is not a shortcut to economic development, budget savings or clean, efficient government. Instead, e-governance is an evolutionary process and often a struggle that presents costs and risks, both financial and political (Pacific Council on International Policy, 2002). These risks can be significant (Heeks, 2003). Therefore, if e-government initiatives are not well conceived and implemented, they can waste resources, fail in their promise to deliver useful services, and thus increase public frustration with government. Moreover, e-government in developing countries must accommodate certain unique conditions, needs and obstacles (Heeks, 2001). For instance, developing countries may have poor infrastructure, corruption, weak educational

systems, and unequal access to technology.

7. The Meaning of Excellent E-governance (e-governance)

Excellence in organizations has been perceived to have the following attributes (Emersen and Harvey, 1996) purpose-driven (i.e. goal-centric) Customer (i.e. citizen)-centric. Process-oriented and Structure-supported. To some extent this is confirmed by the definition of “e-government” used by the Ministry of Labour and Government Administration (1999) that defines excellence in governance in terms of fulfillment of the following goals. Efficient and result-oriented administration Government administration shall, to the greatest extent possible, achieve “results” in accordance with stipulated goals, and these goals shall be attained without any unnecessary use of resources. Thus, excellence involves goal-centricity or is purpose-driven.. Provide user (citizen) oriented administration Government administration should acquaint itself with the needs and desires of the users (citizens), and adapt its way of working whenever possible in accordance with their desires. Open and democratic administration under the rule of law Government administration under the rule of law shall contribute to ensuring predictability and equal treatment, and emphasizing openness and the right of access to information or decision-making in government activities. This statement again ensures that in addition to being purpose-driven, this purpose itself should be governance-centricity to have excellence. Politically manageable administration Government administration shall be an adaptable and flexible tool for implementing Government’s policies. Though not explicitly, but this statement attempts to ensure that the processes and the structure of government (which constitute “administration”) should support implementation of Government’s policies, i.e. should be “outcome-driven”. Thus, excellence in e-governance is characterized by exploitation of governance processes, structure and technology to provide an administration, which is efficient, effective (outcome-driven), politically manageable, and open and democratic (governance-centricity). This is essentially what we have called as “governance-centric” e-governance

8. Issues in Bringing excellence to E-government Applications

Bringing a governance-centric focus, though very much desirable, is often difficult as it requires addressing a number of critical issues, some of which are given below. Defining a citizen-centric or governance-centric vision for the e-governance projects. Often e-governance projects lack a clear vision in terms of their effectiveness focus, and are treated merely as “computerization” projects for service efficiency. Developing a process-oriented view of government work. Government work is generally performed through vertical and rigid “silos” of departments (or agencies), that get on with their jobs without any collaboration between them. Such a fragmented view of government work results in mere computerization of individual or a few of the activities in individual departments rather than of the end-to-end integrated work process which is necessary to promote effectiveness and governance-centricity. Developing a performance management system for efficient and effective service delivery, which continuously measures and monitors service performance. Since such a measurement system also focuses on service effectiveness, it also ensures that the service outcome is aligned with the governance-centric vision. Defining a flexible technology architecture that is secure, provides easy access to users, and is scalable for high-volume operations as well as being cost-effective for the government. Many of the vendor-driven solutions for e-governance are rigid and/or poor in one or more of these dimensions and therefore not appropriate in the long run. Thus, implementing “excellent e-governance” is a reform process, and not merely the computerization of government operations. Only in this way will it contribute to building an “information society” in which the lives of citizens are empowered and enriched by access to information and the social, economic and political opportunities that it offers. Consequently excellence in e-governance is rapidly becoming a key national priority for all countries, rich or poor, developed or developing.

9. Concluding Remarks

The transition from government to e-government appears to be inevitable for many governments around the world. In this paper, we have developed and illustrated a layer of the government to e-government transition process. This incorporates a number of preferred and less preferred transition strategies. We suggest that future research should assess the extent to which this model is validated by e-government reality, in particular the way in which e-government develops from initial rhetorical intentions through strategic planning, systems development, integration and finally transformation. It may well be that a post-transformation stage will emerge, since strategic planners are unlikely to be content with any current position: it is in their blood to be generative, to conjure up new services, new dynamics, and new forms of transformation, new ways of involving citizen participation. Such innovations may well change government as we know it today, though this may be little more than wishful thinking in the case of the more authoritarian governments that do not tolerate political opposition. Nevertheless, we expect that the increased dissemination of information that is inevitably associated with e-government can only have a positive.

References

- 1 Ciborra C.U. (2003). "Unveiling e-government and development: governing at a distance in the new war", Working Paper 126, London School of Economics and Political Science, London, available at: <http://is.lse.ac.uk/wp/pdf/WP126.PDF>.
- 2 Ciborra C.U. (2003). "Unveiling e-government and development: governing at a distance in the new war", Working Paper 126, London School of Economics and Political Science, London, available at: <http://is.lse.ac.uk/wp/pdf/WP126.PDF>.
- 3 Criado J.I. and Ramilo M.C. (2003). "E-government in practice: an analysis of web site orientation to the citizens in Spanish municipalities", *The International Journal of Public Sector Management*, Vol. 16 No. 3, pp. 191-218.
- 4 Chen H. (2002). "Digital government: technologies and practices", *Decision Support Systems*, Vol. 34 No. 3, pp. 223-7.
- 5 Aichholzer G. and Schmutzer R. (2000). "Organisational challenges to the development of electronic government", paper presented at 11th International Workshop on Database and Expert Systems Applications, IEEE Computer Society, London.
- 6 Bonham G., Seifert J. and Thorson S. (2001). "The transformational potential of e-government: the role of political leadership", paper presented at 4th Pan European International Relations Conference, University of Kent.
- 7 Burn J. and Robins G. (2003). "Moving towards e-government: a case study of organizational change processes", *Logistics Information Management*, Vol. 16 No. 1, pp. 25-35.
- 8 Chen M. (2003). "Factors affecting the adoption and diffusion of XML and web services standards for e-business systems", *International Journal of Human-Computer Studies*, Vol. 58 No. 3, pp. 259-79.
- 9 Chesher M. and Kaura R. et al. (2003). *Electronic Business & Commerce*, Springer, London.
- 10 Lambrinouidakis C. and Gritzalis S. et al. (2003). "Security requirements for e-government services: a methodological approach for developing a common PKI-based security policy", *Computer Communications*, Vol. 26 No. 16, pp. 1873-83.
- 11 Sanchez A. and Koh C. et al. (2003). "The relationship between IT for communication and e-government barriers", paper presented at Americas Conference on Information Systems, Tampa, FL.
- 12 Heeks R. (2003). "Most e-government-for-development projects fail: how can risks be reduced?", paper no. 14, i-Government Working Paper Series, Institute for Development Policy and Management, University of Manchester, Manchester.
- 13 Hong Kong Special Administrative Region (2004), *Digital 21 Strategy: Sustainability and Opportunities*, March, Government of the Hong Kong Special Administrative Region, Hong Kong.

- 14 Ho A.L. (2003). "EO allots 1-2% of RP budget to e-government spending", Inquirer News Service, January 23.

About the Authors

Sundresan Perumal is a Phd student in the Faculty of Information Technology at the University Utara Malaysia under supervision of Prof.Zulikha Jamaluddin .His specific areas of research interest are in E-Government Framework. He is currently working with his own proposed model for a better E government Framework in order to prevent Cyber Threat. He is currently lecturing in the Faculty of Information Technology & Information System, Collage University Of Cosmopoint Penang Malaysia.

Zulikha Jamaluddin is a professor in Faculty of Information Technology at University Utara Malaysia for quite some time and she manage to publish quite number of paper in the international journals on the area of E – Government.

Premma Rajarethinam is a Phd student in the Faculty of Information Technology at the University Utara Malaysia under supervision of Prof.Zulikha Jamaluddin .Her focus on the research are the relationship between IT for communication and e-government barriers. She is current lecturing in the Faculty of Information Technology & Information System, Collage University Of Cosmopoint Penang Malaysia.