

A Leadership Model for e-Government Transformation

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Abstract

Since the late 1990's governments have invested aggressively in Information and Communications Technology (ICT). This trend has paved the way for moving into the "Digital Age". However, despite the wide use of ICT, research on e-government suggests that it has not yet reached its full potential of integration. In this paper the authors consider possible reasons for this potential shortfall, using models of adoption of innovations and relating them to e-government. In doing so, a simple "Leadership Model" is proposed, that will lead to a profound understanding in transforming government and widen the agenda for further research. In Particular, the aim of this paper is to highlight and explain of the gap that exist in the final stage of multi-stage-government maturity model by (Layne and Lee, 2001) and what is needed to overcome it.

Keywords: e-Government; Leadership; Technology Adoption Lifecycle; Organizational change; Transformation

1. INTRODUCTION

Globalisation and the advancement of Information Communication Technology (ICT) have changed the world that we live in. As a result of this phenomenon, this has forced governments around the world to change in becoming more aggressive in the deployment of electronic services to its citizens and businesses. Furthermore, the drive towards a digital society in the global economy has caused many governments to rethink their position and their role for development. However, it should also be recognised that e-government is more about government than about "e" for it to reach it full benefit (OECD, 2003). Heeks (2000) asked the question "will ICT help reinvent government? It might, but only if it is correctly managed." Hence, management became central to the debate for a successful implementation of e-government and reaching seamless integration, i.e. the highest level of maturity. Therefore, providing a presence on the World Wide Web (WWW) is not enough and gives a

limit to the whole objective of e-government. This issue has raised the argument further that e-Government is not just about creating portals. Adding that, it is about transforming the whole government into a complete entity where citizens and businesses seamlessly interact with government services. In moving through the stages of development model as developed by Lanyne and Lee (2001), the authors argue that it is imperative to have a strong management team with a strong leadership that is capable of cross boundary implementation of e-government. This study suggests that a new style of leadership which has certain characteristics is required in order to advance the agenda of e-government, and reach the highest level of maturity. Furthermore, the development should be sign posted where it can encapsulate the whole aspect of e-government. For this reason, Caldow (1999) proposed seven e-government leadership milestones and she argues that “leaders who define e-government in a narrow sense -- simply moving services online -- miss larger opportunities which will determine competitive advantage in the long run.” To demonstrate this, she suggested that a broader grasp of e-government is needed for leaders to be able to position their government, citizen, businesses and communities at large for sustainable strategic advantage.

Table 1 illustrates the main milestones and highlights the main area of achievement with brief descriptions of each milestone.

Milestone	Area of achievement	Brief description
One:	Integration	Process and technology integration through a portal. The government use of the Internet is vital.
Two	Economic development	Digital age economic development generally has five dimensions—leveraging small and medium-sized businesses, education, attracting high tech industry, access to technology infrastructure, and a business- friendly government.
Three	E-democracy	The manifestation of e-democracy stretches across the spectrum of democratic process. It is to inform and engage citizens.
Four	E-communities	Government is intrinsic to community in fundamental ways. Public health and safety, parks and recreation, elderly and youth services. Electronic technologies offer government ample opportunities to enhance communities.
Five	Intergovernmental	The intergovernmental phenomenon is a core ingredient of e-government. At the global level, quasi-governmental bodies are emerging to pool knowledge and resources. Higher performance would be achieved.
Six	Policy environment	Creating a new legal framework to cope with the digital age. Such as digital signature, digital divide, and hackers law.
Seven	Next Generation Internet	This is the capstone of a competitive e-government strategy. E-government will be defined in tomorrow's environment to gain advantage.

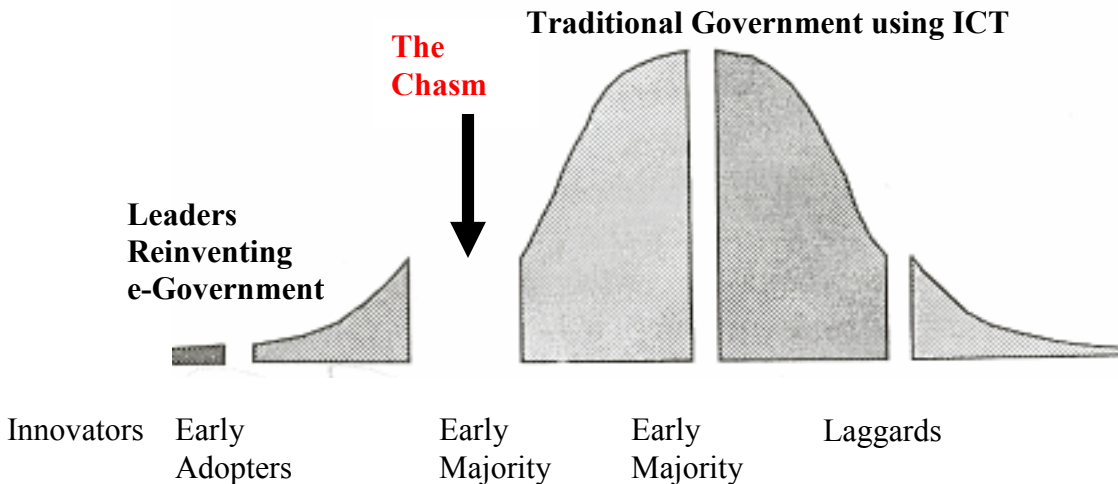
Table 1: Seven E-Government Leadership Milestones

These seven milestones encapsulate what e-government is all about and provide government leaders with a framework to conduct that transformation process and reach the highest level of e-government maturity. As discussed earlier, the process of implementing an e-government transformation passes through different stages until it reaches the maturity level, which is the seamless integration of government services with citizens and businesses from a single portal. There are also other models that suggest three to six stages of development, but all agree that reaching the last phase is what governments should, and it is the hardest to achieve. Generally, the normative literature is in complete agreement about the evolution process that e-government passes through, and the complexity surrounding the implementation and transformation. For the purpose of this research, the authors propose to use the model that was developed by Layne and Lee (2001), which shows four phases of development to e-government implementation (I to IV). It is worth noting that the work done to explain the transaction stage of e-government system, its location and importance is well documented by Irani et al. (2006). Their work provides an insight into the complexity surrounding the attainment of Phase IV, as it represents the biggest challenge to government leaders since it requires cross-boundary integration. It is the transition from phase III to phase IV which provides the biggest challenge of all and call for different type of leadership. At this stage, leadership will have to adopt a new technology and employ new techniques for cross boundaries integration, which is refer to as horizontal integration. In order to capture the dynamic transformation of government, the authors will consider the theory of diffusion coupled with the e-government stages of development to indicate the new style of leaders that are required for the final stage of seamless integration of e-government.

2. WHAT IS THE ADOPTION TECHNOLOGY LIFECYCLE?

The success of fully implementing e-government requires a careful adoption and full understanding of the technology that is being applied. Moore (1999) begins with the diffusion of innovations theory from Everett Rogers, and argues there is a chasm between the early adopters of the technology product (the technology enthusiasts and visionaries) and the early majority (the pragmatists). Moore believes visionaries and pragmatists have very different expectations. Furthermore, he attempts to explore those differences and suggest techniques to successfully cross the "chasm." This could well be applied to government adoptions of technology in its quest for e-government.

Crossing the eChasm, as will be mentioned later, is closely related to the Technology Adoption Lifecycle where five main segments are recognized; **innovators, early adopters, early majority, late majority and laggards**. Therefore, it is argued that those leaders who posses the quality of innovators and early adoptors would be able to move successfully into the last stage of the e-government maturity model. The following section will explain the importance of understanding of the technolgy lifecycle, and how government leaders play an important role alongside technolgy in making a complete trasformation of e-government. Figure 1, shows the position of those leaders that will cross the "eChasm" and aid in the transformation of government.



*Figure 1: Technology Adoption Lifecycle as applied to e-government
(Adapted from Moore, 1999)*

Innovators are those technology enthusiasts, whereas the early adopters are the visionaries. It is proposed that these two groups are the pioneers in moving the concept of e-government forward. It is the Innovators and Early Adopters Leaders that drive the e-government agenda and progress through various stages of e-government. Those leaders who are innovators and early adopters will live up to expectations of fully integrated services that citizens and businesses want from their government. Indeed, what has brought into focus is that, at the time when one has just achieved great initial success in launching a new e-government initiative, creating what he calls early market wins, one must undertake an immense effort and radical transformation to make the transition into the final stage of the e-government and that is the seamless integration.

The gap that exists in the maturity model of transition is what the authors of this paper refer to as the “eChasm” (Figure 2). Moreover, the technology use by governments is not new, however, putting an “e” into government indicates a major shift in this information age and the way citizens and businesses look at government. The majority of literature since late 90s focuses on technology and its applications to government services, by which, narrowing the opportunity government has to transform its business offering. Government is in the business to govern, to create prosperity and wealth. However, leadership in e-government is currently receiving considerable attention.

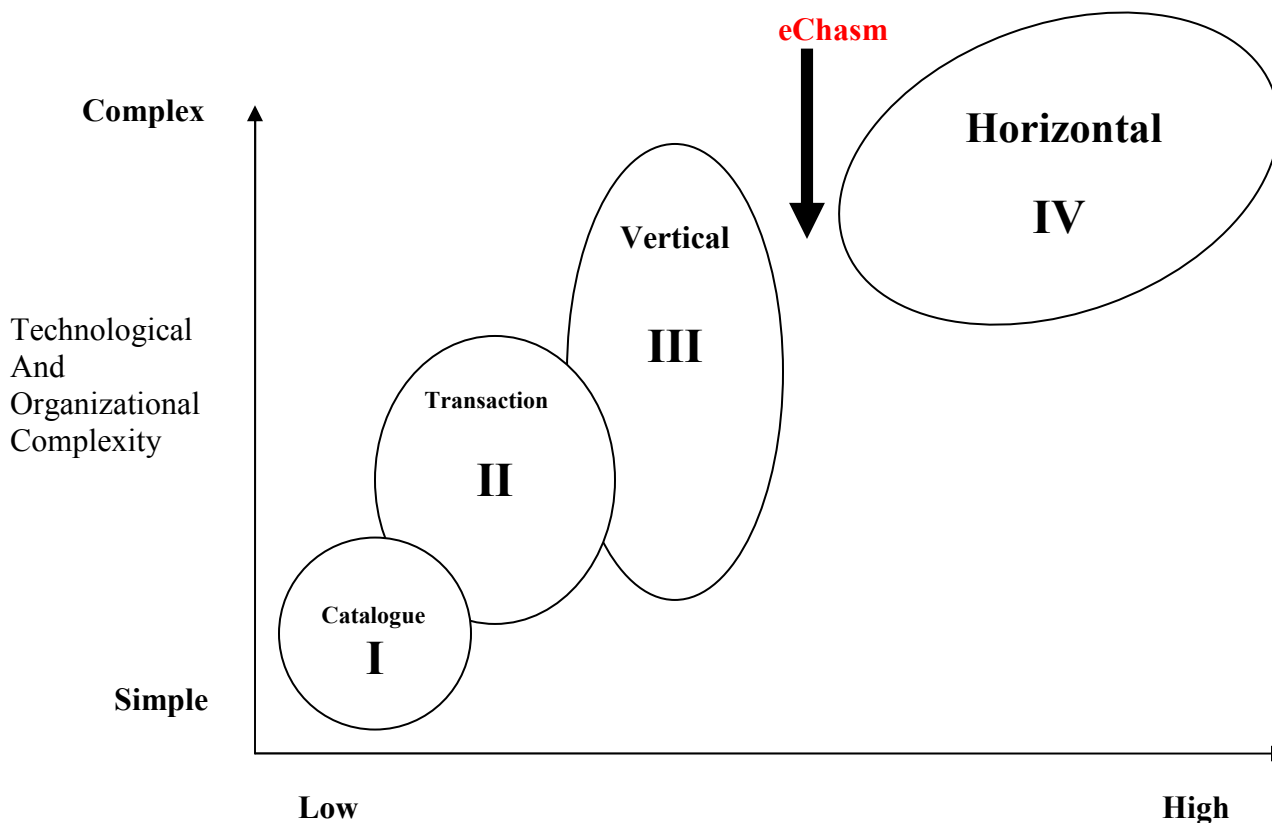


Figure 2: The “eChasm” in the Stages of Development of e-Government

The argument in this paper begins with a description nature of government and builds a case for a new kind of leadership that must emerge to meet the expectations and challenges of e-government. The competencies of this new kind of leader are the foundation to develop cross-boundary leaders to meet the challenges of e-government, by which to reach horizontal integration, phase IV.

There appears to be a major shift in government to be more customer focused. This will fall in line with e-business to satisfy customers. Efforts to reinvent government as smarter, faster, and more effective will lead to a major transformation in the way government employees thought about their jobs and how they did them. This will further call for a new style of leadership to take government truly into e-government, hence, reaching the desired level of seamless horizontal integration.

3. WHY LEADERSHIP IS IMPORTANT IN E-GOVERNMENT?

As outlined earlier, strong leadership can speed up the process of e-government implementation, promote co-ordination within and among agencies and help reinforce good governance objectives.

The fact that e-government has multiple dimensions is a complex issue. Each dimension demands strong leadership, strategy, cross-coordination, and know-how, all combined with a technology strategy to take vision to reality. With goals to facilitate easier, less time-consuming, and more interactive engagement with the government departments, and to make the business more effective and efficient through the use of technologies, e-government leaders are embarking on a wide range of e-government initiatives. The following are some of the reasons, to mention a few, why there is a need for a new visionary style of leadership:

- **Task is complex;**
Awareness of new technology, Overcoming Barriers, Organisational Change
- **Transformation is highly costly;**
Budget allocations, System Development and management, Infrastructure Change
- **Requires a long term commitment; and**
Risk factors, Change of Technology
- **It also needs to have understanding of the whole government strategy**
Formulating new strategy, Awareness of cross boundary barriers and policies

The authors argue that a new type of leaders is required for crossing the “eChasm”.

3.1 Definition of Leadership

Leadership, as it is commonly understood, focuses on the accomplishment of the mission and goals of particular organisations. The performance of leaders of organisations is measured by the delivery of products and services to meet the needs of its customers. Boundaries or borders matter because they outline authority, power, responsibility, funding and mission of an organisation. Successful leaders of organisations have well developed ‘vertical muscles’ but leaders who assume responsibility for cross-boundary change initiatives need to exercise ‘horizontal muscles’ (Price Waterhouse Change Integration Team, 1995), cited in (McDaniel, 2005).

This first generation of e-government leaders implementing projects across sectors and levels are pioneers. They are tackling the big challenges of e-government and assuming professional risks as they exercise their skills in cross-boundary leadership, while they create from their experiences a set of promising practices and policies for future generations of e-government leaders. They must keep their eyes on their organisation’s mission and goals, manage the attitude and commitments of senior leaders of their own organisations, and select concrete evidence of the impact of inter-governmental activities and projects that can be communicated easily, quickly, and powerfully to justify participation beyond their individual organisation’s boundaries. Table 2 provides a list of competencies that leaders should have for a successful implementation of e-government projects.

Setting new directions	Descriptions
Policy foundations	Understanding the environment, principles, policies, and of e-government
Thinking challenges	Applying systems thinking to complex e-government
Planning	Planning and organising strategically for e-government
Change government	Transforming organisations and cultures to sustain e-

Transforming processes and resource use

Collaboration	Collaborating across boundaries to achieve e-government goals
Architecture and systems enterprise integration	Understanding and applying effective architecture and for e-government
Human capital government	Using new models to extend human capital for e-
Financial resources and e-government and investment management	Planning and managing funds resources strategically for
Performance management and projects	Managing performance-based e-government programs
Execution/implementation	Moving from concept to reality

Using information strategically

Information and right time within knowledge resources	Providing the right information and knowledge at the and across boundaries
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Security and privacy information	Balancing security, privacy, access issues, and protection of information
Technologies	Understanding strategic uses of information through the use of technologies

Table 2: E-government leadership competencies

Technology adoption to move the government into the highest level of integration as discussed earlier requires a wider understanding of the technology capabilities from government leaders. This is specially true in moving from stage III, vertical integration, to stage IV, horizontal integration. The existing of a gap indicates the risk involved in crossing boundaries in the successful implementation of e-government. Perhaps, a look a the diffusion of innovation model that was developed for technology adoption might provide an insight into e-government adoption.

4. LEADERSHIP ROLE IN THE TRANSFORMATION PROCESS

The challenges of leadership in this digital age offer great promise and great challenges. To be successful in e-government implementation, leaders must manage across networks and leverage partnerships and resources across organisational boundaries. The lack of authority is considered as a major contributing barrier for a national level e-government development. It is also perceived that the whole exercise is a “technological mission.” (Salem, 2006).

The resulting principal that lies beneath “Digital Economy Transformation” is effective e-government leadership. Since achieving transformation requires the mobilization of those with the power to define the role of government (Swedberg and Douglas, 2003). Irani et al, (2006) argue that prior to Transformation, government leaders should take extra care during the Transaction Stage, as it represents the first real challenge for successful e-government implementation. Adding further, organizational innovation and change is known to be a complex phenomenon and that it is not well understood in the context of government growth. Research in enterprise or government agencies transformation must yield both understanding of fundamental change and the methods and tools that can make change possible. It is strongly believed that from taking multiple perspectives on the problems of change-what drives it, what enables it, and what factors facilitate and hinder its success (Rouse and Baba, 2006). In meeting those challenges for digital transformation that will cause the evolution of e-government, a simple transformation model is proposed as shown in Figure 3.

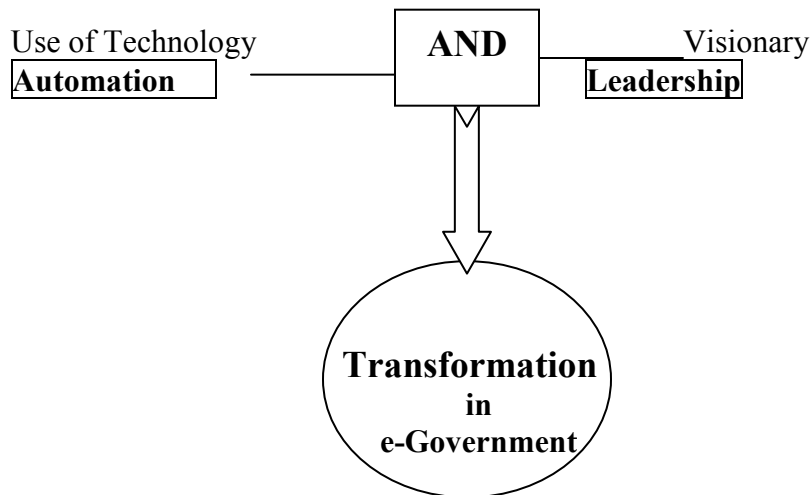


Figure 3: A Simple Equation- Visionary Leader “users focused” Coupled with Appropriate Technology Lead to e-Government Transformation

As shown in Figure 3, that coupling visionary leadership with the appropriate use of technology will have the desired results in transforming government into e-government. This will lead to re-engineering of services to make them more focussed on and responsive to the citizens and businesses. To illustrate this further, AlNaqi (2004) reported that a chief of security agency stated in an interview by saying “**Let's open our e-doors to the public**” indicating a new shift in policing, and a new style of leadership. Hence, indicating that it is the image of visionary leader who put citizens first and provides a role model for future digital leaders. Resulting in bringing down barriers by initiating change and in acting upon implementing change, rather saying, will certainly cause transformation. Reinforcing the debate, it was further reported that leader as saying that electronic gates have defeated wooden doors. That is a reality everyone should admit, urging all those in charge to open their doors electronically to the public.

In reproducing government online by mere use of technology is not the desired outcome of e-government. Without further effort to transform and integrate will limit the benefit of e-government (Caldow, 1999). Therefore, strong visionary leaders are essential –those who can best help navigate unknown challenges ahead. Harnessing the power of Information and Communications Technology requires strong leadership with the vision to formulate strategy that makes services more accessible through multi-channels, and more responsive to the needs of the stakeholders. It will be customers centred. Silcock (2001) summed up the extent by which e-Government will make a difference and add value, however, that will depend on three factors: strong leadership, management of the ‘digital divide’, and well managed innovation.

Governments are taking many different paths to try to reach this point, i.e the seamless integration. Some have slowly built more sophisticated transactional capabilities into their programs. Others have regrouped and developed more focused action plans that target maximum value from every e-government investment they make. The leaders reap the real

value of Government, not only through measurably improved customer service, but also through tangible savings in time, money and human resources to deliver the services.

As discussed earlier, governments need to integrate services seamlessly across horizontal and vertical levels of agencies. The technology challenges and the complexities of governance mean the task will not be easy, but only then will provide the truly seamless service that will drive broad take-up of services. Above all, governments need to aspire to service transformation. Highly effective strategies will use the opportunities presented by Internet-based technologies to alter the delivery of government services dramatically. In some cases, services will be transformed (and improved) so radically that old service models will disappear completely. High-performance governments will not be afraid to let them go (Accenture, 2004).

5. CONCLUSIONS

The development of e-government is an evolutionary process, while leaders will ensure that it continually improving services through internal processes and efficient response to external demands. Hence, wider choices in accessing government services with more open and transparent government decision making. The e-Government's role is not only to have qualified e-employees. It is, rather, required to change the whole society and to train people on how to use e-services and how to deal with the related technologies. Jones et al. (2006) argue in a drawing conclusion outlined some of the lessons that have been learnt from empirical study, as follows:

- Senior executives must engage with e-Government investment decision processes to improve decision-making;
- Organisations should consider relating notions of success other than costs, such as user satisfaction, to help evaluate and improve understanding of e-Government implementations;
- Organisations should identify and articulate who is responsible for e-Government evaluation, e.g. ICT practitioner; user; organisational accountant, to clarify responsibility.
- A senior executive should sponsor e-Government evaluation to drive and give importance to the process.

It can be seen from those lesson learnt the importance of leadership in bringing about a successful transformation in government implementation. Adding further, that senior executives need to actively engage with the e-government agenda and provide adequate stewardship, sponsorship, clarity of responsibility and resources to this important public sector initiative.

In this paper the authors has presented an argument based on a thorough detailed literature review reinforcing the importance of leadership in e-government evolution process. From this it is proposed a more detailed empirical study could follow to validate which could form the basis for future research.

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