Preface

TEN YEARS OF ELECTRONIC GOVERNMENT IMPLEMENTATION: THE CHALLENGES ENCOUNTERED AND LESSONS FOR FUTURE PROGRESS

ABSTRACT

Electronic government was formally introduced to the public sector in late 1990s in developed countries. Ever since its inception proponents of electronic government have been presenting it as a formula for improving the public sector through making the public sector more e-business like. In this perspective, the main objectives of public sector transformation promoted by electronic government involves improving efficiency, effectiveness and productivity of services for citizens while maintaining a customer centric focus and cost orientation. As a result, governments around the world were encouraged to embrace electronic government as a way of reaching out to more citizens through improved availability of services. However, research has proved that the implementation of the concept is highly complex and faced with many challenges while the adoption of services delivered through electronic government has been sparse. This chapter examines some of the challenges and complexities faced by the public sector when implementing electronic government, key indicators for its adoption, current trends and future directions.

INTRODUCTION

With the introduction of electronic service delivery in the public sector in the late 1990s, the concept of electronic government (e-government) has established itself as one of the most influential enablers of transformation in public administrations around the world. E-government has forced public sector organisations to realise the importance of making their services more efficient, transparent and available (Irani et al., 2007; Weerakkody et al., 2007). With citizens becoming more Internet savvy after experiencing good electronic business (e-business) services from the private sector, many begin to expect the same high standards from public sector organisations. In this respect, e-government promises to emulate the private sector by offering services that are more citizen centric and accessible (Al-Shafi, 2008). When analysing the existing literature on e-government, different researchers have identified various factors that entice governments to implement electronic service (Weerakkody et al., 2007; Irani et al., 2007; Chen et al., 2006; Gichoya, 2005; Chircu and Lee, 2005; Reffat, 2003; Moon, 2002). For instance, Moon (2002) argues that e-government can help restore public trust by coping with corruption, inefficiency,
ineffectiveness and policy alienation. Conversely, lack of access to e-Services (Chircu and Lee, 2005), and digital divide (InfoDev, 2002; Reflat, 2003; John and Jin, 2005; Carter and Bélanger, 2005; Ifinedo and Davidrajuh, 2005; Chen et al., 2006; Carter and Weerakkody, 2008; Thomas and Streib, 2003; and Dwivedi and Irani, 2009) are factors that may influence trust and thereby impede the further take-up of electronic services. These findings indicate that various researchers and practitioners have attempted to offer insights into the implementation and acceptance of e-government services in different national contexts (Al-Shafi and Weerakkody, 2008).

Given the aforementioned discussion, a common argument that surfaces from the literature is that e-government offers many benefits and can potentially avail opportunities to developing countries (Ndou 2004; Karunananda and Weerakkody 2006; Irani et al. 2007). Yet, although, the benefits of electronic services are well documented, the implementation of e-government services in the public sector has faced many challenges in both developed and developing countries. The reason for such challenges are often explained by researchers as influenced by the complexity of the radical changes that are introduced to the public sector which are primarily driven by the Internet and its array of associated Information and Communication Technologies (ICTs) (Weerakkody et al., 2009). Given this context, it is widely accepted in the literature that e-government is much more complex and radical than any previous efforts of IT induced change experienced in the public sector (such as for instance in the era of new public management) (Weerakkody et al., 2007; Pollitt, 2000). In this respect, further research is needed to explore the impact of e-government implementation and diffusion particularly in countries where large sums of money and resources have been invested to this effect.

This chapter will examine some of the complexities and challenges of e-government implementation and adoption through a review of existing literature and offer discussions on current trends and future directions for e-government. The author’s own experience of researching the subject and handling articles submitted to the International Journal of Electronic Government Research (as it’s Editor-In-Chief) is used to draw ideas for the chapter. The next section in the chapter reflects on some of the past experiences of e-government. This is followed by examining some of the challenges faced by the public sector when implementing e-government. Next, key indicators for successful e-government adoption are discussed. Finally, the chapter concludes by visiting the current trends in e-government implementation and diffusion and outlining future directions.

**EVOLUTION OF ICT ENABLED TRANSFORMATION IN THE PUBLIC SECTOR: A REFLECTION OF THE PAST**

The public sector has experienced many ICT influenced change initiatives in the last three decades. By the late 1970s the New Right movement which advocated economically liberal and increased socially conservative policies proposed to deregulate the market and reduce the size of the government. Their ideas raised doubts about the ability of governments in the developed countries to meet citizens’ needs arguing that the traditional public administration was very bureaucratic and inefficient (Massey and Pyper 2005). According to the New Right it is only through market competition that efficiency of governments can be achieved. New Right theorists strongly suggested that governments not only need reforms but also need to adopt private sector management techniques and practices to deal with the inefficiencies and ineffectiveness of the old public administration. These ideas found an audience in the political leadership of Western countries looking for alternatives to resolve the crisis in the welfare
societies (see Levitas 2005; Delton 2007). For example these New Right ideas found an audience in the Conservative government that came to power in the United Kingdom in 1979, and Reagan’s election in 1978 in the US provided some momentum for market-oriented reforms in the public sector (Richard and Smith 2005). However these ideas had remained on the periphery of the debate about the role of government and outside the mainstream of policy making until the mid 1970s. By the 1980s they moved to the centre stage of policy making of western governments (see Pollitt 2000). Consequently New Public Management (NPM) was evolved in mid 1980s promising to improve public services by making public sector organisations much more ‘business-like’ and ‘market oriented’ with emphasis on accountability and responsiveness to citizens’ needs (Diefenbach 2009).

Although the above objectives are included in the concept of New Public Management (NPM), some argue that ‘NPM is a slippery label’ as different theorists and practitioners stress different things in the conceptualisation of NPM (Manning 2000). For instance, public sector agencies have tried to replicate management concepts influenced by NPM ideas such as Business Process Re-engineering, Lean Management and Total Quality Management with a view of improving key public services such as healthcare, transportation and social services and local government (Pollitt, 2000). In the early 1990s in particular large sums of money were invested in transforming public institutions both the North America and Western Europe. However, research has shown that these initiatives have not met the expectations of citizens and delivered policy outcomes which have resulted in services that improve the day to day lives of ordinary citizens. Rather, the NPM influenced transformations have resulted in the tax payers’ money being wasted and creating social exclusions. An example would be that of e-business ideas being borrowed from the private sector and applied in the context of e-government without due consideration of the wider context nor stakeholders using the services offered by e-government. Critics have attributed lack of adopted and digital divide, which are two major barriers to e-government diffusion, as a direct cause of attempting to mimic private sector concepts without adequate forethought to how such concepts will impact society. Yet, research has shown that these management concepts have all contributed positively to the private sector and have various strengths. Therefore, it is wrong to criticise the ideas, rather a more considerate approach to applying these ideas and policies by creating the appropriate environment that accounts for the various stakeholder and social needs may results in better outcomes in delivering suitable services that help reduce the current digital divide and lack of adoption of e-government services.

**E-GOVERNMENT IMPLEMENTATION CHALLENGES AND COMPLEXITIES AND THEIR IMPACT ON PUBLIC SECTOR TRANSFORMATION EFFORTS**

Prior research has proved that e-government implementation is surrounded by organisational, technological, political, economic and social issues which have to be considered and treated carefully in order to facilitate the transformation of traditional public services to an e-services context (Irani et al., 2007; Weerakkody et al., 2007; Carter and Belanger, 2005; Beynon-Davies and Williams, 2003; Gil-García and Pardo, 2005; Heeks, 2006;). On the other hand, from an adoption perspective, e-government services are yet to be universally accepted as a medium for accessing online public services. E-government can be broadly viewed as the adoption of ICT in government organisations to improve public services. For many countries, e-government implementation efforts began in the late 1990s. As said before, the e-government led implementation of ICT in public administration during the last ten years has offered better, faster and more transparent means for citizens and businesses to interact with government.
Equally, it has also created a platform for better collaboration and information sharing between various government agencies. Implementation efforts in most countries have now evolved from basic information provisioning to more integrated service offerings that involve cross agency process and information systems (IS) transformation to enable more joined-up and citizen-centric e-government services. However, public sector process transformation is a complex undertaking involving distributed decision-making that requires a good understanding of the political context, business processes and technology as well as design and engineering methods capable of breaking through the traditional boundaries that exist between public organisation units. Conversely, from a demand perspective extensive efforts are required to increase citizens’ awareness about the transformation of the delivery of government services and their online availability. As discussed before, in order to prevent digital divide in terms of using e-government services, it is also necessary that citizens from all facets of society are equipped with basic ICT skills as well as private and or public access to high-speed internet connections (Dwivedi and Irani, 2009; Irani et al. 2009). Furthermore, from an organisational perspective e-government has introduced an environment where most public institutions such as healthcare, social services, education and employment have struggled with the need to balance issues such as transparency and opaqueness, or social inclusion and professionalism. Consequently, there has been increasing pressure on the academic and practitioner communities for research that focuses on bridging the gap between e-government theory and practice.

In the aforementioned backdrop, various researchers and practitioners have attempted to offer insights into the implementation, acceptance and diffusion of e-government services. The last few years has seen e-government being regarded with the same level of importance that e-business was treated with in the mid 1990s. Consequently, in the last two years in particular, transformational government (or t-government for short) has emerged as the parallel of business process reengineering (BPR) that the private sector witnessed in the early 1990s. While early e-government efforts focused on e-enabling customer facing, front-office processes, t-government entails the same principles as BPR and focuses on ICT enabled transformation of both front- and back-office processes in public sector organisations.

While e-government services have been in place for over ten years now, the attention has gradually shifted towards more comprehensive and citizen centric services and the concept of e-participation is widely discussed in Western Europe in particular. These comprehensive services require more advanced and intelligent mechanisms for information exchange and management. When coping with such a shift, public organisations which are often characterised as bureaucratic and inefficient are bound to undergo major process and IS related problems. A number of studies have focused on exploring these issues and the noteworthy studies are by Heeks (1999; 2006), Layne and Lee (2001), Tan and Pan (2003), Janssens and Cresswell (2005) and Kamal et al. (2009). Consequent to these issues being addressed, as mentioned before, in the last three years or so the concept of transformational government has emerged, which encompasses a broader perspective of public administration, since t-government is seen as the final stage of fully functional electronic service delivery for the public sector. This concept is now gaining momentum particularly in Europe (Dhillon et al. 2008; Irani et al. 2008; Weerakkody and Dhillon 2008). Yet, many sceptics may argue that this is simply a fashionable trend where buzzwords are used to renew efforts and gain publicity. In essence, transformational government implies reengineering back office processes and IT systems and mirrors the same principles practiced in the private sector during the BPR movement (Beynon-Davies and Martin 2004; Irani et al. 2007; Tan and Pan 2003; Weerakkody et al. 2007). This can be a daunting task since BPR has proved to be largely unsuccessful despite the wide publicity and hype associated with the concept (Avison et al. 2001; Willcocks 1995).
Challenges Facing E-Government Implementation

While it is evident that e-government is an effective driver for economic growth and significant cost reductions, conversely there remain many challenges which impede the exploration and utilisation of its opportunities (Al-Sebie and Irani, 2005; Gilbert et al., 2004; Ndou, 2004; Jaeger and Thompson, 2003). The multidimensionality and complexity of e-government initiatives implies the existence of an extensive multiplicity of challenges that impede implementation and management (Ndou, 2004). For example, as reported by Stoltzfus (2005), e-government is costly, involves tremendous risks, requires a skilled technical pool of resources, and a stable technical infrastructure. Implementing e-government necessitates the evaluation of the following risk factors: political stability, an adequate legal framework, trust in government, importance of government identity, the economic structure, the government structure (centralised or not), levels of maturity within the government and citizen demand (Basu, 2004). Furthermore, inherent issues of e-government include: security and privacy, homeland security, diverse educational levels of users, accessibility issues, and prioritisation of e-government over basic functions of government, building citizen confidence in e-government, and whether certain forms of government do better with e-government than others (Jaeger, 2003).

Ke and Wei, (2004) also assert that many e-governments efforts – to turn vision into reality - have been obstructed by various challenges. Several researchers from academia and industry have argued that the emergence of e-government is a fundamental transformation of government, which entails profound changes in its structure, process, culture and behaviour of the individual in the public sector (Irani et al., 2005; Prins, 2001; Howard, 2001). This is because the e-government paradigm includes changing the operational activities of government agencies to carry out its work. Thus, public sector are bound to face challenges such as overcoming resistance to change, privacy, security and possibly a lack of top management support in implementing e-government, which need to be addressed (Al-Shehry et al., 2006; West, 2004; Ndou, 2004). Literature indicates that there is no single list of challenges to e-government initiatives (Gil-Garcìa and Pardo, 2005; Aldrich et al., 2002; Layne and Lee, 2001). These are merely a handful of challenges to e-government initiatives reported in the normative literature. In addition to this, numerous other researchers have put forward their empirical findings on challenges to e-government initiatives in different disciplines. However, although there are very few notable consistencies across the different disciplines and research findings, the common themes that keep emerging can be categorised into the following seven groupings: (a) organisational, (b) technological, (c) social, (d) managerial, (e) operational, (f) strategic and (g) financial (Al-Shehry et al., 2006; Al-Sebie and Irani, 2005; Gilbert et al., 2004; West, 2004; Ndou, 2004; Jaeger and Thompson, 2003; Prins, 2001). For example, in a report by Government Accountability Office, (2001), these challenges are identified as: (a) sustaining committed executive leadership, (b) building effective e-government business cases, (c) maintaining a citizen focus, (d) protecting personal privacy, (e) implementing appropriate security controls, (f) maintaining electronic records, (g) maintaining a robust technical infrastructure, (h) addressing IT human capital concerns, and (i) ensuring uniform service to the public. Kushchu and Kuscu, (2003) highlight technological challenges to e-government, e.g. (a) infrastructure development, (b) payment infrastructure, (c) privacy and security, (d) accessibility, (e) legal issues and (f) compatibility. Gil-Garcia and Pardo, (2005) put forward their work on e-government challenges and group them into five categories: (a) information and data, (b) information technology, (c) organisational and managerial, (d) legal and regulatory and (e) institutional and environmental.
Drawing from the aforementioned theoretical arguments which are drawn from the literature on e-government research, a conceptual taxonomy that maps the key factors influencing the implementation of e-government under the four broad themes of organisational, technology, social, and political is proposed in Table 1.

**KEY INDICATORS FOR ENTICING E-GOVERNMENT ADOPTION**

While the abovementioned factors impact Public Sector agencies’ efforts to implement e-government services that may affect the outcomes of implementation success, a number of other factors need to be addressed to ensure the satisfactory adoption of implemented e-services. These can broadly be synthesised into six key indicators as explained next.

**Trust**

In the context of e-government, trust is defined as the observation of confidence in using various transactions of an e-government website and believing that the government body has implemented a reliable and secure system (Carter and Belanger, 2005). Trust gives indicators of the user’s belief in security, privacy, and confident, which can arise due to involvement of financial transactions and/or personal information (ibid). Additionally, trust of individuals and institutions is an important factor of e-government adoption; lack of user’s trust can result in a major challenge to the acceptance of e-government services (Warkentin et al., 2002). Practically, Gefen et al. (2003) posit that trust in the agency has a strong impact on the adoption of a technology diffused by that institution. Before endorsing e-government initiatives, citizens must believe government agencies demonstrate the competence and technical savvy necessary to implement and secure e-government systems. Transparent, accurate, reliable interactions with e-government service providers will enhance citizen trust and acceptance of e-government services (Al Shafi and Weerakkody, 2008). On the contrary, broken promises and fraudulent behaviour from government officials and employees will decrease trust and increase opposition to these initiatives (Carter and Weerakkody, 2008). Oxendine et al. (2003) compare citizen adoption of electronic networks in different regions of the US (Oxendine et al., 2003). They found that system adoption was more prominent in localities where citizens are more trusting. Due to the impersonal nature of the Internet, citizens must believe that the agency providing the service is reliable. Wang and Emurian (2005) posit lack of trust as one of the most formidable barriers to e-service adoption, especially when financial or personal information is involved.

Carter and Belanger (2005) found that perceived ease of use, compatibility and trust were significant indicators of users’ intentions to use e-government services. Based on studies conducted during 2003, 2004 and 2005, Carter and Belanger proved that, trust can determine the adoption of e-government services. These studies suggested that any increase in the level of trust will be positively related to higher level of intention to use e-government services. Carter and Belanger (2005) found that there are few users who never used electronic payments because of others’ bad experiences with fraud and privacy issues in an e-business context. Nevertheless, the authors also argue that this may not necessarily lead to negative feedback for individuals and institutions in terms of use of the Internet for e-government.
### A Taxonomy of Factors Influencing E-government Implementation

<table>
<thead>
<tr>
<th>Themes</th>
<th>Factors Impacting E-government Implementation</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Organisational</strong></td>
<td>Organisational structure</td>
<td>The relatively enduring allocation of work roles and administrative mechanisms that creates a pattern of interrelated work activities and allows the organisation to conduct, coordinate, and control its work activities.</td>
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<td></td>
<td>Power distribution</td>
<td>User (government employee) resistance as well as employees losing their authority and power over traditional business processes.</td>
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<td></td>
<td>Information system strategy alignment</td>
<td>Alignment of strategies between different Information systems.</td>
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<td></td>
<td>Prioritisation of deliverables</td>
<td>Prioritisation of deliverables which will ensure the most strategically significant services are managed and delivered appropriately in time.</td>
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<td></td>
<td>Future needs of the organisation</td>
<td>Project is a long-term initiative, and the adoption and implementation of e-government systems need time and appropriate models to support that implementation for the future needs of the organisation.</td>
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<tr>
<td></td>
<td>Organisational culture</td>
<td>Groups of programming in the brain which differentiate members of different organisations.</td>
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<td></td>
<td>Employees training</td>
<td>Employees and managers need to get familiar with work under new circumstances, and to be prepared for changes.</td>
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<tr>
<td><strong>Technological</strong></td>
<td>Information Technology (IT) standards</td>
<td>IT assets are to be acquired, managed, and utilized within the organisation and act as the glue that links the use of physical and intellectual IT assets.</td>
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<td></td>
<td>Security and privacy issue</td>
<td>Security issues that consist of computer security, privacy and confidentiality of personal data.</td>
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<td></td>
<td>System integration</td>
<td>Integrates a system across different roles that provide a full and real ‘one stop shop’. This integration assumes that all participant agency efforts are joined together.</td>
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<td></td>
<td>E-government portal and access</td>
<td>Portal access and availability of a payment gateway service 24/7 to process transactions.</td>
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<tr>
<td><strong>Political</strong></td>
<td>Government support</td>
<td>The commitment, involvement and support of the government’s top authorities that would enable e-government officials to implement the project with more confidence.</td>
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<td></td>
<td>Funding</td>
<td>E-government initiatives are long term projects; therefore, these projects need long term financial support from the government.</td>
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<td></td>
<td>Leadership</td>
<td>Government officials or politicians to whom others turn when missions need to be upheld, breakthroughs made, and performance goals reached on time and within budget.</td>
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<td></td>
<td>Legislation and legal</td>
<td>regulations and legislation that acts to cope with the changes that are caused by e-government systems and include e-signatures, archiving data protection, preventing computer crimes and hackers, and the freedom of information.</td>
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<tr>
<td><strong>Social</strong></td>
<td>Citizen centric</td>
<td>E-government activities that focus on citizens needs and deliver services that add value to the citizen.</td>
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<td></td>
<td>Awareness</td>
<td>Awareness campaigns that promote e-government services to achieve more citizen participation and to achieve successful implementation.</td>
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<td></td>
<td>Digital divide</td>
<td>Digital divide that includes access to information; transaction services; and citizen participation.</td>
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Privacy

In an e-government context, public privacy means protecting the data of individuals and institutions during any interactions with online public administration services. Privacy gives the individuals and institutions universal access and enables them to use e-government services in a healthy environment (ibid). Gefen et al. (2003) has argued that privacy can cause a major concern for e-government adoption, since the government databases hold vast amounts of personal information. Moreover, today, all internet user’s are concerns with misuse and frauds such as unauthorised tracking, sharing of information with third parties and specially financial information (e.g. credit card number); therefore, public administration has to ensure that the system used in data collection is kept private and cannot be used without user’s authorisation, thus, the users will trust the e-government interactions which will ensure the enhancement of e-government adoption and privacy is generated (Gefen, et al., 2003).

Confidence

Many studies on e-government implementation highlighted the importance of including trust and privacy when examining adoption to achieve better understanding of user acceptance of electronic services (Gefen et al., 2003; Carter and Belanger 2005). Online interactions and transactions between various individuals and governments involve exchange of sensitive information e.g. credit card details, therefore, it is important for the adoption of such services that individuals have a high level of trust and privacy in e-government (Carter and Weerakkody, 2008). Therefore, governments need to employ trust and privacy building strategies to increase citizens’ confidence in e-enabled services (ibid). Carter and Weerakkody (2008) argued that, in terms of e-government interactions, there are many dimensions of confidence such as transparency and accuracy of the services provided. Those dimensions contribute to boosting individuals’ and institutions’ confidence in the adoption of e-government services. Conversely, any unaccomplished processes or misleading behaviour from government officials and employees will decrease citizens’ confidence in e-government services.

Gefen et al., (2002) and Carter and Weerakkody (2008) emphasised that e-government is much less known than e-commerce but the technologies employed in e-government implementation to achieve confidence are generally considered to require a higher level of security to safeguard citizens data; they also need to demonstrate this to citizens in a convincing manner than required for e-commerce. This is particularly important as the users of e-government services are the general public who represent various different demographic contexts; the levels of Internet and ICT exposure and experience they possess may differ vastly when compared to e-business users. Therefore, their concerns with privacy and trust towards e-government services are likely to range from being highly confident to not-confident at all. Given these literature findings, it is proposed that the evaluation of usage and adoption of e-government services by individuals and institutions needs to take into account the issue of confidence as adoption is determined by the level of confidence users have on the e-services.

Efficiency

One of the key indicators that need to be considered when evaluating the success of online government services is the level of efficiency they offer in comparison to traditional services. In terms of IT systems or e-government, efficiency can be defined as the ratio of useful output to total input in any system. In
the e-government context improved efficiency can only be achieved by reengineering and redesigning the front and back office processes and the IT systems that support the online services. Often governments succeed in e-enabling their services without paying much attention to the level of optimisation they achieve in a new service compared to the traditional way of offering the same service prior to e-government. This is one of the most difficult indicators to measure as there is bound to be differences in expectations and opinions between the service provider (government agency) and the user (citizen or business) regarding the optimum level of efficiency in a service and/or system. E-service optimisation can only be achieved by redesigning the underlying system, evaluating the performance and reengineering again in a continuous cycle until optimal performance efficiency is reached, particularly in the eyes of the end-user or citizen. Certainly, most of the features used to improve the efficiency are of a technical nature and will involve systems development and programming activity to optimise search and access, data processing and decision making as well as developing user friendly systems that take into account good principles of human computer interaction.

**Availability**

The core advantage of implementing e-government in any country is to make available a large number of services on a 24/7/365 basis. Therefore, the digital services act as a key motivating factor for various stakeholders benefiting from uninterrupted availability of different levels of e-government services ranging from the cataloguing of basic information to more complex transactions or dealings with government. Availability encapsulates the different types, styles, quantities, and levels of electronic services that are offered by any government to its citizens and businesses / institutions within the state. Empirical studies on e-government by different researchers have identified availability as an important factor in the adoption and diffusion of e-government. Studies have confirmed that when key services are not visible in government websites citizens often lose interests in e-government interactions (Carter and Weerakkody, 2008). This obviously translates to lower levels of e-government adoption resulting ultimately in e-government failure.

**Accessibility**

While research on e-government adoption has established availability as a key performance indicator for e-government implementations, accessibility allows the digital services provided by government to be offers to a wide range of users (citizens and businesses). Accessibility refers to unhindered and convenient access to online services by citizens of all demographic variations and institutions of all types irrespective of economic status, gender, age, physical ability or level of ICT literacy to minimize any digital divide (or social exclusion) in the respective society or country. Accessibility also encapsulates various online services that are offered by government websites and the medium by which they are offered (such as on a PC, mobile phone, PDA or through digital TV). Various e-government studies have time and again highlighted the need to offer online services using a multi-channel system (or services that are compatible with other media devices) to encourage adoption. Similarly, it is imperative that e-government services are offered in national languages to overcome any digital divide.

While efficiency, availability and accessibility encapsulates the key indicators that directly influence e-government adoption and success, other factors such as offering e-government services that maintain
high levels of security and privacy will help build citizens trust and thereby confidence in using the services. Collectively these key indicators will then contribute to improving adoption.

CONCLUSION AND FUTURE DIRECTIONS FOR E-GOVERNMENT

The above discussions have shown that e-government implementation efforts have faced a plethora of challenges due to the complex nature of implementation changes and the diversity of stakeholders involved in the implementation as well as the adoption process. Some countries have managed to overcome these challenges with exemplary strategies while others have stagnated for many years overwhelmed by these challenges. Sadly though, many countries that have successfully implemented e-government have struggled to improve adoption of the electronic services that are provided resulting in digital divide and exclusion of certain segments of society such as the elderly, disabled, less computer literature and poorer citizens. This chapter has outlined some of these challenges and complexities faced by the public sector during their efforts to implement electronic government in the last decade. It has also looked at some of the key indicators for e-government adoption success by reviewing the extant literature.

Different countries around the world have tried to deal with the different challenges they face using different strategies. In particular various strategies have been adopted to encourage adoption of e-government across the world. To deal with digital divide and social exclusion, North American countries such as the US and Canada are currently considering alternative and multi-channel methods of service delivery that complement and run in parallel with ‘standard internet based’ e-government services. In particular, the US and Canada have now given the ‘choice of the method of access’ to public services back to the citizens where citizens have more control of their data and their interactions with the government. This can often involve reverting back to face to face meetings with public agencies or officials to complete a transaction or find answers to questions that citizens may have. Such interactions may be facilitated using a citizen service centre or by having the citizen directly visiting a public sector agency or contacting through telephone. Other methods of service delivery may include the use of digital television or mobile phones to deliver services and facilitate interaction with citizens. When examining such methods, one cannot avoid noticing the fact that these pioneering countries of e-government in North America who have led e-government rankings since the United Nations began their league tables and benchmarking initiatives, are now adopting multi channel service delivery to reduce the digital divide caused by e-services.

In contrast, many European countries such as the UK, Germany, Belgium, France, Netherlands, Italy etc., are placing more emphasis on ICT although with similar objectives of delivering services using multi-channels. The key difference between Europe and North America is that the latter is emphasising more on alternative channels such as mobile phones (which has technological focus), whereas the former is considering face to face contact in order to ensure that no citizens are left out of essential public services. In this context, although faced with digital divide and adoption related problems in terms of e-services, policy makers in Europe still consider using ICT to improve citizen participation albeit with a different approach. For instance, the most recent discussion amongst European policy makers has been the use of social networking sites such as face book or twitter to encourage citizens’ participation in e-government services and public policy making processes. These new initiatives are commonly referred to as e-participation. While such initiatives will encourage a certain segment of society to participate in
public debate and engagement, they will certainly not resolve issues relating to lack of e-government service adoption or digital divide in terms of using e-services.

In recent years, because of the need to create a culture of engaging stakeholders in the public policy making processes, many European governments have also turned to transformations that are influenced by a mix of NPM, change management and ideas of social innovation. As explained above, some of these new transformation initiatives have aimed to create an environment for seeking suggestions and encouraging participation and inclusion in public services (for an example see the EC’s e-participation initiatives: http://www.european-eparticipation.eu/). These initiatives encourage citizens’ participation in policy making processes by engaging with their governments using different digital media or channels (such as e-government using the Internet, mobile phones, digital television, social media etc.) as well as emphasis on using ‘crowd sourcing’ where citizens are given the responsibility to resolve complex societal problems by coming up with their own solutions. However, such initiatives will only be successful if suggestions are acted upon by relevant public sector agencies. In this context, the public sector can adopt good practices from the private sector, such as the ability to excel in customer relationship management. For instance, the competitive environment in the ICT sector (e.g. telecoms), retail (e.g. supermarket chains) and travel and hospitality (airlines) provide excellent examples of how companies react to their customer suggestions and expectations. These customer relationship management principles offer many lessons for public sector agencies who have often engaged in passive engagement with their stakeholders (citizens, businesses and employees). A common practice used when dealing with public sector agencies may involve completing service satisfaction surveys or passively dropping a suggestion leaflet into a box. Comparatively, such methods of passive stakeholders’ involvement fails to account for the various health, transportation, social services, education, etc., needs of the diverse citizens that make up various societies in different countries across the world.

In some western countries public organisations in key service sectors such as health, transport and local government that have experienced financial and/or performance problems have adopted transformational government initiatives to go into partnerships with the private sector resulting in the increased number of Private-Public-Partnership (PPPs). For instance, in countries such as the UK, parts of the National Health Service (NHS), Transport and local government services have been privatised. Conversely, the recent global economic downturn in particular has forced many governments to step in and bail out private sector organisations and Non-governmental organisations (NGOs) at the expense of the tax payers’ money. This environment has attracted many European and North American governments to consider the nationalisation of critical private institutions such as banks, energy and water suppliers. Consequently, this has now placed the public sector at the heart of managing efficient delivery of critical services. Inevitably this requires public sector managers to assume similar roles played by private sector managers as well as acquiring the right skills and leadership qualities required to deliver these services. For example, the history of PPPs in the UK goes back to the 1980s, when the privatization of public services started and also spread to many other countries (Yescombe, 2007). The main drivers for this were the beliefs that there should be a ‘roll-back of the state’ with the private sector providing services where this is more efficient, and that the introduction of competition leads to a better service and lower cost for the citizen, as well as less waste of economic resources, especially if services are supplied free or below cost by the state. This was in sharp contrast with the 20th-century trend for public utilities to be provided by the state. For example, the British private finance initiatives program was aimed at extending these benefits of privatisation to core public services which could not be privatised. However, it is important to point out the fact that there are important differences between privatisation and PPPs,
some of which make it difficult for a PPP to achieve the same results as a privatisation (Grimsey & Lewis, 2007; Yescombe, 2007).

Given the aforementioned discussion, it is fair to state that the emphasis on e-government diffusion and adoption is now somewhat different between leading countries that have pioneered the concept in the last decade. Yet, the focus remains the same, ‘citizens at the heart of public sector service delivery’. Which part of the developed world will be more successful in terms of reducing the digital divide will be an interesting observation? In this respect, international agencies such as the UN and OECD will need to take responsibility to evaluate progress with much more sophisticated matrix and methods than those currently used.

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