

## Essential pillars of e-government for developing countries

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### Abstract

The growth of affordable digital technologies is moving governments from paper-based workflow to electronic processes, leading to the development of e-government. These changes are made possible as governments progress to address the essential pillars of e-government. This paper discusses the essential pillars, around which e-government is developed, including citizen centricity, standardised infrastructures, back-office reorganisation, governance, new organisational models, social inclusion, people, processes, technology and resources. The paper also provides some recommendations for developing countries so that these pillars are considered to shift from paper-based procedures to electronic processes, in the development of e-government.

**Keywords:** back-office reorganisation, citizen needs, citizen-centric approach, citizen-centricity, developing countries, electronic government (e-government), electronic processes, financial resources, governance, human resources, interoperability, new organisational models, paper-based procedures, people, pillars of e-government, processes, service-oriented approach, social inclusion, standardised infrastructures, technology, virtual organisation.

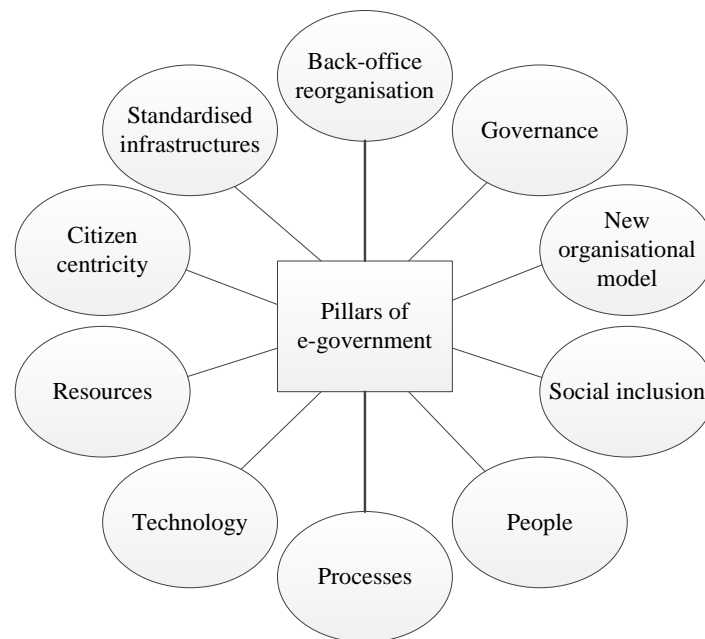
### Introduction

“The rise of the digital society, internet and affordable computing have brought about a shift from traditional government offices with paper-based processes towards electronic resources such as the web and intranets” (Kaczorowski, 2014, para. 1). This shift has affected governments and their citizens, businesses and other stakeholders.

E-government is not just about technology but how to develop a civil society (Kaczorowski, 2014). It is not just about systems and specifications but government; computers and websites but citizens and stakeholders; not just about translating processes but transforming processes (Boughzala, Janssen, & Assar, 2015; Satyanarayana, 2006). They create a challenge for governments to use technology to increase service quality, which includes reducing costs and improving connectedness with citizens and others.

E-government success depends on various pillars (Figure 10), including “citizen centricity, standardised common infrastructures, back-office reorganisation, governance, new organisational models and social inclusion” (Kaczorowski, 2014, para. 3), as well as people, processes, technology and resources (Kalam, 2006). These pillars are essential themes around which e-government is developed.

This paper will discuss these pillars, which need to be considered holistically in the planning and implementation stages of e-government to obtain the desired outcomes (Satyanarayana, 2006). The paper will also present some recommendations that could be used to address these pillars for e-government success in developing countries, as identified in the literature.



**Figure 10:** Pillars of e-government for developing countries.

### **Citizen centricity**

Citizen-centricity is about shifting the focus from government operational requirements to delivering services based on citizens' needs. It places the citizens at the centre of public service delivery (Kaczorowski, 2014). "Citizens today expect more transparent, accessible and responsive services" (Dudley, Lin, Mancini, & Ng, 2015, para. 3). They desire efficient and easy-to-use services that meet their needs (Berntzen, 2013). The citizen-centric approach will not only meet citizen expectations but also enable them to participate and make decisions in the government processes (United Nations, 2010). This approach deals with complicated bureaucracy and unnecessary silos in the government systems, which are usually rigid and inflexible (Lesser, 2018). A citizen-centric approach can enable governments to "achieve essential efficiency gains and improve service delivery levels, increase usage of online services, thereby improve sustainability and encourage investment in e-governance [and] improve citizen satisfaction with government services" (Malik, Gupta, & Dhillon, 2014, p. 92).

### **Standardisation**

"Standardisation is the process by which specifications are set ... [to] ensure that devices, systems and services retain the ability to connect and interoperate with each other, boosting innovation, [openness] and [competitiveness]" (European Commission, 2019, para. 1). It has many benefits but ultimately maintains consistency throughout the organisation, minimises overall cost (IP Partners, 2019), ensures "scalable infrastructure, easier and faster deployment, streamlined IT management, efficient communications and resolution of issues, and simplified and collaborative decision making" (HTL, 2017). Standardisation is required to maximise interoperability with the use of technology (European Commission, 2019; Kaczorowski, 2014). "Given the complexity of government structures and processes, which have evolved with different, poorly coordinated legacy systems, few governments can afford

to take the steps taken by the private sector towards a consistent standardisation of ICT” (Kaczorowski, 2014, para. 6). However, many countries are developing their own national e-government strategies to achieve interoperability between their systems, processes, software and networks.

### **Back office reorganisation**

Back-office refers to the part of an organisation that is not client-facing and supports the front office (Indeed, 2020). It is usually responsible for accounting and finance, information technology, data management and human resources (Indeed, 2020; Verint, 2020). The back office is sometimes referred to as operations as employees in the back-office usually perform the organisation’s operations while the front office interacts with and serves the clients. Reorganising the back office, which is closely related to standardisation, involves “automating ... routine administrative processes, freeing staff to focus more on the delivery of services”. “Governments achieve significant cost reduction [and improved service delivery] when they reorganise their back-office processes before bringing services online” (Kaczorowski, 2014, para. 7). Reorganising the back office helps to realign the government’s processes to support the front office in serving the citizens based on their needs.

### **Governance**

Governance refers to structures, systems, practices and processes that are designed to “define how decisions are to be made and establish the organization’s strategic direction; oversee the delivery of its services; the implementation of its policies, plans, programs, and projects; and the monitoring and mitigation of its key risks; and report on its performance in achieving intended results and use performance information to drive ongoing improvements and corrective actions” (Canadian Audit & Accountability Foundation, 2010, para. 2 - 4). A proper governance structure enables careful planning and coordination of whole-of-government initiatives. In governments, ministries and agencies were usually responsible for driving their strategies, leading to “a lack of coordination and interoperable systems, and duplication of solutions” (Kaczorowski, 2014, para. 8). This resulted in a waste of unnecessary resources and efforts, leading to unfulfilled service needs.

### **New organisational models**

“An organizational model describes the objectives and the structure of an organization in terms of roles, norms, relations between roles and interactions between roles” (IGI Global, 2020, para. 1). The current traditional organisational model where organisations operate in isolation will not be able to meet the current citizen demands on time. This necessitates the need to have new organisational models, which require the creation of network virtual organisations. A virtual organization refers to a network of agencies, joining together “to provide innovative, high-quality products or services instantaneously in response to customer demands” (Advameg, 2020, para. 1). A virtual organisation has more resources and capabilities than each organisation alone as they mobilise their resources and capabilities to meet citizen needs.

## **Social inclusion**

Social inclusion can be defined “as the process of improving the terms of participation in society, particularly for people who are disadvantaged, through enhancing opportunities, access to resources, voice and respect for rights” (United Nations, 2016, p. 17). These disadvantaged individuals and groups include those with a disability or who are located in remote areas. Governments have realised that the expansion in ICT can have the potential to improve social inclusion, by reducing the gap between the digital haves and have-nots (Kaczorowski, 2014).

## **People**

People, both in and outside, government agencies play a vital role to ensure the success of e-government initiatives (Abdalla, 2012; Kalam, 2006; Moatshe, 2014). E-government can bring transformation to agencies and therefore requires substantial resources including financial and human resources with the required knowledge, skills, experiences and commitment (Abdalla, 2012; Moatshe, 2014; Yadav & Singh, 2012). Staff may require appropriate training for a new set of skills. Senior officers and their staff need accurate information about e-government to secure their support and contribution. Active citizen participation also contributes to the success of e-government, focusing on services that meet citizen needs and expectations (Moatshe, 2014).

## **Processes**

This pillar is closely related to back-office reorganisation. As previously mentioned, e-government is not about process automation with its inefficiencies, but process transformation and creation of relationships between the government and its citizens, business and stakeholders (Abdalla, 2012; Kalam, 2006). Government processes are usually slow, inflexible and operate in isolation, and usually lack service-centricity and citizen-focus. These issues lead to long queues and unnecessary intermediaries at service delivery points. “Typically, citizens make multiple visits to government offices unsure of the outcome or quality of service, mystified by government procedures and at the mercy of government officials” (Kalam, 2006, p. 31). Transforming the processes can have the potential to eliminate these inefficiencies.

## **Technology**

Although e-government is not just about technology, the latter is an enabler and can have the potential to transform government processes, leading to achieving e-government outcomes (Abdalla, 2012; Moatshe, 2014; Reddick, 2018). E-government success depends on having an overall architecture, strategy and roadmap, standardised infrastructure including well-established communication networks, and adopting a service-oriented approach to development (Abdalla, 2012; Kalam, 2006). These issues can be carefully addressed by having a proper governance structure for e-government implementation. The structure should specify e-government principles, policies, architecture, infrastructure, applications, investment and prioritisation (Kalam, 2006).

## **Resources**

As previously mentioned, e-government requires financial and human resources, and a huge investment in technology (Abdalla, 2012; Moatshe, 2014). A lack of resource commitment and sustainability can lead to e-government failure or delays. Adequate funding is necessary for the lifetime of e-government initiatives and needs consideration at the beginning of projects. This requires political and top management commitment and support, and proper planning and coordination so that resources are utilised in a coordinated way for maximum e-government benefits. Further, governments could consider public-private partnership arrangements to mobilise resources from the public and private sectors (Kalam, 2006; Yadav & Singh, 2012). In this way, the government provides funding while the private sector provides technical expertise and management efficiency to embark on complex e-government projects.

## **Discussion**

Although e-government presents various challenges, many countries with differing levels of e-government development indicate that governments that are ambitious, visionary and committed can overcome these challenges. Such governments are able to re-engineer their infrastructures and processes and create new ways to enable two-way interactions with citizens, businesses and stakeholders. They are able to gain the benefits of e-government and achieve a more effective government overall. It is, therefore, essential to consider these pillars of e-government as identified in the literature.

Having a citizen-centric approach requires that governments “develop the capacity to act as a single enterprise so that citizens feel that they are being served by one organisation. [They need to] organise themselves around citizen demands and expectations [and] develop flexible organisational structures” (Kaczorowski, 2014, para. 4). Governments need to change focus from prioritising their operations to prioritising the service needs of the citizens. In this way, the governments would be able to redesign their processes around meeting the needs of the citizens in a cost-effective and timely manner rather than simply automating their inefficient processes.

Standardisation is necessary to achieve full integration between agencies. Developing countries need to establish standards and national e-government strategies to achieve interoperability between their systems and processes. This would enable information and resource sharing to serve citizen needs (Kaczorowski, 2014).

Reorganising the back offices can help to manage e-government challenges and opportunities. This reorganisation leads to cost reduction, increased productivity and flexibility, simple organisational structures, greater interoperability and improve working conditions. It can also reduce citizen visits to public offices, quicker and improved service accessibility, greater transparency and ease of service usage (Millard & Iversen, 2004).

Appropriate governance structures are required at the national level to drive e-government strategies. This would ensure proper planning and coordination of e-government initiatives.

Appropriate policy frameworks are also necessary to support e-government development (Shivakumar, 2002; Talip & Narayan, 2011).

Since a new organisational model, virtual organisation, requires “joining up multiple organisations to achieve results that a single organisation could not achieve alone, this approach involves breaking down traditional structures based on separate functions and working flexibly and innovatively across boundaries to deliver better value to the citizens” (Kaczorowski, 2014, para. 9). Agencies should now work in partnership with other agencies and the public sector to embark on e-government initiatives, thereby, increasing efficiency in delivering and accessing services.

Effective e-government strategies address and achieve social inclusion by “improving the ability, opportunity, and dignity of those disadvantaged on the basis of their identity” (World Bank, 2020, para. 1). Social inclusion enables the disadvantaged to access services through effective e-government.

Government process reengineering involves radical thinking and redesigning processes to achieve significant improvements in performance including cost, quality, service and speed (Bhaskar & Singh, 2014). It “requires that an agency implement substantive reform in organizational structure, initiate a change in culture and mindset, train and improve skills of its people, and put in place appropriate supporting ICT infrastructure to enable online processes that are timely and efficient to both the user and the government agency” (Kalam, 2006, pp. 31-32).

E-government success depends on sustained resources. Proper planning and management would ensure limited resources are used effectively for purpose. Qualified personnel with relevant skillsets in both technical and non-technical areas need to actively participate in e-government development. Current staff may require training to upgrade their skills. Active citizen participation would ensure that processes are designed to their service needs.

Governments need to have an overall governance structure, strategy and roadmap, and a standardised infrastructure as previously mentioned (Abdalla, 2012; Kalam, 2006). Without these, e-government would be likely to fail in achieving its desired outcomes.

These e-government pillars are interrelated and should not be considered in isolation. Otherwise, those being unconsidered will affect e-government progress. For example, e-government development would be slow or delayed if limited resources are mismanaged or qualified personnel are not involved in the process.

## **Conclusion**

The growth of the Internet and affordable technologies has moved governments from traditional offices with paper-based procedures to electronic processes to provide services that satisfy citizen demands. This has led to e-government development in various countries.

E-government is about using technology to transform government processes to increase quality in public services, which includes reducing costs and improving connectedness with citizens, businesses and stakeholders.

E-government success depends on including citizen-centricity, standardised common infrastructures, back-office reorganisation, governance, new organisational models, social inclusion, people, processes, technology and resources. These pillars are essential themes around which e-government is developed and need to be considered holistically in the planning and implementation process to obtain the desired e-government outcomes.

This paper discussed the essential pillars of e-government as identified in the literature. It also provided some recommendations that could be used to address these pillars so that e-government success is accomplished with the effective management of limited resources.

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## **Contribution**

This paper contributes to the literature by organising and presenting e-government factors as essential pillars (themes) around which e-government is developed. In doing so, the paper shows the importance of ensuring that these pillars are considered in the planning, implementation and monitoring of e-government development.

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