

Exploring the M-Government

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INTRODUCTION

Governments in the world are constantly searching for ways to efficiently deliver public services in response to demand, ways that both fulfill expectations and reduce costs. The development of mobile technology has been particularly important for the e-Government transformation and the extension of m-Government (Sivarajah & Irani, 2012). The development of the latter is already noticeable in countries that have a more consolidated e-Government, such as the United States, Britain, Australia and Singapore.

Certainly, the mobile phone penetration at the global level is surprising. According to the International Telecommunication Union (ITU) and mobiThinking, by 2013 there will be 6.8 billion mobile subscriptions, roughly equivalent to 96% of the total global population (ITU, 2013; mobiThinking, 2013b). While this data points to the enormous potential of mobile technology, it is also important to recognize that only 29.5% of the world's population has Internet access and only 26.6% of mobile devices have a connection to it (Internet World Stats, 2012; ITU, 2013; mobiThinking, 2013b). This fact and user's practices, which do not include exchanges with the government (mobiThinking, 2013a), complicates and compromises the success of m-Government.

Although there are some studies on m-Government, this article attempts to make visible the main causes that can enhance or reduce the possibilities of m-Government and the actions that may lead to its acceptance by citizen, presenting the challenges and opportunities that m-Government faces to reach mobile technology users. The article is composed of four sections besides this introduction. The first section presents background concepts to form a theoretical framework; the second section analyzes the smart technologies to improve m-Government; the third section discusses the fea-

sibility of user acceptance to use mobile technology in m-Government; the final section presents recommendations and conclusions.

BACKGROUND

The development of information technology has been extraordinary. Its growth has been characterized by social, economic and political change resulting in new concepts and ideas that promote a huge increase in communication and the flow of information. These advances have affected the behavior of governments, modifying the way they normally develop and giving them the opportunity to improve both the quality of services and the efficiency of their delivery.

Information technologies (IT) have enabled governments to progress. Their continuous development has resulted in the creation of strategies that help achieve better results. Among them is the e-Government, which adopted IT in government practice (Grönlund & Horan, 2004; Luna-Reyes et al., 2010) to delivered services, improve governance, promote citizen empowerment and establish a regulatory framework. However, there are different degrees of progress depending on the economic, political and social development of each country and the speed with which they can process new information technologies.

But e-Government has evolved. The incorporation of social networks into government websites and the development of new information devices have changed the functions of front office and back-office operations in government agencies. These begin to be targeted towards a new tool for government, the m-Government, characterized by the utilization of all kind of wireless and mobile technologies for delivery services (El Kiki & Lawrence, 2006; Kushchu & Kuscu, 2003).



M-Government is a concept that has no theoretical foundation; therefore there is no single definition (El Kiki, Lawrence, & Steele, 2005). However, most authors view it as an extension of e-Government, limiting its use to mobile technologies (Al-Khamayseh & Lawrence, 2006; Antovski & Gusev, 2005; Kushchu & Kuscu, 2003; Lallana, 2008; Östberg, 2003). Zálesak (2003) complemented this idea by defining it as a set of strategies and tools that modify the traditional governance functionality to facilitate communication and interaction, but also to provide instant availability of services. From these ideas follows the goal of m-Government: to create a beneficial public platform with easy access to citizens using mobile technology, in order to enable access to e-Services anytime, anywhere (Antovski & Gusev, 2005; El Kiki & Lawrence, 2006).

The review of the existing academic literature on m-Government leads to create and propose a conceptual model for m-Government, which was introduced on Figure 1.

SMART TECHNOLOGIES TO IMPROVE M-GOVERNMENT

The growth of mobile technology is amazing and is in permanent flux, which is a challenge that governments must face. The appearance of multiple mobile technology —laptops, satellites, cell phones, Wi-Fi,

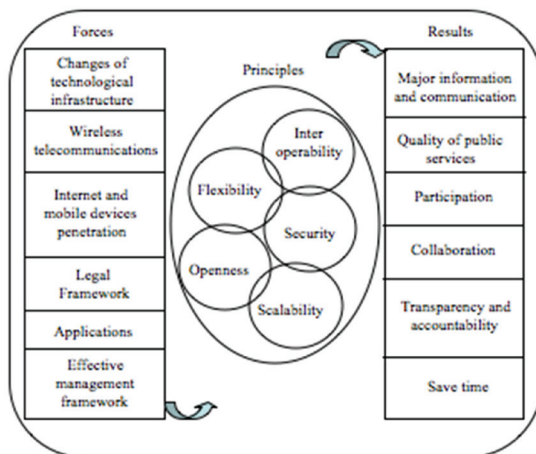
PDA's, bluetooth, wireless and tablets (Lallana, 2008; Sheng, Fui-Hoon Nah, & Siau, 2005; Varshney & Vetter, 2000)—has expanded to not only enable messages from voice/data or short message service (SMS), but also to provide information and services through applications using the Internet anywhere, anytime. Mobile technologies with Internet access allow governments to take advantage, making available to users consulting and transaction services and also bringing the government to citizens and engaging them on topics of interest.

The construction of m-Government began emphasizing the use of mobile telephony. Being wireless, the phone is flexible and encourages collaboration and the exchange of information, as well as leading to the reduction of the digital divide (Rossel, Finger, & Misuraca, 2006). That is why in 2013 the penetration of mobile telephone subscriptions reached 96% of the population (ITU, 2013), although the number of subscriptions refers to the number of SIM cards used, not the number of people using mobile technology (mobiThinking, 2013b). As shown in Table 1, only 26.6% of the world's population uses mobile devices with Internet access versus 73.4%, which does not have access to this resource, even though the technology exists and has mobile devices.

Since m-Government delivers information and services through the wireless infrastructure, it is not surprising that mobile phones are the most common communication device (Al-Khamayseh & Lawrence, 2006). That fact make possible to point some advantages, like being less expensive, easy to use, and does not require special language to learn (Rannu, 2004). Therefore, m-Government promises be the solution for empowering citizens all around a country, giving them the opportunity to participate in those processes that decide their livelihood opportunities (Kushchu & Kuscu, 2003).

After analyzing the behavior of m-Government, it was noted that developed countries and some developing countries, including Singapore, Australia, Sri Lanka, Denmark, China, India, Brazil, Philippines, Turkey, Dubai, and Malaysia, have created SMS systems for sending alerts on various topics. But SMS systems trade the constraint of not being able to transfer large volumes of information with the advantage of wide coverage (Ghyasi & Kushchu, 2004; ITU/OECD, 2011; Prashant, 2012). The arrival of smart technologies has changed the scenario by integrating the use of Internet. Thus, phone networks, such as G3 and G4,

Figure 1. Concept model for m-Government. Source: (Antovski & Gusev, 2005; Kushchu & Kuscu, 2003; Zálesák, 2002)



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