Building a Measurement Framework for m-Government Services

Emmanouil Stiakakis, Department of Applied Informatics, University of Macedonia, Thessaloniki, Greece

Christos K. Georgiadis, Department of Applied Informatics, University of Macedonia, Thessaloniki, Greece

ABSTRACT

This study develops and presents a proposed framework for the measurement of mobile government (m-government) services. The measurement framework consists of: (i) identification/categorisation of m-government services; (ii) sophistication stages of these services; and (iii) indicators to evaluate their progress. With respect to the methodological approach followed in the study, twenty e-government services clustered by type of activity and interaction level are ranked for importance in terms of criteria that characterise the mobile setting. Moreover, core indicators used for e-government are examined in terms of their appropriateness to the mobile setting. According to the authors’ findings, three m-government service clusters are established, assisting governments to prioritise services to mobile users. A modification in the sophistication model for e-services is recommended for application in m-government. Finally, the proposed indicators are mainly user-focused, in accordance with the personalised nature of services delivered through mobile devices.

Keywords: Information Communication and Technology (ICT), Mobile Government (M-Government), Mobile Service, Mobile Technology, Public Service

INTRODUCTION

In recent years, the rapid advances that have been made in wireless/mobile platforms for Information and Communication Technologies (ICTs) have seen the emergence of so-called ‘mobile government’ (‘m-government’) services—that is, electronic government (e-government) services delivered to citizens and businesses via wireless/mobile communication channels. Such m-government services offer important benefits to both providers and users. For the provider, overhead costs are reduced in regions where wired infrastructure is lagging behind the reach of mobile telephony networks; moreover, the personalised nature of mobile technologies enables the delivery of customised services to specific users or targeted groups. For users, the enhanced availability of mobile services facilitates the optimal use of time and resources, and reduces the risks of missed deadlines. However, despite these and other benefits, there
are also important constraints on the utility of m-government services. These include limited screen size, limited computing power, reliance on batteries, and the cost of online access via mobile telephony. As long as home/office users find it easier and cheaper to download and utilise some e-government services (such as large application forms) at their desktop, m-government will remain complementary to e-government (Borucki, Arat, & Kushchu, 2005).

Nevertheless, the proliferation of m-government services continues to extend e-government beyond the desktop, and as it does so it is becoming increasingly apparent that there is a need to develop a coherent measurement framework for such mobile services. Because m-government is essentially complementary to e-government, the models, methods, and frameworks developed for e-government measurement are also relevant to m-government. The proposed measurement framework in this study is therefore based on related e-government work. The proposed framework is comprised of the following elements: (i) a classification of m-government services in terms of their relative importance for mobile users; (ii) a system for determining service sophistication; and (iii) indicators to measure service attributes in the most effective and efficient way. These three dimensions of existing e-government frameworks are therefore adapted for measurement of m-government services.

The remainder of this paper is organised as follows. The next section presents the definition, scope, and typical services of m-government. It also focuses on how m-government services are measured and describes some of the most important frameworks/models for those services. The following section presents the methodology of this study, while the section of research illustrates how the proposed framework for m-government services is tested and verified according to the findings of a survey. The paper concludes with a summary of the framework and suggestions for future research work in this area.

**LITERATURE REVIEW**

**Definition and Scope of m-Government**

Wireless and mobile technology advances have created new channels for government service delivery and citizen involvement. This development, by analogy with the term ‘electronic government’ (‘e-government’), has been characterised as ‘mobile government’ (‘m-government’). According to Kushchu and Kuscu (2003), such ‘m-government’ can be defined as:

...the utilization of all kinds of wireless and mobile technology, services, applications and devices for improving benefits to the parties involved in e-government, including citizens, businesses and all government units.

Although the definition refers to ‘all kinds of wireless and mobile technology,’ a mobile device differs from a wireless device in that the former—such as a mobile phone or personal digital assistant (PDA)—is portable, whereas the latter (which refers to transmitting information without a physical connection) might not be portable. All mobile devices are wireless, but not all wireless devices are mobile. The term ‘mobile’ can thus be regarded as a subset of ‘wireless’ (Roggenkamp, 2004).

Mobile devices, which are the focus of the present study, represent an ideal platform for personalised services. In particular, mobiles are especially suitable for personalised services that utilise user tracking and/or identification—because a mobile device is typically used by only one person and can thus be relied upon (in most instances) to represent that person’s identity.

Various interfaces can be delineated within the general domain of m-government (Kumar et al., 2008):

- m-Government-to-citizen (mG2C);
- m-Government-to-business (mG2B);
- m-Government-to-government (mG2G), which refers to interactions between government agencies; and
Kolb’s Learning Styles and Approaches to Learning: The Case of Chemistry Undergraduates with Better Grades
www.igi-global.com/article/kolb-learning-styles-approaches-learning/46643?camid=4v1a