DOES GENDER MATTER ON MOBILE GOVERNMENT (M-GOVERNMENT) SERVICES ACCEPTANCE? AN EXPLORATORY STUDY

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ABSTRACT

In the smart cities era, mobile government (m-government) projects became faster and more advanced due to the high penetration of smart phones among citizens. Several studies identified factors influence citizens’ acceptance of m-government. However, gender was not considered in those studies, so this paper attempts to investigate and conceptualize the major factors that influence adoption of m-government and gender as a moderating variable. This paper highlighted the major influence factors namely (perceive ease of use, perceive usefulness, social influence, and awareness) and conceptualized them in a unique model where the gender is moderating or controlling the relationship toward citizens’ adoption of m-government. The proposed framework highlighted the major factors to understand the citizens’ perception of m-government from gender point of view. This may result more efficient and cost effective efforts and operations as well as resource allocation. Furthermore, it is significant especially for developing countries, which may facilitate to faster and successful implementation. In summary, this study attempts to provide benefits for both practice and research.

Keywords: m-government; Acceptance; TAM; Adoption; Gender

INTRODUCTION

Mobile government (m-government) initiatives have been implemented in many countries around the globe (Almuraqab et al. 2017). The use of mobile and wireless based technologies (smart-phones) within the government and public sectors administration to provide citizens and businesses with public services has become generally known as mobile government (m-government) (Ntaliani et al., 2008; Zefferer and Teufl, 2011, Almuraqab, 2017).

Providing government and public services via smart-phones and wireless technologies has the potential to deliver instant information and services, also this method helps to perform transactions, and use the wireless network to reach citizens and provide new personalized services (El Kiki et al., 2005; Ntaliani et al., 2008).

A successful m-government has two main parts: a successful implementation and an effective engagement (Almuraqab et al., 2017), so the aim of this paper is to identify the main factors that influence m-government adoption drawing from relevant literature. Integrate and conceptualize these key factors surrounding the mobile applications based government services with gender consideration, which may help the successful operations of m-government. This paper will attempt to provide a conceptual framework relating to successful implementation.

RESEARCH METHODOLOGY

To capture the relevant studies in order to highlight the research question, two procedures were used, firstly looking at m-government empirical studies on (Google scholar and relevant journals/conferences), second by looking at several m-services (e.g. m-banking, m-payment, m-commerce) on (Google scholar and relevant journals/conferences), both procedures used a computerized keywords search (m-government, adoption, gender) (m-commerce, m-payment, m-banking, adoption, gender). Such methodology helped to understand and provide proof of gender influence, which encouraged this study to come up with a model for the m-government since all of them are m-services type, in other words, all are using the mobile devices to do the transactions and payment. The research methodology is illustrated in figure 1.
LITERATURE REVIEW
M-GOVERNMENT ADOPTION FACTORS
A study in Malaysia by Althunibat et al. (2011) investigated adoption factors of m-government services based on extended TAM. The results of 566 participants revealed that social influence, services quality, perceived usefulness, perceived risk, cost of service, perceived compatibility, trust in government, trust in technology and services quality are significant towards behavior intention to use the m-government services.

Similarity, in Egypt, Abdelghaffar and Magdy (2012) found that compatibility, perceived usefulness, social influence awareness, and face-to-face interactions are significant factors influencing citizens’ adoption of m-government, the study was based on extended TAM also, and the total respondents were 100 from a university in Egypt.

In addition, in India context, a study by Mahmud et al. (2012) based on extended TAM, the result of 100 respondents showed that perceived ease of use, perceived security, perceived reliability, and relative advantage, were significant and influence the citizens’ adoption.

Furthermore, Yong et al. (2014) in China, investigated by a study based on extended TAM, major factors which influence citizens to accept the m-government, the analysis of 409 respondents showed that perceived long-term usefulness, perceived ease of use, social influence have significant, direct influences on adoption, while image, perceived near-term usefulness, benevolence and integrity have indirect effects. The findings showed that trust in m-government is a result of both the social environment and technological ease of use.

In Gulf Cooperation Council (GCC) region, another a research based on UTAUT was in KSA by Babullah et al. (2015) investigated the factors influence citizens’ acceptance of m-government, the descriptive analysis of 600 respondents revealed that performance expectancy, effort expectancy, social influence, facilitating condition, hedonic motivation, and price value, are significant factors.

About Two years ago, a study by Abu-Shanab (2015) based on extended TAM to explore and reveal the factors that influencing citizens’ acceptance of m-government in Jordan. The results of 458 respondents’ analysis showed that perceived usefulness, social influence, perceived ease of use, perceived responsiveness, and perceived compatibility are significant.

A recent study, in UAE by Almuraqab, (2017) based on extended TAM, investigated the main factors influence citizens’ adoption of m-government, the analysis of 83 using partial least square approach, showed that compatibility, perceived ease of use, social influence and trust in technology are significant factors.
By looking at the literature above, it is clear that gender moderation was not considered. M-government literature have been summarized in table 1 below.

<table>
<thead>
<tr>
<th>Researcher(s)</th>
<th>Country</th>
<th>Based Theory</th>
<th>Gender Moderation (Yes/No)</th>
<th>Acceptance factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almuraqab (2017)</td>
<td>UAE</td>
<td>TAM</td>
<td>No</td>
<td>Compatibility, perceived ease of use, social influence, and trust in technology</td>
</tr>
<tr>
<td>Emad Abu-Shanab (2015)</td>
<td>Jordan</td>
<td>TAM</td>
<td>No</td>
<td>Social influence, perceived usefulness, perceived ease of use, perceived compatibility, and perceived responsiveness</td>
</tr>
<tr>
<td>Yong et al. (2014)</td>
<td>China</td>
<td>TAM</td>
<td>No</td>
<td>Perceived ease of use, near-term usefulness, long-term usefulness, integrity, benevolence, image and social influence.</td>
</tr>
<tr>
<td>Mahmud et al. (2012)</td>
<td>India</td>
<td>TAM</td>
<td>No</td>
<td>Perceived ease of use, perceived security, perceived reliability, and Relative Advantage</td>
</tr>
<tr>
<td>Abdelghaffar and Magdy(2012)</td>
<td>Egypt</td>
<td>TAM</td>
<td>No</td>
<td>Perceived usefulness, compatibility, awareness, social influence and face-to-face interactions</td>
</tr>
<tr>
<td>Althunibatet al. (2011)</td>
<td>Malaysia</td>
<td>TAM</td>
<td>No</td>
<td>Social influence, services quality, perceived usefulness, perceived risk, cost of service, perceived compatibility, trust in government, trust in technology and services quality.</td>
</tr>
</tbody>
</table>

Table 1: m-government adoption factors studies

**GENDER MODERATION ON M-SERVICES**

As explained earlier, that it is important to explore the gender moderation in other mobile based services such as m-banking, m-commerce and online based shopping, below are some of the articles which reflected the impact of gender in the adoption of m-services. In m-banking field, a study by Riquelme and Rios (2010) found out that gender has an influence on m-banking, their study revealed that ease of use has a stronger influence on female respondents, whereas relative advantage has a stronger effect on perception of usefulness on male. Furthermore, social norms also influence adoption more strongly among female.

However, in online shopping, a study by Henrnandez et al. (2011), The results show that socioeconomic variables moderate neither the influence of previous use of the internet nor the perceptions of e-commerce; in short, they do not condition the behavior of the experienced e-shopper. But gender moderated the attitude future intention though. Similarly, in mobile commerce, Faqih and Jaradat (2015) found out that gender have no influence in the adoption of m-commerce. On the other hand, in mobile learning field, Wang et al. (2009) found that gender differences moderate the effects of social influence and self-management of learning on m-learning use intention.

As it reflected above, considering gender in adoption studies is important, results are different from service to another and from context to another also, as a result it is critical to investigate the same with m-government adoption, especially in developing countries or in any country where m-government still in early stage of implementation or planning. This paper attempts to model a conceptual framework drawing from relevant literature considering gender as moderated/controlled variable.

**MODEL BUILDING AND JUSTIFICATION**

This study based its model technology acceptance model (TAM) extended with other constructs (social influence and awareness). TAM is the most extensive theory that explains the technology acceptance. Over the last few years, there has been a wide experimental support in favor of TAM (Almuraqab and Jasimuddin, 2016), as of March 2017, over 33,600 citations showed in Google scholar of the paper that introduce TAM (Davis, 1989). This paper has used TAM of Davis (1989) for two reasons. First, TAM is
appropriate to any kind of information systems (Wang et al. 2003; Luarn and Lin, 2005; Almuraqab, 2017). Second, TAM supports to better identify the relationship among other constructs of this paper such as social influence, and awareness.

Extending TAM is not new, in fact, Paul and John (2003) propose that to enhance TAM’s analytical boundary, the model should be combined with a set of constructs that relate to both human and social factors. In this regard, an extended conceptual model is anticipated, incorporating organizational, cultural, and social, aspects surrounding the acceptance of m-government. The paper suggests a unique framework based on main constructs of TAM namely perceived ease of use and perceived usefulness plus social influence and awareness, the four factors are proposed to be moderated by gender. Next part will explain why social influence and awareness have been added to the TAM constructs, and explain the conceptual model.

Social influence. (Integrates subjective norms) Is the degree which a person perceives important that others (e.g. friends, family or colleagues) believes that she/he should use the new system or technology (Venkatesh, et al. 2003). Social influence is one of the main determinants that explain citizens’ intention to use the m-government services (Althunibat et. al, 2011; Almuraqab, 2017). It is important to realize the importance of close people influence her/his decision of using a system or technology. Which was supported in several m-government studies (Althunibat et al., 2011; Abdelghaffar and Magdy, 2012; Yong et al. 2014; Abu-Shanab, 2015; Babuallah et al., 2015; Almuraqab, 2017).

Awareness. Is the citizens’ knowledge of technology, availability and benefits in their countries (Al-adawi et al., 2005; Mofleh and Wanous, 2008). Awareness is the basic thing for citizens to know that the electronic government provides its services via the internet enabled devices (Abdelgaffar and Magdy, 2012). Indeed, people’s awareness of m-government services existence and benefits is a major issue (Almuraqab, 2017). Moreover, it is critical to find out how awareness is differing and controlled by gender.

So, the research propositions are below, and illustrated in figure 2:

- Gender moderate the relationship between perceived ease of use and m-government acceptance
- Gender moderate the relationship between perceived usefulness and m-government acceptance
- Gender moderate the relationship between social influence and m-government acceptance
- Gender moderate the relationship between awareness and m-government acceptance

CONCLUSION AND FUTURE RESEARCH
This paper explored the relevant issues surrounding the m-government adoption by citizens, and their intention to accept these mobile applications based services. This study introduced a unique framework and in first time gender was introduced. In fact, the successful m-government project depends on adoption of citizens and implementation. In addition, these services required the participation of all parties (e.g. business, government, and people) during the planning and the implementation phases. Since this study is drawn from the existing m-government literature, and highlighted a critical gap about gender moderation, further empirical test is needed to validate and to reveal the gender influence in the proposed or in additional factors, which will facilitate developing countries to implement m-government successfully.
REFERENCES


AUTHOR

Nasser A. Saif Almuraqab is a lecturer and Head of the IT Department at University of Dubai, his PhD in business administration, (MIS), from Dubai Business School – University of Dubai, his thesis focused on m-Government service adoption in the UAE. Nasser has an MBA from Abu Dhabi University and a Bachelor degree in MIS from the UAE University.

His research interest in areas like m-government, m-services, m-learning, and technology acceptance.

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