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## **A study looking at ways to increase acceptance of E-Government systems in Developing Countries: A focus on the Context-System Gap**

### **Summary**

For developing countries involved in enhancing communication between citizens and public administration and minimizing corruption, it is imperative to exploit information technology. However, certain factors surrounding the context of e-government adoption can either facilitate or hinder the achievement of this objective. In this paper we develop a conceptual framework that aims to enable more successful e-government adoption and aim to expose the factors hindering implementation. Most empirical research and theories on the implementation of e-government in developing countries remain at the macro-level and fail to highlight contextual complexities of deployment and the role of the gap between the citizens and the government. Therefore, this research offers an empirical model differentiating between the electronic context and the electronic system and shed a light over a new gap, government-citizen gap, in the adoption of e-government.

### **Introduction**

Government support and citizens acceptance of innovative technology play a major role in the success of e-government implementation. As said by (Kumar et al., 2007) adoption is *"at the outset, a simple decision of using, or not using, online services"*. According to (Heeks, 2010) 35% of e-government projects were total fail and 50% of the projects partially failed, while only 15% of projects implemented have been successful. Studies have found that most of e-government unsuccessful projects are embarking from developing countries, keeping in mind that the level of e-government adoption in all over the world is low (Bélanger and Carter, 2008) (Muhammad Ovais et al., 2013). There seems to be difficulties with the adoption of e-government services by people. Even though e-government services are being improved and enhanced by governments, traditional ways of communication are still favoured by citizens in developing nations (Bélanger and Carter, 2008) (Kumar et al., 2007).

For developing countries, e-government is not only an upcoming reality but an existing one needed for progression. However, most e-governance initiatives fail (Kalsi et al., 2009). Dada (2006) delivers a paper of literature on the failure of e-governance in developing countries. Relying on substantial research steered by Richard Heeks, Dada suggests that there is a presence of vast gaps between the future of e-government systems

and the recent reality in developing countries (Kalsi et al., 2009, Nirmaljeet Singh and Ravi, 2013). These gaps are: a hard-soft gap, indicating a gap between the social environment of implementation and technology; a private-public gap, proposing that what works in the public sector doesn't necessary work in private sector; and a country context gap, which raises from the implementation of identical e-government systems and applications for both the developed and developing countries (Dada, 2006).

E-government has yet to take essence in the Republic of Lebanon. The fruitful enactment of technology is substance to a diversity of powers acting toward its adoption (Pons, 2004). A steadiness has to exist in deploying technology to promote growth in communication while maintaining steady and secure infrastructure to empower such technologies. There are numerous issues that have distressed the progression of e-government in most developing countries and Lebanon in particular, which remain to impact the acceptance of e-government services. At a high level, these issues embrace public administration structure, communication infrastructure, socio-cultural approaches, educational and governmental systems, and information security (Alghamdi et al., 2014) (Roushdy, 2012) (Chen et al., 2007). As such, the projected literature in this research sheds the light on some of the issues identified in e-government implementation, while going beyond and considering citizen acceptance, management structures and cultural readiness.

### **E-Government in Context**

The relationship between social context and technology is reciprocal: the social context of implementation has an influence on the technology throughout implementation (Heeks, 2005). To illustrate, an electronic payroll and personnel management system was deployed in the Cameroon Ministry of Public Service and Administrative Reform (Tazo, 2003). Most of the employees in the Bureau were resisting the new administrative system and the innovative slant to management it introduced. The implementation of the system was a partial failure due to the refusal of using the system by the staff. "*E-Government is connected to the social context in which it is deployed. This can be seen firstly in the way that technology can impact that social context*" (Heeks, 2005). It has been perceived in a number of researches that EG applications have influenced the business environment surrounding it (Miscione, 2011) (Madon, 2008). For instance, COMPRASNET in Brazil, an e-procurement system using a computerised reverse auction system, has condensed the charges of participation in public procurement leading into growth in the number of SMEs' input (Almeida, 2002).

It is a misconception to consider the interrelation between the social or the organizational context and technology as some kind of simple duality (Orlikowski, 1992; Heeks, 2005).

Therefore, the use of technology in developing e-government services in a specific country has to reflect and take into consideration the context of implementation. According to Fountain (2004) technology can be divided into *enacted technology* and *objective technology*. The first characterizes the specific design, perception, use and implementation of e-government technology in a particular setting. The second is the software, hardware, and mainly the internet or any set of technology accessible to decision makers in e-government before any use or customizations (Schellong, 2007). Founded on this, Heeks (2005) argues that the context of implementation of e-government is neither similar to the context of design nor to the context of invention. The attention to the differences among design, invention, and context are crucial to the successes of e-government systems. As a result, EG application is not to be viewed in a simple-minded, basic manner but in a complete manner as a set of associated elements that are acquired from the context of which that technology is designed.



Figure 1 E-government Context  
(Heeks, 2005)

Most of these elements in the model differ from one context to another. For instance, the assumptions that the inventor or the designer of the e-government system builds his system according to the context in which the e-government will be implemented may not be true. The 7 dimensions are constructed based on the perception of the designer and the insights that he/she has about the world of the user (Dada, 2006). Furthermore, most of the e-government technology applications and systems are invented and designed in developed countries and intended to be used in developing countries which may lead into failure due to the country context gaps as described by (Heeks, 2003). Another gap that exists at the same level because of the differences between developed and developing countries is the hard-soft gap.

*“Our technologies mirror our societies. They reproduce and embody the complex interplay of professional, technical, economic and political factors” (Bijker and Law, 1992:P3)*

It is also right to say that our societies mirror our technologies. Users, inventors, and designers are all part of a particular context and influenced by that context. Therefore, designers and inventors embed their own cultural perceptions and values in the design and invention of e-government system (Shields and Servaes, 1989; Braa and Hedberg, 2000); however, users expect their own cultural perceptions and values to be embedded in the system and their own interests to be served. Consequently, the disparity of cultural values, perceptions, objectives, and expectations between any two sides concerned with the implementation of e-government system leads into failure.

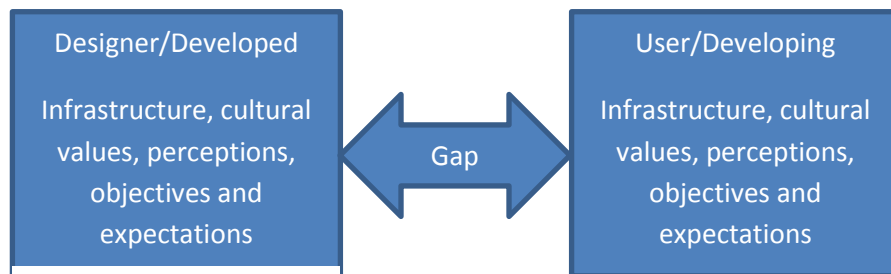


Figure 2 Designer User Gap

All things considered, differentiating between the context of implementation/user and the context of design/designer is a crucial step in creating a successful e-government project. The design context may be completely separate from the deployment context. Accordingly, the design process is often conducted without any direct influence from the user context. Alternatively, the inscriptions of the design are either derived directly from the designer context or as insights from the designer regarding the context of deployment and using e-government.

Given these points, there is a risk of incompatibility between the realities of the users' context and the design of the e-government application created according to the designers' perceptions. Therefore, a significant attention is required to the designers of e-government and their context in order to minimize the gap between the two contexts; mainly the seven dimensions mentioned previously which influence their perceptions and values.

## **Technology Adoption**

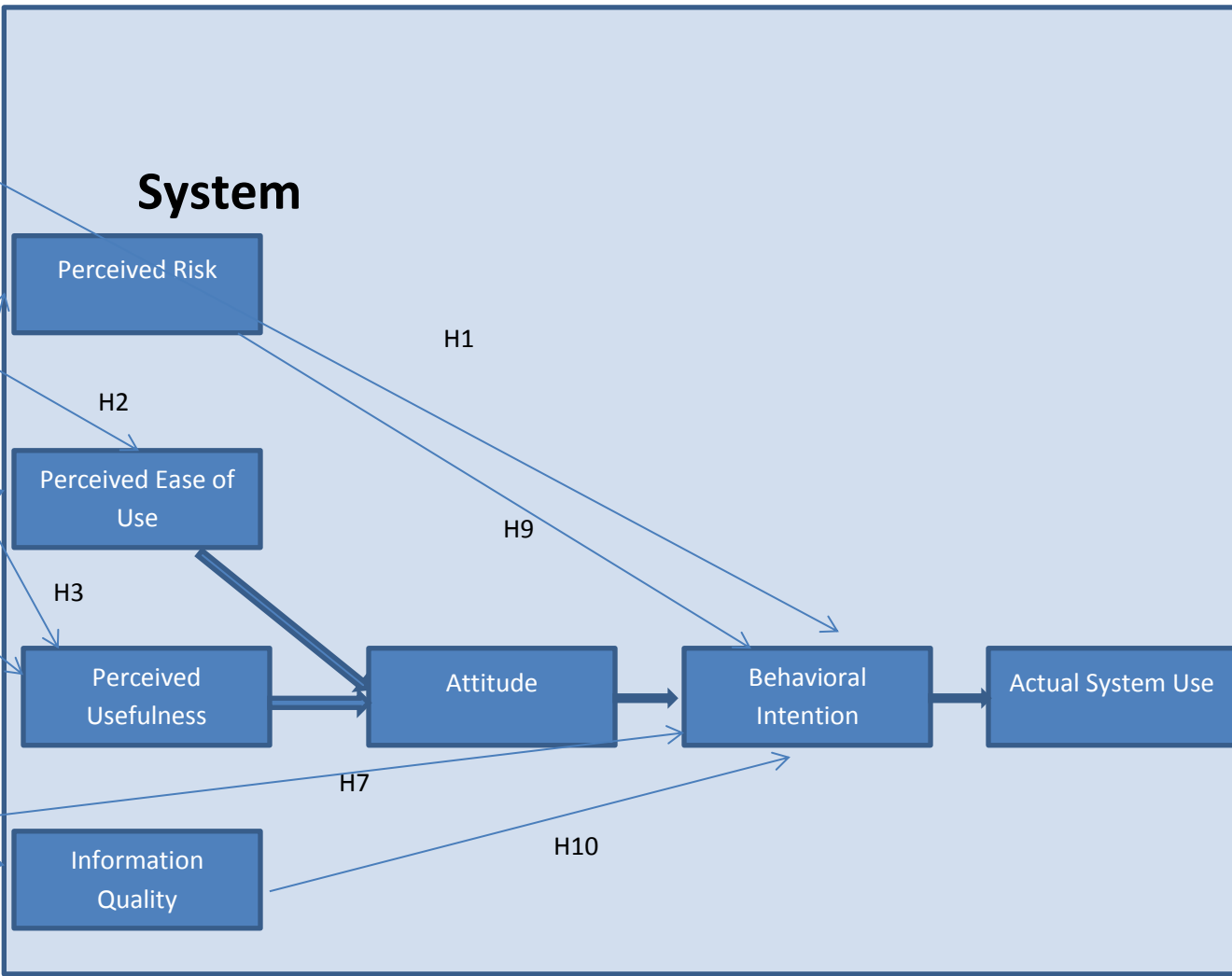
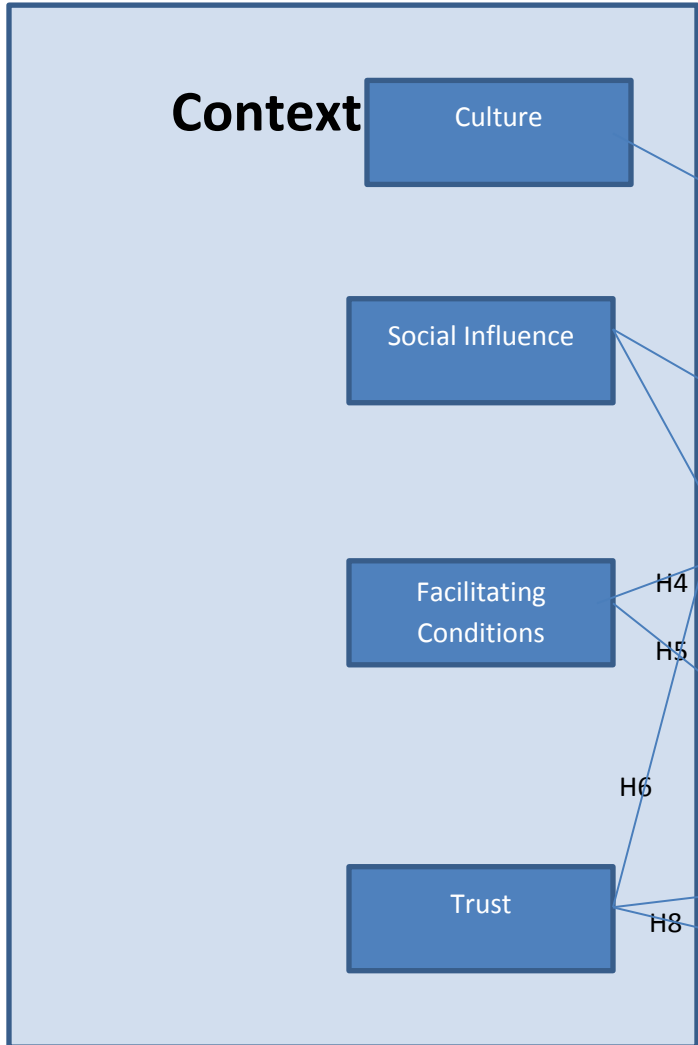
Technology adoption is defined by Agarwal (2000), as the process of using or accepting innovative modernised approaches of new technologies used for production or services. Various models and theories are being held for supporting varied points of views, and perceiving the elements of understanding the essential usage of technology in both Information Technology and Information System researches.

In order to identify the actual issues that primarily influence the real attention of adopting information technology, various approaches have been developed. To name a few, Davis et al (1898) acknowledged, the technology acceptance model (TAM) which models behaviour and system usage intentions or attitude as a meaning of perceived ease of use and perceived usefulness (Venkatesh and Davis, 2000, Davis and Venkatesh, 1996). In addition to theory of Planned Behaviour discussed (TPB) by Ajzen and unified theory of acceptance and use of technology (UTAUT) by Venkatesh (2000).

The theoretical framework presented in this paper is based generally upon theories that have been conducted previously by various researchers. The theoretical framework integrates various constructs from assorted theories in order to understand the acceptance or rejection of a particular technological system such as e-government in a particular context.

## **Methodology**

The research topic addressed in this study is acknowledged as exploring the relationship between e-government technology applications and the social context in which it is deployed. The study will focus on the usage and acceptance of e-government services in developing countries. This study uses quantitative approach in order to test the hypothesis of the proposed model. Quantitative research approach have been used in information system research for confirmatory purposes, such as testing theories and hypotheses (Venkatesh et al., 2013). The objective of quantitative approach is to assist researchers in collecting data from many participants concerning different aspects of a particular issue. This approach is useful in testing hypothetic-deductive theory and collecting numerical data objectively. According to (Chen and Hirschheim, 2004), quantitative researchers employ objective measurement to collect research evidence.



**Context**

Culture

Social Influence

Facilitating Conditions

Trust

**System**

Perceived Risk

Perceived Ease of Use

Perceived Usefulness

Information Quality

Attitude

Behavioral Intention

Actual System Use

H1

H2

H9

H3

H4

H5

H6

H7

H8

H10

- H1: Culture is related significantly to Behavioral intention to use e-government system.
- H2: Social influence is related significantly to perceived ease of use of e-government system.
- H3: Social influence is related significantly to perceived usefulness of e-government system.
- H4: facilitating conditions is related significantly to perceived usefulness of e-government system
- H5: facilitating conditions is related significantly to perceived ease of use of e-government system
- H6: Trust is related significantly to perceived risk of e-government system
- H7: Trust is related significantly to behavioral intention to use e-government system
- H8: Trust is related significantly to information quality of e-government system
- H9: perceived risk is related significantly to behavioral intention to use e-government system
- H10: information quality is related significantly to behavioral intention to use e-government system



## Conclusion:

In this research we evaluate the context of e-government deployment by assessing several independent variables such as the culture, trust, facilitation condition and social influence in developing post war countries. A conceptual framework is developed differentiating between the context and the system, revealing the context-system gap. A quantitative approach will be followed in order to quantify the relation and offer numerical evidences.

This paper tackles the topic of e-government implementation in developing countries in a complete new method. First, by introducing the government-citizen gap as an original concept in the field, hindering the adoption of e-government in developing countries. Second, giving a great level of importance to the context of adoption of e-government and not only focusing on the electronic system of e-government. This is done through collecting data from citizens of developing countries and testing numerous hypotheses related to the impact of the context on the system's constructs.

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