

e-Voting:

An Investigation of Factors that Affect Public Trust in Kingdom of Bahrain

Hayat Ali, University of Bahrain, Zallaq, Bahrain

Hanan Al Mubarak, University of Bahrain, Zallaq, Bahrain

ABSTRACT

One of the major fields that have applied ICT in the 21st century government is e-voting. Around the world, e-voting is taking place and is seen as highly important in many countries. However, in many countries, including the Kingdom of Bahrain, public trust toward voting using ICT tools is still a big challenge. This research aims to investigate the factors that affect public trust toward using e-voting system in Bahrain. A model of trust and risk was used from previous studies and several hypotheses were tested. A questionnaire was employed and 453 responses from citizens were collected in Bahrain. The findings revealed that there are significant factors that the governments should focus on to enhance public trust in the context of e-voting, which are: trust in e-voting; trust of government; perceived risk; disposition to trust and intention to use. The research strength of this study resides in its insights on the factors to be considered by the government to overcome the mistrust of using e-voting in Bahrain. The originality of this research resides on the application of a trust model that was applied in other countries in a new context.

KEYWORDS

Citizens, E-Participation, E-Voting, Risk, Trust

1. INTRODUCTION

In the democratic societies there is a tremendous trend towards improving the public participation using the Information and Communication Technologies (ICTs) through the concept of e-Participation. One of the essential facets of e-Participation is e-voting that has lately attracted many governments around the world. e-voting refers to “an election or referendum that involves the use of electronic means in at least the casting of the vote” (Carrls, 2010).

Despite of the popularity of e-voting, the implementation of it faces many challenges. The most famous challenges are privacy, fraud resistance and lack of evidence (Dahlberg, 2008). Other important and basic challenge of e-voting also the trust as Wolf (2010) mentioned. He stressed that the Internet voting systems and the e-voting in general face the problem with trust of people because there are no papers trail and no external evidence of voting correct operations. Also, to create and administer

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the infrastructure of e-voting system, technicians control the computer systems which enable them to have many privileges that could be used to corrupt the electoral process which can pose very serious threats to election integrity and shake the public's confidence in elections (Riera and Brown, 2003)

The success behind any e-voting systems should target at increasing citizen's trust as it is on the top of the pyramid and the ultimate goal of electoral reform by implementing an e-voting solution (The International Institute for Democracy and Electoral Assistance, 2011). However, trust, is difficult to establish in the e-voting domain as it is necessarily based on complicated distribution information systems through which interactions between computers, between humans, and between humans and computers occur (Antoniou et al., 2007).

Cetinkaya and Cetinkaya (2007) state that accepting e-voting is not a problem from technological view. However, the problem comes from the high sensitivity of the e-voting systems toward security, privacy and trusting governments or suppliers who will be involved in delivering the e-voting systems which was the case of Kingdom of Bahrain; where e-voting started in 2006 but the government decided to return back to paper voting due to mistrust of the e-voting system.

Therefore, it is important to investigate the factors that affect people trust of e-voting using a number of parameters that directly affect trust as agreed by many authors in the literature which in turn affect their acceptance. This research examines these parameters and checks their priority according to Bahrain society where e-voting started in 2006 but government decided to return back to paper voting due to mistrust.

This paper is organized as follows: first an overview of e-voting in terms of definition and history is presented; second research model and hypotheses are discussed; third e-voting in Kingdom of Bahrain is discussed, then research methodology in terms of research instrument, sample size, validity and reliability of instrument is presented; then results of factors affect citizens' trust and the discussion of the results are presented; finally the paper is wrapped up with a conclusion.

2. LITERATURE REVIEW

2.1. An Overview of e-Voting

e-Voting is becoming as a part of e-Governance using the ICT for electoral processes. Bonsor and Strickland (2000) stressed that e-voting refers "...to both the tabulating vote's electronic means and casting votes electronic means... e-Voting can be applied in different ways such as computer counting, direct-recoding electronic voting machine and online voting through poll website or kiosks (Qadah and Taha 2007).

The existence of e-voting system has number of potential advantages over traditional paper including reducing cost in terms of paper and employees as well as effort, increasing the public participation rate, increasing the speed and the accuracy of the results (The International Institute for Democracy and Electoral Assistance, 2011). Also, e-voting offers a flexible design that can be modified at the last minute, provides multiple-language support for the voting, and permits the access to more information regarding voting options (Riera and Brown, 2003).

On the other hand, e-voting has set of challenges that is created by new voting scenario that is based on the use of electronic voting systems (Mercury and Neumann 2003). The challenges could be legislative, socio-political and technological challenges as mentioned by Riera and Brown (2003). Legislative challenges occur as consequence of the introduction of new electoral legislation, as current electoral laws do not usually allow for electronic voting procedures (Watt, 2002). The digital divide is an example of the socio-political issue challenge (Hoffman and Cranor, 2000). And an example of technical challenge, is causing intervention in the election by using "hacker" who can penetrate the programs and manipulating with the number of votes in favor of a particular candidate (Zali, 2010). The trust has been considered as one of the important challenges of e-voting where are the majority

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