Barriers to E-Government Adoption in Jordanian Organizations from Users’ and Employees’ Perspectives

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ABSTRACT

This research examines the effects of five types of barriers; technology, organization, strategy, policy, and end-user barriers, and investigates their effects on E-government adoption in Jordan using structural equation modeling. A structural model was proposed and then its validity was checked with appropriate measures. A total of 1100 surveys were distributed in person and by electronic ways; of which 600 surveys were distributed to E-government employees, while the remaining were distributed to the users of government e-services. Five hypotheses were tested using the data collected from employees and users. Moreover, the model hypotheses were tested using the data collected from four main Jordanian organizations. The technology barriers were the main obstacle to successful E-government adoption in all organizations. Moreover, the effects of the other four barriers varied among organizations. In conclusion, the results should guide the decision makers in government sector to the right policies and adequate actions that enhance efficiency of E-government adoption.

KEYWORDS

E-Government Adoption, End-User Barriers, Organization Barriers, Policy Barriers, Strategy Barriers, Technology Barriers

1. INTRODUCTION

The day-to-day business of government is built on information, which is a very important resource that helps governments to be more efficient, and transparent (Deakins and Dillion, 2002). Generally, E-government uses information technologies in public administration to streamline and integrates workflows and processes to effectively manage data and information to achieve greater efficiency, broader access to government services, enhanced service levels, greater transparency, and citizen empowerment (Golden et al., 2003; Teo, et al., 2008; West, 2004).

E-government can contribute to solving administrative problems in developing countries whose public administration is characterized by inefficiency, limited capacity, and poorly-trained personnel (Lau et al., 2008; Al-Mamari et al., 2013). Without an understanding of why citizens would use electronic service delivery channels over more traditional service delivery methods, government organizations cannot take the necessary strategic actions to meet their citizen adoption targets for these channels and reduce costs (Reichheld and Schefter, 2000). Therefore, identifying the barriers to E-government adoption has received significant research attention. For example, Ebrahim and Irani (2005) presented an integrated architecture framework for E-government in public sector organizations and studied potential barriers to successful E-government adoption. They examined significant
barriers of E-government adoption into five dimensions; IT infrastructure, security and privacy, IT
skills, organizational issues, and cost. Lam (2005) identified barriers to E-government integration
in Singapore using semi-structured interviews that were conducted with fourteen consultants with
significant experience of E-government projects. One of the limitations is that it involved in-depth
interviews with a relatively small number of individuals. Elsheikh and Cullen (2008) examined
the challenges encountered in E-government implementation by analyzing Jordan’s published
E-government vision and strategy. They found that Jordan is still lagging behind in utilizing ICTs
for delivering E-government services. Previtali and Bof (2009) explored the level of E-government
adoption in 49 small Italian municipalities using a survey and in-depth interviews with political
and managerial decision makers and IT officers. It was concluded that a lack of infrastructure and
IT services; e.g. back-up and security) significantly affect the E-government adoption. Schwester
(2009) examined the factors that most impede the adoption of E-government applications in USA
municipalities. Multiple regression results indicated that E-government adoption is a function of
financial, technical, and human resources. Zhao (2011) examined empirically whether national culture
affects E-government adoption in eighty-four countries around the world. Statistical methods including
correlation and multiple regression analysis were used to analyze E-government Development Index
and culture dimension index scores of eighty-four countries. Al Omari et al. (2012) found that trust in
government, website design, beliefs, complexity, and perceived usefulness are the significant factors
in Jordanian citizens’ intention to use E-government websites. Bwalya et al. (2013) identified factors
influencing E-government in three towns in Zambia, including lack of readily available internet access
points, lack of affordable internet access points, lack of services relevant to the local context, lack
of user-friendly E-government platforms, lack of availability of ICTs infrastructure. Sharma et al.
(2013) determined the key factors that affect the quality of E-government services in Oman using a
factor analysis method. They found that the quality of E-government services in Oman is determined
by reliability, responsiveness, efficiency, and security.

Jordan has recently developed a national E-government strategy (E-government strategy report,
2014-2016) that aims to deliver high-quality demand driven services to government beneficiaries
in a phased approach, improve government performance and efficiency, and boost e-commerce
activities. Jordan. It achieved a networked readiness Index (NRI) level of 47 out of 144 countries
participated (Dutta et al., 2013). The NRI measures the ability of a country to leverage information
and communication technologies (ICTs) for improved competitiveness and well-being, it includes
four sub-indices; environmental, readiness, usage, and impact. These indices are translated into the
NRI, that help in measuring the environment for ICTs, the readiness to use ICTs, the usage of all main
stakeholders, and the impacts that ICTs generate in both economy and society. The global information
technology report indicates a decline in both readiness sub index from 47 (year 2011-2012) to 55
(2012-2013) and the corresponding usage sub index from 55 to 60. Specifically, the government
online service index declined from 22 in year 2012 to 92 in 2013, which is related to the percentage
of E-government services and the quality of E-government services. The declines in government
usage sub index and government online service index indicate that examination of the key barriers
to successful E-government adoption is necessary.

In this research, five barriers including technology, policy, organization, strategy, and end-
user barriers to E-government adoption are identified based on previous studies, and technical and
specialists opinions. Structural equation modeling (SEM) is a statistical technique for testing and
estimating relations between factors using a combination of statistical data and qualitative assumptions.
It will visualize and analyze the relationships between these barriers and adoption of E-government.
SEM will help in classifying these barriers by their effects on E-government adoption (Al-Refaie,
2011; Al-Refaie et al., 2011; Al-Refaie et al., 2012a, 2012b, 2012c, 2012d). This research, therefore,
aims at identifying the key barriers to E-government adoption in Jordan and determining their effects
using structural equation modeling. The results of this research shall guide the decision makers in
organizations in public sector to the right policies, institutional frameworks, and correct actions that
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