

The Effect of Trust and Risk Perception on Citizen's Intention to Adopt and Use E-Government Services in Jordan

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Abstract

This study was undertaken with the primary aim of identifying, examining and providing an understanding of the factors that could affect citizens' intention to adopt and use e-government services in Jordan. The preliminary research model used here had been developed from the Technology Acceptance Model by incorporating additional constructs from other models, namely web trust and perceived risk. A self-administered questionnaire was completed by the selected sample. The response rate was 42.5 percent. The data were analyzed using parametric statistics including ANOVA and MANOVA. The finding of this study revealed that there were four main factors that affected citizens' intention to engage in electronic government services; these were perceived ease of use, perceived usefulness, perceived risk, and trust in electronic channels. A practical implication of the findings and conclusions of this study was that governments were urged to take into account the importance of perceived usefulness, perceived ease of use, trust and perceived risk in influencing the intention of citizens to use e-government services. This study was the first to provide important information on factors affecting citizens' intention to adopt and use electronic government services in Jordan.

Keywords

Jordan, Electronic Government, Technology Adoption and Acceptance, Perceived Risk, Trust

1. Introduction

The widespread adoption of e-government projects has contributed to the benefits gained from its implementation. Although e-government initiatives are spreading at an increasing rate, their success cannot be taken for granted. For instance, when [1] surveyed forty e-government initiatives in developing and transitional countries, he found that 35 percent of these projects had ended in total failure and 50 percent in partial failure, while only 15 percent were managed to accomplish their objectives. Hence, governments which are investing heavily in developing their websites and providing the services through the websites should learn from the private sector experience by examining stakeholders' actual behaviour and their readiness to use such online services at an earlier stage than many commercial organizations [2] [3].

According to [4], technology adoption will materialise only if the relationship between the supply and demand sides is established. Therefore, the gap between supply and use of government electronic services should be minimised in order for them to be adopted and accepted by their target users. However, there is some evidence suggesting that users' demand for online government services has not yet been met [5]-[8]. Therefore, it is important to understand the factors that might influence stakeholders' intentions to engage in government services provided over the Internet.

There is a growing body of academic research directed at examination of the determinants of computer technology acceptance and utilization. Much of the research has focused on issues of e-commerce adoption (e.g. [9]-[14]). Yet to date, few studies have tried to explore the core factors that influence stakeholders' adoption of e-government services. Furthermore, the analysis of current literature regarding their adoption and acceptance has highlighted some distinct gaps that additional research could attempt to fill.

Firstly, the topic of electronic government is a relatively new and emerging one, and many of the previous studies on its adoption and acceptance have focused on the supply side or government related issues, such as managerial practice (e.g. [15]-[18]), organizational culture (e.g. [19]-[22]) and measurement of e-government adoption [23] [24]. However, little attention has been given to demand or the perspective of citizens [25] [26].

Secondly, developing regions of the world have much to gain from adopting e-government initiatives. However, much of the previous research on electronic government has been undertaken in developed countries, such as the United States [27], the United Kingdom [28] and Australia [29]. Jordan is one of the developing countries to have recognised the advantages of adopting e-government and utilising information technologies in delivering government services. Compared with other developing countries, Jordan is doing more to develop its ICT sector in order to improve national competitiveness. Thus, Jordan could be seen as a model for studying citizens' adoption of electronic government in developing countries.

Hence, this study aims to investigate those factors that encourage citizens to adopt and use e-government services in Jordan or discourage them from doing so. The preliminary research model used here has been developed from the Technology Acceptance Model by incorporating additional constructs from other models, namely web trust and perceived risk. The findings will not only add to the literature but will also provide the basis for future studies of e-government and other Internet applications, such as e-banking and e-commerce.

The remainder of this paper is divided into five parts. The first part reviews the literature on adoption and acceptance of electronic government, the second postulates the research model and hypothesises, the third sets the research method, and the fourth reports the results. Then the paper concludes with a discussion, a consideration of the implications and limitations of the study, and suggestions for the future research in the last part.

2. Literature Review

The adoption and acceptance of electronic government is a new but growing area of research; in recent years, a considerable amount of literature has been published on it. A review of this literature reveals that such research can be grouped into two main categories: the supply side and the demand side of e-government. Research on the supply side has focused on several aspects of e-government adoption, including issues of managerial practice and strategy, organizational culture, and measurement and evaluation of e-services. On the other hand, research on the demand side has focused on the influence of organizational and individual characteristics.

The managerial practice and strategy stream aimed at identifying and measuring the influence of management strategies and actions on the adoption and use of e-government (e.g. [15]-[18]). Hence, several researches have proposed models of e-government development stages and suggested the presence of different adoption-enabling factors, barriers to adoption and challenges to implementation. For example, [16] propose a four-stage model to

illustrate the growth of e-government and the challenges that government agencies face while implementing it; these are cataloguing, transaction, vertical integration and horizontal integration. Each successive stage represents a higher level of complexity and integration of e-government services.

Researcher into organizational culture, however, focused on how the artefacts, values, symbols and basic beliefs of the public sector influence the nature and the consequences of e-government adoption and use [30]. The final approach within the supply side has focused on the measurement and evaluation of e-services (e.g. [23] [24]). Studies within the first group utilize website content analysis to measure the adoption and the level of sophistication of the services provided by government agencies over the Internet.

On the other hand, research on the demand side has focused on the influence of organizational and individual characteristics, hence, identifying the core factors influencing on citizens' intention to adopt and use e-government services. A review of this stream of literature reveals that researchers have used different models to examine these factors, including the Technology Acceptance Model (e.g. [5] [31] [32]) and trust framework (e.g. [6] [33] [34]). Some researchers have integrated these two models (e.g. [6] [7] [27] [35]).

In this stream of research, researchers have used several models including the Technology Acceptance Mode (TAM) [36]. TAM has been widely used in studying e-government adoption, either separately or in conjunction with other models, such as the Theory of Planned Behaviour (TPB) [32], the trust framework (e.g. [27] [37]) and/or Diffusion of Innovation (DOI) (e.g. [5]). TAM proposes that users' adoption of a new information system will be determined by their intention to use the system, which is determined in turn by their beliefs about the system. TAM further suggests that two beliefs—perceived usefulness (PU) and perceived ease of use (PEOU)—are instrumental in explaining the variance in users' intention. PU is defined by ([36] p 320) as “the degree to which a person believes that using a particular system would enhance his or her job performance”, while PEOU is defined as “the degree to which a person believes that using a particular system will be free of effort” ([36] p 320).

Other researchers have provided significant support for the TAM analysis of users' beliefs and intention to adopt e-government (e.g. [2] [37]). For example, [37] found that perceived usefulness of e-government services was the most significant predictor of citizens' intention to adopt. Similarly, [27] found PU to be a significant predictor of citizens' intention to use electronic government.

As for perceived ease of use, however, the literature review shows mixed results concerning the direct relationship between PEOU and users' intention to adopt [27]. Two factors may contribute to this. Firstly, some of the reported research uses the original TAM model, where the relationship between PEOU and intention to adopt is mediated by perceived usefulness. Accordingly, they do not test the direct effect of perceived ease of use on the intention [37]. Secondly, [38] asserts that in the early stages of technology diffusion, users need some skills to handle the technology. In this situation, it is very likely that PEOU will show a positive relationship with user's intention to adopt. However, in later stages of diffusion, users will have more confidence in and experience of using the technology. Therefore, in the pre-implementation and implementation stages of electronic government services, it is very likely that PEOU will have a positive effect on citizens' intention to use the technology, which seems to be a possible explanation of the inconsistent results in the literature.

Furthermore, several studies using TAM have incorporated additional constructs from other related models, such as Trust, the Theory of Planned Behaviour and Diffusion of Innovation. For example, [5] developed and tested an e-government adoption model based on TAM, trustworthiness and DOI, taking items consisting of relative advantage, compatibility and image from DOI, perceived usefulness and ease of use from TAM and trustworthiness from Web Trust. They found PU, relative advantage and compatibility to be significant indicators of the citizens' intention to use e-government services. Furthermore, they found no significant relationship among perceived ease of use, image or trustworthiness and citizens' intention to use e-government services. In the same fashion, [27] attempted to identify factors affecting e-government adoption in the USA and Spain. They found that PU was the major determinant of citizens' intention to adopt e-government services. They also found that trust was not significant predictor of electronic government adoption in the USA, while it was a major predictor for the Spain Sample.

A considerable amount of literature has been published on the influence of trust on e-government adoption and acceptance. Many of these studies are based on notion of trust modes proposed by [39]. [39] asserts that three basic modes of trust have economic consequences for organizations and individuals: institution-based, characteristic-based and process-based trust.

According to [40], characteristic-based trust contributes to trust in managerial competence and in an organization's support of information technology. Competence represents the individuals' belief that the other party has

the ability to do what needs to be done [10] [11]. In terms of electronic government, it is the ability of the government to guarantee the security of online transactions and the privacy of citizens' data. This involves the use of appropriate and effective technological infrastructure, protocols, standards, techniques and mechanisms for secure transactions and protection of privacy, as well as the adoption of security and privacy policies. Therefore, if individuals believe that the government has high competence, then they are very likely to adopt and use electronic government services.

The relationship between characteristic-based trust and e-government adoption has been widely investigated, but research findings into characteristic-based trust have been inconsistent and contradictory. For instance, several researchers have established its effect on individuals' intention to adopt e-government (e.g. [37] [41] [42]), while others have failed to find any relation between this mode of trust and e-government adoption (e.g. [5]). A possible explanation for this latter result is offered by [5]: because citizens frequently interact with government agencies to complete compulsory tasks such as licence renewal and tax filing, these activities must be completed regardless of the level of trust which individuals have in the government.

The institution-based trust dimension is associated with individual perceptions of the institutional environment, such as the structures, regulations and legislation that make an environment feel safe and trustworthy [6] [10] [11] [40] [43]. In the context of e-vendors, institution-based trust represents the electronic channels by which the services will be delivered. The relationship between this mode of trust and e-government adoption has received significant support in the literature (e.g. [6] [41]). For example, [6] found in a field survey that citizens' trust in the electronic channel had a significant influence on their intention to use e-government services.

The third mode of [39] trust framework is process-based trust. According to [44], in this mode an individual's trust is built over time and in the course of mutually oriented behaviour. Thus, it arises through personal experience of frequent exchanges between two parties [45]. Several studies have supported the relationship between process-based trust and citizen' intention to use e-government services [46]. However, process-based trust has received less research attention than the other two modes. The reason may be that this type requires the user to have had experience on which to base his trust, while e-government programmes are relatively new and still at the implementation stage in most countries.

Some studies have also suggested that perceived risk affects individuals' willingness to make choices [47]. In the context of technology adoption, [47] found that risk perception towards internet banking was negatively associated with consumers' willingness to use online banking. Similarly, [48] found that the perceived risk associated with online retail stores was negatively associated with the willingness to accept online purchasing.

There is no agreed set of dimensions for perceived risk in the online shopping literature, hence, authors have attempted to study perceived risk as one dimensional concept [49]. According to [50], perceived risk affects decisions to adopt information systems when the circumstances of that decision create in the consumer feelings of uncertainty, discomfort, anxiety, conflict, concern, pain, psychological discomfort and/or cognitive dissonance. Such dissonance arises from the evaluation of the product as having costs and benefits, risks and utility.

3. Research Model and Hypotheses

Many factors may affect citizens' intention to adopt electronic government services in Jordan. A review of the literature suggests that the Technology Acceptance Model, which is the basis of much of the research into IT diffusion, will be useful only if it is extended to include specific issues of trust and risk perception. This study attempts to construct a model for analyzing e-government adoption from a citizens' perspective based on TAM, which has been widely studied and accepted as a powerful framework for studying IT adoption and usage. The study extends TAM by adding constructs in order to achieve a higher explanatory power for the model (e.g. [9] [51]-[53]). **Figure 1** shows the general structure of the research model.

Overview of the Model

TAM has been used in different contexts with numerous supporting empirical studies. However, the main theme of the literature (e.g. [54]-[56]) have dropped the attitude construct from the model for various reasons. For instance, some studies have shown a non-significant effect of attitude on behavioural intention [56]. Hence, perceived usefulness is found to be the major determinant of behavioural intention, while attitude appears to have no significant impact on it. Other researchers have chosen to take attitude out of TAM to increase the parsimony of the model, since this does not reduce its explanatory power [36] [57]. Ultimately, the model relies on the

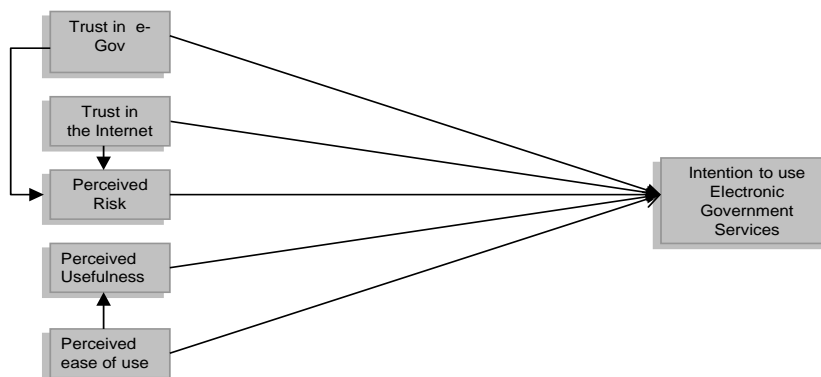


Figure 1. E-government adoption model.

principle that attitude factors are comprehensively included within the construct of perceived usefulness. Individuals may use the technology even if they do not have a positive attitude towards it as long as it is useful or provides productivity enhancement [56].

Therefore, the model proposed here also dispenses with the attitude construct. Furthermore, in the technology acceptance model, perceived usefulness is the major determinant of behavioural intention, while the effect of perceived ease of use on behavioural intention is mediated through the construct of perceived usefulness [56]. Behavioural intention is used in this study to predict the actual behaviour of respondents. Many studies have indicated that behavioural intention has a significant impact on usage and that this variable can predict actual behaviour in real world (e.g. [51] [52] [55] [57] [58]). Therefore, this study measures adoption intention as a predictor of actual usage.

Furthermore, the effect of trust on customers' intention to use online e-commerce has been reported in several studies (e.g. [42] [59]–[61]). Hence, trust could also influence citizens' intention to use e-government services in Jordan.

The literature reveals two types of trust that can affect citizens' intention to adopt. The first is institutional-based trust, which can be defined as “the belief that needed structural conditions are present (e.g., in the Internet) to enhance the probability of achieving a successful outcome in an endeavour like e-commerce” ([10], p 339). In the context of e-government adoption, this represents the citizens' trust in the Internet as a suitable medium through which to interact with the government.

The second type is characteristic-based trust, which is defined as the belief that “the other party has one or more characteristics beneficial to oneself” ([59], p 46). In the context of e-government adoption, this represents citizens' perceptions of the integrity and competence of government agencies.

In addition, trust and risk are closely interrelated [62]: when people trust others, they assume that those they trust will behave as they are expected to, reducing the social complexity of the interaction [37]. Accordingly, perceived risk decreases when trust is present. Several researchers in the context of e-commerce have supported this proposition [50]. In the context of e-government adoption, the findings of [33] also support the relation between trust and perceived risk. Consequently, we can say that both types of trust have negative effects on perceived risk.

The conceptual model used in this study maintains the relationship between perceived usefulness and perceived ease of use but eliminates attitudes. Additional constructs such as perceived risk and trust are incorporated into the model. Hence, based on the previous discussion and the research model we can hypothesise that:

H1: There is a positive relationship between perceived usefulness and behavioural intention to use e-government services.

H2: There is a positive relationship between perceived ease of use and behavioural intention to use e-government services.

H3: There is a positive relationship between trust in electronic channels and behavioural intention.

H4: There is a positive relationship between trust in the government and behavioural intention.

H5: There is a negative relationship between perceived risk and behavioural intention.

H6: There is a positive relationship between perceived ease of use and perceived usefulness of e-government services.

H7: There is a negative relationship between trust in electronic channels and the perception of risk.

H8: There is a negative relationship between trust in the government and the perception of risk.

4. Methods

The study uses quantitative analysis in order to test the proposed research model. Hence, data were collected using a self-administered questionnaire. The design of the questionnaires was based on previous literature into technology adoption and acceptance. The questionnaire consists of two main sections, the first containing questions on respondents' demographic characteristics and on their intention to use e government services. The second section contains 25 statements with which respondents are asked to indicate their level of agreement on a Likert-type scale from 1 (strongly disagree) to 5 (strongly agree). These statements, which are developed to test the importance of several adoption and acceptance factors, include perceive ease of use, perceive usefulness, perceived risk, trust dimensions. All the selected statements were used and validated in prior research. However, a further validation on the Jordanian context was required.

4.1. Sample and Data Collection

The study sample mainly comprised individuals between 25 and above 56 years old. The sample frame represented individuals who were relatively likely to be familiar with government services provided over the internet and who could be potential users of these services. Four hundred questionnaires were distributed. A total of 170 were completed and returned, giving a response rate of 42.5 percent. **Table 1** shows the results obtained from analyzing demographic variables: the gender, age, and education level of the 170 survey participants. Of these, 132 (78%) are male and 38 (22%) female. The most strongly represented age group is between 46 and 55 years old with 63 members (37%), followed by the 36 to 45 age group (52, 31%). The group aged more than 56 years (10, 6%) is the smallest. The table also reveals that approximately 116 of respondents (68%) were educated to graduate level, a further 23 (14%) held postgraduate qualifications, while only 5 (3%) held a high school certificate.

4.2. Research Instrument Validity and Reliability

Both validity and reliability are tested using two different statistical techniques: principal component analysis to test the instrument's validity and the Cronbach's alpha test to establish its reliability. **Table 2** presents the rotated components matrix and the respective factor loadings of the indicator variables. The results show that 18 of the

Table 1. Demographic profile of participants.

Age (years)	Frequency	%	Intention to adopt	
			Mean	Standard deviation
26 - 35	45	26	2.208	0.784
36 - 45	52	31	2.111	0.766
46 - 55	63	37	2.062	0.725
56 or above	10	6	2.288	0.688
Gender	Frequency	%	Mean	Std. Dev.
Male	132	78	2.118	0.776
Female	38	22	2.166	0.674
Educational Level	Frequency	%	Mean	Std. Dev.
High School	5	3	2.392	0.826
Diploma	26	15	2.148	0.719
Graduate	116	68	2.094	0.753
Postgraduate	23	14	1.942	0.648

Table 2. Loading and Cronbach's alpha test results for the research model constructs.

Variable	Statement	Loading	Alpha
BI1	Assuming I have access to electronic government service, I intend to use this service.	0.739	0.85
BI2	Given that I have access to electronic government services, I predict that I would use it.	0.717	
BI3	It is likely that I will transact with the electronic government in the near future.	0.846	
PEOU1	Transacting with electronic government services does not require any special equipment.	0.690	0.88
PEOU3	Transacting with electronic government services does not require an IT Experience.	0.702	
PEOU4	It would be easy for anyone to interact with electronic government services.	0.796	
PU1	Transacting with electronic government service will improve the quality of service I receive from government.	0.747	0.90
PU2	Transacting with electronic government service will help me do the job faster.	0.745	
PU4	Transacting with electronic government services will help me to benefit from government services from any location.	0.771	
TIG1	I believe the technologies the government uses to provide their services are reliable all the time.	0.684	0.89
TIG2	Overall, I have confidence in the technology used by the government to operate their services through the Internet.	0.793	
TIG3	The government has the ability to reliable process transactions made over the Internet.	0.836	
TIG4	The government have sufficient experience and resources to provide and maintain their services through the Internet.	0.872	0.75
TIEC1	In general, the internet is now a robust and safe environment in which to transact with government.	0.752	
TIEC2	The internet has enough safeguard to make feel comfortable using it to interact with government online.	0.753	
TIEC5	I believe the legal structure adequately protect us from problems on the Internet.	0.617	0.89
PR1	Overall, I am concerned about experience some kind of loss if I transact with electronic government services.	0.667	
PR2	All things considered, I think I would be making a mistake if I use the services that government provides through the Internet.	0.809	
PR3	Transacting with government through the internet would pose problems for me that I just don't need.	0.827	
PR4	The decision of whether to transact with electronic government services can be characterise as a very high potential of loss.	0.792	
PR6	The decision of whether to transact with electronic government services can be characterise as very significant risk.	0.840	

used statement items exceed the cut-off level (50%). While seven are excluded from the analysis (PEOU2, PU3, PU5, TIEC3 TIEC4, PR5, PR7). In addition, all of the study items are loaded on respective factors or components and this pattern is consistent with the research model. The validity of the instruments is well established, as the items intended to measure the same construct are loaded on a single component rather than on another [63].

The Cronbach's alpha test was carried out for each scale as mean of scale reliability test. Although 0.7 has been suggested as an acceptable cut-off [64], a value greater than 0.6 is regarded as a satisfactory level of internal consistency of a measure [65]. Table 2 shows the Cronbach's alpha values for all measurement scales.

5. Results and Discussion

In order to make accurate and efficient predictions of the dependent variables and especially to determine the relative importance of the independent variable (best model) in explaining citizens' intention to adopt e-government services, a stepwise regression analysis is performed. The results of stepwise regression analysis are presented in Table 3 and Table 4. The best R^2 value found in this study is 0.433, which suggests that the best-fit model can explain 43.3 percent of the variance in adoption intention. Statistics on the four variables which enters the stepwise multiple regression equation and which collectively explains a portion of the variance in the

Table 3. Model summary for stepwise regression.

Model	R ²	Δ R ²	Δ F	Sig.
Model 1: PU	0.333	0.333	97.957	0.000**
Model 2: PU + PEOU	0.407	0.073	24.097	0.000**
Model 3: PU + PEOU + PR	0.421	0.015	4.889	0.028*
Model 4: PU + PEOU + PR + TIEC	0.433	0.012	4.019	0.046*

**P < 0.001, *P < 0.05 Dependent variable BI.

Table 4. Stepwise analysis of dependent variable BI.

Independent variable	Unstandardized coefficients		Standardized coefficients	t	Sig.
	B	Std. Error	Beta		
H1: PU	0.364	0.065	0.364	5.568	0.000**
H2: PEOU	0.298	0.064	0.298	4.627	0.000**
H5: PR	-0.118	0.056	-0.118	-2.117	0.036*
H3: TIEC	0.115	0.057	0.115	2.005	0.046*
Excluded variables					
Variables	B		t	Sig.	
H4: TIG	0.052		0.729	0.467	

**P < 0.001, *P < 0.05 dependent variable BI.

dependent variable, behavioural intention to adopt, are shown in [Table 3](#) and [Table 4](#). Perceived usefulness was the first and most significant of the four variables that entered the stepwise regression, accounting for 33.3 percent of the variation in adoption intention ($P < 0.001 = 0.000$). At step 2, perceived ease of use entered the regression equation and accounted for an additional 7.3 percent of the variation ($P < 0.001 = 0.000$). At step 3, perceived risk entered the equation and accounted for a further 1.5 percent ($P < 0.05 = 0.028$). Trust in electronic channels entered the regression equation at step 4 and accounted for only 1.2 percent ($P < 0.05 = 0.046$).

As shown in [Table 3](#) and [Table 4](#), one variable was excluded from the model: trust in the government ($P > 0.05 = 0.467$).

To test hypotheses 6, 7 and 8, three aspects of the simple linear regression analysis were conducted: the first one was used between PEOU and PU to test hypothesis 6; the second was used between TIEC and PR to test hypothesis 6; and the last one was used between TIG and PR to test hypothesis 8. [Table 5](#) shows that there is a significant relation between PEOU and PU ($P < 0.001 = 0.000$). R^2 explains 27.1 percent of the variance related to PU. Thus, Hypothesis 6 is supported. Similarly, the simple linear regression results show a significantly negative relationship between TIEG and PR ($P < 0.01 = 0.003$). R^2 explains 9.1 percent of the variance related to PR. However, the results also show that no significant relationship between TIG and PR, hence, hypothesis 8 is rejected.

6. Conclusions

The research recognises that many factors may affect the success and effectiveness of e-government initiatives in developing countries such as Jordan and that some of these may not have been identified in the literature on e-government adoption. Indeed, most published research has been conducted in developed countries, for which the technology is originally created. A review of the literature related to the adoption and acceptance of this technology in general and of e-government in particular suggests that the Technology Acceptance Model, which is the basis of much of the research into IT adoption and acceptance, may be useful in the study of e-government acceptance and adoption.

Table 5. Results of simple linear regression analysis for PEOU and PU.

Independent variable	Unstandardized coefficients		Standardized coefficients	t	Sig.
	B	Std. Error	Beta		
H6: PEOU and PU	0.521	0.061	0.521	8.537	0.000**
H7: TIEC and PR	−0.258	0.086	−0.258	−2.999	0.003**
H8: TIG and PR	0.041	0.086	0.041	0.482	0.630
Equation					
	H6: PEOU-PU		H7: TIEC-PR		H8: TIG-PR
R	0.521		0.302		0.236
R ²	0.271		0.091		0.056
F	72.889		19.649		5.755

**P < 0.001, *P < 0.05.

However, TAM may need to be extended to include specific issues that enable us to measure the uncertainty involved in ICT use in general and the Internet in particular. Therefore, the current study extends TAM to incorporate both trust and perceived risk. While the literature on e-government adoption and acceptance shows that several researchers have already used TAM augmented with trust and perceived risk, and much of this previous research has considered that trust has an indirect effect on the intention to adopt and use the technology; yet there is clear evidence that both trust and perceived risk have direct and significant effects on the intention to adopt.

This study was undertaken with the primary aim of identifying, examining and providing an understanding of the intention by citizens in Jordan to adopt and use e-government services and the factors that could affect this intention. In order to address these questions, eight hypotheses were developed and tested. The findings were that four main factors affect citizens' intention to engage in e-government services: perceived ease of use, perceived usefulness, perceived risk and trust in electronic channels. Furthermore, the research model had the capability to explain the 58.1 percent of the variance in intention to engage in e-government services. The key findings from this research together with the Government-to-Citizens adoption model generated should provide valuable information for policy makers and practitioners in the field of electronic government and may be applied to other countries as well.

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