Scientific Research Publishing

Advances in Internet of Things, 2022, 12, 125-141
https://www.scirp.org/journal/ait
ISSN Online: 2161-6825
ISSN Print: 2161-6817

Technology Acceptance Factors for Implementing the E-Government Systems in Saudi Arabia

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How to cite this paper: Amin, S.F., Saad, A.B. and Lajis, A. (2022) Technology Acceptance Factors for Implementing the E-Government Systems in Saudi Arabia. *Advances in Internet of Things*, **12**, 125-141.
https://doi.org/10.4236/ait.2022.124008

Received: August 1, 2022
Accepted: October 28, 2022
Published: October 31, 2022

Abstract

Governments are implementing E-Government systems to match the other services due to the rapid worldwide development. Therefore, public sectors interact with many individuals; utilizing this technology lowers costs, enhances services, boosts efficiency, and saves time. The Government of Saudi Arabia has had various obstacles in serving its populace. Poor service delivery and excessive Government operating costs resulted from this manual service delivery. As a result, the Government launched the E-Government systems, which provide services more quickly. As a result, the report covered Saudi Arabia's efforts to adopt E-Government, its difficulties, and its objectives to advance the 2030 vision. This study examined the adoption of E-Government systems using the Unified Theory of Acceptance and Use of Technology (UTAUT) in Saudi Arabia. A sample size of 200 was estimated using the Convenience approach and received 58% of the response from employees and end-users of the E-Government systems. Data were analyzed using MS-Excel and SMART PLS for testing the hypothesis and applying the Partial Least Square approach. The results of the hypothesis testing reveal several meaningful relationships, including relative benefits, compatibility, security, management support, performance expectations, perceived Usefulness of E-Government, ease of use by reducing uncertainty to E-Government, and IT infrastructure by reducing language on E-Government adoption.

Keywords

Information Systems, Partial Least Square, Unified Theory Acceptance and Use of Technology (UTAUT), E-Government

1. Introduction

The Internet and other critical advancements in telecommunications and com-

puter networks affect how people live and interact with one another, the business world, and, more recently, the Government. Many nations are putting themselves in a position to seize these once-in-a-lifetime chances, which provide them the opportunity to fundamentally alter their complex bureaucracies so that they are quicker, more creative, and more centered on the needs of their citizens [1]. The E-Government approach prioritizes internal networking and collaboration by putting all government organizations' services online so the general public can easily access them [2].

Given the previous, this study emphasizes how vital E-Government has become in how Saudi Arabian government agencies carry out their functions. However, the adoption and implementation of E-Government go afar technology alone. Subsequently, they are also impacted by many organizational, human, cultural, and societal concerns that are crucial driving forces and have to do with the style of Government and its role in society [3]. This is because the E-Government model changes how government agencies carry out business. E-Government system adoption also involves planning and a framework to implement. As a result, public sector organizations may face difficulties implementing this technology due to security apprehensions and a possible deficiency of top management support [4].

1.1. E-Government and Saudi Arabia

The term "E-Government" does not have a single, accepted definition. Some merely characterize it as a means for a government to conduct online business [3]. Others view E-Government as the process of developing websites that provide information on governmental and political topics. E-Government also refers to effectively delivering government information and services through web-based application-specific technologies [3]. Saudi Arabia is situated in middle east Asia and has an area of 2,149,690 Km^2 [4]. The Saudi Government brought in skilled workers from all over the world to aid in the transformation of this Kingdom into a modern nation because it encourages modernization in all facets of life in the Kingdom [4]. Saudi Arabia has kept many principles of Arab and Islamic traditions, including power and governmental structures, although taking on a new shape. While doing so, it has embraced E-Government and Western technology to make its services more accessible to the general population [5]. The E-Government system that Saudi Arabia implemented required much effort to be put in place to realize the system's success gradually. Since its year of introduction, the E-Government has been successful in completing several initiatives. The initiatives include the Absher E-services gateway, expanding E-Government learning and capacity building, implementing the E-Government program to communicate change, implementing the comprehensive YESSER program of communications with agencies, and increasing women's employment in the E-Government workforce [6]. Some of the current efforts of the Saudi Government can be reflected in implementing E-Visa Service, Nifaz, Absher, and Nazah to

ensure the E-Governess is implemented in its true face.

Table 1 presents the standing of Saudi Arabia in implanting the E-Government based on the survey conducted by the United Nations in 2021. According to the index defined by the United Nations According to [7] EGDI report, there are 4 rating classes/quartiles; very high EGDI (1.000 < 0.800), High EGDI (0.600 - <0.800), Middle EGDI (0.400 < 0.200), and Low EGDI (0.000 <0.200). It reveals that currently, UAE is on top of the list in implementing the E-Government systems, and Saudi Arabia ranks 3rd among the Gulf Countries. The data from Table 1 also shows continuous improvement compared to the EGDI value from 2003 to 2020.

1.2. E-Government Factors and Challenges

There are several issues and challenges that most countries are facing, either implanting E-Government or planning to implement it. Saudi Arabia is one of them, where the Government has faced many challenges while implementing E-Governance. Some of the factors that hurdle the implanting E-Government systems are; a) Accountability [8], there is no perfect system exists to keep a check and balance on implanting the E-Government system, b) Digital Divide [9], there is a lack of professionalism and competency exists, and there in some cases, the end-users are not aware of using technology appropriately, c) Rules and Regulations [10], there have been very complicated rules and procedures implemented that end-users do not wish to use E-Government or face issues, d) Lack of Trained people [11], many of the users of E-Government systems are not adequately trained and lack in many competencies, e) ICT infrastructure [11], there are still some issues related to availability of Internet in many rulers and urban areas where internet service providers have not upgraded their infrastructure to fast access of the Internet, and finally, f) Cyber security [12], many users are afraid of cyber-attack, information theft, and denial of service (DoS), which ultimately restrict the end-users to use E-Government systems.

2. Research Model and Hypotheses

The Unified Theory of Acceptance and Use of Technology (UTAUT) by [13] is the research model used for this study. The model will look at how E-Government adoption is affected by study variables obtained from organizational, technological,

Table 1. EGDI analysis based on UN survey conducted in 2021 for GCC countries [7].

Country/Year	2020	2018	2016	2014	2012	2010	2008	2005	2004	2003
UAE	0.855	0.829	0.751	0.713	0.734	0.534	0.630	0.571	0.473	0.534
Bahrain	0.821	0.811	0.773	0.808	0.694	0.736	0.572	0.528	0.532	0.509
Saudi Arabia	0.799	0.711	0.682	0.690	0.665	0.514	0.493	0.410	0.385	0.337
Kuwait	0.791	0.738	0.708	0.626	0.59	0.529	0.520	0.443	0.364	0.370
Oman	0.774	0.684	0.596	0.627	0.594	0.457	0.469	0.340	0.288	0.354
Qatar	0.717	0.713	0.669	0.636	0.640	0.492	0.531	0.489	0.400	0.411

and behavioral aspects. A survey questionnaire was developed, which consists of two parts; part I focuses on demographic data, and Part II acquired factors' variable-related items. All items in part II used a Likert scale of 5. 1 Strongly Disagree, and 5 is Strongly Agree. The Partial Least Square (PLS) method was used in this study to examine the relationships between the variables in the research model and evaluate the research hypothesis. Since PLS has the edge over SEM due to lower sample size requirements, easier testing of moderating relationships, and built-in capability to handle formative indicators. This approach explains the increased use by international business researchers. Figure 1 depicts the modified framework used for this study and develops the hypothesis. The following research hypotheses regarding the adoption model of E-Government in the Saudi Arabian context are based on the study's proposed model.

2.1. Technology Context

According to [14] application of the Organizational Environment (TOE) model, relative advantage, Complexity, and compatibility are three technological determinants of adoption. Comparative advantage is the extent to which new technological development offers a greater benefit than a preceding development [15]. The degree to which an innovation is deemed somewhat challenging to

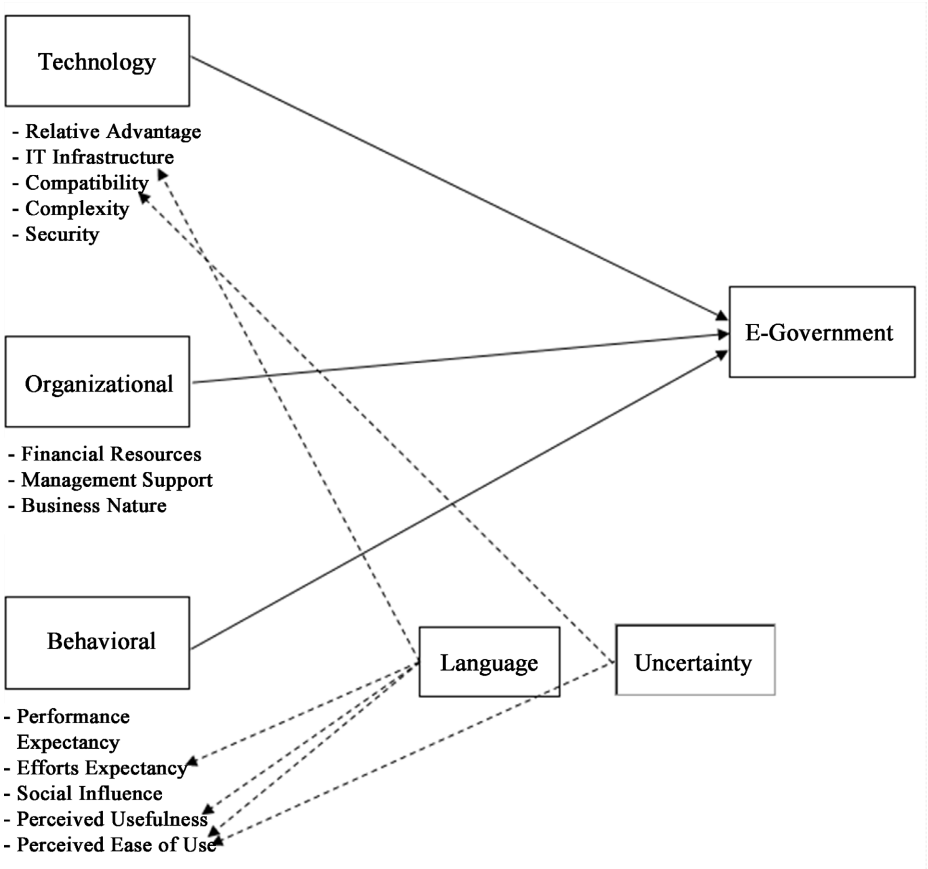

Figure 1. Modified UTAUT Model used for this study. Dashed lines presents the moderating effect on the model.

understand and use is called its Complexity [15]. New technologies can be complex, making it difficult for users to grasp them quickly. As a result, the implementation may take a long period. Last, compatibility refers to how well a new technology matches a company's principles, procedures, and requirements [13]-[21] suggested the key factors in the technology context as; Relative Advantage (X1), IT Infrastructure (X2), Compatibility (X3), Complexity (X4), and Security (X5). Table 2 displays the Technology Hypothesis.

2.2. Organizational Context

The organizational factor comprises several traits, procedures, and structures that affect an innovation's likelihood of being adopted and assimilated. The organizational environment of implementing new technologies has been extensively researched. Support from senior management, corporate culture, resources, and business nature have been crucial. Gaining the resources necessary to embrace a new technology requires the assistance of top management [21]. By encouraging a welcoming culture that values change, efficiency, and goal-setting, top management can enhance the acceptance of innovation inside a business. In addition to human resources, hardware, and software, organizational culture is a significant factor in determining whether an organization decides to implement new e-initiatives, including E-Government, among corporate enterprises [22].

Last but not least, the adoption of new technology is influenced by the nature of the business, including firm size. The model takes into account factors such as Management Support (X6), Financial Resources (X7), and Business Nature (X8) in the context of the firm (X8). Therefore, the following hypotheses in Table 3 reflect the factors that should be investigated further in this study.

2.3. Behavioral Factors

A more modern explanation for how end-users accept and use information

Table 2. Technology hypotheses.

Number	Hypothesis
H1:	Relative Advantages impact E-Government adoption.
H2:	IT infrastructure impacts E-Government adoption.
H3:	Compatibility impacts E-Government adoption.
H4:	Complexity impacts E-Government adoption.
H5:	Security impacts E-Government adoption.

Table 3. Organizational hypotheses.

Number	Hypothesis
H6:	Management Support affects E-Government adoption.
H7:	Finance Resources affect E-Government adoption.
H8:	Business Nature affects E-Government adoption.

technology is the Unified Theory of Acceptance and Use of Technology (UTAUT) model of [23]. The theory investigates four key concepts: 1) performance expectancy, 2) effort expectancy, 3) social Influence, and 4) facilitating factors. Gender, age, and experience are proposed as mediating factors in the behavioral component, which addresses effort expectancy, performance expectancy, and social impact. [8] asserts that the perceptions of utilizing E-Government services in terms of perceived advantages, such as enabling contact with the Government, enhancing the quality of government services, and giving people an equal footing on which to conduct business with the Government, might be used to gauge performance expectancy. According to empirical evidence from prior studies, these students' behavioral intentions were influenced by peer pressure, effort expectations, and performance expectations. Additionally, decision-makers were informed that the usage of E-Government services was dictated by enabling conditions and behavioral intents and that these services needed to be helpful to the intended users.

[9] identified the elements influencing the adoption of E-Government services in Pakistan and developed an integrated model employing UTAUT and initial trust. Performance Expectancy (X9), Effort Expectancy (X10), Social Influence (X11), Perceived Usefulness (X12), and Ease of Use have been taken into consideration as the factors for the behavioral context (X13). Language (X14) and Uncertainty have been included as two moderating factors based on the Cultural Context (X15). The premise based on the behavioral context is shown in Table 4. The underlying hypothesis is shown in Table 5 using the moderating factors.

Table 4. Behavioral hypotheses.

Number	Hypothesis
H9:	Performance Expectancy affects E-Government adoption.
H10:	Effort Expectancy affects E-Government adoption.
H11:	Social Influence affects E-Government adoption.
H12:	Perceived Usefulness affects E-Government.
H13:	Ease of Use affects E-Government adoption.

Table 5. Moderating hypotheses.

Number	Hypothesis
H14:	There is an impact of Perceived Usefulness by moderating Language on E-Government adoption.
H15:	Ease of Use is impacted by moderating Language on E-Government adoption.
H16:	There is an impact of Perceived Usefulness by moderating Uncertainty on E-Government adoption.
H17:	Ease of Use has an impact by moderating Uncertainty on E-Government adoption.
H18:	There is an impact on Effort Expectancy by moderating Language on E-Government adoption.
H19:	There is an impact on IT Infrastructure by moderating Language on E-Government adoption.
H20:	There is an impact of Complexity by moderating Uncertainty on E-Government adoption.

3. Analysis of the Data (Results & Discussion)

The linear model is a way to examine how the research model's concept, significance, and R^2 relate to one another. The Partial Least Square (PLS) method is used in this study to examine the relationships between the variables in the research model and evaluate the research hypothesis. The dependent construct's r-square, t-tests, and the parameters' significance are used to assess the structural model.

3.1. Convergent Validity Evaluation

The value of the loading factor (outer loading) on each indicator is examined for this evaluation. The indication is legitimate if the value is higher than 0.50 [19]. Look at Table 6.

A construct indicator with a loading value below 0.7 should be considered and included in the subsequent analysis as it is legitimate, according to the test results in

Table 6. Loading factor for each indicator.

Variable	Item	Outer loading
Relative Advantage (X1)	X1.1	0.893
	X1.2	0.912
	X1.3	0.886
	X1.4	0.783
IT Infrastructure (X2)	X2.1	0.775
	X2.2	0.812
	X2.3	0.815
Compatibility (X3)	X3.1	0.812
	X3.2	0.881
	X3.3	0.932
	X3.4	0.885
	X3.5	0.868
Complexity (X4)	X4.1	0.933
	X4.2	0.817
	X4.3	0.810
Security (X5)	X5.1	0.712
	X5.2	0.881
	X5.3	0.898
Management Support (X6)	X6.1	0.912
	X6.2	0.903
	X6.3	0.953

Continued

Finance Resources (X7)	X7.1	0.945
	X7.2	0.946
	X7.3	0.732
	X7.4	0.889
Business Nature (X8)	X8.1	0.818
	X8.2	0.943
	X8.3	0.889
	X8.4	0.901
Performance Expectancy (X9)	X9.2	0.778
	X9.3	0.878
	X9.4	0.885
	X9.5	0.727
Effort Expectancy (X10)	X10.1	0.868
	X10.2	0.855
	X10.3	0.908
Social Influence (X11)	X11.1	0.779
	X11.2	0.885
	X11.3	0.821
	X11.4	0.844
Perceived Usefulness (X12)	X12.1	0.885
	X12.2	0.886
Ease of Use (X13)	X13.1	0.843
	X13.2	0.923
	X13.3	0.965
Language (X14)	X14.1	0.811
	X14.2	0.900
	X14.3	0.823
	X14.4	0.887
	X14.5	0.845
Uncertainty (X15)	X15.1	0.774
	X15.2	0.775
E-Government Adoption (Y)	Y.1	0.891
	Y.2	0.854
	Y.3	0.868
	Y.4	0.939

Table 6. All indicators after assessment can be used for further investigation since the test findings in Table 6 demonstrate that all build indicator loading values have values above 0.7. By comparing the average extracted variance to the square correlations between the construct and each of the other constructs in the model, discriminant validity is determined. A reverse technique is used to make the computation process nimble. It demonstrates how one construct is unique from the others. The square root of the AVE is determined to assess the construct discriminant validity, and it must be higher than each construct correlation. Table 7 displays construct correlations for each variable in the model as well as the square root of the AVE.

Table 7 presents the values of the root square of AVE in latent variables Relative Advantage (X1) (0.87), IT Infrastructure (X2) (0.80), Compatibility (X3) (0.88), Complexity (X4) (0.85), Security (X5) (0.83), Management Support (X6) (0.92), Finance Resources (X7) (0.88), Business Nature (X8) (0.89), Performance Expectancy (X9) (0.82), Effort Expectancy (X10) (0.88), Social Influence (X11) (0.83), Perceived Usefulness (X12) (0.89), Ease of Use (X13) (0.91), Language (X14) (0.95), Uncertainty (X15) (0.77), and E-Government Adoption (Y) (0.89) are either strongly or significantly correlated to each other, therefore, the model is good to use for the measurement based on the discriminant validity.

3.2. Structural Evaluation Model (SEM)

The study examined the relationship between the independent variables (X1

Table 7. PLS correlation matrix. Diagonal elements (values in parentheses) are the square root of the AVE.

	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	Y
X1	(0.87)															
X2	0.14	(0.80)														
X3	0.11	0.33	(0.88)													
X4	0.01	0.07	0.50	(0.85)												
X5	0.20	0.29	0.55	0.44	(0.83)											
X6	0.30	0.32	0.52	0.47	0.55	(0.92)										
X7	0.11	0.29	0.62	0.55	0.56	0.51	(0.88)									
X8	0.16	0.25	0.51	0.41	0.49	0.32	0.50	(0.89)								
X9	0.12	0.15	0.50	0.54	0.50	0.51	0.42	0.42	(0.82)							
X10	0.07	0.23	0.40	0.48	0.49	0.54	0.35	0.25	0.53	(0.88)						
X11	0.36	0.14	0.47	0.49	0.45	0.49	0.47	0.47	0.48	0.40	(0.83)					
X12	0.29	0.29	0.60	0.55	0.60	0.65	0.58	0.46	0.52	0.52	0.55	(0.89)				
X13	0.12	0.33	0.65	0.58	0.60	0.59	0.65	0.48	0.51	0.47	0.49	0.64	(0.91)			
X14	0.10	0.26	0.55	0.51	0.54	0.49	0.67	0.46	0.38	0.35	0.43	0.55	0.61	(0.85)		
X15	0.20	0.23	0.36	0.38	0.41	0.58	0.43	0.20	0.39	0.42	0.39	0.51	0.46	0.44	(0.77)	
Y	0.24	0.33	0.59	0.53	0.61	0.66	0.58	0.41	0.53	0.56	0.51	0.67	0.64	0.56	0.54	(0.89)

through X13, including moderating and without moderating variables) and the dependent variable, Y. A structural model evaluation is employed to examine the role of the independent variable to the dependent variable using the R^2 value. This is known as the goodness of fit model through the [24] Tenenhaus Goodness of Fit (GoF) value. Therefore, the test was done twice. The first test is done on the model without including the moderating variables. The second test was done on the model that consists of the moderating variable, which aims to determine the effect of moderating variables on the relationship of independent variables with the dependent variable.

3.2.1. R^2 of Model

After the estimated model meets the criteria of convergent validity, discriminant validity, and construct reliability, the next step is testing the structural model (inner model). By examining the estimated result of the path parameter coefficient and its significant level, one may evaluate the internal model by examining the link between the latent construct. The dependent variable's R^2 value in the model reveals how much of the dependent variable's variation the independent variable can explain. According to the PLS results, the adjusted R^2 of the model without considering the moderating variables is 0.938, which indicates that all independent variables have a significant impact on the dependent variable or that independent variables in the model can effectively explain the variance of the model.

Meanwhile, the adjusted R^2 of that includes the moderating variable is 0.071, which means the model's independent variable can explain the model's variance quite well, or all independent variables poorly affect the dependent variable. The PLS findings demonstrate that adding moderating factors to the model in this study will lessen the impact of independent variables on the dependent variable.

3.2.2. Q^2 Predictive Relevance

[25] created the Q^2 test to evaluate the endogenous components' prediction utility. This test shows how effectively the parameter estimations and the model reproduce the observed values. When the $Q^2 > 0$, it is assumed that the model is predictively relevant; when it is less than 0, it is assumed that the model is not predictively appropriate. Depending on the form of a prediction, two forms of Q^2 may be identified: cross-validated communality and cross-validated redundancy, which proposes utilizing the latter to assess the theoretical/structural model's predictive applicability.

According to the PLS results, the adjusted Q^2 of the model without the moderating factors is 0.988. In the meanwhile, the moderating variable's adjusted Q^2 in the model is 0.998. Models with and without moderating factors exhibit Q^2 values greater than 0, indicating that the model has excellent predictive relevance.

3.2.3. Tenenhaus Goodness of Fit (GoF) [24]

Since no global criteria are optimized in PLS, there are no standards that permit

an evaluation of the entire model. [24] offered a solution to this issue in the form of a global goodness-of-fit (GoF) benchmark, which can be viewed as an indicator for thoroughly verifying the PLS model worldwide. The geometric mean of the average commonality and the average R^2 constitutes this GoF measurement. [26] offers instructions on the goodness-of-fit (GoF) criterion to determine if a model is sound. According to Cohen, 0.1 GoF 0.25 denotes a small goodness-of-fit (GoF), 0.25 GoF 0.36 denotes a medium goodness-of-fit (GoF), and GoF 0.36 denotes a big goodness-of-fit (GoF). [24] adds a GoF value of 0.1, highlighting the model's weak yet adequate predictive ability.

The [24] goodness-of-fit (GoF) model without considering the moderating factors is 0.865, according to the PLS result, indicating that the model has a significant goodness-of-fit (GoF). While the [24] goodness-of-fit (GoF) model containing the moderating variable has a value of 0.258, this indicates a medium goodness-of-fit for the model (GoF). [24] goodness-of-fit (GoF) of higher than 0.1 shows that both the model without the moderating factors and the model with the moderating variables are good and potentially acceptable models.

3.3. Hypothesis Testing

The significance of the route coefficient of the partial least squares method is used to test hypotheses (PLS). The path coefficient depicts the impact of one independent variable on the dependent variable. It may be argued that the results supported the study hypothesis if the p-value of the path coefficient is 0.05 (five percent), which indicates that the independent factors have a substantial impact on the dependent variables. **Figure 2** and **Figure 3** below show the path coefficient for this investigation.

Table 8 and **Table 9** reveal the path coefficient value obtained from the Partial Least Square (PLS). The values were applied to test the hypothesis.

Table 8 and **Table 9** reveals the results of the path coefficient from **Figure 2** and **Figure 3** respectively. Hypothesis H1, H2, H4, H8, H9, and, H11 have positive and negative coefficient values but p-value > 0.05 (α = 5%). Thus, hypotheses H1, H2, H4, H8, H9, and H11 are rejected. Hypothesis H3, H5, H6, H7, H9, H10, H12, H13, and H14 have significant path coefficient values and have p-value < 0.05 (α = 5%), and hence hypotheses H3, H5, H6, H7, H9, H10, H12, H13, and H14 are accepted.

Hypothesis H15 tests the moderator path variant coefficient (X13*X14) and shows the result that the variable of the interaction of X13 and X14 has a p-value equal to 0.002 with a path coefficient of −0.107. The p-value is less than 0.05 (α = 5%); hence, Hypothesis H15 is accepted. For testing H16 moderating path variant coefficient (X12*X15) shows the result that in the interaction variable, X12 and X15 found a p-value equal to 0.081 with a path coefficient of −0.052. Since the p-value > 0.05 (α = 5%), hence the hypothesis H16 is rejected. H17 also tested the moderating effect of X15 over X13 and found the path coefficient value of −0.133 and a p-value <0.05. Hence, the H17 is accepted.

Table 8. Results of path coefficient of the partial least square (PLS) without moderating variables.

Effect Path	Coefficient	P-value
Relative Advantage (X1) -> E-Government Adoption (Y)	0.042	0.129
IT Infrastructure (X2) -> E-Government Adoption (Y)	−0.033	0.186
Compatibility (X3) -> E-Government Adoption (Y)	0.016	0.333
Complexity (X4) -> E-Government Adoption (Y)	−0.045	0.111
Security (X5) -> E-Government Adoption (Y)	0.171	<0.001
Management Support (X6) -> E-Government Adoption (Y)	0.466	<0.001
Finance Resources (X7) -> E-Government Adoption (Y)	−0.03	0.212
Business Nature (X8) -> E-Government Adoption (Y)	−0.044	0.119
Performance Expectancy (X9) -> E-Government Adoption (Y)	0.072	0.025
Effort Expectancy (X10) -> E-Government Adoption (Y)	0.088	0.009
Social Influence (X11) -> E-Government Adoption (Y)	0.004	0.454
Perceived Usefulness (X12) -> E-Government Adoption (Y)	0.172	<0.001
Ease of Use (X13) -> E-Government Adoption (Y)	0.289	<0.001

Table 9. Results of path coefficient of the partial least square (PLS) with moderating variables

Effect Path	Coefficient	P-value
Relative Advantage (X1) -> E-Government Adoption (Y)	−0.03	0.21
IT Infrastructure (X2) -> E-Government Adoption (Y)	−0.039	0.143
Compatibility (X3) -> E-Government Adoption (Y)	−0.076	0.02
Complexity (X4) -> E-Government Adoption (Y)	−0.059	0.055
Security (X5) -> E-Government Adoption (Y)	0.14	<0.001
Management Support (X6) -> E-Government Adoption (Y)	0.328	<0.001
Finance Resources (X7) -> E-Government Adoption (Y)	−0.078	0.017
Business Nature (X8) -> E-Government Adoption (Y)	−0.007	0.422
Performance Expectancy (X9) -> E-Government Adoption (Y)	0.004	0.456
Effort Expectancy (X10)-> E-Government Adoption (Y)	−0.058	0.057
Social Influence (X11) -> E-Government Adoption (Y)	0.006	0.431
Perceived Usefulness (X12) -> E-Government Adoption (Y)	0.307	<0.001
Ease of Use (X13) -> E-Government Adoption (Y)	−0.435	<0.001
IT Infrastructure (X2) * Language (X14) -> E-Government Adoption (Y)	0.098	0.004
Complexity (X4) * Language (X14) -> E-Government Adoption (Y)	0.045	0.112
Effort Expectancy (X10) * Language (X14) -> E-Government Adoption (Y)	−0.0.0	0.407
Perceived Usefulness (X12) * Language (X14) -> E-Government Adoption (Y)	0.022	0.277
Ease of Use (X13) * Language (X14) -> E-Government Adoption (Y)	−0.107	0.002
Perceived Usefulness (X12) * Uncertainty (X15) -> E-Government Adoption (Y)	−0.052	0.081
Ease of Use (X13) * Uncertainty (X15) -> E-Government Adoption (Y)	−0.133	<0.001

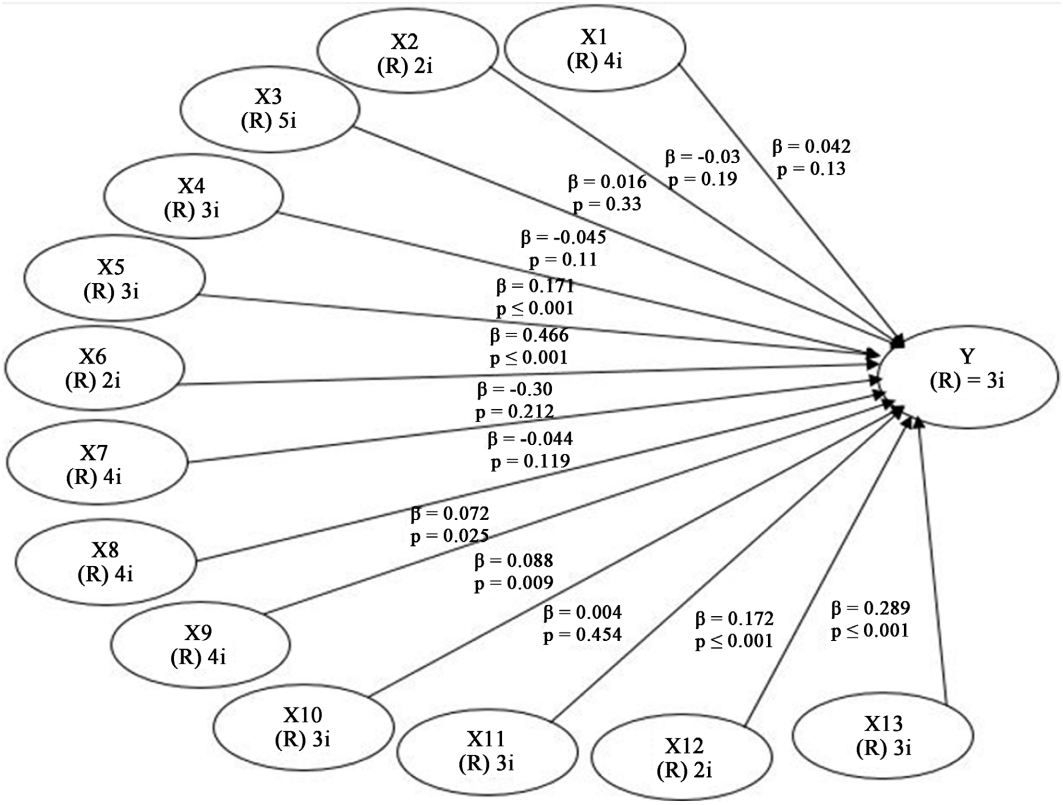

Figure 2. Path coefficients of the partial least square (PLS) results without moderating variables

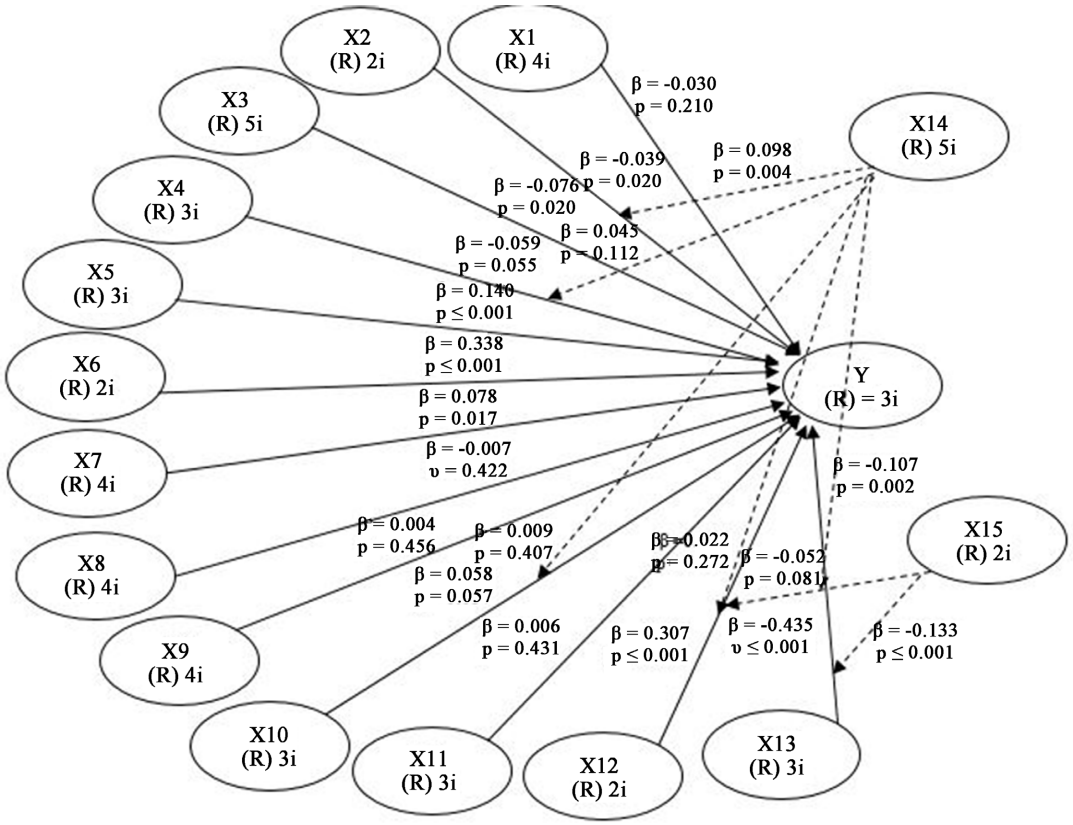

Figure 3. Path coefficients of the partial least square (PLS) results with moderating variables.

Hypothesis H18 and H20 tested the moderating variable X14 with X10 and X12 and found the path coefficient values −0.009 and 0.112, respectively, with p-value >0.05; thus, hypotheses H18 and H20 are rejected. Finally, H19 was tested with the moderating variable X14 with X2 and found path coefficient value −0.098 and p-value < 0.05. Hence H19 is accepted. Table 10 presents the summary of the hypothesis results.

4. Conclusion

To conclude this research, after examining twenty hypotheses, the authors answered and proved that sixteen variables some factors have positive and others have negative impacts, as discussed in the previous section. The authors proposed a new module that could guide the Iraqi Government to consider some technology, organizational, and behavioral factors towards utilizing E-Government among Iraqi Business Organizations. This study extends the literature by using the UTAUT model and examining the effects of Technology, Organizational, and Behavioral Factors on the Utilization E-Government Adoption Model by moderating cultural

Table 10. Summary of hypothesis testing and its status.

Hypothesis	Effect Path	P-value	Status
H1	Relative Advantage (X1) -> E-Government Adoption (Y)	0.210	Rejected
H2	IT Infrastructure (X2) -> E-Government Adoption (Y)	0.143	Rejected
H3	Compatibility (X3) -> E-Government Adoption (Y)	0.020	Accepted
H4	Complexity (X4) -> E-Government Adoption (Y)	0.055	Rejected
H5	Security (X5) -> E-Government Adoption (Y)	<0.001	Accepted
H6	Management Support (X6) -> E-Government Adoption (Y)	<0.001	Accepted
H7	Finance Resources (X7) -> E-Government Adoption (Y)	0.017	Accepted
H8	Business Nature (X8) -> E-Government Adoption (Y)	0.422	Rejected
H9	Performance Expectancy (X9) -> E-Government Adoption (Y)	0.456	Rejected
H10	Effort Expectancy (X10)-> E-Government Adoption (Y)	0.047	Accepted
H11	Social Influence (X11) -> E-Government Adoption (Y)	0.431	Rejected
H12	Perceived Usefulness (X12) -> E-Government Adoption (Y)	<0.001	Accepted
H13	Ease of Use (X13) -> E-Government Adoption (Y)	<0.001	Accepted
H14	IT Infrastructure (X2) * Language (X14) -> E-Government Adoption (Y)	0.004	Accepted
H15	Complexity (X4) * Language (X14) -> E-Government Adoption (Y)	0.112	Rejected
H16	Effort Expectancy (X10) * Language (X14) -> E-Government Adoption (Y)	0.407	Rejected
H17	Perceived Usefulness (X12) * Language (X14) -> E-Government Adoption (Y)	0.277	Rejected
H18	Ease of Use (X13) * Language (X14) -> E-Government Adoption (Y)	0.002	Accepted
H19	Perceived Usefulness (X12) * Uncertainty (X15) -> E-Government Adoption (Y)	0.081	Rejected
H20	Ease of Use (X13) * Uncertainty (X15) -> E-Government Adoption (Y)	<0.001	Accepted

factors among Saudi citizens. Because of the consequence of the successful implementation of electronic government services and from a practical perspective, the Government and other responsible bodies should take a firm position towards the factors that influence system acceptance. The present study attempted better understand the E-Government adoption profile among Saudi citizens. It proposed a model for E-Government adoption for the Saudi environment. In this study, an effort was made to ensure that all E-Government applications are relevant to the implementation stages in the framework adoption. However, there might be other possible factors that can be included in the framework but which may have been overlooked and not considered. Therefore, future research should examine relevant factors that may affect E-Government Adoption in KSA. Furthermore, the same approach should be replicated with different samples elsewhere.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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