Employee's Attitude toward Electronic Administration Adoption: A Case Study of Al-Mustansiriyah University

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Abstract — The advancement of the information and communications technology has helped almost all governments across the world as they have exploited these technologies for delivering services to their citizens. However, this phenomenon may face several challenges and barriers that lead to the failure in its adoption, use, or continuous usage. In the Arab countries, the rate of failure in the use of electronic services is high in the public sector. Therefore, previous studies have concentrated on this critical issue and highlighted on the citizens' perspective and ignored the perspective of employees in the government organizations. In addition, very few previous studies dealt with the quality of the services based on the employees' viewpoint. Thus, based on the arguments that have been stated earlier, this preliminary study strives to identify the factors that may affect the electronic administrative adoption according to the employees' perspective. With regard to the data collection, the quantitative method, self-administered questionnaires will be distributed among the staff of the Al-Mustansiriyah University, Iraq. With regard to data analysis, a technique identified in analysing the data gathered from the key respondents (employees) is the partial least squares – structural equation modelling. In fact, this research strives to enrich the literature by adding more information about the factors that may hinder the adoption of modern technologies in general and electronic administration in particular. With regard to the Al-Mustansiriyah University, the present study is considered as the first study conducted in this area; therefore the outputs will assist the government to remedy these obstacles before beginning any project in the public sector including the use of ICT instead of the conventional manner. The result of the analysis showed that certain aspects such as system quality, the trust in the organization as well as the usefulness have been seen to act as major factors which contribute impacts to the adoption of e-administration services by the employees in universities.

I. INTRODUCTION

Recently, organizations face many challenges because of the growing flood of digital information. Included in these challenges are improvement of collaboration processes, avoiding wasting time and money in information management, fulfilling reporting obligations and standards, and ensuring information quality (Conry-Murray, 2008; Päivärinta&Munkvold, 2005). Demirtel and Bayram (2014) stated that public institutions require electronic administration systems, which allow them to manage the records systematically, produce within their business processes, and perform these processes in electronic media. Indeed, the main emphasis of using modern technology in the public sector is not only to automate the traditional organization service processes but also to allow for transparency and accountability in the governmental institutions, which will consequently improve the institutions' performance.

According to Onuigbo and Eme (2015), e-administration is actually a form of segment which exemplifies the e-Government which plays it role in managing internal administration in the government instead of external users such as businesses as well as the public. E-administration is also seen as the primary aspect that is included when it comes to the public institution's administration process and its success. Eynon, Dutton and Margetts (2006) define electronic administration as "an application using Information and Communication Technology (ICT) to support back-office administrative tasks." Similarly, Sanchez (2006) states that in e-administration, communication technology is used to assist information flow both inside and outside the general public organization. In general, electronic administration systems cover the interaction among the departments or the agencies simply as an effort of improving administrative processes in line with the hierarchical organisation (Dyah,

2013; Heeks (2010). Moreover, hierarchical structure usually leads to complexity of administration and specific duties within the institutions in the government (Niskanen, 2007). In order to enhance the internal issues in the public sector, this e-administration application actually has the potential in allowing integrated communication as well as the process involved in administering institutions such as universities and also in governments as a whole.

Indeed, conventional administrative processes take much time and huge costs. However, official documents can be delivered fast and easily through the use of digital channels. Basically, the e-administration revolves around any tool which has the potential in changing the traditional office environment or way of conducting things and tasks into electronically based work with an ultimate aim of reducing papers and creating a paperless office environment and norms (Wikipedia, 2014). The major purpose of implementing electronic administration systems in the public sector is to enhance efficiency of work processes (Heeks, 2002). At any rate, implementing electronic administration services is not as easy as it is. This is also interrelated to the main fact that most of the projects in ICT in the public sector are a failure (Heeks, 2006), predominantly countries that are developing. This is due to the many challenges and barriers that impede the adoption and use of electronic administration in these countries, and Iraq is one of these countries.

Additionally, unlike the adoption and use of numerous IT applications within the non-public sector that is in most cases considered obligatory, the adoption of modern technology within the public sector is voluntary and usually be seen in a disorderly environment of socio-politics which apparently involves the amendments in the

leadership as well as budgets. Moreover, many of the previous studies have concentrated on the Information and Communication Technologies (ICTs) in the government institutions from the citizens' perspective instead of the organization's and employee's perspective. Moreover, previous literature has been focused on the technology aspect, while it has neglected other aspects such as social and organization issues, such as trust and quality in the services and information. This emphasizes the main idea of having a fine understanding regarding multi-faceted factors which might have an influence on the adoption of employees towards the technology used now such as the electronic administration system. In general, the implementation of IT is actually the decision made by the organization in for the purpose of supporting the organization's functions, the process of making decision as well as for the purpose of business management process (Alsaif, 2014). As a consequence, the present study is grounded on information collected from questionnaires filled out by employees of Al-Mustansiriyah University. This critical sampling will give vital information related to this phenomenon.

II. LITERATURE REVIEW
a. Previous research

Indeed, prior research on adoption of modern technologies has largely focused on the countries that are developing. Consequently, researches under studied this area of study as there has been only a few studies which covers the topic of examining the adoption of information technology in the countries that are developing as well as Arab in specific. Table 1 presents the prior research on ICT in the public sector in developed and developing countries.

Table 1: Previous empirical studies of ICT in public sector

Author (s)	Objective	Method	Findings
Colesca and Liliana (2009)	The key aim of the presented study is to determine the factors that could affect the citizens' adoption of e-services. Therefore, this study is an extension of the technology acceptance model.	To attain the objective for this paper, the researcher distributed the questionnaire among the citizens (quantitative).	Based on the result, it has been indicated that perceived ease of use, perceived usefulness, perceived trust, perceived quality demographic factors, and user satisfaction are seen as the core factors that affect the citizens of Romania's adoption of the e-services in the public sector.
Al-Shafi and Weerakkody (2010)	This study sought to exploit and utilise the UTAUT to explore the adoption of e-government services in Qatar.	The quantitative approach was used to achieve the main objective.	The outcomes had demonstrated that effort expectancy and social influences determine residents' behavioural purpose towards e-government. Further, facilitating conditions and behavioural intention have been discovered to decide residents' use of e-government services in Qatar.

Lean, Zailani, Ramayah and Fernando (2009)	The study investigated the factors that influence the intention to use e-government services among Malaysians	The study was conducted by surveying a broad diversity of citizens in the Malaysian community.	Based on the final result, the evaluation indicated that trust, perceived usefulness, perceived relative advantage, and perceived image respectively have an instantaneous positive significant relationship towards the purpose for using e-government services, and perceived complexity has a significant negative relationship towards the purpose for the usage of e-government services.
Ahmad, Markkula and Oivo, (2012)	This paper aimed to explore the challenges and barriers of e-government services from the users' perspective.	This paper exploited quantitative approach, where the questionnaire was distributed among Pakistani students through different communication channels, such as personal email, and various groups on social media websites.	Based on the results gained, the elements influencing the adoption of e-government services in Pakistan are associated with ease of use, usefulness, social influence, technological issues, lack of awareness, data privacy, and trust.

In view of the discussions earlier, it is important to focus on the employees' perspective when adopting modern technologies in the public administration. Therefore, in exploring the main causes that brought to the e-administration's adoption, the viewpoint of the employees of initiation is deemed essential in the failure or success of any initiative in the governmental organization.

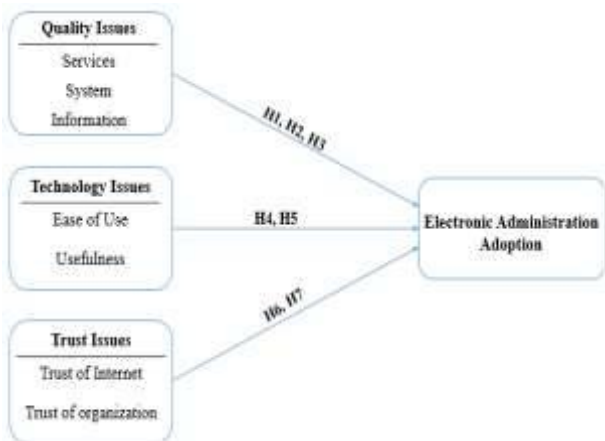### b. Conceptual model and hypotheses development

Fig.1: Conceptual Model of the Study

In the present section, a conceptual model will be developed, which is derived from the previous reviews of literature and addresses the identify research gap. The figure below illustrates the proposed conceptual model for the present study.

As illustrated in Figure 1, the proposed conceptual model encompasses three components, namely: quality issues, technology issues, and trust issues. More precisely, this model consists of seven exogenous latent variables and one endogenous latent variable. The following sections will discuss these variables and set up the hypotheses.

i. Exogenous Latent Variables

Information Quality: Bock, Lee, Kuan and Kim (2012) stated that the "degree to which the information on the electronic system possesses the elements of content, usefulness, timeliness and accuracy is called information quality". A lot of studies have been bound to examining the information quality of the e-services (whether in public or private sector). Wangpipatwong, Chutimaskul and Papasratorn (2005) state that information quality has an impact on the ICT adoption in the public sector. Also, Gilbert et al., (2004) reveal that information quality is the strongest significant predictor of willingness to use ICT in the public sector (such as electronic government). However, there has been only few or no research which has been done in finding the effect IT has on the employee adoption of electronic administration in the context of public sector, such as universities. Thus, the related hypothesis can be predicted as follows:

H1: Information quality will affect the employee adoption of electronic administration in University.

Services Quality: Quality of service is deemed to play an essential role in online services (Rehman&Esichaikul, 2011). The studies done by Lee, Braynov and Rao (2003),Wangpipatwong et al. (2005) and Shareef, Archer, Kumar and Kumar (2010) have involved the investigation of service quality issues on electronic systems in the public sector. Basically, there has also been only a few researches on the impact of service quality which eventually directed the users in adopting the e-administration especially when it comes to developing countries in general and Iraq in particular. Hence, the related hypothesis can be predicted as follows:

H2: Services quality will affect employee adoption of electronic administration in University.

System Quality: Quality of system is referred to as the desirable characteristics of an electronic system. More specifically, Chomchalao and Naenna (2013) defined the system quality as: "the efficiency of a system in producing and delivering information and services to users". Wangpipatwong et al. (2005) state that system quality may influence the adoption of electronic context. Therefore, the related hypothesis can be predicted as follows:

H3: System quality will affect employee adoption of electronic administration in University.

Ease of Use: Ayyash, Ahmad and Singh (2013) state that it happens that users deemed the e-system is helpful and beneficial in helping them to complete their transactions effectively and in an efficient way, it may be because of the reasons that it is easy to be used, has a user friendly interface besides flexible, thus they will certainly have the idea that the system is definitely a good choice. Meanwhile, according to Davis (1989), it is actually a degree or certain extent to which an individual happens to believe that by utilizing a certain system, it will result in an effort free environment. Hence, the related hypothesis can be predicted as follows:

H4: Ease of use will affect employee adoption of electronic administration in University.

Usefulness: According to Ayyash et al. (2013), usefulness is actually an element that prompts the user to actually e-services in the public sector. In addition, Davis (1989, p. 320) defines usefulness as "the degree to which a person believes that using a particular system would enhance his or her job performance." Furthermore, Warkentin et al., (2002) define it as "the degree that users believe that a particular system facilitates their activity". A number of studies highlight that usefulness will determine ICT utilization in the non-private sector, such as Carter and Belanger (2003) and AlAwadhi and Morris (2008). Hence, the related hypothesis can be predicted as follows:

H5: Usefulness will affect employee adoption of electronic administration in University.

Trust in Organization: In general, Mayer et al., (1995, p. 172) defines trust as "the willingness of a party to be vulnerable to the actions of another party based on the expectations that the other party will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party". Carter and Belanger (2004) in their research also claimed that trust in governmental organization also will certainly affect

adoption and use of ICT. Hence, the related hypothesis can be predicted as follows:

H6: Trust in organization will affect employee adoption of electronic administration in University.

Trust in Technology: Referring to an online aspect and context, trust is believed to be a key driver for adoption (Gefen, Karahanna & Straub, 2003). Indeed, trusts in government agencies or trusts in organizations actually refer to the belief in the capacity of the agencies and the ability of the staff in conducting the online services privately (Alsaif, 2014). The studies which have been carried out in the past on the online behaviour also stated the significance of trust in adoption models in order to achieve better understanding on the acceptance of users in terms of e-services (Carter &Weerakkody, 2008). Belanger and Carter (2008) and Carter and Belanger (2005) suggest that adoption of ICT in the public sector is strongly determined by Internet trust. Hence, the related hypothesis can be predicted as follows:

H7: Trust in technology will affect employee adoption of electronic administration in University.

ii.   Endogenous Latent Variable

Adoption of electronic administration system: According to Kumar, Mukerji, Butt and Persaud (2007), adoption actually refers to the simplest form of decision that include the decision either to use or not use the e-services. In general, Davison, Wagner and Ma, (2005) said that, "public institutions are traditionally more conservative entities, slower to change, and slower to adopt new initiatives than operators in the commercial field". Therefore, Kumar et al. (2007) have generally discovered the rate of ICT adoption in non-private sector where it has been seen to be below the expectations level around the world, although some of the countries are performing much better than others. Thus, adoption is a significant aspect in the success of ICT initiatives in developing countries. Hence, it is observed that low rates of adoption and usage are actually matters that are deemed serious, and continuous for the governments. Despite the presence of an electronic world, there is still the problem of a lack of proper adoption of employees of electronic services (Mobahi, 2011). Therefore, this study seeks to find out the factors that influence employee adoption of electronic administration services.

III.   RESEARCH METHODOLOGY

a.   Instrument and data collection

In this research, the researchers have decided to use the quantitative method of research simply by the involvement of questionnaires as the main data collection method. Besides, the questionnaire of the present research

was advanced totally based on preceding literature and was then disbursed to a random sample wherein participation was absolutely voluntary. Moreover, the purpose of this study is to determine the critical factors that may influence electronic administration adoption in the public institutions, the universities in particular.

Furthermore, in Sekaran (2014), it has been highlighted that there was an urge of using the language that are approximate to the level of understanding of the respondents in order to get a genuine result. As we know, the employees in public institutions in Iraq use Arabic language as their means of communication thus, it was decided that the questionnaire questions were drafted in both English and Arabic language. The researchers also will be there with the respondents if they need any help in terms of translating or explaining the needs of the questions to them. Generally, majority of the respondents actually took less than 15 minutes in answering the questions given. 64 sets of questionnaires were then collected from all the respondents in total.

The constructs of interest of this study are "Electronic Administration Adoption" (EAA), "Information Quality" (IQ), "System Quality" (SYQ), "Service Quality" (SQ), "Trust in Technology" (TT) and "Trust in Organization" (TO). The theoretical construct was carried out using validated items drawn from the previous study. Specifically, the TAM scale of EOU, UF and EAA was measured with the items that are adopted from Davies (1989) and Davis et al. (1989) and Aldalalah, Ababneh and Shatat (2015). IQ, SYQ and SYQ items were adopted from Koo, Wati and Chung (2013) and Gorla, Somers and Wong (2010) and Parasuraman, Zeithaml and Malhotra (2005) and Lee, Strong, Kahn and Wang (2002) and Chen (2010) and Song (2010).TT and TO items were adopted from Al-Haddad (2013) and Alsaif (2014). In addition, all items were also being measured with by applying the five-point likert scales starting from strongly agree to strongly disagree.

b. Data analysis

For the data analysis part, this particular study used PLS-SEM in the analyzation of the sets of questionnaire that were returned by the respondents. By the utilization of the PLS-SEM comprehensive statistical approach, it has been found that the simultaneous evaluation and modification of a conceptual model which includes the relationships among the latent variables are not impossible and can be easily done. (Anderson & Gerbing, 1988). PLS has been used in a broad area especially in testing a theory as well as validating it. According to Fornell and Larcker (1981), PLS involves examining the psychometric properties besides having the possibility in offering the evidences on whether or not relationships would be seen to be possibly exist. This approach is more appropriate for the existing study to analyze the elements that would affect e-administration adoption within the university. SmartPLS version 2.zero was used to carry out the PLS-SEM data evaluation. The first step for evaluation was to test the content material, convergent, and discriminant validate of constructs using the dimension version, whilst the second step was to test the structural model as well as the hypothesis.

i. Profile of respondents

Basically, 39 % (n= 25) of respondents were male respondents and 61 % (n = 39) were female respondents. The levels of education of the respondents were classified to different education groups. 42% of the respondents have bachelor's degree, while 22% have master's degree. Moreover, 19% and 17% of the respondents have diploma and PhD respectively. With regard to computer experience, 41% of the respondents have more than 10 years of experience in working. Moreover, 23% and 36% of the respondents have 4-6 years and 7-9 years of experience in working respectively. The details are as shown in Table 1 below.

Table 1. Sample profile

		Frequency	Percentage
Computer Experience	4-6 years	15	23.4
	7-9 years	23	35.9
	More than 10 years	26	40.6
Gender	Male	25	39.1
	Female	39	60.9
Work Experience	6-10 years	47	73.4
	11-15 years	14	21.9

	More than 20 years	3	4.7
	Diploma	12	18.8
Education Level	Bachelor	27	42.2
	Master	14	21.9
	PhD	11	17.2

ii.   Assessment of measurement model (Outer model)

The outer model evaluated the validity and reliability of the constructs. To assess this study, composite reliability, discriminate validity and convergent validity criteria were used (Chin, 2010; Hair et al., 2012). In the evaluation of the reliability of the PLS-SEM's reflective outer model, it is crucial to actually assess the indicator and construct reliability as portrayed in Figure 1 below. In terms of the indicator reliability, it is important to make sure that the loading of every indicator on its associated latent construct is being checked. In general, a loading of more than 0.7 is simply considered acceptable (Hulland, 1999; Hair et al., 2011; Gotz, Liehr-Gobbers, &Krafft, 2010). All these results were achieved by using PLS Algorithm in SmartPLS.
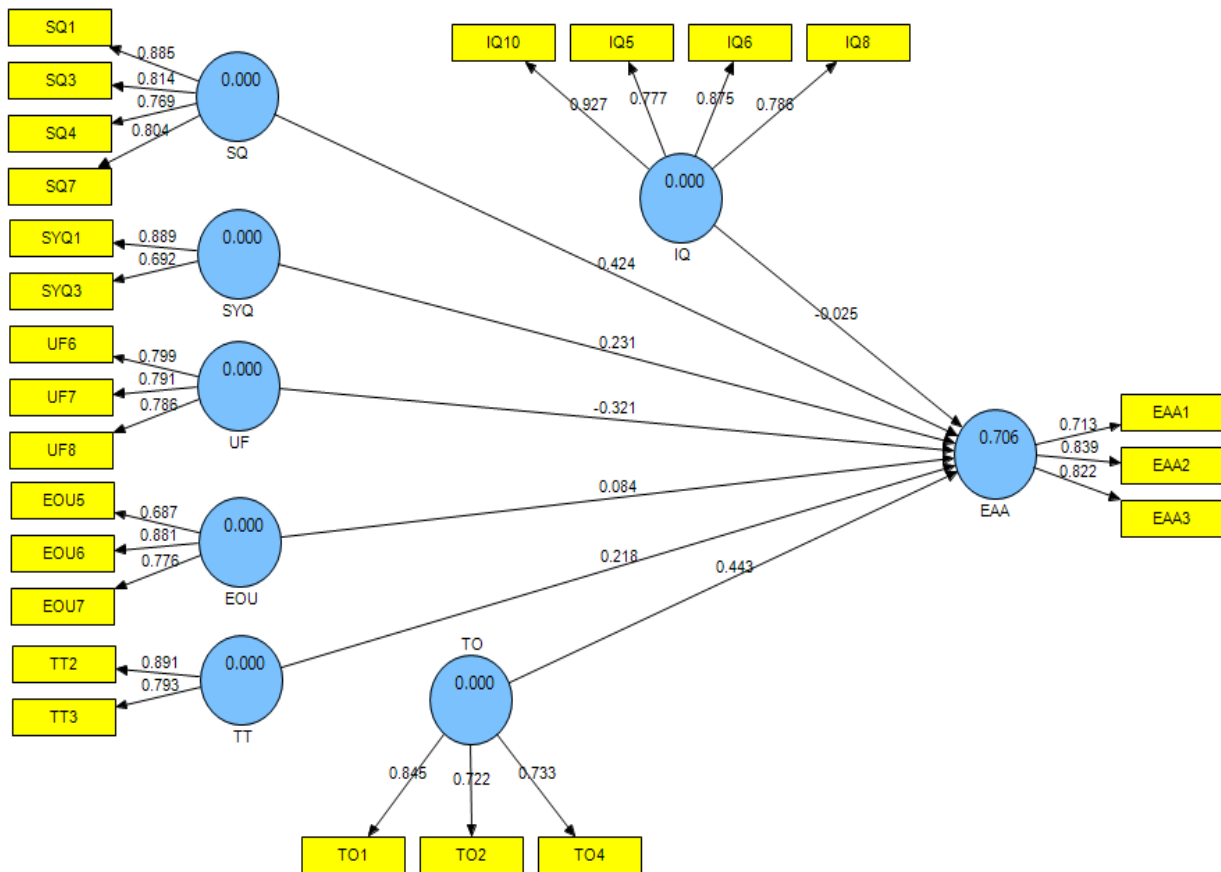
Fig.2: Measurement model

Meanwhile, the items with loadings between 0.4 and 0.7 needs to be taken out only if deleting the item might bring about an increase within the CR or AVE above the indicated threshold value (Hair et al., 2013). Besides, a Composite Reliability (CR) and average Variance Extracted (AVE) tests also need to be performed in measuring the convergent validity. In reference to Fornell and Larcker (1981), the CR value is recommended to have a value that exceeds 0.70 in confirming the convergent validity. In Table 2 below, it has been shown that the CR and AVE values for the constructs covered within the study model are all already above perfect levels.

Table 2. The results of assessment of the measurement model

Constructs	Items	Loading	AVE	CR
Electronic Administration Adoption	**EAA1**	0.713056		
	EAA2	0.838539	0.628867	0.834939
	EAA3	0.821587		
Ease of Use	**EOU5**	0.686599		
	EOU6	0.881283	0.616674	0.826891
	EOU7	0.775851		
Information Quality	**IQ10**	0.926714		
	IQ5	0.777427	0.711796	0.907621
	IQ6	0.875253		
	IQ8	0.786082		
Service Quality	**SQ1**	0.88469		
	SQ3	0.814174	0.67089	0.890503
	SQ4	0.769379		
	SQ7	0.80378		
System Quality	**SYQ1**	0.888977	0.63475	0.773895
	SYQ3	0.692257		
Trust in Organization	**TO1**	0.844984		
	TO2	0.721682	0.59083	0.811649
	TO4	0.733258		
Trust in Technology	**TT2**	0.891078	0.711052	0.830648
	TT3	0.792518		
Usefulness	**UF6**	0.799134		
	UF7	0.790754	0.627156	0.834602
	UF8	0.78585		

In terms of the discriminant validate, it can be explained that its establishment occurs when the square root of the AVE from the construct is observed to be bigger than the correlation shared between the construct and other construct in the model (Chin, 1998). Table 3 reports the results of the discriminant validate based on Fornell and Larcker.

Table 3. Discriminant validity of the variable constructs

Latent Variables	1	2	3	4	5	6	7	8
EAA	**0.7930**							
EOU	0.5904	**0.7853**						
IQ	0.4791	0.5341	**0.8437**					
SQ	0.6212	0.4686	0.7138	**0.8191**				
SYQ	0.4763	0.3768	0.1434	0.2512	**0.7967**			
TO	0.7121	0.5880	0.4774	0.5372	0.4035	**0.7686**		
TT	0.6072	0.6834	0.4493	0.4385	0.2110	0.5782	**0.8433**	
UF	0.4754	0.5460	0.5801	0.6734	0.3548	0.6707	0.4603	**0.7920**

On the other hand, cross-loadings are also achieved simply with the correlation of the component scores of each item with all other factors involved. In this study, the items are from a lower bound of 0.69 to an upper bound of 0.92, where the cross-loading actually shows value that was higher than 0.05 (Chin, 1998). In addition, all items

are higher in terms of their respective construct than on any other, as shown in Table 4.

Table 4. The cross loadings factors

	EAA	EOU	IQ	SQ	SYQ	TO	TT	UF
EAA1	**0.7131**	0.3872	0.4166	0.4849	0.2988	0.3067	0.3356	0.3284
EAA2	**0.8385**	0.4042	0.4667	0.6588	0.2164	0.6092	0.5083	0.4157
EAA3	**0.8216**	0.5916	0.2857	0.3548	0.5886	0.6998	0.5608	0.3812
EOU5	0.3347	**0.6866**	0.4865	0.4456	0.293	0.3963	0.3834	0.6815
EOU6	0.6017	**0.8813**	0.3868	0.3241	0.451	0.5473	0.5058	0.3661
EOU7	0.3939	**0.7759**	0.4407	0.3941	0.0813	0.418	0.7507	0.3388
IQ10	0.4933	0.5369	**0.9267**	0.6358	0.1364	0.417	0.4285	0.4469
IQ5	0.3306	0.3466	**0.7774**	0.6684	0.0179	0.377	0.4221	0.5198
IQ6	0.4293	0.4548	**0.8753**	0.5902	0.1717	0.413	0.3771	0.517
IQ8	0.332	0.4423	**0.7861**	0.5309	0.1411	0.4133	0.2835	0.5104
SQ1	0.4635	0.3755	0.6323	**0.8847**	0.2157	0.4266	0.3343	0.6572
SQ3	0.6592	0.4469	0.5672	**0.8142**	0.2505	0.5615	0.3999	0.5077
SQ4	0.4487	0.331	0.5644	**0.7694**	0.0092	0.4134	0.4026	0.5035
SQ7	0.3689	0.3448	0.5792	**0.8038**	0.3519	0.2708	0.2639	0.5545
SYQ1	0.451	0.3192	0.0446	0.1297	**0.889**	0.3963	0.1908	0.1636
SYQ3	0.2862	0.2857	0.23	0.3215	**0.6923**	0.2201	0.1409	0.4849
TO1	0.5595	0.3795	0.4166	0.447	0.2588	**0.845**	0.495	0.5722
TO2	0.4872	0.338	0.4336	0.527	0.2796	**0.7217**	0.4056	0.6756
TO4	0.5848	0.6154	0.2632	0.2844	0.3841	**0.7333**	0.4276	0.3269
TT2	0.5787	0.5987	0.353	0.3944	0.1595	0.5024	**0.8911**	0.2888
TT3	0.4307	0.5555	0.4196	0.3426	0.2054	0.4755	**0.7925**	0.5279
UF6	0.3451	0.4435	0.4295	0.4458	0.1976	0.5677	0.349	**0.7991**
UF7	0.3627	0.3699	0.4318	0.6005	0.2015	0.663	0.3889	**0.7908**
UF8	0.4142	0.4772	0.5079	0.5467	0.4196	0.3845	0.3557	**0.7859**

iii. Assessment of the structural Model (Inner Model)

In addition to PLS Algorithm, the present study made use of bootstrapping procedure in the SmartPLS 2.0, where the T values of every path coefficient were produced and subsequently along with the P values as depicted in Table 5.

Table 5. Hypotheses testing results

Hypothesis	Relationship	Beta	SE	*t* value	*p* value	Decision
H4	**EOU -> EAA**	0.083702	0.151506	0.552470**	0.58	Not Supported
H1	**IQ -> EAA**	-0.02477	0.126395	0.195977**	0.85	Not Supported
H2	**SQ -> EAA**	0.424341	0.16789	2.527487**	0.01	Supported
H3	**SYQ -> EAA**	0.230945	0.094376	2.447071**	0.02	Supported
H6	**TO -> EAA**	0.442642	0.134469	3.291781**	0.00	Supported
H7	**TT -> EAA**	0.218092	0.114884	1.898368**	0.06	Not Supported
H5	**UF -> EAA**	-0.32087	0.129678	2.474338**	0.02	Supported

** $p \leq 0.05$

The table above portrayed the structural model estimation as well as the evaluation of the hypotheses which have been formulated. Results have indicated that; out of seven of the exogenous latent variables, three of the variables were not supported, namely: ease of use, information quality and trust of technology, where t-value was 0.552, 0.195 and 1.89 respectively. The results also indicated that system quality, service quality, trust in organization,

and usefulness have direct effect on electronic administration adoption.

As for R^2, as in Table 6, the R^2 value for endogenous latent construct (E-Administration Adoption) demonstrates a prediction level that is deem acceptable when it comes to an empirical research where R^2 of key target construct of the present study (E-Administration Adoption) has a high value of 0.706. The present study also supports the previous findings with Q^2 as the predictive relevancy measure.

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Table 6. Results of R^2, Q^2, and f^2.

Construct	R^2	Q^2	f^2
E-Administration Adoption	0.706	0.351	-
Information Quality	-	-	0.001
Service Quality	-	-	0.234
System Quality	-	-	0.137
Trust of Organization	-	-	0.283
Trust of Technology	-	-	0.076
Usefulness	-	-	0.137
Ease of Use	-	-	0.010

The obtained Q2 value, after running the blindfolding procedure in SmartPLS 2.0, with an omission distance D =7, was (0.35) for electronic administration adoption. The value of Q2 is well above zero, indicating the predictive relevance of the path model. Lastly, this empirical study measured the f2 value for supported variables (system quality, service quality, trust of organization and usefulness). As shown in Table 6, the effect of system quality and trust in organization on electronic administration adoption is small, while the effect of service quality and usefulness on electronic administration adoption is medium.

c.   Discussion and conclusion

Applying modern technology in the public institutions will contribute towards many good advantages for the organization i.e. faster task completion, improving quality, and reducing cost. Although there is an increasing provision of electronic management systems, the utilization of these systems by the non-private organizations is still restricted specifically in countries that are developing. Thus, we can say that it is actually very crucial to have a deep understanding on the factors which might contribute towards the increased intention of the use of e-administration not only for the purpose of management but for practical purposes as well. In further exploring this specific issue, this research actually ought to investigate the factors that may influence the adoption of electronic administration in the University in Iraq. This preliminary study was conducted in the largest university in Iraq. Furthermore, the participants for this study also involved employees who are experienced with the use of computer and IT. Besides, in terms of the data collection,

the key instrument for gathering data was the questionnaire.

As for data analysis, the present study exploited the PLS-SEM technique to analyse and interpret the proposed path model. In stage one, the researcher has successfully provided the reliability and validity of measurement model. In stage two, an examination of the structural model was undertaken through decoding the path coefficients besides figuring out the adequacy of the path model. In general, the results of the measurement model indicated that every each of the perspective measures was deemed reliable and valid. Moreover, the outcomes from the structural model evaluation indicated that a number of the hypotheses in the study have been supported.

With the existence of the path model which has been developed through this research, thus, it can serve as a platform of reference as well as a key start for the other future research in the same area of research specifically in adopting electronic management systems. In addition, this study enriches literature by shedding light on the factors that affect adoption of electronic administration in developing countries, such as Iraq. However, in this study, some limitations were involved, such as the small number of the population that participated in this empirical study. Also, this study is conducted in only one university in Iraq. Therefore, in future work directions, the researchers suggest that more research in this field should be carried out, whether in the public or private sector especially in Iraq. This is because the rate of adoption and use of modern technologies is still limited, and causes of the scarcity of adoption and use of these technologies are unstudied.

REFERENCES

[1] Ahmad, M. O., Markkula, J., &Oivo, M. (2012). *Factors influencing the adoption of e-government services in Pakistan.* Paper presented at the Proceedings of the 9th European, Mediterranean & Middle Eastern Conference on Information Systems.

[2] AlAwadhi, S., & Morris, A. (2008). *The Use of the UTAUT Model in the Adoption of E-government Services in Kuwait.* Paper presented at the Hawaii International Conference on System Sciences, Proceedings of the 41st Annual.

[3] Aldalalah, O., Ababneh, Z. W., &Shatat, F. H. (2015). E-Administration in the Public Schools of The Abu Dhabi Education Council From Teachers' View Point. *Information and Knowledge Management, 5*(7), 131-142.

[4] Al-Haddad, S. A. (2013). An assessment tool for EGS performance quality and its impact on citizens' obtained benefits: a citizen-centric e-government evaluation model.

[5] Alsaif, M. (2014). *Factors affecting citizens' adoption of e-government moderated by socio-cultural values in Saudi Arabia.* University of Birmingham.

[6] Alsaif, M. (2014). *Factors affecting citizens' adoption of e-government moderated by socio-cultural values in Saudi Arabia.* University of Birmingham.

[7] Al-Shafi, S., &Weerakkody, V. (2010). Factors affecting e-government adoption in the state of Qatar. *European and Mediterranean Conference on Information Systems.*

[8] Anderson, J. C., &Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological bulletin, 103*(3), 411.

[9] Anderson, J. C., &Gerbing, D. W. (1991). Predicting the performance of measures in a confirmatory factor analysis with a pretest assessment of their substantive validities. *Journal of Applied Psychology, 76*(5), 732.

[10] Ayyash, M. M., Ahmad, K., & Singh, D. S. V. (2013). Investigating the effect of information systems factors on trust in e-government initiative adoption in Palestinian public sector. *Research Journal of Applied Sciences, Engineering and Technology, 5*(15), 3865-3875.

[11] Bélanger, F., & Carter, L. (2008). Trust and risk in e-government adoption. *The Journal of Strategic Information Systems, 17*(2), 165-176.

[12] Bock, G.-W., Lee, J., Kuan, H.-H., & Kim, J.-H. (2012). The progression of online trust in the multi-channel retailer context and the role of product uncertainty. *Decision Support Systems, 53*(1), 97-107.

[13] Carter, L., & Belanger, F. (2003). *Diffusion of innovation & citizen adoption of e- government.* Paper presented at the The Fifth International Conference on Electronic Commerce (ICECR-5), Pittsburg, PA.

[14] Carter, L., & Belanger, F. (2004). *Citizen adoption of electronic government initiatives.* Paper presented at the Proceedings of the 37th Annual Hawaii International Conference on System Sciences, 2004.

[15] Carter, L., &Weerakkody, V. (2008). E-government adoption: A cultural comparison. *Information Systems Frontiers, 10*(4), 473-482.

[16] Chen, C.-W. (2010). Impact of quality antecedents on taxpayer satisfaction with online tax-filing systems—An empirical study. *Information & management, 47*(5), 308-315.

[17] Chin, W. W. (1998). The partial least squares approach to structural equation modeling. *Modern methods for business research, 295*(2), 295-336.

[18] Chin, W. W. (2010). How to write up and report PLS analyses *Handbook of partial least squares* (pp. 655-690): Springer.

[19] Chomchalao, S., &Naenna, T. (2013). Influence of System Traits and Personal Traits on the Acceptance of e-Government Service. *Information Technology Journal, 12*(5), 880.

[20] Colesca, S. E., & Liliana, D. (2009). E-government Adoption in Romania. *International Journal of Human and Social Sciences, 4*(14), 1040-1044.

[21] Conry-Murray, A. (2008). Content, content everywhere. *InformationWeek, 1215*, 24-31.

[22] Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 319-340.

[23] Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 319-340.

[24] Davis, F. D., Bagozzi, R. P., &Warshaw, P. R. (1989). User acceptance of computer technology: a comparison of two theoretical models. *Management science, 35*(8), 982-1003.

[25] Davison, R. M., Wagner, C., & Ma, L. C. (2005). From government to e-government: a transition model. *Information Technology & People, 18*(3), 280-299.

[26] Demirtel, H., &Bayram, Ö. G. (2014). Efficiency of electronic records management systems: Turkey and example of Ministry of Development. *Procedia-Social and Behavioral Sciences, 147*, 189-196.

[27] Dyah, P. (2013). Analysing e-Administration in Developing Countries: Challenges & Best Practices in AngguniaSofiarti West Kalimantan Provincial Government. *ICT for Development (ICT4D), The University of Manchester, Manchester*.

[28] Eynon, R., Dutton, W. H., &Margetts, H. (2006). Breaking Barriers to e-Government. *Digest of Electronic Government Policy and Regulation, 29*, 205-217.

[29] Fornell, C., &Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 39-50.

[30] Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: an integrated model. *MIS quarterly, 27*(1), 51-90.

[31] Gilbert, D., Balestrini, P., &Littleboy, D. (2004). Barriers and benefits in the adoption of e-government. *International Journal of Public Sector Management, 17*(4), 286-301.

[32] Gorla, N., Somers, T. M., & Wong, B. (2010). Organizational impact of system quality, information

quality, and service quality. *The Journal of Strategic Information Systems, 19*(3), 207-228.

[33] Götz, O., Liehr-Gobbers, K., &Krafft, M. (2010). Evaluation of structural equation models using the partial least squares (PLS) approach *Handbook of partial least squares* (pp. 691-711): Springer.

[34] Hair, J. F., Ringle, C. M., &Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice, 19*(2), 139-152.

[35] Hair, J. F., Ringle, C. M., &Sarstedt, M. (2013). Editorial-partial least squares structural equation modeling: Rigorous applications, better results and higher acceptance. *Long Range Planning, 46*(1-2), 1-12.

[36] Hair, J. F., Sarstedt, M., Pieper, T. M., &Ringle, C. M. (2012). The use of partial least squares structural equation modeling in strategic management research: a review of past practices and recommendations for future applications. *Long Range Planning, 45*(5), 320-340.

[37] Heeks, R. (2002). Reinventing government in the information age. *Reinventing government in the information age: International practice in IT-enabled public sector reform*, 9-21.

[38] Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. *Strategic management journal, 20*(2), 195-204.

[39] Koo, C., Wati, Y., & Chung, N. (2013). A study of mobile and internet banking service: Applying for IS success model. *Asia Pacific Journal of Information Systems, 23*(1), 65-86.

[40] Kumar, V., Mukerji, B., Butt, I., &Persaud, A. (2007). Factors for successful e-government adoption: a conceptual framework. *The electronic journal of e-Government, 5*(1), 63-76.

[41] Lean, O. K., Zailani, S., Ramayah, T., & Fernando, Y. (2009). Factors influencing intention to use e-government services among citizens in Malaysia. *International Journal of Information Management, 29*(6), 458-475.

[42] Lee, J.-K., Braynov, S., & Rao, R. (2003). Effects of public emergency on citizens' usage intention toward e-Government: a study in the context of war in Iraq. *ICIS 2003 proceedings*, 83.

[43] Lee, Y. W., Strong, D. M., Kahn, B. K., & Wang, R. Y. (2002). AIMQ: a methodology for information quality assessment. *Information & management, 40*(2), 133-146.

[44] Mayer, R. C., Davis, J. H., &Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of management review, 20*(3), 709-734.

[45] Mobahi, H. (2011). *The Adoption of E-government Services by Employees in Iran.* Master Thesis, Lulea University of Technology, Luleå.

[46] Niskanen, W.A. (2007) Bureucracy& Representative Government, Rutgers -The State University, New Jersey.

[47] Onuigbo, R. A., &Eme, O. I. (2015). Electronic Governance & Administration in Nigeria: Prospects &Challenges. *Arabian Journal of Business and Management Review (Oman Chapter), 5*(3), 18.

[48] Päivärinta, T., &Munkvold, B. E. (2005). *Enterprise content management: An integrated perspective on information management.* Paper presented at the Proceedings of the 38th Annual Hawaii International Conference on System Sciences, 2005. HICSS'05.

[49] Parasuraman, A., Zeithaml, V. A., & Malhotra, A. (2005). ES-QUAL a multiple-item scale for assessing electronic service quality. *Journal of service research, 7*(3), 213-233.

[50] Rehman, M., &Esichaikul, V. (2011). *Factors influencing the adoption of e- government in Pakistan.* Paper presented at the 2011 International Conference on E-Business and E-Government (ICEE).

[51] Sánchez, Á. P., Miguel, C.S. &Bleda, J.D.G. (2006) 'The e-ASLA Framework: Cultural Heritage Management for small local authorities in the SUDOE space', paper presented at CLIP Conference, King College, London, 29th July 2006.

[52] Sekaran, U. (2014). Research methods for business: A skill building approach p. 1–467.

[53] Shareef, M. A., Archer, N., Kumar, V., & Kumar, U. (2010). Developing fundamental capabilities for successful e-government implementation. *International Journal of Public Policy, 6*(3-4), 318-335.

[54] Song, S. M. (2010). E-learning: Investigating students' acceptance of online learning in hospitality programs.

[55] Wangpipatwong, S., Chutimaskul, W., &Papasratorn, B. (2005). *Factors influencing the adoption of Thai eGovernment websites: information quality and system quality approach.* Paper presented at the Proceedings of the Fourth International Conference on eBusiness.

[56] Warkentin, M., Gefen, D., Pavlou, P. A., & Rose, G. M. (2002). Encouraging citizen adoption of e-government by building trust. *Electronic markets, 12*(3), 157-162.