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Turkish Online Journal of Qualitative Inquiry (TOJQI)
Volume 12, Issue 9, August 2021: 5708-5725

Research Article

Investigating the E-Government Maturity Model in Turkey and Iran

(Case Study: The Cities of Erzurum and Tabriz)

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Abstract

This study aims to investigate the dimensions and infrastructures effective in the development of electronic government (E-government) in the two cities of Erzurum and Tabriz (as pilot). The factors affecting the E-government maturity are as follows: individual dimension, organizational dimension, technological dimension and the services provided. Research population includes the active citizens in the two cities of Erzurum and Tabriz (as two societies independent from each other). The study sample in Erzurum and Tabriz consists of 435 and 406 citizens, respectively. In addition to confirming the maturity of E-government model and the presence of significant relationship between each of the factors affecting it, the results identified that organizational dimension, technological dimension, as well as the services provided are in a better position in Erzurum compared to Tabriz. However, there is not any significant difference between the two cities of Erzurum and Tabriz regarding the individual dimension of E-government.

Keywords: E-government maturity, individual dimension, organizational dimension, services provided, technological dimension

Türkiye ve İran'da E-Devlet Olgunluk Modelinin İncelenmesi

(Örnek Olay: Erzurum ve Tebriz Şehirleri)

Öz

Bu çalışmanın amacı, Erzurum ve Tebriz(pilot olarak) şehirlerinde E-Devletin geliştirilmesinde etkili olan boyutları ve altyapıyı incelemektir. Kişisel boyut, Örgütsel boyut, teknolojik boyutu ve sağlanan hizmetler, E-devletin olgunluğunu etkileyen faktörler olarak sayılabilir. Çalışma popülasyonu, Erzurum ve Tebriz'deki aktif vatandaşları (iki bağımsız topluluk olarak) içermektedir. Erzurum ve Tebriz'deki çalışma örneklemi sırasıyla 435 ve 406 vatandaştan oluşmaktadır. Sonuçlar, e-devlet olgunluk modelini onaylamanın yanı sıra etkileyen faktörlerin her biri arasında anlamlı bir ilişkinin olduğunu doğrulamaktadır. Erzurum ilinde örgütsel boyut, teknolojik boyutu ve sunulan hizmetlerin Tebriz şehrine göre daha iyi durumda olduğunu göstermiştir. Kişisel boyutta ise Erzurum ve Tebriz'de e-devletin olgunlukları arasında önemli bir fark yoktur.

Anahtar Sözcükler: E-devlet olgunluğu, Bireysel boyut, Organizasyonel boyut, Sunulan hizmetler, Teknolojik boyut

Introduction

E-government, also called digital government, was introduced in 1990s as an innovative process whose purpose is to reach a higher level of effectiveness and interoperability in public sector. The aforementioned innovative process consists of the use of information and communications technology (ICT) to improve internal and external performance of governmental organizations and deliver governmental services to the citizens and enterprises (Boughzala, Janssen & Assar, 2015, pp. 1-14). Therefore, E-government is the complex reconstruction and modernization of government, which is carried out on the basis of information and communications technology (ICT) such that the public sector would be transparent, citizen-friendly and efficient (Tomaszewicz, 2015, pp. 45-53).

Improved service provision of the government to the citizens, as well as empowering them through access to information is made possible, and this is achieved in E-government, whose resulting benefits and advantages can be seen in increased welfare, income growth, and decreased costs and corruption. In an E-government system, there is no connection and medium between the citizens, businesses and information; thus, it leads to rapid flow of information, decreased workflow and error rate. It has been observed that there is a positive relationship between accepting and using technology by the users and convenience and simplicity of technologies (Soleimani & Zarafshani, 2011, pp. 885-902). In previous studies, it has been suggested that mental perception concerning information technology's ease of use has a positive and significant effect on the view of use of information technology; furthermore, the users' mental perception on information technology's ease of use has a positive and significant effect on their view concerning the use of information technology (Esmaeili, Toloie-Eshlaghi, Pour Ebrahimi, & Esmaieli, 2013, pp. 40-45). The globalization process affects the countries through reducing the costs and increasing efficiency, which is caused by the emergence of E-government. Studies indicate that, in the not too distant future, citizens' acceptance of E-government will increase. Following the application of technology by the government, something which is of great importance is its use and exploitation by the citizens (Akcagündüz, 2013, pp. 127-140). Likewise, if electronic services are not used by the general public, the provision of public services through E-government cannot be increased. E-government in the sense of applying information and communications technology to provide public services accounts for significant changes of the present century in countries' management. Information and communications technology has led to major changes in public service provision towards modernization, just as it has led to structural changes in many areas, hence taking a big step towards reaching the ideals of the third millennium in line with the emergence of postmodern societies. Increasing use of computers as well as networks has made the governments provide most of their services to the citizens electronically (Sevinç & Şahin, 2013, pp. 197-212). Many citizens are not fully aware of the potential importance of internet and how it is able to achieve pioneering E-democracy as a tool in modern governmental management. In the coming few years, E-government will turn into both a way of providing governmental services and a way of fundamental relationships between government, society and citizens (Bülbül, 2018, pp. 114-120). E-government is not just the provision of simple service to build up external interaction; in other words, E-government helps reinforce democratic processes and institutions and involve the government in political choices to meet its requirements and be a pioneer in respecting the others (Kostrikova & Rivza, 2017, pp. 118-

126). By improving the representatives' participation in political decision making, E-government triggers the promotion of democracy. Of course, it has to be mentioned that timely growth of governmental field may require a reassessment of traditional concepts of citizen's role and natural relationships between citizens and government (Sevindik, Gench, Kayashli, & Gomert, 2011, pp. 100-101). However, there are some factors that prevent the use of information technology in the government, some of which include individual, social, economic and technical factors. At present, it seems that the citizens' acceptance of information technology in E-government is one of the most important obstacles, for removing the obstacles in economical, technological, technical, and organizational field will be useless without removing individual obstacles in the field of information technology (Sanaei, 2014, pp. 250-258). Therefore, it appears that investigating and identifying the factors affecting information technology and trying to promote positive factors and remove preventive factors will contribute significantly in applying E-government (Baştan & Gökbunar, 2004, pp. 71-89). Since among the neighboring countries, the two developing countries of Iran and Turkey have taken remarkable steps towards the establishment of E-government in recent years, conducting a scientific study can investigate the level of progress of the administrative system transformation in these two countries. Because of strategic geographical location of these countries in the region, the interactions of the two countries have developed more than ever in many areas such as political, economic, social, cultural, etc. fields, and somehow the administrative transformations of one country influence the other. As these countries are close to one another, a significant volume of tourism and business travel takes place annually in the cities of Erzurum and Tabriz. Similarly, trading companies, governmental institutions and the citizens of the two countries in these two cities use governmental services for managing their affairs. Since both countries have had plans for providing public services in the form of E-government, a scientific study based on identifying the dimensions of this modern administrative system can lead to a correct understanding of the two countries' efforts towards the establishment of E-government. Accordingly, the present study entitled "Investigating and Studying the Maturity of E-government Model in the Two Countries of Turkey and Iran (Case Study: The Cities of Erzurum and Tabriz)" is trying to identify technological development dimensions in the two cities of Tabriz and Erzurum, chosen for the pilot study due to their strategic location. The main issue in this study is to identify the structure of E-government in the two cities of Tabriz and Erzurum, as well as investigating the level of progress and establishment of E-government as a new administrative system among the citizens.

Research Objectives

- Investigating the maturity level of E-government in Erzurum
- Investigating the maturity level of E-government in Tabriz
- Identifying and comparing the dimensions of E-government in Erzurum and Tabriz
- Identifying the two countries' areas of success in the establishment of E-government
- Recognizing the process of developing E-government in two independent societies, implementing the successes of each other as a competitive advantage in the field of virtual space progress, and establishing better democracy, and further closeness of the relationships between the governments and nations.

Research Literature

In an article entitled "Barriers to E-Government Adoption in the US", Schwester investigates the data collected by the International City/County Management Association and multiple regression results, stating that the barriers to E-government adoption are financial, technical, and human barriers, the most important preventive factors being the organizations' employees' resistance and the lack of public support. Moreover, lack of knowledge about E-government and maintaining privacy and security are not considered statistically significant barriers (Schwester, 2009, pp. 113-122).

In another article entitled "Barriers to E-government Integration in Singapore", in which 14 consultants with significant experience in E-government projects analyzed semi-structured interview scripts, Lam classified the identified barriers to EGI into 17 types, which are placed in the four groups of strategic, technological, political, and organizational barriers (Lam, 2005, pp. 511-530).

Using the studies of DOI and TAM, Gilbert et al. identified nine factors in their article entitled "Barriers and Benefits to E-government Adoption in the UK", three of which were low cost, less time, and refusing interaction as the benefits to E-government, and six of which were experience, information quality, financial security, low stress, confidence, and the request for visual review as the barrier to E-government adoption. Of all these factors, the factor of time has the richest content (Gilbert, Balestrini, & Littleboy, 2004, pp. 286-301).

Teo and Ranganathan conducted a field study in 2004, in which they dealt with the factors affecting the adoption and establishment of E-commerce. According to them these factors are as follows: the extent of E-commerce adoption, demographic properties, presence of support for E-commerce efforts, presence of an official program and a mandatory obligation for E-commerce, background of implementing E-commerce, E-commerce activities relating to the customer and supplier, benefits understood and expected from E-commerce, managerial support, risk taking and cost understandings, problems of E-commerce (Teo & Ranganathan, 2004, pp. 89-102).

In 2006, Siau and Long conducted a study on the factors affecting E-government development in different countries. In this study, E-government was the dependent variable, and independent variables were income level, the level of the country's development, and geographical location. The result of the study showed that all aforementioned three factors are effective in the development and establishment of E-government. Accordingly, the results revealed that the developed countries having high income in north America and Australia have the highest level of E-government establishment, and underdeveloped countries having the least level of income in Africa and central Asia have the lowest level of E-government establishment (Siau & Long, 2006, pp. 47-62).

Theoretical Framework and Research Model

Considering the literature, a researcher-made model was used to investigate E-government maturity. Here, E-government maturity means the growth and development of the infrastructures required for the successful establishment of E-government.

Although various factors may play a role in creating and success of E-government, in this article the main factors affecting the E-government maturity are classified into four following dimensions:

- Individual factors: it refers to some factors such as lack of experts, lack of interest and motivation to use E-government, and the users' resistance to changes (Elahi & Danaee, 2010, pp. 41-67). This is more related to the users' individual dimensions and the way they interact with E-government.

- Organizational dimensions: it includes a series of factors like lack of transparent organizational instructions, hierarchy's being long, and lack of coordination, cooperation and coherences among different parts of organizations in E-government implementation (Elahi & Danaee, 2010, pp. 41-67). This part deals with the significance of organizational and institutional infrastructures. In other words, the changes made in the administrative processes and the procedures of doing tasks in governmental organizations and private sectors to meet the citizens' needs are all provided in the form of E-government.

- Services provided: it consists of a series of services provided by E-government for the citizens (Torres, Pina, & Royo, 2005, pp. 1-34) and (Elahi & Danaee, 2010, pp. 41-67). The purpose of this dimension is the provision of different services which the citizens and users can receive in the form of E-government.

- Technological dimension: it consists of some software and hardware infrastructures required for the establishment of E-government (Bamdad, Alishiri, & Abdullahi, 2012, pp. 67-76). The purpose of this dimension is the development of information technology as the groundwork necessary for transferring information in order to establish E-government (Figure 1).

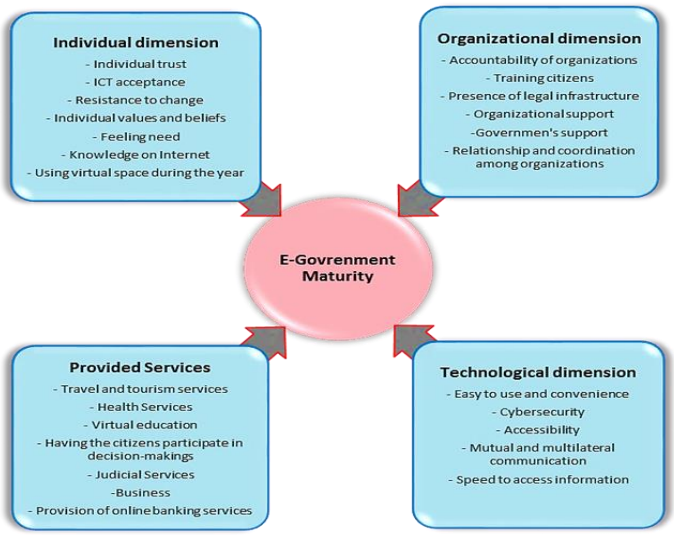

Figure 1. Conceptual model of e-government maturity

Hypotheses

- There is a significant difference among the individual factors of E-government maturity in the cities of Tabriz and Erzurum.

- There is a significant difference among the organizational factors of E-government maturity in the cities of Tabriz and Erzurum.

- There is a significant difference among the provided services of E-government maturity in the cities of Tabriz and Erzurum.

- There is a significant difference among the technological factors of E-government maturity in the cities of Tabriz and Erzurum.

Sampling Method and Determining Sample Size

Considering the purpose, this is an applied research, and with regard to the nature and method, this is a descriptive-survey research. Research population includes the active citizens in the two cities of Erzurum and Tabriz (as two societies independent from each other). In other words, those individuals living more than one consecutive year in these two cities, whose ages range from 18 to 65, are defined as an active society. Because of high size of the society under study and its dispersion, availability sampling method (non-random sampling method) was implemented. Based on Cochran formula and an unknown population size with an error level of 5%, the minimum sample size in this study consists of 384 people. According to the data collected from 789 people participating in Turkish statistical population, 425 participants (53.9%) had been staying in Erzurum for one year (in this article a person staying for a minimum of one year is considered a citizen) and were between 18 and 65 years old (i.e. active population who have an effective role in economic activities). Of 652 people participating in Iranian statistical population, 406 participants (62.3%) had been staying in Tabriz for one year and were between 18 and 65 years old. Complementary information is provided in (Table 1).

Table 1

Duration of stay in erzurum and tabriz and age range

Options	Data obtained from Erzurum	Data obtained from Tabriz
Staying in the city (more than one year) and age range (between 18-65)	425 people (53.9%)	406 people (62.3%)
Staying in the city (less than one year) and age range (between 18-65)	139 people (17.6%)	88 people (13.5%)
Staying in the city (more than one year) and age range (other than 18-65)	124 people (15.7%)	109 people (16.7%)
Staying in the city (less than one year) and age range (other than 18-65)	101 people (12.8%)	49 people (7.5%)
Total of people participating in the study	789	652

Data Collection Methods and Statistical Analysis

A questionnaire whose reliability and validity had already been confirmed was used (as the research tool) to collect data. As a result, Cronbach's alpha obtained from Erzurum and Tabriz was 0.981 and 0.971, respectively. Using inferential statistics (SPSS software), the accuracy of the hypotheses has been investigated by converting each of the research hypotheses into statistical hypotheses. The statistical methods used to investigate the study variables in the form of research model included

normality test, independent t-test for making comparisons between the variables, and the use of structural equations, and path analysis (using Lisrel software).

Findings

The Figures 2 to 6 provide the descriptive statistics obtained after investigating the samples of the study.

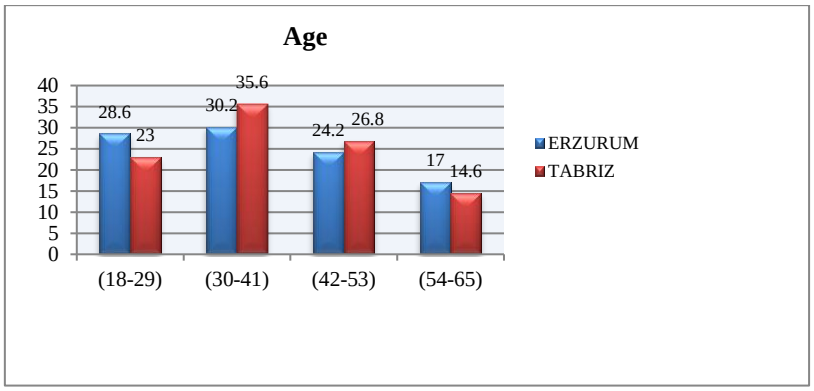

Figure 2. The ages of participants

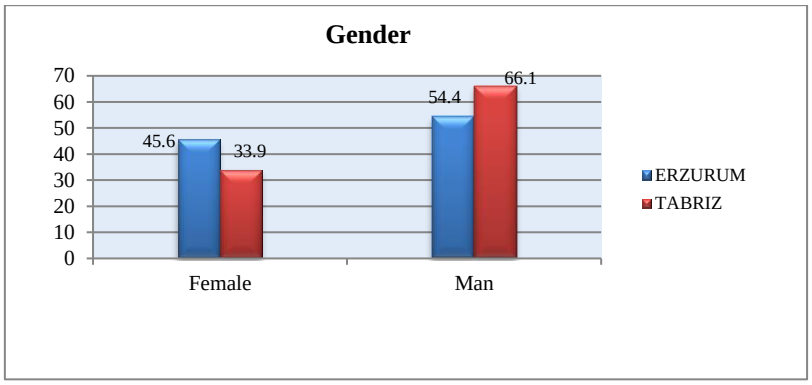

Figure 3. Participants' gender

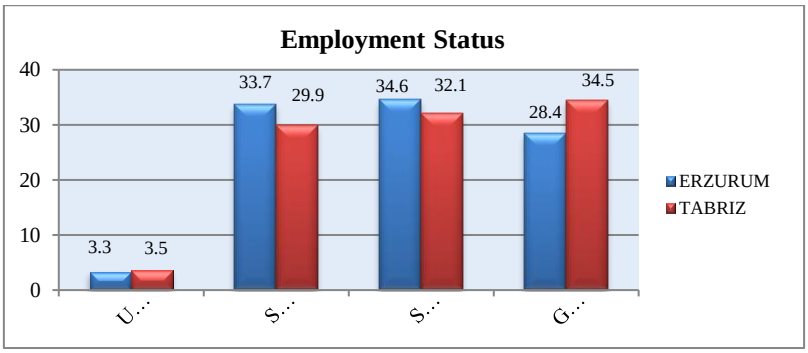

Figure 4. Employment status of participants

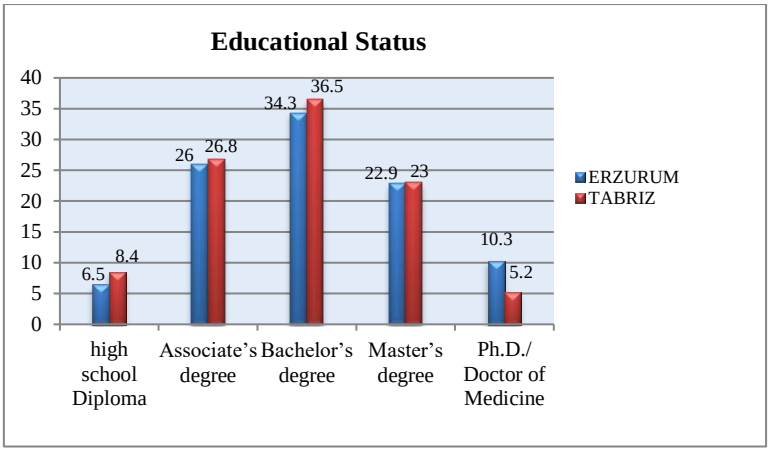

Figure 5. Participants' educational status

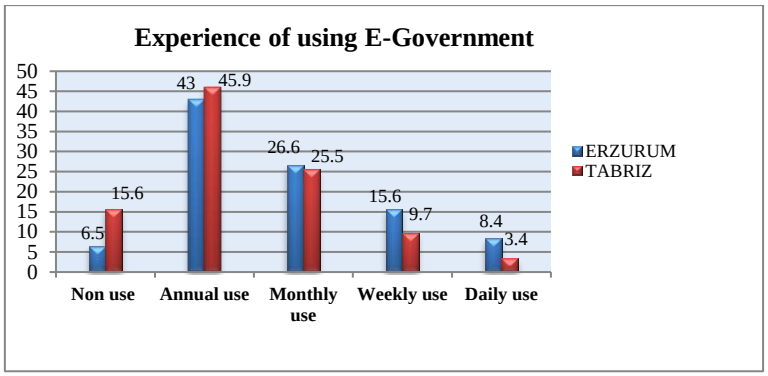

Figure 6. Experience of using e-government

Individual Dimension

Considering the mean score obtained for individual dimension between the score range of 0 and 28, this variable is higher than medium level (with a mean of 14.39) in Erzurum, and lower than medium level in Tabriz (with a mean of 13.39).

Organization Dimension

Considering the mean score obtained for organizational dimension between the score range of 0 and 20, this variable is higher than medium level (with a mean of 12.72) in Erzurum, and also higher than medium level in Tabriz (with a mean of 10.08).

Services Provided

Considering the mean score obtained for the dimension of services provided between the score range of 0 and 28, this variable is higher than medium level (with a mean of 14.68) in Erzurum, and lower than medium level in Tabriz (with a mean of 12.36).

Technological Dimension

Considering the mean score obtained for technological dimension between the score range of 0 and 20, this variable is higher than medium level (with a mean of 10.54) in Erzurum, and lower than medium level in Tabriz (with a mean of 8.85).

E-government maturity

Considering the mean score obtained for the variable of E-government maturity provided between the score range of 0 and 100, this variable is higher than medium level (with a mean of 50.32) in Erzurum, and lower than medium level in Tabriz (with a mean of 45.22). Impact coefficient of E-government maturity indices in Erzurum and Tabriz is shown in Table 2.

Table 2

Impact coefficient of e-government maturity

Dimensions	Indices	Coefficient impact in Erzurum	Coefficient impact in Tabriz
Individual dimension	Individual trust	0.81	0.72
	ICT acceptance	0.59	0.66
	Resistance to change	0.55	0.58
	Individual values and beliefs	0.71	0.51
	Feel the need	0.77	0.64
	Knowledge on internet	0.56	0.83
	Using virtual space during the year	0.64	0.51
Organizational dimension	Accountability of organizations	0.68	0.72
	Training citizens	0.48	0.41
	Presence of legal infrastructure	0.88	0.48
	Organizational support	0.93	0.69
	Government's support	0.61	0.75
	Relationship and coordination among organizations	0.84	0.90
Services provided	Travel and tourism services	0.76	0.63
	Healthcare services	0.55	0.57
	Virtual education	0.59	0.44
	Having the citizens participate in decision-makings	0.99	0.81
	Judicial services	0.47	0.37
	Businesses	0.66	0.67
	Provision of online banking services	0.51	0.62
Technological dimension	Ease of use and convenience	0.97	0.84
	Cybersecurity	0.38	0.42
	Accessibility	0.80	0.93
	Mutual and multilateral communications	0.96	0.84
	Speed to access information	0.85	0.74

Since the scores obtained for measuring E-government maturity variables in two statistical populations based on descriptive analysis of skewness and kurtosis are between the range of 2 and -2, data distribution is normal; therefore, the hypotheses of this section can be assessed and investigated using independent-sample t-test in the two populations.

Table 3

Descriptive statistics of e-government maturity in the cities of Erzurum and Tabriz

	Descriptive Statistics								
	N	Minimum	Maximum	Mean	Std.Deviation	Skewness		kurtosis	
	Statistics	Statistics	Statistics	Statistics	Statistics	Statistics	ST D. Error	Statistics	ST D. Error
E-Government Maturity E&T	832	0	100	48.84	24.132	0.145	0.085	-0.536	0.169
Individual dimension E&T	832	0	28	14.17	7.056	-0.068	0.085	-0.610	0.169
Organizational dimension E&T	832	0	24	11.43	6.513	0.162	0.085	-0.804	0.169
Services Provided dimension E&T	832	0	28	13.55	7.352	0.143	0.085	-0.708	0.169
Technological dimension E&T	832	0	20	9.72	5.439	0.085	0.085	-0.834	0.169
Valid N (list wise)	832								

The reasons for using t-test with two independent samples for analysing the hypotheses related to E-government maturity:

a) The variable, whose mean is compared in two independent groups, is quantitative (i.e. its Interval scale).

b) The variables in which the mean is compared is independent and belong to two different populations.

c) The data, whose mean is compared in two independent groups, have normal distribution.

First Hypothesis

- There is a significant difference between the individual factors of E-government maturity in the cities of Tabriz and Erzurum.

- There is not a significant difference between the individual factors of E-government maturity in the cities of Tabriz and Erzurum.

H0 $\mu 1 = \mu 2$

H1 $\mu 1 \neq \mu 2$

Table 4

Group statistics and independent samples test for the first hypothesis

Group Statistics					
Dimension	City	N	Mean	Std. Deviation	Std. Error Mean
Individual dimension E&T	ERZURUM	426	14.39	7.882	0.382
	TABRIZ	406	13.93	6.071	0.301

Independent Samples Test										
		Levene's Test for Equality of Variances		1-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std.Error Difference	95% Confidence Interval of the Difference	
Individual dimension E&T	Equal variances assumed	40.846	0.000	0.942	830	0.347	0.461	0.499	-0.500	1.422
	Equal variances not assumed			0.948	795.36	0.344	0.461	0.486	-0.494	1.146

By using Levene's test, since sig<0.05, the hypothesis of inequality of variances of the two sample populations is considered, and the second line is used to analyze this hypothesis. As sig (2-tailed)>0.05, the hypothesis of mean equality of the two populations is accepted. In other words, with 95% confidence, there is no significant difference between the individual factors of E-government maturity in the cities of Tabriz and Erzurum. And since we have upper limit of 1.416 and lower limit of -0.494, the mean of the two populations is not significantly different.

Second Hypothesis

- There is a significant difference between the organizational factors of E-government maturity in the cities of Tabriz and Erzurum.

- There is not a significant difference between the organizational factors of E-government maturity in the cities of Tabriz and Erzurum.

H0 $\mu 1 = \mu 2$

H1 $\mu 1 \neq \mu 2$

Table 5

Group statistics and independent samples test for the second hypothesis

Group Statistics					
Dimension	City	N	Mean	Std. Deviation	Std. Error Mean
Organizational dimension E&T	ERZURUM	426	12.72	6.996	0.339
	TABRIZ	406	10.08	5.666	0.281

Independent Samples Test										
		Levene's Test for Equality of Variances		1-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std.Error Difference	95% Confidence Interval of the Difference	
Organizational dimension E&T	Equal variances assumed	28.347	0.000	5.963	830	0.000	2.639	0.443	1.771	3.508
	Equal variances not assumed			5.993	809.12	0.000	2.639	0.440	1.775	3.504

By using Levene's test, since sig<0.05, the hypothesis of inequality of variances of the two sample populations is considered, and the second line is used to analyze this hypothesis. As sig (2-tailed)>0.05, the hypothesis of mean equality of the two populations is accepted. In other words, with 95% confidence, there is no significant difference between the individual factors of E-government maturity

in the cities of Tabriz and Erzurum. And since we have upper limit of 3.504 and lower limit of 1.775, the mean of organizational dimension in Erzurum is larger than that in Tabriz.

Third Hypothesis

- There is a significant difference between the services provided of E-government maturity in the cities of Tabriz and Erzurum.

- There is not a significant difference between the services provided of E-government maturity in the cities of Tabriz and Erzurum.

H0 $\mu 1 = \mu 2$

H1 $\mu 1 \neq \mu 2$

Table 6

Group statistics and independent samples test for the third hypothesis

Group Statistics					
Dimension	City	N	Mean	Std. Deviation	Std. Error Mean
Services Provided dimension E&T	ERZURUM	426	14.68	8.247	0.400
	TABRIZ	406	12.36	6.065	0.301

Independent Samples Test										
		Levene's Test for Equality of Variances		1-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std.Error Difference	95% Confidence Interval of the Difference	
Services Provided dimension E&T	Equal variances assumed	258.336	0.000	54.602	830	0.000	2.319	0.504	1.330	3.308
	Equal variances not assumed			54.635	780.49	0.000	2.319	0.500	1.337	3.301

By using Levene's test, since sig<0.05, the hypothesis of inequality of variances of the two sample populations is considered, and the second line is used to analyze this hypothesis. As sig (2-tailed) <0.05, the hypothesis of mean equality of the two populations is not accepted. In other words, with 95% confidence, there is a significant difference between the services provided of E-government maturity in the cities of Tabriz and Erzurum. And since we have upper limit of 3.301 and lower limit of 1.337, the mean of services provided in Erzurum is larger than that in Tabriz.

Fourth Hypothesis

- There is a significant difference between the technological factors of E-government maturity in the cities of Tabriz and Erzurum.

- There is not a significant difference between the technological factors of E-government maturity in the cities of Tabriz and Erzurum.

H0 $\mu 1 = \mu 2$

H1 $\mu 1 \neq \mu 2$

Table 7

Group statıstıcs and ındependent samples test for the fourth hypothesıs

Group Statistics					
Dimension	City	N	Mean	Std. Deviation	Std. Error Mean
Technological dimension E&T	ERZURUM	426	10.54	6.113	0.296
	TABRIZ	406	8.85	4.474	0.222

Independent Samples Test										
		Levene's Test for Equality of Variances		1-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std.Error Difference	95% Confidence Interval of the Difference	
Technological dimension E&T	Equal variances assumed	70.281	0.000	4.552	830	0.000	1.697	0.373	0.985	2.429
	Equal variances not assumed			4.585	778.87	0.000	0.167	0.370	0.971	2.424

By using Levene's test, since sig<0.05, the hypothesis of inequality of variances of the two sample populations is considered, and the second line is used to analyze this hypothesis. As sig (2-tailed) <0.05, the hypothesis of mean equality of the two populations is not accepted. In other words, with 95% confidence, there is a significant difference between the technological factors of E-government maturity in the cities of Tabriz and Erzurum. And since we have upper limit of 2.424 and lower limit of 0.971, the mean of technological factors in Erzurum is larger than that in Tabriz.

Investigating Structural Equation Modeling of E-government Maturity in Erzurum

As it is observed in the following table, seven fit indicies are accepted in this model.

Table 8

Assessing the overall fitness of e-government maturity model in erzurum

Fitness indices	Acceptable value	Value obtained	Status (accepted/rejected)
Chi-Square	-	1457.94	-
Degrees of Freedom (df)	-	517	-
Chi-Square/df	x>3	2.82	Accepted
Root Mean Square Error of Approximation (RMSEA)	RMSEA<0. 05	0.0367	Accepted
Adjusted Goodness of Fit Index (AGFI)	AGFI>0/8	0.86	Accepted
Goodness of Fit Index (GFI)	GFI>0/9	0.54	Accepted
Root Mean Square Residual (RMR)	RMR<0. 08	0.097	Rejected
Normed Fit Index (NFI)	0. 90<NFI<1	0.95	Accepted
Comparative Fit Index (CFI)	0. 90<CFI<1	0.82	Rejected
Relative Fit Index (RFI)	0. 90<RFI<1	0.93	Accepted
Incremental Fit Index (IFI)	0. 90<IFI<1	0.75	Rejected
P-Value for Test of Close Fit	x>0. 05	0.0865	Accepted

Investigating Structural Equation Modeling of E-government Maturity in Tabriz

As it is observed in the following table, seven fit indicies are accepted in this model.

Table 9

Assessing the overall fitness of e-government maturity model in Tabriz

Fitness indices	Acceptable value	Value obtained	Status (accepted/rejected)
Chi-Square	-	1675	-
Degrees of Freedom (df)	-	572	-
Chi-Square/df	x>3	2.82	Accepted

Root Mean Square Error of Approximation (RMSEA)	RMSEA<0. 05	0.0491	Accepted
Adjusted Goodness of Fit Index (AGFI)	AGFI>0/8	0.97	Rejected
Goodness of Fit Index (GFI)	GFI>0/9	0.95	Rejected
Root Mean Square Residual (RMR)	RMR<0. 08	0.097	Rejected
Normed Fit Index (NFI)	0. 90<NFI<1	0.91	Accepted
Comparative Fit Index (CFI)	0. 90<CFI<1	0.94	Accepted
Relative Fit Index (RFI)	0. 90<RFI<1	0.68	Rejected
Incremental Fit Index (IFI)	0. 90<IFI<1	0.96	Rejected
P-Value for Test of Close Fit	x>0. 05	0.0687	Accepted

Investigating Path Analysis

As seen in the standardized solution for E-government in Erzurum, while confirming the model's significance, the highest impact is between the services provided (independent variable) and E-government maturity (dependent variable) (having the impact coefficient of 0.30); however, the lowest impact is between technological dimension (independent variable) and E-government maturity (dependent variable) (having the impact of 0.22) (Figure 7).

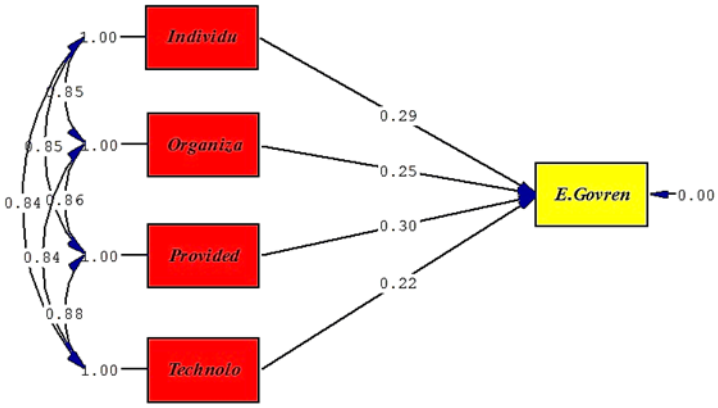

Figure 7. Standardized solution for e-government maturity in erzurum

As seen in the standardized solution for E-government in Tabriz, while confirming the model's significance, the highest impact is between the individual dimension (independent variable) and E-government maturity (dependent variable) (having the impact coefficient of 0.32); however, the lowest impact is between technological dimension (independent variable) and E-government maturity (dependent variable) (having the impact of 0.25) (Figure 8).

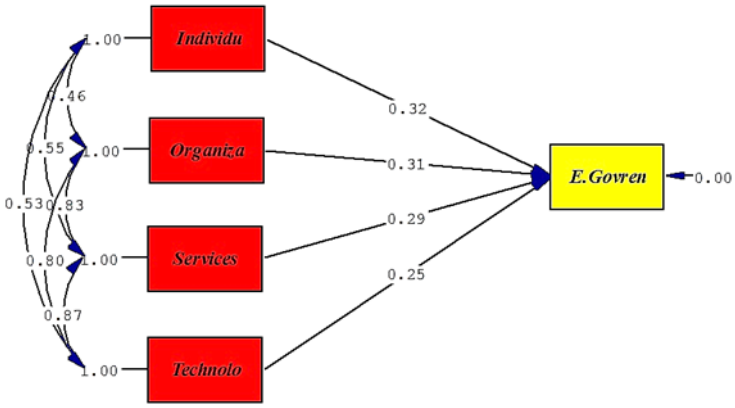

Figure 8. Standardized solution for e-government maturity in tabriz

Conclusion

Based on the findings obtained from analyzing the information, the results indicate that although the two countries of Iran and Turkey are close to one another, and some social patterns are similar, there are, however, some undeniable differences between the two countries with regard to some relations. This study has been carried out with the aim of making government-people relation closer than ever, as well as having a better access to information for a higher goal (the establishment of democracy), while understanding the importance of E-government as an emerging phenomenon in today's world and a tool for proper management of citizens. İn this study, we tried to investigate the infrastructures for the establishment of E-government as a modern technology. For comprehensiveness and completeness, this study has dealt with investigating the dimensions of E-government of two independent societies, with some cultural similarities and differences. Confirming E-government maturity model in the two cities of Erzurum and Tabriz, the results showed that there is a significant relationship between individual dimension, organizational dimension, technological dimension, services provided and E-government maturity. After investigating the research hypotheses, with 95% confidence, it is seen that there is a significant difference between the organizational factors, services provided, and technological factors (as independent variables) and E-government maturity in the two cities of Erzurum and Tabriz. In other words, in terms of organizational dimensions, services provided, and technological dimensions, which are effective in E-government maturity, Erzurum has a more optimum position than Tabriz. However, concerning the individual factors, there is not a significant difference between the two cities. Although, generally speaking, both Iran and Turkey have taken their first steps towards E-government prosperity, the results obtained by studying E-government maturity model in the cities of Erzurum and Tabriz (as pilot) indicated that Turkey has a better position than Tabriz regarding the establishment of E-government, that is, compared to Iran, Turkey has been able to create the groundworks required for the growth and development of E-government both in terms individual and social dimension and organizational and structural dimension.

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