

## Electronic Services Management in Local Governance – Evidence from a Transitional Economy



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### ABSTRACT

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*e-services, local governance, e-services awareness, e-services quality*

The purpose of this study is to measure the impact of electronic services management on local government. Thus, it aims to provide empirical evidence on the factors that influence citizens' willingness to use e-services. This study analyses the role of factors such as: awareness of electronic services, poor infrastructure and technical problems (quality of electronic services) in using e-services. The study was conducted based on data collected through a self-administered questionnaire from 130 citizens of the Republic of Kosovo, in the Gjilan region, and from three managers who manage e-services in the municipality. Whereas, to analyze these data was used SPSS as statistical software. The results show that factors such as accessibility at any time, reduction of waiting time and quality of information are the most important factors that increase the importance and willingness of using e-services. In addition, the use of e-services is positively related to the management of electronic services, awareness about electronic services and the quality of electronic services offered. The study contributes theoretically and empirically, to the knowledge about the management of electronic services on local government. This work becomes relevant for policymakers to understand in depth the specific challenges faced by users of electronic services.

## 1. INTRODUCTION

In every sphere of life, rapid technological advancement has occurred. Electronic services are in the midst of a transformation (e.g. the importance of electronic services and the avoidance of physical contact have recently been proven by the presence of COVID 19 pandemic). However, research analyzing e-services management using quantitative scientific methodologies and identifying its importance in local government is severely lacking. The necessity of managing and improving the supply of e-services has grown as technology has progressed. There is substantial evidence in industrialized nations that e-services play a significant role in improving the efficiency of services and the functioning of good governance.

While e-government initiatives in developing countries are still in the early stages of development and face significant challenges, a slew of roadblocks that are preventing the widespread usage of technological services on a larger scale [1]. The willingness of citizens to adapt to e-government is critical to its successful adoption [2]. Therefore, academics used various types of technology acceptance models to improve the quality of electronic services, hence increasing public participation in their use and making electronic services more accessible. In this respect, the technology acceptance model (TAM) is a paradigm that has made a substantial theoretical contribution to understanding information system use and acceptance [3].

Due to the limited scientific research that demonstrates the

citizens' views and preferences for the digitalization of services. Where, according to a survey conducted by the International Association of City/County Management (ICMA) and administered by senior administrative officials (CAOs) in government agencies, 90.5 percent of these agencies did not conduct a survey to determine what services citizens and businesses want online or in person [4]. Besides, Sayimer [5] claims that, in order for e-government to be successful, governments should engage and incorporate citizens and their opinions, expectations, and concerns when drafting policies connected to the provision of e-services. Statistics reveal that e-government programs have a significant failure rate. The desire of citizens to adapt to e-government is the most significant factor in the successful deployment of e-government in this regard [6]. In this vein, this study addressing this gap makes a significant contribution to the academic researches and practitioners related to e-services.

Although, the extant literature offers different aspects of e-services (e.g., see Karolak, Razzaque and Al-Sartawi [7]; Jacobsen [8]), yet exists a lack of empirical evidence regarding the factors that increase the citizens' motivation to use them. Recently, Deng and Ji [9] suggest a further systematic examination of the design science in diverse areas. In response to this call, the main objective of this paper is to provide empirical evidence for the factors that influence citizens' willingness to use e-services. Specifically, it aims to associate awareness of e-services, poor infrastructure and technical problems (quality of electronic services) in using e-services with the citizens' willingness to use e-services. To reach this

objective, it needs to answer on the subsequent research questions: what is the rapport between awareness of e-services and citizens' willingness to use e-services? How poor infrastructures of e-services determine the citizens' willingness to use e-services? And, are technical problems or quality of electronic services the factors that diminish the citizens' willingness to use e-services?

To recapitulate, the study focuses on the consequences of e-services management on local government, based on the theoretical and practical necessity for continual research to create trust in e-services. Thus, the findings of this study assist managers and policymakers in better understanding and improving the elements that influence individuals' propensity to use e-services. We may conclude from an analysis of relevant literature that authors agreed that the adaption and use of government services on the Internet is especially important for developing countries. The successful introduction of e-services is critical for developing country governments [1]. But, unlike rich countries, developing countries' governments face a dearth of personnel capable of providing citizens with streamlined and easy services [6]. However, this study attempts to develop an appropriate model for citizens based on their wants and requirements as a result of this research.

## 2. LITERATURE REVIEW

In reaction to the shortcomings of the old management paradigm, a new phrase emerged in the 1980s: the urgent need for managerial approach in the public sector. This approach fixed some of the difficulties of the prior model, but it needed significant changes in the way the government operates [10]. The essential role of e-government, rather than controlling or running society, is to assist citizens in articulating and fulfilling their common interests [11]. E-government has the ability to boost transparency, improve spending efficiency, and improve service quality. Despite the fact that e-government has the ability to bring numerous benefits, there are few research on the effectiveness of e-government and the impact of public management on local government performance [12].

E-government marks a significant shift in government and has ramifications for the government-citizen relationship [13]. The delivery of information and services over the Internet or other digital methods is referred to as e-government [6]. As a result, e-government is defined as the application of information and communication technologies (ICT) to improve the activities of the public sector, organizations, and their agents [14]. Therefore, the paradigm has evolved from traditional governance to e-government as a result of the rapid rise of ICT [15]. As a result of the ease and accessibility of using information and communication technology, government agencies are encouraged to encourage public participation [1]. The success of such efforts is contingent not just on official support, but also on citizens' willingness to embrace and approve electronic government services [4].

Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB), Technology Acceptance Model (TAM), Innovation Dissemination (DOI), and Unified Technology Acceptance and Use Theory (UTAUT) are some of the theories and models that have been used to investigate the adoption of e-government services that use technology acceptance. According to them, usefulness, convenience of use, perceived danger, reliability, compliance, external

influences, Internet security, interpersonal impact, relative, priority, image, and mitigating conditions, are the variables that define e-government service adaption [16].

### 2.1 The role of e-government management and hypotheses development

Researchers are constantly working to uncover characteristics that may influence citizens' adoption of e-government, with a special focus on why people use or don't use it. However, research to date have concentrated on specific samples, such as those based on a specific gender or age range. It's worth mentioning that most study in developing countries has concentrated on men [17]. According to the research, young people are more likely than the elderly to use e-government services. Citizens who have not used e-government services are typically elderly, poor, and have a low level of education. One reason for not using services has been cited as the difficulty and lack of faith in e-government [18]. Service quality, transaction security, awareness, and ease of use are important variables that affect citizens' intentions to adopt e-government services and conduct transactions through the government website, according to studies conducted by Rehman et al. [2] in Pakistan and Colesca and Dobrica [16] in Romania.

The management of electronic services, according to Colesca and Dobrica [16], Mofleh and Wanous [18] and Rehman, Esichaikul, and Kamal [2], is one of the primary elements that affects citizens' propensity to utilize digital services, as well as the quality of services. The utilization of electronic services is positively connected to knowledge of e-government. Citizens' satisfaction with e-government features is positively related to e-government performance [19]. The first hypothesis was proposed based on these evidences:

*H<sub>1</sub>: Good electronic services management is positively related to the use of municipal electronic services.*

The term governance is a wide notion that functions at all stages and governance are better as it reacts to the shared or joint problems of people and satisfies citizens' needs and demands with suitable and generally accepted method [20]. Through various e-government roles, the rapid development and broad use of information and communication technologies (ICTs) are assisting governments around the world in innovating and improving public services [21]. Citizen confidence is important because it promotes social cohesion, which impacts governments' ability to govern effectively [22].

It is worth noting that the majority of respondents in research by Colesca and Dobrica [16] and Rehman, Esichaikul and Kamal [2] were unaware of e-government services. Despite the fact that numerous strategies have been utilized to raise public awareness of e-government initiatives, the data demonstrate that the majority of residents are unaware of these services [23]. Which of the findings matched those of AlShihi [11], Paul and Christine [23], and Beynon-Davies [24]. Whereas, Mofleh and Wanous [18] have evidenced that people who are aware of e-government services are more likely to use them. Therefore, this study proposes the second hypothesis:

*H<sub>2</sub>: Awareness of electronic services positively affects the use of electronic municipal services.*

Some researchers have concentrated on determining the link

between the quality of electronic services and user satisfaction with those services. According to Metin, Tornike, Arian and Salavat [25], and Rachmat and Tree [26] quality of services has a positive impact on user satisfaction and increases the use of electronic services. As a result, improving service quality leads to higher satisfaction with electronic service use, implying that service quality has a positive relationship with electronic service use [16]. Citizens' propensity to use e-government services in order to receive information from the government website is found to be influenced by information quality and awareness [2]. We can infer from the foregoing that there is a relationship between the quality of electronic services and the extent to which they are used, which supports the third hypothesis:

H<sub>3</sub>: *The quality of electronic services has a positive relationship with the use of electronic municipal services.*

### 3. STUDY METHODOLOGY AND CONCEPTUAL MODEL

The methodology for conducting this work is a combination of primary and secondary data. The primary data was collected with the help of a self-completed questionnaire. The secondary data, on the other hand, was taken from literature and publications published on the internet. A sample of 130 respondents was used for the research. The respondents were selected randomly by physically distributing the questionnaires. Both genders were included in this research (59% of the respondents were female, 41% male). The respondents were of different ages: 66% were aged 16-24 years, 14% were aged 25-34 years, 8% were aged 35-44 years, while 12% of the respondents were over 45 years old (45+). Respondents also had different levels of education, as follows: 9% had a Master's degree, 62% had a high level of education, 20% had a secondary degree and 9% had a low level of education. All respondents in this study were internet users with a lot of internet experience; 39 percent said they had 9 years or more of internet experience, 31 percent said they had up to 6-9 years of internet experience, 22 percent said they had up to 3-6 years of experience, and 8 percent said they had up to 1-3 years of internet experience.

This paper employs a combination of quantitative and qualitative research methods. The quantitative data were collected using a questionnaire with aim to analyze statistically the respondents' perception for the impact that factors such as, awareness of electronic services, poor infrastructure and quality of electronic services have on their decision to use electronic municipal services. Whereas, the qualitative data were collected using an in-depth interview with managers of electronic services with aim to receive their estimate (based on the municipal observations and measurements) related to the factors that encourage or hinder citizens to use e-services. Specifically, to collect as accurate as possible data for this study, we have gathered the perception and opinion of the respondents in two ways. On one side, an individual questionnaire was developed to collect primary data from citizens. Whereas, on the other side were realized interviews with three e-services managers to collect qualitative data from the municipal perspective, related to the importance of these factors on using electronic municipal services. The entire citizen survey and manager interviews took place over a two-month period. For analyzing the quantitative data, the

SPSS program was used, and the Cronbach's Alpha reliability test was used to verify variable variability, while the Chi-Square statistical test and regression analysis were used to test hypotheses. Whereas, the qualitative data gathered by e-service managers are integrated into the discussion part of this paper.

The conceptual model in Figure 1 depicts the relationship between three electronic services management factors (awareness of electronic services, poor infrastructure and quality of electronic services) and usage of electronic municipal services. We suggest that all these three factors are positively associated with improved usage of electronic municipal services. We next describe the rationale for the research hypotheses. Figure 1 provides a summary of the relationship between H<sub>1</sub>, H<sub>2</sub>, and H<sub>3</sub> as described below.

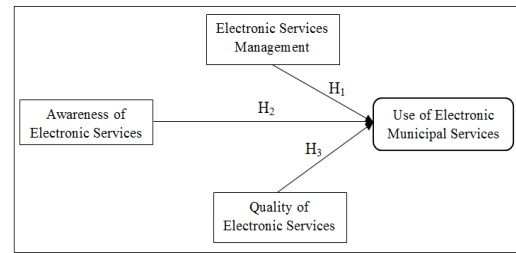


Figure 1. Conceptual model

### 4. RESULTS OF THE STUDY

Because the data in this study is of a routine nature, nonparametric tests, specifically the Chi-square test, were used to generate the results. The Reliability Analysis procedure is used to compute the coefficients that determine the dependability of the meters' total results (points). According to Kalayci [27] the reliability coefficient has a range of 0 to 1 and is known as the Cronbach Alfa coefficient. In order for the variables to be acceptable, the Cronbach Alpha coefficient must be greater than 0.70 (>.70). The reliability analysis included 17 variables obtained from the questionnaire, and the results showed a Cronbach alpha coefficient of .991, indicating a high degree of reliability (see Table 1).

Table 1. Cronbach's Alpha

Cronbach's Alpha	Nr. of Items
.991	17

To test the first hypothesis which states "good electronic services management is positively related to the use of municipal electronic services". Table 2a shows that the use of electronic services and citizens' assessment of the level of e-service management are statistically significant (p = .000). This result demonstrates that there is a strong relationship between these two variables. Likewise, the regression analysis, as shown in Table 2b, reveals that the independent variable "electronic services management" which was included in the analysis, explains 95.7 percent of the dependent variable "use of electronic municipal services". If all other variables remain constant, the results of this test show that for every 1% increase in good management of municipal electronic services, is predicted a 94.5 percent increase in use of electronic municipal services. This means that improving municipal electronic service management has a positive impact on increasing the

use of electronic municipal services. Based on the values obtained and the above analysis, the first hypothesis is accepted.

To test the second hypothesis which states “awareness of electronic services positively affects the use of electronic municipal services”. Results of the chi-square test, indicate that there is a statistically significant relationship between the use of electronic services and citizens’ evaluations of their awareness of electronic services ( $p = .000$ ). As a result, these two variables are not independent of one another, but there is a significant relationship between them. As shown in Table 3a, where the value of Asym. Sig. (2-sided)  $p = .000 < .05$  is less than the standard alpha value. Additionally, Table 3b’s regression analysis shows that the independent variable “electronic services management” which was included in the analysis, explains 56.3 percent of the dependent variable “use of electronic municipal services”. Table 3b also shows that for every 1% increase in knowledge of electronic services, is predicted a 66.7 percent increase in use of electronic services if all other variables remain constant. This means that increasing one’s understanding of electronic services has a positive effect on increasing one’s use of electronic services. Based on these findings, the second hypothesis is accepted.

Finally, to test the second hypothesis which states “the quality of electronic services has a positive relationship with the use of electronic municipal services”. The chi-square test results (see Table 4a) show that there is a statistically significant relationship between the use of electronic services and citizens’ assessment of the quality of electronic services ( $p = .000$ ). It is clear that the variables “quality of electronic services” and “use of electronic municipal services” are interdependent based on the value of Asym. Sig. (2-sided)  $p = .000 < .05$ , which is less than the standard value of alpha.

Besides, according to Table 4b, the independent variable “quality of electronic services” that was included in the analysis explains 65.6 percent of the dependent variable “use of electronic municipal services”. It also demonstrates that the independent variable “quality of electronic services” is positively related to the dependent variable “use of electronic municipal services”, predicting it with 25.7 percent ( $= .257$  and  $p = .000$ ) based on the value of the unstandardized coefficient. This result showed that for every 1% increase in the quality of electronic services, is predicted a 25.7 percent increase in the use of municipal electronic services, assuming all other variables remain constant. The third hypothesis is accepted based on the values obtained and the above analysis.

**Table 2.** Test results chi-square tests and regression analysis

<b>a) Chi-square tests</b>									
	<i>Value</i>	<i>df</i>	<i>Asymptotic Sig. (2-sided)</i>						
Pearson Chi-Square	89.762 <sup>a</sup>	4	.000						
Likelihood Ratio	98.574	4	.000						
Linear-by-Linear Association	58.260	1	.000						
N of Valid Cases	130								
<b>b) Regression analysis of the use of electronic municipal services (N=130)</b>									
<i>Variables</i>	<i>R<sup>2</sup></i>	<i>ΔR<sup>2</sup></i>	<i>B</i>	<i>Std. Error</i>	<i>Std. Beta</i>	<i>t</i>	<i>Sig.</i>	<i>Mean</i>	<i>Std. Dev.</i>
	.957	.957							
Constant			.115	.057		2.018	.046		
Electronic services management			.945	.018	.978	53.28	.000	2.946	1.319

**Table 3.** Test results chi-square tests and regression analysis

<b>a) Chi-square tests</b>									
	<i>Value</i>	<i>df</i>	<i>Asymptotic Sig.(2-sided)</i>						
Pearson Chi-Square	73.667 <sup>a</sup>	1	.000						
Likelihood Ratio	83.167	1	.000						
Linear-by-Linear Association	73.100	1	.000						
N of Valid Cases	130								
<b>b) Regression analysis of the use of electronic municipal services (N=130)</b>									
<i>Variables</i>	<i>R<sup>2</sup></i>	<i>ΔR<sup>2</sup></i>	<i>B</i>	<i>Std. Error</i>	<i>Std. Beta</i>	<i>t</i>	<i>Sig.</i>	<i>Mean</i>	<i>Std. Dev.</i>
	.567	.563							
Constant			.667	.089		7.518	.000		
Awareness of electronic services			.667	.052	.753	12.93	.000	1.653	.477

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 10.38.

b. Computed only for a 2x2 table.

**Table 4.** Test results chi-square tests and regression analysis

<b>a) Chi-square tests</b>									
	<i>Value</i>	<i>df</i>	<i>Asymptotic Sig. (2-sided)</i>						
Pearson Chi-Square	107.250 <sup>a</sup>	4	.000						
Likelihood Ratio	114.996	4	.000						
Linear-by-Linear Association	84.937	1	.000						
N of Valid Cases	130								
<b>b) Regression analysis of the use of electronic municipal services (N=130)</b>									
<i>Variables</i>	<i>R<sup>2</sup></i>	<i>ΔR<sup>2</sup></i>	<i>B</i>	<i>Std. Error</i>	<i>Std. Beta</i>	<i>t</i>	<i>Sig.</i>	<i>Mean</i>	<i>Std. Dev.</i>
	.658	.656							
Constant			.818	.064		12.71	.000		
Quality of electronic services			.257	.016	.811	15.70	.000	3.707	1.3378

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 2.77.

## 5. DISCUSSION AND CONCLUSIONS

This study used quantitative methods to investigate three factors that influence the level of use of municipal electronic services: electronic services management, electronic services awareness, and electronic services quality. Based on the findings of the literature review, the use of e-government is influenced by the ease of use, the availability of services, and the quality of e-services. Furthermore, age and education have a significant impact on the use of electronic municipal services [16, 18]. Young people are more likely than older people to be open to the idea of using e-government services. The findings of three factors measured in this research are discussed below.

First, it is worth noting that respondents have expressed reservations about using electronic services since they are concerned about technical problems, the quality of information they receive from government websites, data security, the security of their transactions when using government websites, and the quality of service. Problems with using electronic municipal services, such as transaction interruptions that cause significant delays, have a negative impact on the rate of use of electronic services. As a result, research has shown that, while electronic services are more convenient for many participants, face-to-face services with “physical participation” are preferable, assuming that the relationship with government is lively and tangible. Despite the fact that the majority of respondents were educated and had internet experience, they indicated that they prefer face-to-face interaction over electronic services for the reasons stated above. Whereas, people who have a higher level of trust in the internet and in government are more likely to use e-government services [16]. In this respect, the findings of this paper partially confirmed the findings of the research conducted by Rehman et al. [2].

Second, we can see the respondents’ concerns in the research questions about the factors that have influenced their non-use of electronic services. Lack of awareness about electronic services, as well as poor infrastructure and technical issues, are cited as major reasons for non-use of electronic services. The findings, however, revealed that technical issues or system crashes had the greatest impact on not using electronic services. Also, the interviews we conducted with the three managers in charge of the electronic services revealed that the main challenges in managing the electronic services are technical issues and a lack of infrastructure, indicating that there is consistency between the results obtained from citizen data and the results obtained from interviews with managers. It was also noted that, as a result of increased transparency, the quality of electronic services provided by the municipality has

increased with the digitalization of municipal services.

Third, according to the findings of this study, the quality of e-services (such as, ease of use of electronic services, access at all times, quality of services, reduction of queues, removal of unnecessary complicated procedures, and time savings) have a significant impact on citizens’ willingness to use electronic services. However, respondents indicated that with the improvement of some indicators and the removal of the obstacles presented that are related to their concerns when using electronic services, citizens’ willingness to use electronic services will increase. So, internet security and reliability have been assessed as factors influencing the use of electronic services, but respondents have expressed concerns about these two factors in the issue of personal data, where they are stored, and how safe they are from electronic misuse, which we can consider that, as citizens’ trust and security increase, so will their willingness to use electronic services. Furthermore, the findings revealed that the quality of e-services, particularly the website, has a positive and stylistically significant influence on the use of e-government services. This finding is consistent with the findings of several studies [28-31], which found that website quality affects behavioral intention, usage behavior, and user satisfaction, as well as user satisfaction in their decision to use e-government systems.

With the confirmation of the three hypotheses, it is clear that the use of electronic services is positively related to electronic service management, electronic service knowledge, and the quality of electronic services provided (see Table 5).

In conclusion, the findings of this paper confirmed that good management of electronic services, awareness of electronic services, and quality of electronic services determine citizens’ willingness to use e-government services. This research may provide a possible explanation for the inconsistent findings about the relationship between the factors of the management of e-services and the usage electronic municipal services. Based on the results of this study, one of the practical implications is that Kosovan citizens may be more likely to use electronic municipal services if they are managed well by municipal administrations. Consequently, this study contributes significantly to the scientific and academic value [32] of the electronic services management in local governance in Kosovo, in the region, and beyond. Considering the results of this study and existing literature, we can conclude that there is a similarity between perceptions of factors that influence the use of electronic services among transitional countries, such as, Pakistan, Kuwait, Jordan, and Kosovo.

**Table 5.** Results for proposed hypotheses

<i>Hypothesis</i>	<i>Relationship</i>	<i>Direct Effects</i>	<i>Hypothesis</i>
H <sub>1</sub>	Electronic services management → use of electronic municipal services	.94*** (53.28)	Supported
H <sub>2</sub>	Awareness of electronic services → use of electronic municipal services	.67*** (12.93)	Supported
H <sub>3</sub>	Quality of electronic services → use of electronic municipal services	.26*** (15.70)	Supported

\*Significant at <.05, \*\* significant at <.01, \*\*\* significant at <.001. *t*-values are in parentheses.

## 6. STUDY LIMITATIONS AND FURTHER RESEARCH

This study adds to the body of knowledge about electronic governance management, but it has limitations. The following are the study’s limitations:

The sample size of people who participated in the study is

relatively small (130). As a result, caution must be exercised when attempting to generalize the findings of this study [33]. Future studies may include a large number of respondents, who will be divided based on academic degree, gender, or age. Also, measuring and comparing results across countries could be extremely beneficial, such as determining the differences in

the use of electronic municipal services in the Western Balkan countries.

Not only do the factors included in this study have an impact on the use of electronic services, but there are several other factors that may influence the degree of use of electronic services. Future research should include additional variables and test them in different models, such as using age, gender, and academic degree as control variables in this relationship.

Data gathered in a single point in time, rather than over time. The study's value would have been increased if the data had been collected over a longer period of time with the goal of investigating the dynamics of electronic services usage.

The relationship between variables was tested in one direction. Future research could measure the reverse causality in order to increase the value of the research and to compare the results with this study.

## 7. RECOMMENDATION

In addition to theoretical implications, the findings of this study have also several practical implications. Based on the findings, the following recommendations are made:

Developing effective and comprehensive strategies – given the ineffectiveness of previous development strategies, it is recommended that citizens be involved in the development of strategies for the development of electronic services. Coordination in policymaking will have a positive impact on strategy implementation in this way.

Development of sound policies for information on electronic services – a lack of knowledge about electronic services was one of the reasons why citizens did not use them. This demonstrates that the methods employed were ineffective. As a result, it is recommended that managers conduct a more detailed analysis of the methods of information and employ creative ideas in this regard in order to include the most appropriate forms that are acceptable to citizens.

Developing a more appropriate infrastructure that facilitates the use of electronic services – poor infrastructure is also thought to influence non-use of electronic services. It is suggested that a better infrastructure be built in response to citizen complaints.

Increase the number of employees, provide training, and eliminate technical issues when using electronic services – technical issues are ranked as one of the top concerns among citizens and interviewed managers. It is therefore recommended that current employees be trained and that the number of employees dealing with the rapid remediation of potential problems be increased. As a result, citizens who must use municipal electronic services will have their obstacles identified and resolved more quickly, and their trust in using electronic services will grow.

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