

Citizen Attitudes Towards E-Government Services: Comparison of Northern and Southern Nicosia Municipalities

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ABSTRACT

This article presents the findings of a comparative study about citizen attitudes towards e-government services, which was conducted in the Northern and Southern Nicosia Municipalities in Cyprus. The study is important and valuable first due to the fact that Cyprus is a small island, a topic which received limited attention in e-government research. Second, Nicosia remains the world's last divided capital city, and e-government comparisons in divided capital cities are even rarer. The results show that both municipalities were rated poorly in terms of efficiency, transparency, and vision. The models also indicate that the development of e-government practices affect e-voting, perceived e-government benefits and organizational agility positively in both cases. Nepotism was found to negatively affect the development of e-government practices in the North, whereas human rights and social media have a positive effect. E-government practices affected the dissemination of democratic behaviour, and attitudes towards innovation and mobile government positively in Southern Nicosia.

KEYWORDS

Citizens, Cyprus, E-Government, E-Voting, Nepotism, Small Island States

INTRODUCTION

Advances in and rapid diffusion of new and innovative technologies and ways of doing business enable governments to be able to convert their traditional face-to-face services to electronic services (Porumbescu, 2016), in order to meet the demand of citizens (Camaj, 2016), among other reasons. Electronic government (e-government) practices have the potential to increase efficiency, transparency

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and accountability of the public agencies (Kaya, 2019a). The level of e-government development varies according to a country's level of technological development and vision of digitalization.

Within this framework, this study aims to explain citizens' attitudes towards e-government services in Northern and Southern Nicosia municipalities. The topic is important since e-government development in small island states is an under-researched topic in the e-government literature. In addition, the study focuses on Nicosia, which is the last remaining divided capital city in the world. The findings are both important and useful, especially because in case of unification in Cyprus, the results of this comparison can be used for future benchmarking and standardization. To this end, a questionnaire had been distributed in both parts of Nicosia to examine and compare the attitudes and tendency towards e-government practices. One very interesting result of this comparison clearly indicate that although Northern Cyprus is physically isolated due to not being recognized by the international community with the exception of Turkey, there is more demand for e-government practices, which indicate that physical isolation does not create digital isolation. As such, the findings have implications not only for e-government studies, but for international relations/diplomacy studies as well.

The paper is organized as follows: The next section explains the case of Cyprus in order to provide background information for the readers. Afterwards, e-government practices and barriers to e-government adaptation in Cyprus had been explained. Methodology section is followed by the results of the study. Finally, the conclusion section highlights the importance and practical implications of findings, discusses implications and proposes avenues of future research.

LITERATURE REVIEW: E-GOVERNMENT DEVELOPMENT IN SMALL ISLAND STATES

Although e-government studies is an ever-expanding multi-disciplinary area of research, the topic of e-government development in small island states received very limited attention. With very few exceptions, such as Singapore (e.g. Pan, Tan, & Lim, 2006), one could find very limited numbers of studies on the subject (Nielsen, 2016, p. 1; Cullen & Hassall, 2017, p. 394).

Why is this subject important? A main question that comes to mind is: are small island states a fundamentally different unit and lens for analysis, or does the evolution/adoption of e-government in these states simply mirror that occurring elsewhere and lack of resources just makes them slower. The thesis of this study is that in many ways it is the former. Therefore, simply adapting models/methods/approaches from bigger and more advanced countries may not be enough to understand and explain of the cases of e-government development in small island states.

Small island states are categorically different, and much can be learned about e-government through research on them (Yildiz & Sagsan, 2020). First of all, many small island states are isolated in many degrees, forms and shapes from the mainland. Such isolation creates specific challenges for e-government development, such as loss of human capital to the bigger mainland countries, which can offer better opportunities for these islanders, who are often overqualified in their small island homes (Cullen & Hassall, 2017, p. 392). Secondly, the small scale of small island states enables them to serve as test beds for the implementation of new ideas and technologies. For example, Huawei used Faroe Islands as a testing ground for the rolling out of a new generation of 4G/LTE network in 2014 (Nielsen, 2016, p. 3).

Third, not only a considerable number of island natives live in other countries as expatriates, many people who were born elsewhere made island states their homes for different reasons, such as trade, tourism or as a retirement destination. Provision of electronic government services makes life easier and more convenient for both of these groups, as they can file taxes, fill out forms and get various permits online. Fourth, many island states are economically dependent on few sectors, such as education, tourism, fishing, and finance. Electronic provision of government services may be beneficial to the smooth functioning of the economic activities in these sectors. For

example, it is highly beneficial for the prospective students of Maltese language schools to find information and services about being a legal resident/student in Malta on government websites, without the necessity of coming to the island. Most importantly, small island countries are and will be the first to face the negative effects of climate change and many forms of environmental degradation that comes with it. Electronic provision of government information and services may help small island states to better prepare for disasters, and to build resilience to climate change (UN E-Government Survey, 2018, pp. 50, 144).

Within this framework of e-government development and use in small island states, the case of Cyprus is selected. There have been few studies of e-government development and use in the island of Cyprus. Kokkinaki, Mylonas, and Mina (2005), for example, analysed the portal contents of several ministries in the Republic of Cyprus. Zevedos (2006) compared e-government and e-democracy implementation in a Republic of Cyprus Municipality (Limassol) with four English, two Scottish, one Irish, one Welsh and one Greek municipalities, after which he detects the lack of a well-defined e-government strategy, adequate organizational capacity, qualified human resources and top management support in Limassol. Sagsan and Yildiz (2010) evaluated both the e-government development process and the policy actors active in this process within the Turkish Republic of Northern Cyprus. Sagsan, Eyüpoğlu, and Saner (2011) compared the e-Government strategies of Turkey and the Turkish Republic of Northern Cyprus to search for evidence for institutional isomorphism. Kaya et al. (2016) evaluated the municipalities based on electronic participation (e-participation) and Kaya and Over (2019) evaluated ministry and municipality websites based on e-participation and public relations. Following these earlier studies with a more specific focus, this article aims to compare and analyze citizens' use of e-government services in Northern and Southern Nicosia municipalities.

Cyprus experienced an international conflict in 1974, which resulted in the creation of the Turkish Republic of Northern Cyprus (TRNC) in the North and the Republic of Cyprus in the South. The TRNC is not legally recognized by any of the United Nations (UN) member countries, except Turkey due to Resolution 541, "7. Calls upon all the States not to recognize any Cypriot State other than the Republic of Cyprus" (UN Security Council, 1983, p. 2). Therefore, Northern Cyprus has faced isolation and a lack of recognition since 1983.

The Republic of Cyprus was formed in 1960 under the guarantee of three countries (United Kingdom, Greece, and Turkey) and has controlled the Southern region of the island since 1974. The Republic of Cyprus has been a member of the European Union since 2004, although Article 10 is not applied in the North. There have been ongoing negotiations for the last 46 years aimed at solving the Cyprus dispute. "In 2004, Cyprus joined the EU as a de facto divided island but the whole of Cyprus is EU territory" (European Union, 2017). Although there is a de facto border (Green Line) which separates the country, it is important to examine the e-government practices of the two countries simultaneously for several reasons:

- The two parts need to have the same standards, regulations and practices if there will be a solution to the Cyprus Dispute;
- The impact of international community's recognition and EU Norms can be assessed to determine if they have any influence on the development of e-government practices;
- Nicosia is the world's last divided capital city, and there are commonalities and similarities within the two parts, which is a research topic that has not been studied in the e-government literature.

Previous research also showed that both nepotism and social media platforms affect the topic under investigation: Nepotism is favoritism by a government official for "someone near him or her, such as a family member, a member of the political party, a tribe member or a member of the same religious group" (Salminen & Ikola-Norrbacka, 2010, p. 652). Previous research shows that the TRNC is significantly affected by nepotism as a small country (Kaya & Sagsan, 2016). Therefore,

it is expected that officials will be unwilling to use e-government practices as their power stemming from favouritism may be significantly lost.

As mentioned in the previous section, social media affects e-government practices by means of increasing e-participation (United Nations, 2016). Powell et al. (2012) mentioned that there are security issues, while users who enjoy e-government will be willing to vote using e-voting technology. Okunola, Rowley and Johnson (2017) indicated that mobile government services should be provided by the governments as mobile devices and connectivity are the future of technology. Muñoz-Cañavate and Hípola (2011) stated that the e-signature is an effective feature of e-government and has a positive effect on e-government usage. By considering the statements above, the following hypotheses are proposed based on the technology and e-government features.

Barriers Against E-Government Adaptation

“Factors like trust, current infrastructure (bandwidth, speed, location), bureaucracy, lack of legal framework, cultural concepts (nepotism), used jargon, political commitment and stability, age, gender, disability and education can decrease access to technology and e-government adaptation” (Kaya, 2019a, p. 53). Therefore, it could be mentioned that the digital divide is another obstacle for the adaptation of e-government practices, and it will create a barrier towards inclusive decision making. Age, gender, income and location affect the extent of the digital divide and access to Internet/technology might show differences (Antonio & Tuffley, 2014; Heart & Kalderon, 2013; Okunola, Rowley & Johnson, 2017).

Features provided by e-government practices are increasing in parallel with the development and penetration while the adaptation of these services changes according the groups. Lippert and Ojumu (2008) indicated that innovators and early adopters of the Diffusion of Innovation Cycle (Rogers, 1995) tend to be more trusting of electronic voting (e-voting) practices. Furthermore, electronic signature (e-signature) is also an effective practice where “one of the very most effective innovations for the implementation of electronic administration, however, is the electronic signature, which ensures the validity and the confidentiality of citizens’ electronic transactions with the administration” (Muñoz-Cañavate & Hípola, 2011, p.77). Furthermore, it must also be acknowledged that as e-governments use internet-based applications, data privacy may be a concern among users (Wu, 2014). Use of Web 2.0 has a variety of risks in the context of e-government (Sivarajah, Irani, & Weerakkody, 2015). Users may become socially isolated if they use the electronic practices extensively (de Kool & Wamelen, 2008).

Contradicting this view, Bonsón, Royo and Ratkai (2015) developed a stakeholder engagement matrix to assess the Facebook pages of the municipalities in 15 European Union (EU) member countries in terms of how the users (stakeholders) engage within the official municipality pages and their content. The results indicate that citizens show more interest in posts related to the daily practices of municipality management instead of promotional marketing content which are prepared and circulated by the municipalities. Furthermore, research indicates that photo content is more engaging to capture the attention of citizens and municipalities have the opportunity to increase the e-participation of citizens by using social media, particularly Facebook. Additionally, the recent United Nations E-Government Survey 2018 also highlights that countries tend to move towards a participatory decision-making process as the access to social media becomes easier. Developed countries, mainly those in Europe, ranked at the top of the table (within the first 50 places), whereas there are also lower-middle income countries that are making progress. If e-participation increases amongst less developed countries, they will move towards more participatory decision making (United Nations, 2018). The findings above indicates that social media plays a vital role in improving e-government practices as well as e-participation.

There are significant differences between the countries’ e-government development. Countries which have a very high E-Government Development Index (EGDI) increased from 15% to 21%, countries with a high EGDI increased from 34% to 37%. Middle EGDI countries decreased from 35%

to 34% while countries with low EGDI decreased from 16% to 8% according to the UN E-Government Survey 2018. Therefore, it is evident that there will be differences amongst developed and developing countries. In fact, the United Nations (2014) stressed that public administration can be transformed into an instrument of sustainable development if the potential of e-government is realized. In their earlier work, Estevez and Janowski (2013) proposed and emphasized the importance of e-governance for sustainable development, and introduced the contextualization of digital government as the last stage of e-governance evolution (Janowski, 2015). Janowski (2015) further stated that e-government is not limited to the features of government as there is value as a tool for development. Nevertheless, EGDI indicates that there is improvement within e-government practices worldwide. There are critiques as EGDI only focus on supply side policies where society perspective is neglected (Pirannejad, Janseen, and Rezaei, 2019; Kaya, 2020). E-government practices is advancing as concepts like big data, artificial intelligence and internet of things are integrated in public administration where governments are not fully utilizing them (Kaya, 2019b; Vydra and Kliievink, 2019; Gomes de Sousa et al., 2019).

METHOD

The research aims are as follows.

The aim of the study is to suggest methods for improving e-government processes by identifying variables influencing e-government usage in north and south Nicosia.

According to the research aim, following research objectives are set:

1. To determine the similarities and differences among Northern and Southern Nicosia citizens related to e-government usage;
2. To understand if the physical isolation creates a digital isolation as well.

Research Approach and Data Collection

In this research, a questionnaire has been used to gather primary research data in Nicosia. The questions include short-answer and Likert-type questions. Fundamental demographic questions (age, gender, income, location (urban or suburb), technology ownership) and questions to determine the digital divide have been asked in the first section. The second section includes questions related to the Internet, social media and e-government usage. In the last section, statements related to e-government features have been asked based on a 1-5 Likert Scale. The respondents answered 1 if they strongly disagreed, 2 for disagreed statement, 3 for if they do not have an opinion, 4 for agreed and 5 for if they strongly agreed with the statement.

Sampling and Respondents

Non-probability sampling based on snowball sampling has been used in order to access citizens who live different parts of Nicosia (Okunola et al., 2017). In total, 264 respondents (132 from Northern Nicosia and 132 from Southern Nicosia) completed the survey. From this total, 54% of the respondents were female, whereas 46% of the respondents were male. Furthermore, 83% of the respondents mentioned that they live in urban areas, while 17% informed that they live in suburbs of Nicosia. Additionally, 36.7% of the respondents work in the private sector, followed by 23.1% students (undergraduate, master's or PhD), while 15.9% are public sector employees and 15.2% are self-employed. 5.7% of the respondents are unemployed, 2.7% work in non-governmental organizations and only 0.4% work in a political institution. Furthermore, 1.9% of the respondents declared that they have a disability.

When the descriptive statistics for Northern and Southern Nicosia are compared, it can be seen that 74.2% of the Northern Nicosia citizens have dual nationality compared to 23.5% of Southern Nicosia citizens. Dual nationality with the Republic of Cyprus is the most common with 59.1% in Northern

Nicosia, which is followed by Turkish with 13.6% and British with 7.6% citizenship. However, 9.1% of Southern Nicosia respondents have British dual nationality, which is followed by Greece with 3% and USA with 1.5%. The majority of both Northern and Southern Nicosia (94.7%) citizens have an Internet connection at home. Similarly, 99.2% of the citizens in the North and 93.2% of the citizens in the South have a smartphone. Furthermore, 91.7% of the respondents in the North and 78.8% of the respondents in the South have an Internet data package on their phones. The findings above indicate that citizens who live in both parts of Nicosia are not digitally excluded. When the respondents were asked about their most recent educational qualification, 36.35% mentioned that they either have a master's or PhD degree, 35.25% were Bachelor graduates, and 28.05% were high school graduate, while only 0.35% stated they have no educational background. The cross-comparison of Northern and Southern Nicosia respondents and the demographic profile of the respondents can be seen in Table 1.

Data Analysis

Before conducting statistical analysis, the suitability of the data has been verified. The Cronbach's Alpha value was calculated (0.87) in order to ensure reliability and consistency (Pallant, 2010). The Independent t-test has been used in order to compare the mean scores of the two different groups of respondents so as to understand whether there are significant statistical differences between the groups (Pallant, 2010). There were significant differences amongst the majority of the statements. Therefore, factor analysis for Northern and Southern Nicosia has been conducted separately. Exploratory

Table 1. Respondents

	North	South
Location (Part)	132 (50%)	132 (50%)
Location (Urban/Suburb)		
Urban	111 (84.1%)	109 (82.6%)
Suburb	21 (15.9%)	23 (17.4%)
Education Status		
Master's and PhD	39 (29.5%)	57 (43.2%)
Bachelors	41 (31.1%)	52 (39.4%)
High School	52 (39.4%)	22 (16.7%)
No Educational Background	-	1 (0.8%)
Gender		
Male	77 (58.3%)	41 (31.1%)
Female	52 (39.4%)	88 (66.7%)
LGBTQ	3 (2.3%)	3 (2.3%)
Age		
Young (18-30 years)	78 (59.2%)	67 (50.8%)
Middle (31 to 50 years)	45 (34.2%)	51 (38.6%)
Older (51 years and above)	9 (6.6%)	14 (10.6%)
Home Internet Access	125 (94.7%)	125 (94.7%)
Smartphone Ownership	131 (99.2%)	124 (94%)
Mobile Internet Package Ownership	121 (91.7%)	103 (78.8%)

factor analysis is “used in the early stages of research to gather information about (explore) the interrelationships among a set of variables” (Pallant, 2010, p. 179).

FINDINGS

Descriptive Statistics

Online Communication

When the most frequently used online communication methods have been examined, it is seen that the citizens of Northern and Southern Nicosia have commonalities in five specific mediums. Facebook is the most used online communication method in both regions, where 79.5% of Northern Nicosia citizens and 78.8% of Southern Nicosia citizens responded that they use Facebook more than once a day. YouTube is visited more than once a day by 54.5% in Northern and 53.8% in Southern Nicosia. Amongst the messaging applications, Viber is also used more than once a day by 31.8% of the Northern and 33.3% of the Southern Nicosia respondents. Twitter and LinkedIn both have least usage in both regions, as it was found that only 8.3% of Northern and 9.8% of Southern Nicosia respondents use Twitter more than once a day. The professional social network LinkedIn is rarely used (once a month) in both parts, with 10.6% and 14.4%, respectively.

Northern and Southern Nicosia respondents have differences in their usage of Instagram, Snapchat, WhatsApp and E-mail. Instagram, Snapchat and WhatsApp are used more by Northern Nicosia respondents. For example, 62.1% of the citizens of Northern Nicosia use Instagram more than once a day compared with 33.3% of the Southern Nicosia citizens. Snapchat is also used more than once a day by 23.5% of the citizens in the North, while the application is only used more than once a day by 13.6% of respondents in the South. There was also a high number of respondents who do not use Snapchat (53% for Northern Nicosia, 61.4% for Southern Nicosia). When the e-mail usage has been reviewed, it is seen that 59.8% of respondents of Southern Nicosia use it more than once a day, compared with 44.7% in Northern Nicosia.

The Reasons for Internet Usage

The top three reasons for using the Internet are the same for both Northern and Southern Nicosia respondents, while the order of ranking is different. Northern Nicosia respondents declared that they use the Internet most to access social media (72.1%), for chat and communication (66.7%) and reading news and gathering information (63.6%). Southern Nicosia respondents mentioned that they use the Internet for reading news and gathering information (83.1%), for social media (80.3%) and for chat and communication (78.9%). Furthermore, 37.9% of the respondents from the North declared that they use the Internet for someone else, compared with 18.9% of respondents from the South. The respondents' detailed reasons for Internet usage can be seen in Table 2.

The Reasons for Social Network Usage

Although the top two reasons were the same, the level of use is different for Northern and Southern Nicosia respondents. Chat and communication were the most used option for Northern Nicosia (74.2%) citizens and the second for the Southern Nicosia citizens (71%), while reading news and information gathering was the most used reason for Southern (72.5%) and the second choice for the Northern Nicosia (63.3%) respondents. Furthermore, when the time period of social networks is examined, it is seen that respondents declared that they constantly access them (47.7% for Northern, 52.1% for Southern), followed by the time period between 20:00 and 24:00 (33.1% for Northern, 39.4% for Southern) (Table 3).

Furthermore, communicating with friends (79.4% for Northern Nicosia, 80.9% for Southern Nicosia) and communicating with family members (64.3% for Northern Nicosia, 64.7% for Southern Nicosia) are the primary reasons for WhatsApp/Viber usage amongst the respondents.

Table 2. Internet usage of Nicosia citizens*

Reason	Northern Nicosia	Southern Nicosia
Advertising	7%	22.5%
Betting	0.8%	1.4%
Chat – Communication	66.7%	78.9%
File Transfer	24%	52.1%
Online Banking	25.6%	59.2%
Shopping	21.7%	56.3%
Social Media	72.1%	80.3%
To read news and gather information	63.6%	83.1%
Watch TV series, YouTube	62%	71.8%

*Respondents selected more than one answers

Table 3. Reasons for Nicosia citizens' social media usage*

Reason	Northern Nicosia	Southern Nicosia
Advertising	6.3%	26.1%
Applications & Games	15.6%	20.3%
Chat – Communication	74.2%	71%
File Transfer	25.8%	31.9%
Knowledge Sharing	55.5%	42%
Organizations and event planning	32.8%	52.2%
Shopping	8.6%	15.9%
To express my opinion on recent topics	34.4%	47.8%
To read news and gather information	63.3%	72.5%
To gather information about my friends	31.3%	47.8%
To make friends	12.5%	15.9%
To waste free time	45.3%	33.3%
To watch videos	32%	39.1%

*Respondents selected more than one answers

E-Government Use of Respondents

When the respondents' usage for e-government for someone else is examined, it is seen that the rate is low in both regions (6.1% for Northern Nicosia, 19.7% for Southern Nicosia). The participants were also asked which countries' e-government services they use and 37.7% of respondents from North stated that they use their country's portal (<http://www.edevlet.gov.ct.tr/>), which is followed by portal of the Republic of Cyprus (8.5%) and the portal of Turkey (6.9%). Southern Nicosia respondents mostly (57%) use the e-government portal of Republic of Cyprus (<http://www.cyprus.gov.cy>), which is followed by the portal of the United Kingdom (12.7%) and Greece (7%). National Insurance Service is the most used e-government services by Northern Nicosia citizens, which is followed by checking pay slips and voting information. On the other

hand, tax related services, paying fines/penalties and official document applications are the most used services by Southern Nicosia respondents.

A total of 17.7% of the respondents from the North declared that they do not have any problems while using e-government services, compared with 25.2% respondents from the South. Speed of the internet was one of the common issues while using e-government services (11.4% for Northern Nicosia, 8.5% for Southern Nicosia), where trust is another impediment for e-government use for Northern (5.3%) and technical jargon (8.5%) was an issue for Southern Nicosia respondents. Furthermore, 32.6% of respondents from Northern Nicosia mentioned that they have no difficulties with the technical jargon while using services, whereas the response of Southern Nicosia respondents was slightly higher (50.8%). 62% of the Northern Nicosia respondents and 40.2% of the Southern Nicosia respondents declared that they do not use e-government services.

Regression Models

According to the correlations of the primary data findings, the following regression models have been designed. All models are significant at the level of $p < 0.01$. Independent variables represent the dependent variable by the degree of 64%. Similarities, differences and reasons for them will be discussed in the next section.

Regression Models for Northern Nicosia

The formula for the regression models for Northern Nicosia can be seen below:

$$\begin{aligned} \text{E-Government Northern Nicosia} = & 3.790 + 0.139 * \text{E-Voting} \\ & + 0.438 * \text{Perceived e-Government benefits} + 0.154 * \text{Organizational Agility} \\ & + 0.093 * \text{Social Media} - 0.136 * \text{Nepotism} + 0.193 * \text{Human Rights} \end{aligned}$$

Regression Models for Southern Nicosia

The formula for the regression models for Southern Nicosia can be seen below:

$$\begin{aligned} \text{E-Government Southern Nicosia} = & 3.373 + 0.330 * \text{Perceived e-government benefits} \\ & + 0.319 * \text{Mobile Government} + 0.182 * \text{Dissemination of the democratic behavior} \\ & + 0.143 * \text{E-Voting} + 0.111 * \text{Attitudes towards innovation} + 0.083 * \text{Organizational Agility} \\ & + 0.078 * \text{Rights to Access Information} \end{aligned}$$

Table 4. Regression model for Northern Nicosia respondents

Dependent Variable	Independent Variables	Multiple Linear Regression	Adjusted R Square	Standardized Coefficients (Beta)
E-Government	Perceived e-Government benefits.	.000 ^b	.415	.648
	Nepotism	.000 ^b	.482	-.265
	Organizational Agility	.000 ^b	.534	.233
	Human Rights	.000 ^b	.575	.208
	E-Voting	.000 ^b	.609	.191
	Social Media	.000 ^b	.622	.123

Table 5. Regression model for Southern Nicosia respondents

Dependent Variable	Independent Variables	Multiple Linear Regression	Adjusted R Square	Standardized Coefficients (Beta)
E-Government	Perceived e-government benefits	.000 ^b	.243	.499
	M-Government	.000 ^b	.474	.482
	Dissemination of the democratic behavior	.000 ^b	.547	.499
	E-Voting	.000 ^b	.591	.216
	Attitudes towards innovation	.000 ^b	.617	.167
	Organizational Agility	.000 ^b	.630	.126
	Rights to Access Information	.000 ^b	.642	.118

DISCUSSION

Cyprus had been a British colony until 1960. Therefore, citizens having dual nationality with the United Kingdom is understandable. When the two parts of Nicosia are compared, it can be seen that there are more citizens in Northern Nicosia with dual nationality than in Southern Nicosia. As mentioned in above, the state in Northern Cyprus is not recognized internationally due to the Cyprus Conflict and the corresponding decision taken by the United Nations Security Council. Therefore, citizens in Northern Nicosia obtain dual citizenships for their leisure, business or education related activities. Citizens who live in the North have the right to become citizens of the Republic of Cyprus as they were one of the founder nations of the republic.

Furthermore, the Republic of Cyprus identity became more important after the country became a member of the EU, as citizens are now able to obtain loans from the Students Loan Company and study in the United Kingdom. This might change after Brexit while it explains the total of 59.1% Republic of Cyprus dual citizenships in the North. Likewise, the residents who have the desire to trade or open a franchise of a Turkish firm are required to be a citizen of Turkey, so the 13% Turkish dual citizenships are also understandable. Surprisingly, even though 59.1% of the respondents in the North are also citizens of the Republic of Cyprus, only 3% use the e-government services provided by the Republic of Cyprus compared with 30.3% who use their own country's portal. Furthermore, only 6% of the respondents in Northern Nicosia also use the e-government services provided by Turkey, which is half of the number who have Turkish citizenship. These findings indicate that citizens assign importance to obtaining citizenship due to the reasons explained above, whereas they do not actively use the e-government services of the country with which they have dual citizenship.

E-Voting

The statement "I trust e-government applications" received 56% agreement among Northern Nicosia citizens, whereas there was only 36% agreement among Southern Nicosia citizens. Furthermore, the "E-voting has some issues with security" question was strongly agreed by 22% and agreed by 14% of citizens who live in the North, whereas 21% strongly agreed and 33% agreed in the South. The responses indicate that the respondents in the North have less concerns about security issues, whereas people in Southern Nicosia are more cautious. As mentioned previously by the authors, security issues are one of the impediments preventing e-government usage (Coursey & Norris, 2008;

Hwang and Choi, 2017). The perceived trust for e-government services may explain the differences between the e-government use between the two parts of Nicosia, as 72% (47% strongly agree and 25% agree) of the participants from Northern Nicosia indicated that they use the e-government services of Nicosia Turkish Municipality, while only 21% (5% strongly agree, 16% agree) from Southern Nicosia mentioned that they use the e-government services of Nicosia Municipality.

When the election frequency in Cyprus is examined, it is seen that there were 10 elections in the North and 6 elections in the South (presidency, parliament, local authority and referendums) in the last 10 years. This could be the reason why there is a high tendency in both parts of Nicosia towards e-voting (Election Guide, 2017; Higher Election Committee, 2017). Furthermore, the bureaucratic issues consistently impact the effectiveness of the institutions, as there are concerns that government revenue is wasted on numerous ineffective processes. Therefore, a high desire for e-voting is desirable. Even the simplest election will need thousands of people to be employed (voting, counting, security etc.), so respondents might be willing to use e-voting even if they have concerns about security.

Improving e-government practices will also improve the organizational agility in both Northern and Southern Nicosia. Therefore, improving these features will improve organizational agility and the quantitative analysis indicates that municipalities can improve their negatively rated areas by improving e-government practices. As e-government is related to effectiveness, transparency and using state-of-the-art technology, the relationship between e-government and organizational agility is understandable.

Perceived E-Government Benefits

Furthermore, perceived e-government benefits seemed to be positive for both Northern and Southern Nicosia respondents. This means that if the decision-makers place more importance on the development of e-government practices, they will be more valued by citizens, which is expected to increase the use of the portals. It will be beneficial for public sector organizations and municipalities as the response time will decrease when the services are provided on an electronic environment.

Nepotism and E-Government

Findings indicate that that nepotism will be affected negatively whenever the e-government practices are improved. This creates the opportunity for Northern Nicosia citizens, as they are often victims of favouritism, as mentioned in previous studies (Kaya and Sagsan, 2016). Nevertheless, there will be high resistance from those who benefit from nepotism, largely the decision makers, as they use their power to provide services as if they are a personal gift. More awareness about the e-government is required in order to increase the desire to use e-government services higher than the resistance that opposes it.

Communication Preferences of Respondents

The respondents' Internet and social media usage indicates that the way people communicate is changing significantly. Furthermore, the respondents use social media and the Internet to gather information and read news, which indicates that traditional media is being replaced by digital media. When the governmental features and expectations are considered, it is seen that the respondents who had already switched to digital media, still did not use e-government services in the same manner. This could be due to several factors, such as lack of trust or being a small country. Nevertheless, as Gao and Lee (2017) indicated, it is more likely that people will know each other and consequently, the use of Facebook is high in small countries.

When the regression models for Northern Nicosia is examined, it is seen that as the e-government practices are improved, human rights will be affected positively as well. This is understandable as United Nations Member States are required to pay attention to Sustainable Development Goals. Member countries need to improve the Sustainable Development Goals by improving e-government practices (Janowski, 2016). Improving e-government services will provide and improve the basic

human rights such as registration at birth. Therefore, e-government practices should be improved for both Northern Cyprus (which is not a member of UN) and the Republic of Cyprus to achieve better SDG and to improve the country as a whole.

Regression Model for Southern Nicosia states that m-government will be affected positively whenever the e-government practices are improved. This is understandable as Nicosia Municipality has a mobile application. Furthermore, regression models also indicate that dissemination of democratic behaviour, attitudes towards innovation and rights to access information will be affected positively. When the regression models of Southern Nicosia are considered, it can be observed that there are more advanced concepts when e-government is considered. The Republic of Cyprus was founded in 1960 and the state was not faced with any form of isolation or lack of recognition. Furthermore, the country became a member of the European Union in 2004. This means that the state in the South completed all the required legislations related to the EU.

A total of 82.6% of the respondents in Northern Nicosia expressed agreement with the statement “European Union norms should be applied in our country as well”, which shows the attitudes towards EU standards. The EU is recognized as a means of removing isolations, recognition and a way to advance the country, as the state in Northern Nicosia faces isolation and has not been recognized by the UN member countries since 1983 (United Nations, 1983; Sagsan & Yildiz, 2010). Furthermore, one of the aims of the Treaty of Lisbon was to make the EU more democratic (Official Journal of the European Union/2007), the Treaty of Nice (Official Journal of the European Communities/2001) aimed to increase the effectiveness of the institutions and the union as a whole, and the Treaty of Amsterdam (Official Journal of the European Communities /1997) aimed to increase transparency. Additionally, Innovation Union is a Europe 2020 initiative that underlines the emergence of innovation within the member states. Furthermore, Horizon 2020 strategy highlights the importance and targets the implementation of m-government applications in all EU member states.

The paragraph above explains some of the aims and foundations of EU. Therefore, it is expected that there will be a greater prevalence of these topics in EU member states than non-EU, unrecognized states. Nevertheless, some basic rights such as human rights and organizational agility can be found in the Northern part of Cyprus as well, which shows there are areas of improvement. Therefore, it is understandable that attitudes towards innovation, dissemination of democratic behaviour and rights to access information will improve whenever e-government services in Southern Nicosia are improved.

The current situation in Northern Nicosia does benefit some segments of society, namely those who benefit from nepotism. It is expected that those who prefer to use e-government services are the ones who are benefiting from the status quo, and therefore do not have any intention to develop the e-government services. It does not mean that all of the respondents who do not use e-government benefit from nepotism, as there will be other factors such as lack of trust, security concerns etc. However, benefiting from the status quo is one of the main factors behind the opposition to e-government practices.

CONCLUSION

This research fills the gap in the literature by providing a comparison of a divided country in terms of e-government, where research has been conducted on citizens from both parts of the world’s last divided capital, Nicosia. The research indicates that Organizational Agility, E-Voting and Perceived e-Government benefits positively affect the use of e-government practices for both parts of Nicosia. Furthermore, nepotism negatively affects the e-government practices, where social media and human rights also have a positive relation with the e-government services of Northern Nicosia. E-government use in Southern Nicosia positively affects attitudes towards innovation, dissemination of democratic behaviour, mobile government and the right to access information. It is argued that as the country is a recognized state and an EU member, Southern Nicosia respondents are eager to have more up-to-

date concepts. For example, as a part of the Horizon 2020 Strategy, having mobile government is an important target for European Union Countries (European Union, 2017).

Although some of the results show possible benefits and improvements for e-government practices, public sector organizations were rated poorly in both cases. This leads to the question of whether and to what extent recognition or being an EU member affects the perceptions of citizens in relation to the efficiency, transparency, innovation of the public sector organizations.

Limitations and Future Studies

This study only focuses on e-government development in Northern and Southern Nicosia. One specific limitation is that Nicosia is one of a kind, as the last divided capital city in the world. Therefore, replication of the study with another divided capital city is not possible as of 2019.

Nevertheless, there are exciting future research opportunities to expand the focus of research into different cities and municipalities to examine whether there are similarities or differences between other comparable local government units and regions. It would be interesting to expand the research and have an international comparison as Zevedos (2006) mentioned in the literature review section did.

Another interesting avenue for future research is to comparatively examine the use of electronic government services by the expatriates living away from their islands. The levels, types and motivations to use e-government services can be compared and contrasted in different small island states.

Due to the nature of the topic, it is expected that developments in technology may have a significant impact on the outcomes, so the time period should be considered when the research will be used as a reference. It must also be remembered that developing and developed countries will have different tendencies and saturations of e-government practices. Furthermore, media is an important factor for discourse concerning new technology. Media discourse of e-government implementation can also be researched as an interesting area of study, as exemplified by Yildiz and Saylam (2013).

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