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TITLE: ICT and E-Government Applications in Northern Cyprus

AUTHORS: Deniz ISÇIOGLU

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Abstract

Technological infrastructure and developments are closely related to economic, cultural, social and political development levels of countries. The technology revolution at the global scale has empowered the interaction between human and information. Therefore, a new concept has emerged in administrative sciences, Electronic Government. This study addresses challenges and problems encountered by Northern Cyprus in e-government applications. In this context, it is aimed to research local governments in North Cyprus issues and challenges which they faced with during applying e-government. The study initially addresses and explains the e-government approach globally. Later, the structure of the local administrations in Northern Cyprus, their technological development levels and the extent of implementation of technological developments are explained. The target of e-government approach is a more efficient and productive administration approach with a high level of interaction. E-democracy, e-transparency and e-participation concepts can only be possible with the proper use of information and telecommunication technologies. The e-government system has just begun to be understood in Northern Cyprus. The legal regulations, state policies and public awareness process have not been completed yet in the country. Economic differences between local administration point to the fact that the electronic management structure cannot be reflected equally on every administration. It seems very challenging for the local administrations to create their own systems with public contributions or other revenues.

Key Words: ICT, E-government, E-government applications in North Cyprus

Özet

Teknolojik altyapı ve gelişmeler ülkelerin ekonomik, kültürel, sosyal ve siyasi gelişmişlik seviyeleri ile yakından ilgilidir. Küresel düzeyde yaşanan teknoloji devrimi, insan ve teknoloji arasındaki etkileşimi güçlendirmiştir. Bu durum yönetim bilimlerinde yeni kavramların doğmasına neden olmuştur. "Elektronik Devlet (e-devlet)", teknolojik değişimlerin ve gelişimlerin sonucunda yönetim bilimleri literatürüne kazandırılmış bir kavramdır. Bu çalışmanın araştırma çerçevesini, Kuzey Kıbrıs'taki e-devlet uygulamaları oluşturmada olup söz konusu uygulamalarda yaşanan sorunların tespiti amaçlanmaktadır. Çalışmada öncelikle, e-devlet kavramı tanımlanmakta ve küresel düzeyde tartışılan e-devlet yaklaşımları ele alınmaktadır. Daha sonra, Kuzey Kıbrıs'ta bulunan yerel yönetim sistemi incelenerek, yerel yönetimlerin teknolojik altyapı durumları ortaya konmaktadır. Bu bağlamda çalışma, Kuzey Kıbrıs'taki yerel yönetimlerin e-devlet uygulamalarında yaşadıkları sorun ve zorluklara değinmektedir. E-devlet uygulamalarında amaç, daha etkin daha verimli bir yönetim yaklaşımının benimsenmesidir. E-demokrasi, e-şeffaflık, ve e-katılım kavramları ancak bilgi ve iletişim teknolojilerinin yönetimlerde kullanılması ile mümkün görünmektedir. Söz konusu teknolojileri kullanmak için de yeter bilgi ve beceriye sahip kamu personeline ihtiyaç duyulmaktadır. E-devlet sistemi, Kuzey Kıbrıs için yeni sayılabilecek bir kavramdır. Ülkede e-devlet sistemi için yasal düzenlemeler halen tamamlanamamış, sisteme uygun devlet politikaları oluşturulamamıştır. Yerel yönetimler arasındaki değişik ekonomik gelişme düzeyleri de, e-devlet uygulamalarında farklılıklar yaratmaktadır. Bu durum da, yerel yönetimlerin kendi aralarındaki gelişim farklılıklarının artmasına neden olmaktadır.

Anahtar Kelimeler: Bilgi ve İletişim Teknolojileri, E-Devlet, Kuzey Kıbrıs'ta E-devlet uygulamaları

Introduction

With globalization, technology has advanced at a rapid pace and it has been required to redefine many terms and concepts in various areas, mainly management sciences. Now, the world has started to be called a “global town”. Setting aside the national borders of countries, unlimited developments and changes have occurred in countries where technological infrastructure is convenient. Technological infrastructure and developments are closely related to economic, cultural, social and political development levels of countries. Adopting new technologies to countries constitutes a whole with both financial resources and trained labor opportunities. Therefore, it cannot be accepted that developed and developing countries have the same opportunity to access technology. Leaving different countries to one side, the countries can have differences in terms of development even within their own borders. For this reason, it is probable that technological infrastructure and development available in a country is not distributed evenly across all the regions.

People give different names to every era depending on the living conditions and development levels. Names such as “Agricultural Age”, “Industrial Age”, “Information Age” have become integrated in the living conditions and life styles of communities. Societies given the name of “information societies” are the most important concepts that describe today’s conditions the best. The biggest assistant of information societies is today’s technology. Modern technology affects many components from access to information to services provided by the government to its own people and even public attitudes (West, 2004). Alteration of the perception of service by the state with the help of technology leads us to new democratic services. Developed countries, aiming at providing more transparent, more efficient, more democratic, more productive and even higher quality services to their citizens, target for realizing the requirements of the information era and review their methods to provide public services with the help of technology. We see many developed countries have transferred to

e-government applications in this respect.

When looking to e-government applications institutionally, several concepts that declare use of Information and Communication technologies at public administration can be encountered such as digital government, online-government and virtual government. But generally e-government concepts that are accepted in literature, provides to “electronic government” to be accepted instead of the others (Sobacı, 2012:6). It is obviously seen that concept of e-government has altering definitions in different studies. According to the World Bank (2013), “E-Government” refers to the use of information technologies by government agencies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government”. According to UN, E-Government Development Database, “E-government includes electronic interactions of three types: government-to-government (G2G); government-to-business (G2B) and its reverse; and government-to-consumer/citizen (G2C), and its reverse”. In OECD’s (2013), “Public sector innovation and e-government” presentation, e-government’s importance is underlined as: “Citizens and businesses increasingly prefer and use digital channels to interact with governments. The online provision of public services increases access and provide greater convenience for users, while reducing costs for all involved, including governments”. Besides, European Union unifies e-government concept with ICT in The European eGovernment Action Plan 2011-2015”, “Digital Agenda for Europe” study (2010). According to this study, “ICT can help the public sector to develop innovative ways of delivering its services to citizens while unleashing efficiencies and driving down costs”. When all of the definitions about e-government are considered, it is seen that all of the organizations are worry about converting ICT using in the interest of public.

Another important issue, which is conspicuous here, is the existence of “administrative reform”. Shortly, it is faced with two basic concepts as “new

republic management” and “governance” in quest for administrative reform of public administration (Sobacı, 2012:11). The basic framework of this study is the theoretical background which is required to achieve success for state of information and communication technologies to create the existence of administrative reform and e-government applications. Identification of new approaches and the situation of replacing ungainly public administration with more effective and efficient public enterprises can be seen as globalization and developments in the field of ICT as a reflection of public services. For electronic government (e-government) definitions to be successful, it is necessary to define the concept of the traditional government. In other words, to understand the success of e-government applications, first of all it is required to understand the traditional system of government as the first step. Only in this way the difference between the electronic government; the determination of the traditional government and the success of ICT could be possible to evaluate. For a successful e-government, many different factors can be mentioned. According to LaVigne (2001); for e-government system to succeed, a combination of a lot of features is required. To be a successful e-government system, it should be benefitted from analytical thinking and generate a solution quickly to the encountered problems. In addition, it is required that the government officials, who trained in the public domain, are able to provide necessary technical requirements to protect all of the information properly, and also they are capable of having communication, presentation skills and ability to manage the project (Reffat, 2006). In addition to the above features, with taking into account the country’s local factors, it also may be some added factors. Because each country’s own unique local factors vary between each other.

In the literature, for e-government systems to be successful, there have been many classifications. According to UN Developing a Successful E-Government Strategy report, “The critical success factors related to organizational readiness are focused around three key drivers: the process, the people, and the

technology”. Besides these, it is seen that there are also factors in the literature. This may vary adversely the effect of the success of e-government systems. Accordingly, Reffat (2006) represents “Infrastructure Development”, “Law and Public Policy”, “Digital Divide”, “e-Literacy”, “Privacy”, “Security”, “Transparency”, “Interoperability”, “Records Management”, “Education and Marketing” subjects under the title of “the most pertinent challenges for developing a successful e-Government” and develops proposals for solving these problems. As it is mentioned before, even if the subjects identified, leads to success and failure of e-government, local factors may affect success and failure of e-government systems, as well.

This study addresses challenges and problems encountered by the local administrations in Northern Cyprus in e-government applications. As the e-government applications have started recently in Northern Cyprus, it is highly important to address and evaluate the challenges in the country. Local administrations are defined as the core of democracy. The subject of this study has an importance in terms of implementation of the e-government approach, thought to empower democracy, at local administration scale and identification of the current challenges. In this context, it is aimed to research local governments in North Cyprus issues and challenges, which they faced during applying e-government.

The study initially addresses and explains the e-government approach globally. Required applications are detailed extensively. Later, the structure of the local administrations in Northern Cyprus, their technological development levels and the extent of implementation of technological developments are explained. Furthermore, achievements and challenges in e-government applications are comprehensively analyzed. The study is application oriented in terms of its conclusions and the results of the study are important to determine the available deficiencies. Here the aim is to identify the hindrances against the e-government applications of local administrations in Northern Cyprus and to develop recommendations for resolution of the problems. During the preparation

of the study, related literature was reviewed and all kinds of written and non-written resources available in Northern Cyprus were examined. Furthermore, expert opinion was taken in the concerned area.

Methodology

In this study, it is investigated that all situations and processes which local government in Northern Cyprus faced is about e-government application with the conditions of current situations. Therefore, on behalf of reflecting the nature of the current situation, the study is discussed in the framework of the Qualitative paradigm. Qualitative studies are defined as “a research which is followed qualitative process aimed at presenting events in the natural environment as in a realistic and holistic manner” (Yıldırım and Şimşek, 2005). In this study, data collection tools were document reviews and interviews. According to Yıldırım and Şimşek (2005), interview method is one of the most frequently used methods in qualitative studies. In this study, interviews were conducted using semi-structured interview form approach. The interview form used for the interviews is prepared by consulting field expert and referring to the literature. Also in this study, all materials (visual, auditory, and / or text) that were obtained from the archives of applicable legislation, regulations, and local governments, are evaluated as document. Also all news, which contained in the written and visual media, were evaluated as document and it was used in document analyses session. The collected data was resolved by descriptive analysis. The data obtained for this purpose, were depicted in a systematic way, explained and examined in a cause and effect relationship (Yıldırım and Şimşek, 2005).

E-Government on Conceptual Basis

People have employed numerous methods for centuries to facilitate their living. The technology revolution at the global scale has empowered the interaction between human and information. Therefore, a new concept has emerged in administrative sciences.

This is electronic government. “E-government” is described in many ways on conceptual terms. The most important common point of these descriptions is the “technological developments”. E-government can be thought of as the use of information technologies in government services. Information technologies are applied to provide more efficient services by the state to citizens, employees, entities and organizations. Central governments, federal states and local administrations can offer service with implementation of this system (Carter and Bélanger, 2005). In the e-government system, all of the roles and liabilities of the state in the traditional state concept can be executed in the electronic environment. Moreover, all kinds of management activities executed in the electronic environment provide us with a more transparent management practice. This kind of integration of information and communication technologies with the government structure has provided clarity and transparency and has diminished the practice of bribery in state administration (Bertot, Jaeger and Grimes, 2010). The e-government concept that has created a new relationship dimension between people and government, not only has affected the daily lives of people but also has caused redefinition of public institutions. The interaction between the state, the citizens and the entities in the information and telecommunication area has been under effect from the beginning to the end of this process. Thus, the government increases its performance in management with the help of internet and web technologies (Chun, Shulman, Sandoval and Hovy, 2010). This has brought the interaction between the state, the citizens and the entities to very high levels. With the e-government system, citizens and entities can have the opportunity to mutually interact with the state. Now the state does not provide a one direction service, it can receive feedback from citizens and entities. All these facilities are possible with the implementation of information and communication technologies in the e-government system.

Use of electronic systems and information and communication technologies in state administration

Table 1. Population Distribution of North Cyprus by City

City	Population Distrubution
Lefkoşa (Nicosia)	94,824
Gazimağusa (Famagusta)	69,741
Girne (Kyrenia)	69,163
Güzelyurt (Morphou)	30,037
İskele (Iskele)	22,492

has started in a majority of developed countries in the world. As previously mentioned, various factors play an important role in the use of electronic government. Especially the internet access, rate of computer literacy and technology adaptation of societies and similar factors have an important role in the success of e-government systems. For all these reasons, differences in technological development and access to technology and digital divide in and between countries come to the forefront as significant factors in the efficiency of e-government applications. The challenge of internet access is considered to be the main reason for digital divide. In conclusion, the income, education and internet usage levels of an individual have a great important role in use of the e-government system (Belanger and Carter, 2009). While governments are willing to offer services to their citizens with electronic means, adaptation of individuals to the e-government system is one of the main factors in the success of the e-government system. Furthermore, it is required to make e-government adaptation to state administrations for economic, social, political and administrative reasons (Colesca and Dobrica, 2008). As previously described, local administrations have a big role in state administration. The success of the system depends on how efficient the management of local administrations is, which we can describe as the closest management style to the public. For this reason, implementation of the e-government system in local administrations holds a great position in an efficient local administration perception. The electronic administration approach in local administrations brings electronic transparency and electronic democracy concept to administration (Norris and Reddick, 2012). The local

administration systems or technological development levels of all countries have not advanced at the same pace. Thus, e-government applications have differences in every country.

Northern Cyprus Local Administration System

Article 119 of the Constitution of Northern Cyprus regulates the local administrations. Accordingly “Local administrations are public legal entities established to fulfill the common local requirements of the people of a region, municipality, village or borough whose principles are defined by law and decision bodies are established with election. Establishment and roles and authorities of local administrations are regulated by law in compliance with the principle of local administration. Elections for local administration bodies are held every four years” (Northern Cyprus Constitution Article 119, 1985). There are 28 municipalities in Northern Cyprus. As per Article 6/1 of the Municipality Law in Northern Cyprus “it is required to establish a Municipality in residential units with a population of 5001 (five thousand and one) or over” (Northern Cyprus Municipalities Law, 1995). As per Article 15 of the same law, “to develop the concerned town and to discuss and meet the common local requirements of the people of the town in terms of peace, happiness and welfare with a contemporary approach and a democratic behavior” are listed among the fundamental duties of the municipalities (Northern Cyprus Municipalities Law, 1995). The total population of the country is 294,396 as indicated by the population census of 2011.

As seen above in Table 1, there are 5 districts in

Table 2. Municipalities' web site information

Municipality Name	Web Address	Site Exist/Not Exist	Updating Status
Nicosia Turkish Municipality	http://www.lefkosabelediyesi.org/tr/	Exist	Updated.
Famagusta Municipality	http://www.magusa.org/tr/	Exist	Updated.
Kyrenia Municipality	http://www.girnebelediyesi.com/	Exist	Updated.
Güzelyurt Municipality	http://www.guzelyurtbelediyesi.org/	Not Exist	Not working.
Gönyeli Municipality	http://www.gonyeli.org/	Exist	Updated.
Değirmenlik Municipality	http://degirmenlikbelediyesi.org/	Exist	Updated.
Lapithos Municipality	http://www.laptabelediyesi.com/	Exist	Not updated.
Lefka Municipality		Not exist	No site.
İskele Municipality	http://www.iskelebelediyesi.com/	Exist	Updated.
Dikmen Municipality	http://www.dikmenbelediyesi.org/	Exist	Updated.
Y. Boğaziçi Municipality	http://www.yenibogazicibelediyesi.com/	Not exist	Not working.
Y.Erenköy Municipality	http://www.yenierenkoybelediyesi.com/	Exist	Not updated.
Alsancak Municipality	http://www.alsancakbelediyesi.org/	Exist	Not updated.
Pergamos Municipality	http://www.beyarmudubelediyesi.com/	Exist	Not updated.
Çatalköy Municipality	http://catalkoybelediyesi.net/	Exist	Not updated.
Alayköy Municipality	http://www.alaykoybelediyesi.com/	Exist	Not updated.
Paşaköy Municipality	http://www.pasakoybelediyesi.com/	Exist	Not updated.
Mehmetçik Municipality	http://mehmetcikbelediyesi.com/	Exist	Not updated.
İnönü Municipality	http://inonubelediyesi.org/	Exist	Not updated.
Büyükkonuk Municipality	http://www.buyukkonukbelediye.com/	Exist	Updated.
Akdoğan Municipality		Not exist	No site.
Geçitkale Municipality	http://www.gecitkalebelediyesi.com/	Exist	Not updated.
Serdarlı Municipality		Not exist	No site.
Vadili Municipality		Not exist	No site.
Dipkarpaz Municipality	http://dipkarpazbelediyesi.com/	Exist	Not updated.
Esentepe Municipality		Not exist	No site.
Tatlısu Municipality	http://www.tatlisubelediyesi.org/	Exist	Not updated.
Akıncılar Municipality	http://akincilarbelediyesi.org/	Exist	Not updated.

the administrative structure of Northern Cyprus. The population distribution by districts is as follows: Nicosia 94.824 - Famagusta 69.741 - Kyrenia 69.163 - Morphou 30.037 and Iskele 22.492 (Northern Cyprus, State Planning Organization, 2012). Municipalities outside the district municipalities have a considerably lower population. Also the municipalities outside the

district municipalities are not in a powerful position in terms of economy and infrastructure. Municipal revenues determine the economic level of the municipality. This is closely related to the development of the municipality in the area of infrastructure and technology.

Municipal revenues are comprised of its income from tax, charges and duties, shares from public revenues, public allowances, donations and similar sources (Keleş, 1999). As previously mentioned, various factors such as technological infrastructure and rate of computer literacy of people have a significant role in realization of e-government applications. Naturally not every municipality can have the same share of public contribution. Besides, the state does not provide equal opportunities for every local administration. At this point, it is obvious that 5 district municipalities are in a more privileged position compared to other municipalities. Considering the related development and economic differences between the municipalities in Northern Cyprus, it can be asserted that there is a "digital gap" in the country. For example, more than 7 of 28 municipalities do not even have an official web site (Cyprus Turkish Municipalities Association). Many municipalities' web sites on the other hand, give a warning of "site under construction". It is observed that the municipalities' websites which are operating condition are not interactive and designed only to provide information.

As seen above at Table 2, 21 of 28 municipalities have web sites. This situation represents a good situation when looking from a broad perspective. However, when research the situation which is including updated information of current municipalities' web sites, it is seen that it is not a very good situation. It is identified that only 8 (eight) municipalities websites updated or run properly. In this context, it will be an extremely favorable perspective to think that the municipalities, which have got issues about keeping updated web site, are in a position to be able to use e-government in essential rate.

E-Government Applications in Northern Cyprus and Local Administrations

E-Government Applications in Northern Cyprus are brand new. An "E-government" portal has been established centrally (<http://www.edevlet.eu/>).

The Council of Ministers has issued a decree numbered E-148-2009 in this regard. This decision aims at eliminating complaints due to public administration and improving the public system and removing factors which cause inefficient operation of the state (<http://www.edevlet.eu/>). It was tried to establish the e-government project in a general framework in Northern Cyprus in 2012. It is aimed to execute the project in coordination of the Republic of Turkey Ministry of Transportation, Maritime Affairs and Communications and to complete in 3 years. It is aimed to call the project "e-TRNC" (e-North Cyprus) and to realize with an exemplary arrangement at the global scale. The concerned project aims to transfer the public administration and the public services in Northern Cyprus completely to the electronic environment. Thus, the citizens of Northern Cyprus will have the opportunity to receive service from the state for 7/24.

The most important point in e-government applications is the extent of interactive operability of the web sites rather than its availability in the e-government system. In other words, we cannot talk about a healthy e-government approach only with an available web site. A web site cannot solely meet the efficient, transparent and democratic structure we expect from the e-government system. It is not even possible to talk about the presence of a web site, set aside an interactive one, in most of the municipalities in Northern Cyprus. It is not possible to think about the presence of the infrastructure required to implement a successful e-government system by local administrations. Related legal regulations are missing and insufficient. Public policies are necessary for establishment of the concerned system and for its healthy operation in public administrations which have not been created yet. There is a big "digital gap" between local administrations. As the system cannot be installed completely, it cannot be evaluated whether the application provides transparency at the required level. Due to lack of interaction, it is not possible to talk about a completely democratic structure. The

Conclusions and Assessments

The e-government system has just begun to be understood in Northern Cyprus. The legal regulations, state policies and public awareness process which have not been completed yet in the country. Economic differences between local administration point to the fact that the electronic management structure cannot be reflected equally on every administration. It seems very challenging for the local administrations to create their own systems with public contributions or other revenues. Provision of services to local administrations with a central system would provide a highly more efficient administration approach. Otherwise, while some of the local administrations have the opportunity to transfer to e-government applications, a great part of them will not complete this process successfully. It is required to arrange the limited sources and current personnel structure of local administration and to bring them to a level where electronic service provision is possible. Furthermore, it is required to establish a new administrative structure for municipalities outside the 5 district municipalities to provide services in a more efficient and productive way.

Initially, a comprehensive area research is necessary for health transition of local administrations to the e-government application in this respect. It is required to analyze their population structure, infrastructure conditions and the attitude of the people towards e-administration. Otherwise, the e-government applications will not go beyond a single web page. However, the target of e-government approach is a more efficient and productive administration approach with a high level of interaction. E-democracy, e-transparency and e-participation concepts can only be possible with the proper use of information and telecommunication technologies. It is required to employ personnel equipped with necessary skill and knowledge to operate these technologies. Sufficient infrastructure and personnel requirement should be met to provide service for 7/24. Rate of computer literacy of people is among the important points to be determined in this respect. It is highly important to create user-friendly systems and to convey related

information to the public. In conclusion, the state, the citizens and the entities are required to act in co-operation for practical implementation of all planned developments in terms of the e-government system. The biggest role and responsibility at this point should certainly be undertaken by the administrations.

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Biographical Sketch

Deniz İşçioğlu was born in 1983 at Famagusta, N.Cyprus. She received the B.A. degree in International Relations from Eastern Mediterranean University (EMU), Famagusta, North Cyprus, 2004. She received the M.A. degree in Diplomatic Studies from University of Leicester, Leicester, UK, 2005 and the Ph.D. in Political Science and Public Administration (Environmental Policy, Urbanization and Local Governance) from the Ankara University, 2009. She is currently a Faculty Member (Asst. Prof. Dr.) of the Business and Economics Faculty at the EMU. She is Coordinator of the International Office at EMU, since 2012. Also she is representative of Union of Democracy and Development. Her research interests include Urban Planning, Environmental Problems, Local Governments, and e-governments.

Otobiografik Öz

Deniz İşçioğlu, 1983 yılında Gazimağusa, KKTC’de dünyaya gelmiştir. Lisans derecesini 2004 yılında, Doğu Akdeniz Üniversitesi, Uluslararası İlişkiler Bölümü’nden almıştır. 2005 yılında Birleşik Krallık, Leicester Üniversitesi’nde Diplomatik Çalışmalar alanında Yüksek Lisans derecesini almıştır. 2009 yılında Ankara, Türkiye’de, Ankara Üniversitesi, Siyasal Bilgiler Fakültesi Siyaset Bilimi ve Kamu Yönetimi (Kent, Çevre ve Yerel Yönetimler Anabilim dalı) alanında Doktora çalışmalarını tamamlamıştır. Deniz İşçioğlu, halen Doğu Akdeniz Üniversitesi, İşletme ve Ekonomi ICT and E-Government Applications in Northern Cyprus Fakültesi Öğretim Üyesi (Yrd. Doç. Dr.) olarak görev yapmaktadır. Aynı zamanda İşçioğlu, Doğu Akdeniz Üniversitesi Uluslararası Ofis Koordinatörü görevinde bulunmakta ve Demokrasi ve Kalkınma Platformu temsilciliği görevini sürdürmektedir. İşçioğlu’nun araştırma konuları arasında, Kentsel Planlama, Çevre Sorunları, Yerel Yönetimler ve Elektronik Devlet bulunmaktadır.