GOVERNMENTAL MOBILE TECHNOLOGY USAGES DURING PROMOTION EFFORTS OF REACHING THEIR CITIZENS

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-Abstract-
New developments in communication field also affect the services which are closely related to technologies. Electronic government workings which provide services to their citizens are open to new developments. At the same time, the adoption of the state in carrying out their work in the field of mobile technologies by citizens is a revolution. Researchers briefly defined the concept as, "m-government" of this approach and can be summarized as the mobility, speed and accessibility with new developments in this field. This approach will take place the e-government concept. Mobile phone penetration rate is 90% in Turkey and m-government applications between government and citizens can support fast and healthy way of communication. The aim of this study is to provide a framework for governmental mobile promotion efforts and focus on new opportunities while reaching government's citizens with new technologies and mobile applications.

Key Words: *m-government, social advertising, new communication technologies, mobile promotion, mobile communication.*
JEL Classification: M10, M15, M30

1. INTRODUCTION

As the leading developments, the communication-based innovations are among the most significant improvements introduced by the technological progresses. Commonly used in daily life, the information access devices are at the users' service without the dependence on time and place thanks to the wireless connection infrastructures. The changes in the new communication technologies

are indispensably reflected on the services rendered depending on these technologies. Giving services to private and legal persons, the e-government works are also regarded as a field open to improvement. We are confronted with the concept of mobile government which is required to provide many basic services such as payment of income tax, social contribution to the employees, job seeking, corporate tax, social security contribution, VAT, personal documents, new business registry, plate and registration procedures, data transmission to the statistical office, building permits, public libraries, public tenders, private notification, reporting to police, environmental permits, birth and marriage certificates, educational records, moving announcements, the services regarding health, law and justice and notification applications via using the mobile technologies.

Mobile government consists of the strategies and arrangements described as the use of applications, services and hardware devices including the wireless communication and mobile technologies which are available to be benefited by the citizens, corporations and all governmental units. Also the value of the mobile government depends on the diversity and capacity of the mobile services it provides (Kushchu, 2003).

When perceived as rendering of mobile government or mobile services to citizens, we encounter with the concept of mobile-public or m-public. M-public is both connected with other public institutions and obliged to give services to the citizens and corporations.

The success of e-government systems is focused on the following 6 basic factors: information quality, system quality, service quality, usage, user satisfaction and perceived net benefit (S.Wang, W. Liao 2008). In order to ensure the service quality, user satisfaction and the perceived net benefit factors, the means and messages of communication are required to be organized properly. For the purpose of producing accurate message during the communication process, it is necessary to reach the awareness level of the people to be informed.

It is clearly seen in many researches that citizens are not informed about e-government, which can be demonstrated by the example of Macedonia, a developing European country. As a consequence of a research carried out, it has been concluded that 66% of the people who attended the research aren't informed about mobile government and 68% of them don't understand the concept of mobile government completely in Macedonia where mobile phone users

constitute almost more than 40% of the total population. It is also mentioned by the participants of the research that the lack of technical infrastructure and information as well as IT ministry poses a challenge for them (Antovski L., Gusev M., 205). Therefore, mobile government shouldn't be considered as a new process or service, the citizens should be informed and educated regarding the services and applications and also it should be paid regard to the needs of citizens (Ghyasi F., Kushchu I., 2004).

The corporations introduce applications and incentives for management of customer relations and customer loyalty on electronic commerce environment. In order to extend the application of mobile government and increase the utilization level of it, the governments are also required to direct the citizens towards the loyalty to use digital devices by making discounts on the services costs paid by citizens. As in the example of post office, we can observe that the government pays efforts to increase speed and quality of the its services in order to compete with the available cargo companies although they are regarded as structural monopolies in terms of the services they provide (Davison R., Wagner C., Louis M., 2005).

2. THE SIGNIFICANCE OF M-GOVERNMENT CONCEPT IN DISTINCTION BETWEEN THE DEVELOPED AND DEVELOPING COUNTRIES

When examining the approaches to m-Government and promoting it to the public in the world, we are confronted with the basic distinction between the developed and developing countries. It can commonly be said that both developed and developing countries set up strategies and projects regarding the initiative which has started with e-Government to "allow the citizens to reach the government services via other means apart from the traditional ones". The basic difference between these two groups is that the developing countries can launch e-Government initiatives only when supported by World Bank or other organizations providing financial and technical support (Schuppan, 2008). It is envisaged that the promotion of m-Government in developing countries will be different from the developed ones and reach every segment of society.

Although it is predicted that m-Government in developing countries will be different compared to the developed countries and include a progress process which necessitates more efforts relatively, the value added that it will produce shouldn't be ignored. It is seen that m-Government applications are used in the

public services, statistical and information processes, financial management, tax system and even for the participation of public in decision-making and voting processes and it will be used more extensively in these fields later on. The problem that such services regarding the public processes, public records and data can't be brought to the whole country equally in developing countries is planned to be resolved via e-Government and hence m-Government concepts (Schuppan, 2008). A study carried out by Lau et al is an example for the promising position of m-Government in developing countries. Lau et al (Lau et al, 2008) emphasize in their studies focused on e-Government in such developing Latin America countries as Mexico, Brazil and Argentina that these initiatives are developing positively despite some deficiencies. What takes our attention in the example of Latin America is that e-Government applications are generally considered as government-to-business (G2B) oriented rather than government-to-citizen (G2C) (Lau et al, 2008).

Table 1: World Internet Usage and Population Statistics

WORLD INTERNET USAGE AND POPULATION STATISTICS December 31, 2011						
World Regions	**Population (2011 Est.)**	**Internet Users Dec. 31, 2000**	**Internet Users Latest Data**	**Penetration (% Population)**	**Growth 2000-2011**	**Users % of Table**
Africa	1,037,524,058	4,514,400	139,875,242	13.5 %	2,988.4 %	6.2 %
Asia	3,879,740,877	114,304,000	1,016,799,076	26.2 %	789.6 %	44.8 %
Europe	816,426,346	105,096,093	500,723,686	61.3 %	376.4 %	22.1 %
Middle East	216,258,843	3,284,800	77,020,995	35.6 %	2,244.8 %	3.4 %
North America	347,394,870	108,096,800	273,067,546	78.6 %	152.6 %	12.0 %
Latin America / Carib.	597,283,165	18,068,919	235,819,740	39.5 %	1,205.1 %	10.4 %
Oceania / Australia	35,426,995	7,620,480	23,927,457	67.5 %	214.0 %	1.1 %
WORLD TOTAL	6,930,055,154	360,985,492	2,267,233,742	32.7 %	528.1 %	100.0 %

Reference: http://www.internetworldstats.com/stats.htm

The difference between developed and developing countries reveals itself in the field of infrastructure. "Internet penetration" is regarded as one of the greatest barriers in front of e-Government. At this point, the distinction between developed and a developing country is put forward clearly. As seen in Table 1 explicitly, the level of internet user penetration is quite high in such developed regions as Europe, North America and Oceania/ Australia. On the other hand, in developing regions, the infrastructural problems and the internet access by relatively lesser part of the population constitute an obstacle for e-Government applications.

Tablo 2: TUIK Results of the ICT Usage in Households and by individuals, 2009

Research Results of Information Technology Usage of Individuals in 2009			
	Turkey	**Urban**	**Rural**
Desktop computer	30,7	37,1	15,2
Portable computer (Laptop, Tablet PC)	11,2	14,3	3,6
Mobile phone	87,6	89,6	82,9
Game console	3,7	4,5	1,6
Handheld computer	0,6	0,8	0,3
Fixed line telephone	61,9	63,1	58,9
Digital camera/photography	20,4	24,6	10,2
DVD, VCD, DivX player	42,7	49,6	25,9
Printer	12,4	15,1	6,0
Scanner	3,4	4,2	1,3
Fax	1,1	1,3	0,4
Multi function device (including two or more functions like printer, scanner, fax, etc.)	1,6	2,0	0,6
None of above	3,6	2,6	6,1

Reference: www.tuik.gov.tr/PreIstatistikTablo.do?istab_id=43

The infrastructural barriers encountered by e-Government applications can be considered as the developments that pave the way for m-Government. The fact that the mobile devices are multi-functional and cost-effective compared to the computers with internet access and the level of mobile penetration is high in both urban and rural regions in most of the developing countries has carried m-Government application to an upgradeable point for developing countries. The

results of "survey on the use of IT technologies in the households" carried out by Turkish Statistical Institute (TUİK) in 2009 support this approach. The great level of mobile phone use in both urban and rural part of Turkey is put forward by the results of TUİK survey. According to the survey, we can't see the homogeneity and penetration reached by the mobile phones in any other product of IT technology across the country. Taking into account the substantial level of use obtained by mobile devices especially mobile phones as stated above, m-Government applications offer developing countries the great opportunities to allow citizens and corporations to reach the public services via other means apart from traditional methods and present a chance to catch up with the level of developed countries.

3. PROMOTION OF M-GOVERNMENT TO PUBLIC

The adoption and extensive use of m-Government concept and approach across the society depends on the success in two fields. These fields can be called as "comfortable use of applications" and "user satisfaction". The promotional and educational processes are envisaged to play key role in these fields. As the efforts to allow citizens to realize m-Government applications and have the first idea on their advantages, the promotion campaigns using mass media have a crucial role in this process. Taking account of the fact that m-Government will use mobile devices particularly mobile phones, it can be asserted that the promotional activities realized by the mobile technologies will ensure the greatest benefit to bring m-Government with its users together.

Considering the current mobile technologies, the mobile means to promote m-Government can be summarized under the titles below:

3.1. SMS

Following the last years, SMS (Short Message Service) has become prominent among the means used in the field of mobile marketing. Since the service providers can inspect SMS channel contrary to e-mail system and arrange it by establishing certain rules, SMS has become an attractive option for reaching the consumers in the markets of most countries. On the other hand, SMS is still considered as a channel to send the undesired contents to the mobile phone users in the countries where the necessary arrangements regarding SMS are not carried out. Without ignoring the negative aspects, the fact that several hundred millions

advertisement-oriented SMS are sent in only Europe in a month reveals SMS as the most popular means of mobile marketing before us (Tanver et al, 2007).

SMS is considered as a significant channel to promote m-Government works and to direct the users properly. In addition to being a promotion channel, SMS is of high importance also for m-Government applications. To give an example, Municipality of Corlu, Tekirdag shares the information on weather and road conditions, announcements regarding natural disasters and electricity, water and natural gas cuts with citizens of the region via SMS. Similarly, Municipalities of Kadikoy, Bahcesehir and Uskudar in Istanbul remind the tax payers of the amount of their tax debts and deadline of payment via SMS.

3.2. MMS

In addition to sharing similar features with SMS, MMS (Multimedia Messaging Service) is a system that offers the opportunity for the users to combine graphic, music, image and video contents with texts and share them. MMS is a means which is used in advertising works since it can transmit media content together with texts.

We can benefit from MMS channel not only for the purpose of promotion but also for education in the field of m-Government. The benefits defined in the text can obtain richer and more satisfying content by being described visually thanks to the opportunity to share images provided by MMS.

3.3. Bluetooth

Bluetooth is another mobile technology through which the communication and marketing works are carried out successfully. The leading feature of Bluetooth which makes it different from SMS, MMS and other channels is that it is permit-based technology and hence the communication can't be started without the permit of the users and it also has a high file-sharing speed based on radio-frequencies and therefore no cost are collected in return for it. Since most of mobile phones include Bluetooth technology today, no infrastructural problems are experienced in the possible applications. Another feature of Bluetooth that renders it attractive for m-Government applications is to broadcast the location information of the user.

Becoming increasingly widespread in mobile marketing, Bluetooth system is operated on the basis of providing contents from the broadcasting points within the permit of the users. In m-government, we see a Bluetooth system which is a practical sharing channel. Via Bluetooth broadcasting, the infrastructure of which is established, m-Government applications can be promoted and also downloaded to mobile phones free of charge. With a low infrastructure cost, the applications are reached to mobile phone of users without requiring them to pay any money.

In addition to the promotion of m-Government, Bluetooth is a proven system in m-Government application in the world. As we stated above, the fact that this technology includes location information has created an important opportunity for the m-Government application in especially touristic regions. Tourists can take comprehensive media contents regarding the city and particularly the available location and enrich their experiences via the Bluetooth broadcasting in certain points in Torino, Italy if they permit to take those (Carcillo et al, 2006). Besides, tourist can go sightseeing in the city without getting lost thanks to the feature of Bluetooth system to share location information.

4. CONCLUSION

It is an acceptable approach in both developing and developed countries to take advantage of mobile infrastructures, devices and systems for the purpose of allowing the citizens to reach the public services. Thanks to the administrative and sectoral support, the opportunities offered by the mobile technologies carry the developing countries to the level of developed countries in this field.

The adoption and use of m-Government by a wide user group is proportional directly to the success of educational and promotional activities. In the light of the fact that the technologies and systems which fit their purposes and have reasonable usage charges will be adopted and used by the public and particularly the groups with high technological literacy, it can be suggested that substantial part of promotion of m-Government should be performed via cost-effective and solution-oriented mobile technologies.

Taking account of the fact that the success of m-Government works shows regional differences depending on the conceptuality and users' needs, we can highlight the significant role of conceptuality in selecting the technology to be used for the promotional activities. On the other hand, the citizens who will be the

potential users of m-Government should be informed about the advantages of its application irrespective of the technology to be used in the promotional activities.

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