

SOPHISTICATION OF E-SERVICES IN TURKISH PROVINCIAL MUNICIPALITIES: RECENT STATUS

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—Abstract —

Local governments all around the world are providing e-services for their citizens. The main driver for providing these might be the quest for improving the efficiency of public services in order to provide better public values to the citizens and the society. Whatever the motives are the scope of e-services ranges from legally mandated duties to non-mandated duties which are voluntarily provided by the local governments. Drawing on the delivery of services assigned by the laws # 5393 and # 5216, this paper explores the Turkish provincial municipalities' e-services and their sophistication levels.

Key Words: *Local e-Governments, Provincial municipalities, Turkish Local e-Governments,*
JEL Classification: O, O1, O18

1. INTRODUCTION

Voluntarily or not, there are certain services which require the citizens' interaction with local governments¹. But over populated cities, insufficient transportation, time constraints, and under resourced local offices cause citizens to strive for when they're dealing with the local government authorities. The recent developments in ICTs, particularly the Internet, created an opportunity for both sides, to get engaged in interaction efficiently as well as effectively. Local governments all around the world started to change the way they serve and put their services online. (E)lectronic-services, facilitate the citizens' lives by overcoming aforementioned handicaps and provide services for 7/24/365 (Rose and Grant 2010).

However, due to limited budgets, stretched resources, lack of qualified staff, and the expectations of an increasingly sophisticated populace grow (Moon 2002, MoI Report 2004) the local governments face a unique set of challenges owing to their large, diverse audiences and their disparate needs. This raises the question of priority. In other words they have to decide on a strategy that promotes which services to render online first. The practical method of delivering e-services is to focus on high-volume tasks at the beginning and then expanding to more sophisticated service provisions for the sake of effectiveness and efficiency (van Dam et al. 2005, Kim 2008, Codagnone 2008, Colesca and Dobrica 2008). On the other hand, the vast e-government literature emphasizes the importance of people's preferences while delivering e-services (Walström et al. 2009, Codagnone and Undheim 2008). It is the governments' duty to use ICTs to enhance their own capacity to deliver what people want. A user-centered e-government

¹ . From this point forward, the term "Local governments" refers to provincial municipalities in this paper.

strategy should pay more attention to the requirement and expectation of users (MoI Report 2004, Verdegem and Verleye 2009). It should also be kept in mind that whatever the motives are the scope of e-services ranges from legally mandated duties to non-mandated duties which are voluntarily provided by the local governments. Legally mandated duties are mostly performance-oriented or every-day-life-services (Reinsalu 2006). And it would be feasible to transform these tasks to e-services at the beginning. Moreover the consumption of these can also be a first step to bring citizens closer to their local government (ibid). Hence, for the voluntarily services as well as citizen involvement into local politics (e-democracy) promote greater governmental accountability, transparency and improving responsiveness (Ahn 2010, Colesca and Dobrica 2008, Codagnone 2008).

Apart from all these, the tasks of local governments will vary depending on the peculiar circumstances of each country. This means; not all the tasks may not be able to be provided by local authorities. What is more, the very nature of the tasks may not allow themselves to be transformed into e-services. Some services can still require face-to-face interactions (Millard 2006, Arslan 2009).

Drawing on the service provisions assigned by the laws # 5393 and # 5216, this paper explores the Turkish provincial municipalities' e-services and their sophistication levels. Thus, we'll try to find answers for the following question:

1. How many of the assigned services by the laws # 5393 and # 5216 are put online by the Turkish provincial municipalities?
2. And at what level?

2. LITERATURE REVIEW

E-service is a public service mediated electronically through a user interface that is generally available (Goldkuhl 2007:135). And in this respect, e-government mostly comprises of e-services provided by the Internet (Reddick 2005, Yun and Opheim 2010) or also known as web technologies (Kim 2008). Although there are several other channels (mobile, telephoning, digital TV, etc.) than the web enabled e-services, because the Internet is the prominent media (Rose and Grant 2010), this paper's focus will be on web enabled e-services.

E-government literature mostly deals with web enabled services drawn on content analysis of the websites and classifies them accordingly (e.g. Koh & Prybutok 2003, Norris & Moon, 2005, West 2001, Musso et al. 2000 as cited in Huang 2007). And the results are heavily based on the US local context. However, this research builds on the legal framework inspired by local government laws in Turkey (# 5393 and # 5216). Unlike the other researches, we made the content analysis according to this legal framework.

Researchers investigate the development and sophistication of e-governments through stages ranging from two to five levels (Rhee 2009, Kachwamba and Hussein 2009, Thakur 2007, Arslan 2006). By grounding on the literature, in terms of e-service sophistication this paper relies on two types of interaction and a transactional stage:

- a. One-way interactive: information publishing
- b. Two-way interactive: mutual (asynchronous or synchronous)
- c. Transactional: e-commerce

Except the first one, each level aggregates a high use of technology and complex structure of interaction regarding citizens and local governments (Kachwamba and Hussein 2009). The sequence is not linear as discussed earlier in literature (Thakur 2007). One local government may be at the second level while another one may be at the initial stage (Kachwamba and Hussein 2009). One-way interactive e-services are the basic types consisting of public policies, laws and regulation, reports, newsletters, and downloadable databases as well as basic information (Rhee 2009). As for the two-way interactive e-services public officials can be contacted via email, the website is updated regularly and provides downloadable or online filling forms for application or payment as well as audio or video capability for relevant public information (ibid), search tools, and online chats. The last stage, transactional e-services are comprised of e-commerce applications via secure links such as EDI-electronic data exchange, digital wallets, e-cash, mobile payment, e-checks, and e-payment (more prevalent).

2.1. Research Framework

Turkey is composed of 81 provincial municipalities out of which 16's status is greater municipality. 46% of overall population lives in greater municipalities while 65 provincial municipalities contain 13% (according to 2009 population census²). As of July 2005 new laws (#5393 and #5216) were put in place which mandate services for provincial and greater municipalities (Kaya 2006). Those services are collected below, under five main topics:

1. Zoning related tasks: Development plans, construction permits, tracking of unlicensed construction, confiscation, etc.
2. Urban related tasks: Garbage collection/disposal, public transportation, fire-fighting, etc.
3. Economy related tasks: Market hall, public housing, bakery, supermarketing, etc.
4. Social and culture related tasks: Cinemas and concert halls, sports complexes, public libraries, training, child-care, etc.
5. Regulation related tasks: Price regulation, construction auditing, food and environmental control, imposing fines, etc.

Central to our research, we expanded the topics and prepared a detailed list (Table 1). From June 2010 to February 2011 we visited the websites of 81 provincial municipalities and made a thorough content analysis for the relevant e-services. Meanwhile the seasonal activity reports and service inventory tables, if published online, were also evaluated to make it sure not to miss any e-services provided. Each service on the list was assessed to find the sophistication level. For example, if a web site contains only publishing of a strategic plan it should be at one-way interactive level. But should it issue a strategic plan along with an opinion poll interrelated to the local strategy, then it is at the two-way interactive level. Any services not online were left empty.

² . <http://www.mahalli-idareler.gov.tr/Mahalli/Istatistik.aspx>.

2.2. Findings and Discussion

Research questions 1 and 2: Table 1 shows the rates of e-services provided by the provincial municipalities regarding the laws # 5393 and # 5216 as well as the levels of sophistication and the descriptive statistics. As Table 1 summarizes, most provincial municipalities seem to be at first level or one-way interactive level (1182), a relatively small portion of the provincial municipalities has moved to a real mutual (two-way interactive) level (283), and only a few are entering in the transactional level (e-commerce) (81). Low level interactivity signals a substantial gap. This may seem a disadvantage for some extent, yet, through an optimistic lens, may as well be considered as an opportunity; giving a wide playground for those who want to expand and supply more sophisticated e-services.

We observed the most sophisticated e-services on high-volume tasks such as collecting of payments regarding water, gas, disposal water and any other utilities (45.68%) and taxes, fees and fines (19.75%). In some earlier researches this typical inclination has already been argued (Arslan 2007; Bailey 2005; OECD Report 2009). One view held the point that to substantiate such expensive investments and progress in a short time in terms of user benefit and efficiency savings it is reasonable to prioritize high volume / high impact local government services. Another view, posits that the aim of local authorities, due to the financial constraints, is to translate these investments into a set of high yield outcomes and to create an alternative financial income (Foley 2008). In small local governments particularly, where the resources for implementing parts of the e-government agenda may be very limited and must be strategically leveraged to produce more widespread and faster progress. But low transactional level (1.23%) of procurement services which may have a high potential for additional financial resources and cost savings deserve an in-depth analyses for later studies.

The lower level service delivery (one-way interactive) may as well indicate little demand or unnecessary; in other words some services may still require face-to-face interaction. Likewise, the delivery of some peculiar services is combined into one application form with multiple pull down menus and the acquired services are put into those menus at 2nd level. Yet, given the low e-service delivery even of some participatory services as well as many mandated duties, it is obvious that there is still a wide range of ground to be covered.

3. CONCLUSION

The e-services provided by Turkish provincial municipalities are still evolving and are full of eminent opportunities. However, the websites visited during the research phase reveal interesting resemblances; particularly those provinces which outsourced web services to the same ICT companies. It seems that those companies are pushing local governments to use and integrate the software they develop. The significant differences do exist among the ones which developed theirs in-house and have a separate IT department. Such is the case with extra duties at Table 1. Most of these extra duties are provided by them. It should be the local governments that will push the companies to develop software in accordance with their needs.

Offering e-services even at the first level is a significant service improvement for many users, since information and transactions are now available 24/7/365 and can still be considered flexible and time-saving (Torres et al. 2005). The journey to become a 3rd level service provider and thus

being more effective, e-services need to be organized around specific topics of citizen interest such as including personalization features for repeat website visitors and one-stop portals with salient back-office integration. The number of registered municipal websites has reached to a total of 2431 today (As of March, 14, 2011). And this will expand in time. However, sophistication of e-services is most likely limited to technical and financial capacities and of course, the managerial philosophies related to e-government.

Table 1 Descriptive statistics and a detailed list of mandated and non-mandated duties and their sophistication levels

Mandated Duties	N	Min.	Max.	Mean	Std. Dev.	One-way interactive 1 st Level	Two-way interactive 2 nd Level	Transact. 3 rd Level
Collecting of taxes, fees and fines	81	1	3	2,07	0,85	16,05%	14,81%	19,75%
Collecting of any payments regarding water, gas, disposal water and any other utilities	81	1	3	2,65	0,63	4,94%	12,35%	45,68%
Strategic plans	81	1	3	1,16	0,42	53,09%	7,41%	1,23%
Zoning plans and inspection	81	1	3	1,18	0,43	56,79%	9,88%	1,23%
building declaration	81	1	3	1,05	0,32	48,15%	-	1,23%
Sewage	81	1	2	1,07	0,26	46,91%	3,70%	-
Transportations	81	1	2	1,24	0,44	23,46%	7,41%	-
Mass transportation	81	1	3	1,29	0,57	33,33%	7,41%	2,47%
Environment and environmental health	81	1	2	1,50	0,55	3,70%	3,70%	-
Sanitary services	81	1	3	1,11	0,42	30,86%	1,23%	1,23%
Solid waste disposal	81	1	2	1,12	0,33	37,04%	4,94%	-
Planting	81	1	1	1,00	0,00	38,27%	-	-
Parks and recreational areas	81	1	1	1,00	0,00	50,62%	-	-
Housing	81	1	1	1,00	0,00	13,58%	-	-
Police	81	1	2	1,05	0,22	46,91%	2,47%	-
Fire-fighting	81	1	2	1,05	0,22	49,38%	2,47%	-
Emergency Aid	81	1	1	1,00	0,00	12,35%	-	-
Rescue and ambulance services	81	1	2	1,09	0,30	12,35%	1,23%	-
Cultural and artistic activities	81	1	3	1,15	0,47	75,31%	4,94%	3,70%
Tourism and information services	81	1	2	1,01	0,12	82,72%	1,23%	-
Sporting facilities	81	1	3	1,10	0,40	34,57%	1,23%	1,23%

Social services	81	1	3	1,17	0,45	37,04%	4,94%	1,23%
Vocational courses	81	1	3	1,32	0,67	18,52%	2,47%	2,47%
Child-care and protection houses	81	1	3	1,13	0,45	27,16%	1,23%	1,23%
Wedding services	81	1	3	1,32	0,57	34,57%	9,88%	2,47%
Cemetery services	81	1	2	1,40	0,50	29,63%	19,75%	-
Developing economic and trade relations	81	1	3	1,07	0,32	65,43%	2,47%	1,23%
GIS	81	2	2	2,00	0,00	0,00%	23,46%	-
UIS	81	2	2	2,00	0,00	0,00%	22,22%	-
Licensing and inspection of entertainment and hosting facilities	81	1	3	1,06	0,35	38,27%	-	1,23%
Maintenance of public schools and any available support	81	1	1	1,00	-	1,23%	-	-
Non-mandated duties								
Health services	81	1	2	1,05	0,22	24,69%	1,23%	-
Cultural and natural assets	81	1	2	1,04	0,20	30,86%	1,23%	-
Preservation and maintenance of natural monuments and historical values	81	1	2	1,06	0,24	19,75%	1,23%	-
Market halls	81	1	2	1,24	0,44	23,46%	7,41%	-
Bus stations	81	1	3	1,54	0,66	8,64%	6,17%	1,23%
Fair activities	81	1	2	1,20	0,45	4,94%	1,23%	-
Marinas	81	1	1	1,00	0,00	2,47%	-	-
Slaughterhouse	81	1	1	1,00	0,00	7,41%	-	-
Participatory Services								
Publicizing of townhall meetings through available means	81	1	2	1,05	0,22	71,60%	3,70%	-
Activity reports	81	1	1	1,00	0,00	67,90%	-	-
Publicizing of meeting agendas	81	1	2	1,04	0,19	64,20%	2,47%	-
Live broadcast from townhall	81	1	1	1,00	0,00	8,64%	-	-
Local participation through opinion polling which includes universities, guilds, and NGOs.	81	2	3	2,17	0,41	0,00%	6,17%	1,23%
e-Comments	81	2	3	2,09	0,30	0,00%	12,35%	1,23%
Live Support	81	2	3	2,67	0,58	0,00%	1,23%	2,47%
e-appointment	81	2	2	2,00	0,00	0,00%	4,94%	-

e-project proposal	81	2	2	2,00	-	0,00%	9,88%	-
Extra Services								
Public Libraries	81	1	2	1,55	0,52	6,17%	7,41%	-
Procurement	81	1	3	1,23	0,46	61,73%	16,05%	1,23%
SMS	81	1	2	1,64	0,50	4,94%	8,64%	-
Animal Registry	81	1	2	1,22	0,44	8,64%	2,47%	-
m-/e-signature	81	3	3	3,00	-	0,00%	-	1,23%
m-municipality	81	2	3	2,25	0,50	0,00%	3,70%	1,23%
Traffic cameras	81	1	2	1,07	0,27	16,05%	1,23%	-
Hauled vehicle tracking	81	2	2	2,00	-	0,00%	1,23%	-
Guestbook	81	1	2	1,92	0,28	1,23%	14,81%	-
e-learning	81	2	3	2,33	0,58	0,00%	2,47%	1,23%
Blood bank	81	1	2	1,50	0,71	1,23%	1,23%	-
Twitter	81	2	2	2,00	0,00	0,00%	3,70%	-
Facebook	81	2	2	2,00	0,00	0,00%	3,70%	-
e-procurement	81	3	3	3,00	-	0,00%	-	1,23%
CRM Applications	81	1	2	1,95	0,21	2,47%	50,62%	-
TOTAL							1182	283
								81

BIBLIOGRAPHY

Ahn, Michael Ji (2010). "Adoption of E-Communication Applications in U.S. Municipalities: The Role of Political Environment, Bureaucratic Structure, and the Nature of Applications". *The American Review of Public Administration*, August 2010. <http://arp.sagepub.com/content/early/2010/06/26/0275074010377654>. [Accessed 26.12.2010].

Arslan, Aykut (2006). "KEeLAN: Assessment Of Turkish Local Authorities' Front Offices On The Internet Through The Context Of E-Europe Basic Services to Determine the E-Government Stages and Back Office Integration of the Best-Practices Based on the EFQM Key Elements". PhD thesis. University of Marmara. <http://etdindividuals.dlib.vt.edu:9090/430/1/Thesis-Arslan.pdf>. [Accessed 26.12.2010].

Arslan, Aykut (2007). "Turkish Local e-Governments: a Longitudinal Study". *e-Journal of e-Government*, Vol. 5. (2). pp.95 – 224. <http://www.ejeg.com/volume5/issue2/p95>. [Accessed 21.01.2008]

Arslan, Aykut (2009). "A Strategic Orientation Model for the Turkish Local e-Governments". First International Conference on eGovernment and eGovernance." of TURKSAT (Turksat Satellite

Communication Cable TV and Operation Inc.) organized by SoSReS (Social Sciences Research Society). Ankara. 12-13 March. [Accessed 26.12.2010]

Bailey. Simon (2005). "Customer engagement: The options". IRRV National Conference. October 2005. [http://www.iscas.co.uk/HB Officers Customer Engagement - The Options.ppt](http://www.iscas.co.uk/HBOfficersCustomerEngagement-TheOptions.ppt). [Accessed 26.12.2010].

Burroughs. Jennie M. (2009). "What users want: Assessing government information preferences to drive information services". *Government Information Quarterly* 26. pp. 203–218. <http://dx.doi.org/10.1016/j.giq.2008.06.003>. [Accessed 26.12.2010].

Codagnone. Cristiano (2008). "Editorial: Efficiency and effectiveness". *The European Journal of ePractice*. N° 4 · August 2008. www.epracticejournal.eu. [Accessed 26.12.2010].

Codagnone. Cristiano. and Undheim. Trond Arne (2008). "Benchmarking eGovernment: tools. theory. and practice". *The European Journal of ePractice*. N° 4 · August 2008. www.epracticejournal.eu. [Accessed 26.12.2010].

Colesca. S. E. And Dobrica. L. (2008). "Adoption and use of e-government services: the case of Romania". *Journal of Applied Research and Technology*. Vol. 6 (3). www.journals.unam.mx/index.php/jart/article/view/17623/16802. [Accessed 26.12.2010].

Foley. Paul (2008). "Realizing the transformation agenda: enhancing citizen use of e-Government". *European Journal of e-Practice*. N° 4 · August 2008. www.epracticejournal.eu. [Accessed 26.12.2010].

Goldkhu. Göran (2007). "What does it mean to serve the citizen in e-services? Towards a practical theory founded in socio-instrumental pragmatism". *International Journal of Public Information Systems*. Vol. 2007:3. www.ijpis.net. [Accessed 26.12.2010]

Huang. Zhenyu (2007). "A comprehensive analysis of U.S. counties' e-Government portals: development status and functionalities". *European Journal of Information Systems* (2007) 16. pp.149–164. www.palgrave-journals.com/ejis/journal/v16/n2/full/3000675a.html. [Accessed 26.12.2010].

Kachwamba. Muhajir and Hussein. Ashatu (2009). "Determinants of e-government maturity: Do organizational specific factors matter?". *Journal of US-China Public Administration*. Dec. 2009. Volume 6. No.7 (Serial No.50). www.managers.org.cn/mag/doc/ucman200907/ucman20090701.pdf. [Accessed 26.12.2010].

Kaya. Erol (2006). "Türkiye’de Yeni bir Dönem: Yerel Yönetimler Reformu-5-Belediyelerin Görev ve Yetkileri". *Yerel Siyaset. Aylık Bilimsel Siyasi Dergi*. Ekim 2006. Sayı:10. <http://www.yerelsiyaset.com/v4/sayfalar.php?goster=ayrinti&id=461>. [Accessed 26.12.2010].

Kim, Soonhee (2008). "Local Electronic Government Leadership and Innovation: South Korean Experience". *The Asia Pacific Journal of Public Administration*. Vol.30 (2). pp. 165-192. sunzi.lib.hku.hk/hkjo/view/51/5000863.pdf. [Accessed 26.12.2010].

Millard, Jeremy (2006). "User Attitudes to E-Government Citizen Services in Europe". *International Journal of Electronic Government Research*. Vol. 2(2). 49-58. <http://www.igi-global.com/Bookstore/TitleDetails.aspx?TitleId=1091>. [Accessed 26.12.2010].

MoI Report (2004). "İçişleri Bakanlığı e-devlet/e-dönüşüm Stratejisi" Raporu. İçişleri Bakanlığı Strateji Geliştirme Merkezi. www.arem.gov.tr/proje/yonetim/e-bakanlik/e-donusum_stratejisi.doc. [Accessed 26.12.2010].

Moon, M.J.. (2002). "The Evolution of E-government among Municipalities: Rhetoric or Reality?". in: *Public Administration Review*. Vol. 62 (4). pp.424-433. <http://onlinelibrary.wiley.com/doi/10.1111/0033-3352.00196/pdf>. [Accessed 26.12.2010].

OECD Report (2009). "Rethinking e-Government Services: User-Centred Approaches". OECD e-Government Studies. http://www.planejamento.gov.br/secretarias/upload/Arquivos/seges/arquivos/OECD2011/OECD_Rethinking_Approaches.pdf. [Accessed 26.12.2010].

Reddick, C G (2005). Citizen interaction with e-government: From the streets to servers? *Government Information Quarterly* 22 (2005) 38–57.

Rose, Wade R. and Grant, Gerald G. (2010). "Critical issues pertaining to the planning and implementation of E-Government initiatives". *Government Information Quarterly*. Volume 27. Issue 1. January 2010. Pages 26-33. <http://www.sciencedirect.com>. [Accessed 26.12.2010].

Thakur, Dhanaraj (2007). "The Development of E-Government at the Country and City Levels in the United States". *Interdisciplinary Graduate Student Conference: Science and Technology in Society* March 31 - April 1, 2007. <http://www.cspo.org/igscdocs/Dhanaraj%20Thakur.pdf>. [Accessed 26.12.2010].

Torres, Lourdes, Pina, Vicente ve Acerete, Basilio (2005). "Gauging E-Government Evolution in EU Municipalities". *Journal of Systemics, Cybernetics and Informatics*. Vol.3(6). pp. 43-54. [www.iiisci.org/journal/CV\\$/sci/pdfs/P525726.pdf](http://www.iiisci.org/journal/CV$/sci/pdfs/P525726.pdf). [Accessed 03.12.2009].

van Dam, Nik, Evers, Vanessa, and Arts, Floor (2005). "Cultural User Experience Issues in E-Government: Designing for a Multi-Cultural Society". *Digital Cities III. Lecture Notes in Computer Science*. 2005. Volume 3081/2005. <http://www.springerlink.com/content/k7ppwt9bc1hfrxqm/fulltext.pdf>. [Accessed 14.02.2011].

Verdegem, Pieter, and Verleye, Gino (2009). "User-centered E-Government in practice: A comprehensive model for measuring user satisfaction". *Government Information Quarterly*. Volume 26 (3). pp.487-497. <http://www.sciencedirect.com/science/journal/0740624X>. [Accessed 11.02.2011].

Wallström. Åsa. Anne Engström. Esmail Salehi-Sangari. and Maria Ek Styvén (2009). "Public e-services from the Citizens' Perspective- Adopting a Market Orientation". International Journal of Public Information Systems. Vol 2009:2. www.ijpis.net. [Accessed 26.12.2010].

Yun. H. J and Opheim. C. (2010). "Building on Success: The Diffusion of e-Government in the American States". Electronic Journal of e-Government Vol.8(1). pp.71 - 82. www.ejeg.com. [Accessed 26.12.2010].