Polish E-Government at Local Level

Heavy Road to Citizens' Empowerment

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Abstract—The paper evaluates the development of e-government in Polish local governments, within the framework of the role played by an individual in political processes. Presented here are the results of the empirical research carried out in the period of 2005-2009. The study comprised the assessment of the official websites of Polish counties, the secondary level of local government system. Sites of 314 counties were analyzed, with the application of the quantitative method based on Website Attribute Evaluation System. The change of citizens' position with respect to public institutions was assessed against the background of the four basic functions performed by local governments websites. They are: information, promotion, consultation and service delivery. Research results indicate that local level of Polish e-government is on the preliminary stage of development and the impact of new technologies on the model of local democracy is limited.

Keywords-e-government; e-democracy; websites content; local democracy; local government.

I. INTRODUCTION

The use of Information and Communication Technologies (ICT) by public institutions remains one of the most popular issues undertaken by scholars dealing with social implications of the information revolution. Nevertheless, the local level still attracts much less attention than activity of parliaments, governments or governmental agencies. While the vast majority of both individual research projects and international benchmarking studies focus mostly on consequences of ICT use in the macro-scale of political and administrative processes [1], [2], [3], from the perspective of a democratic theory it is the study of the local democracy that offers an excellent insight into a political transformation. The survey of what occurs in local communities can be the preliminary stage of pointing the overall direction democracy heads for.

The present paper presents an assessment of the role played by local government websites in redefining the model of contemporary democracy. The focus of the analysis is on the position taken by the individual in his relations with the state, represented by public institutions. Without a doubt ICT modify patterns of interactions between various political actors. Nonetheless, consequences of the emergence of new technologies on the status of the citizen in relation to the state have been vigorously debated for several years. ICT enthusiasts note the definite positive the impact of technologies on political life, such as the empowerment of an individual in the realm of political communication, political participation as well as decision-making [4], [5]. More skeptical observers however point out that cyberspace in fact mirrors the real life "politics as usual" game, with the same actors dominating the scene [6]. Others claim that it is too early to prejudge the ultimate effect of ICT use in political processes [7],[8].

Is the role of the individual, especially in local democracy, enhanced by new technologies? To what extent websites of local government institutions stimulate civic activism and participatory attitudes? What type of democracy is formed by the way local authorities use the ICT? These issues are addressed in the paper, on the base of the empirical assessment of the content of Polish local government websites.

II. BASIC TERMS

E-government is the notion which is both commonly used and at the same time lacking agreed, precise meaning. It can be defined as the use of technology in the management and delivery of public services [9], or the employment of ICT to provide electronic services to citizens, businesses and organizations [10]. The same term is however described at times in much broader perspective. According to Carbo and Williams [11] the role of e-government is also to involve citizens in the democratic process and decision making in the convenient, customer-oriented and cost-effective way. Consequently, e-government cannot be reduced to the process of electronic services distribution. It is much more than merely the technological phenomenon. The essence of e-government is the reconstruction of mutual interactions between citizens and service providers [12].

In this paper, the broad concept of e-government is assumed. It comprises a few basic dimensions. Most important of them are: delivery of public services, provision of information, strengthening the public debate as well as the stimulation of citizens participation and their involvement in the decision making process. Such a wide-ranging approach to e-government makes it very close to the notion of e-

democracy. In fact, e-government can be considered to be the aspect of e-democracy associated with the pursuit of various types of public institutions. It obviously implies that performance of e-government considerably determines whether the overall goals of the ICT use in politics can be accomplished, regardless of how they are articulated.

III. SUBJECT AND SCOPE OF THE RESEARCH

The research project presented in this paper was dedicated to the analysis of official websites of Polish counties. In the three-tier system of local government in Poland (introduced in January 1999) municipalities are the primary units, counties are units on the secondary level and provinces make up the third tier of the system. There are 2478 municipalities, 379 counties and 16 provinces altogether.

There are two different types of counties in Poland: urban and territorial ones. Cities with population over one hundred thousand residents establish 65 urban counties. The territory of the county is in this case limited to the area of the single city – the county seat. Nevertheless, legally these cities are endowed with rights of counties. The second category of counties – territorial counties, are composed of several rural and urban municipalities. The largest city in the area is usually the seat of the county. It performs the role of educational, economic and cultural center of the region as well. Regions represented by territorial counties are very often linked with strong ties, which are rooted in shared history and common traditions. The sense of local identity is thus often preserved by both residents of the county and its local government authorities.

The elected organ of the county is the council, while the executive branch is represented by the county board. The chair of the board is in charge of both temporary works of the county administration and the execution of the policy assumed by the council. There are several statutory tasks of the county. The most important of them include: health care, social welfare, public transport and public roads maintenance, culture and tourism, education and building supervision.

In the reviewed research, websites of territorial counties were the only ones to be selected for the analysis. Urban counties were excluded from the study to ensure the internal cohesion of the sample and to allow for generalized conclusions. Cities with populations close to or even greater than half a million inhabitants are very much different from the majority of territorial counties. The latter are typically rural and sparsely populated units, often – as mentioned above – founded around common history and enduring social ties. Therefore, the assumption that both types of counties are equal (and including them within the same sample) would distort the results of the study.

Consequently, websites of all the 314 territorial counties in Poland were analyzed within the framework of the project. There were the official websites only, these maintained formally by the county office. The research was carried out for five years, from 2005 to 2009, between April and May of each year.

IV. METHOD OF THE RESEARCH

The major goal of the research project presented in this paper was the comprehensive assessment of the content of the counties' websites. The questionnaire constructed for the study was a quantitative one. It was based on the overall idea proposed by the Cyberspace Policy Research Group, known as the Website Attribute Evaluation System (WAES). The WAES is used both in the analysis of websites [13] and as the point of reference for researchers of websites performance [14], [15]. The WAES is the binary tool. It analyses the content of the website in the context of specific detailed criteria (types of information, services, web tools). The component in the content either exists or is absent. As a result, a score of either "0" or "1" is assigned to the specific criterion.

The questionnaire applied in the analysis of websites of Polish counties was founded on the same principle. In the 2005 edition of the research it included 55 detailed criteria. After minor modifications introduced in 2006 (a few criteria were substituted with new ones) the number of criteria was reduced to 54. This final version of the questionnaire was used in the research conducted from 2006 to 2009.

Prior to the beginning of the actual research, in November 2004, the preliminary, qualitative survey of several local government websites was performed. Four major aspects of website content were identified on the base of its results. They are major functions performed by websites in everyday activity of local government institutions. The functions are: information, promotion, consultation and service delivery. In the questionnaire several specific criteria were assigned to each function.

The information function is associated with the access of Internet users to various types of data. Local governments publish both basic personal information (composition of the county council and the board) and information pertaining to their work (office hours, announcements), as well as other information helpful for customers of the county administration. They include: the division of powers among various departments of the county administration and information on handling specific matters. A website of local government can be also regarded as a hub in the network connecting many different kinds of public institutions, local civic initiatives, NGOs, etc. The simplest way to facilitate this process is to place links to such organizations on the website. Accessibility of such links is also a part of information function.

Promotion is the only function performed by the website aimed mainly at non-residents of the county. That aspect of online presence includes the presentation of touristic and cultural qualities of the region (directed to individual visitors) as well as commercial assets (e.g., offers to potential investors). An important dimension of promoting the region is also the availability of website content in foreign languages.

Consultation is the most directly "political" dimension of local government websites content. It includes services and tools that stimulate public debate on local issues and enhance communication with citizens as well as civic participation.

Detailed criteria include the availability of email addresses to local government representatives, online polls, discussion forum or chat.

The last function, electronic delivery of public services, can be regarded as synonymous to the narrowly defined concept of e-government. It refers to interactions between local government administration and the individual (considered as a beneficiary of various services). The questionnaire applied in the research has not assessed the electronic availability of specific services. Instead, stages of online sophistication were measured. They include: downloading forms, the ability to apply online, online transactions with the office as well as the possibility of tracking the individual matter handling.

Beside the survey of four major functions the questionnaire included also a few criteria assessing the availability of additional services. They were: accessibility of the web site for persons with disabilities and presence of various types of multimedia content (pictures, audio and video materials).

All major functions performed by local government websites can be regarded as founding elements of the broadly defined domain of e-government. Therefore, the research of Polish counties websites was in fact an attempt to evaluate the standing of local dimension of e-government development during the first decade of the 21st century. It was also the indirect indicator of the current status of e-democracy in local communities.

V. THE CONTENT OF LOCAL GOVERNMENT WEBSITES. RESEARCH RESULTS

A. Overall results and the distribution of scores

As mentioned above, the maximum score that could be obtained in the research was 55 points in 2005 and 54 points in 2006-2009 period. Fig. 1 presents the average scores achieved by county websites in the consecutive years of the analysis. The results indicate that except for 2006, when slight decline in the total score was noticed, we can observe gradual and steady growth of overall sophistication of the websites. The greatest progress appeared between 2006 and 2007, followed by the decline of the pace of growth..
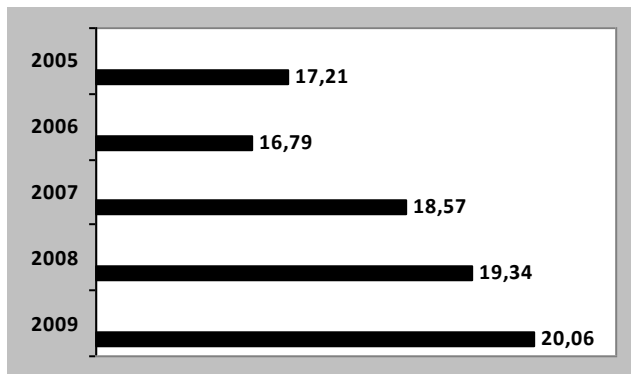

Figure 1.   Average scores of local government websites.

This development can be considered disappointing, especially if compared with the rapid growth of overall ICT accessibility during the same period all over the world, including Poland. Local governments improved their web offer although they have hardly kept abreast of the overall progress in technology.

Fig. 2 depicts the distribution of scores in the first (2005) and the last (2009) year of the research project execution. In 2005 about one third of all the websites (33,7%) scored between 16 and 20 points. More than one hundred counties can be found in this interval, making it the most numerous category of scores.

Quite similar frequency of scores can be found however in the interval between 11 and 15 points, which is a category of explicitly minor scores, compared with the mean value. Altogether, as much as 85% of all the websites scored between 11 and 25 points. The single minimum result was 3 points, while the maximum score was 31 points (obtained by two websites). That proves that the gap between leaders and laggards was considerable.

Five years later, in 2009, the distribution of scores clearly leans towards results surpassing the mean value. At this time the most common category of scores is the interval between 21 and 25 points (more than both the mean and the median value).

Mean = 17,21, Median = 17, Std. Dev. = 5,20, N=314

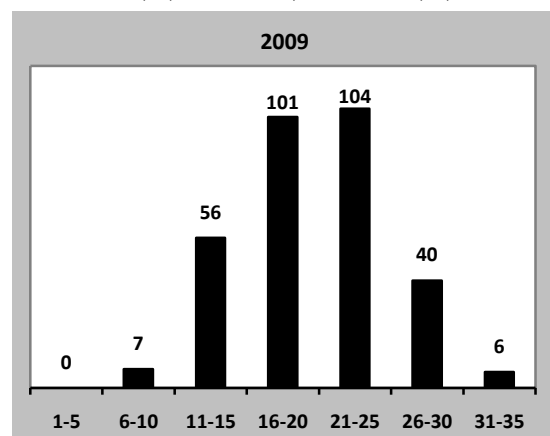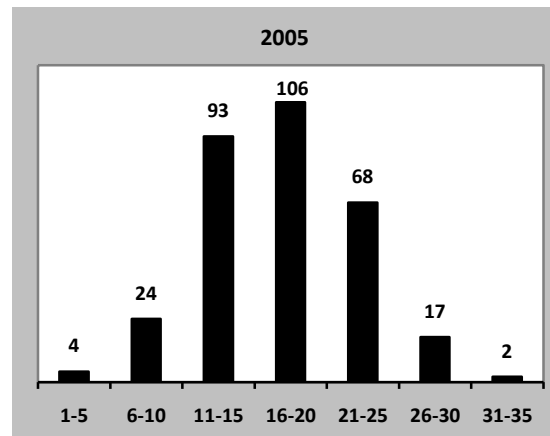Mean = 20,06, Median = 20, Std. Dev. = 5,08, N=314

Figure 2.   Distribution of local government websites scores.

Simultaneously, the frequency of scores between 11 and 15 points is almost two times lower, than in 2005. In 2009 both the minimum and the maximum results have increased. They were: 7 and 34 points, respectively. Thus the whole sample remained very much differentiated, with the variation between the best and the worst websites similar to that of 2005.

B. Basic functions performance

The adequate measure of the advancement in the use of Internet capabilities is the presentation of websites score as the percentage of the total number of points, which could have been obtained. These data, concerning both the total score and specific functions, are presented in Table I.

The starting point of the project – 2005 – is the moment when less than half of criteria taken into account in the research questionnaire were fulfilled. It refers both to the overall score and to each particular function. Performance of information and promotion is much more advanced than in case of consultation and service delivery. Nevertheless, even with respect to the provision of information, the leading aspect of web use, the score is slightly below fifty percent. In 2005, electronic service delivery was especially at the preliminary stage of development. Its score strongly lagged behind all other functions, with result two times lower than the total score.

Successive years bring about the improvement of scores but the sequence of performance of specific functions continues to be stable. The most advanced dimension of websites content is the access to information, followed by promotion and consultation. Service delivery all the time remains to be the least developed. In 2009 the total score was about one fifth greater as compared to the first year of the research. Approximately the same level of increase can be observed with respect to information provision. The lowest increase occurred in case of the promotion. In fact it was the only function that has barely grown during five years of the research. Aspects of websites content which registered the most significant progress are: consultation and, in particular – service delivery. In case of the latter the spectacular growth of performance took place during the last two years of the analysis. In 2007 the score of this function was lower than in 2005, while during next two years it recorded the improvement by almost seventy percent.

Data comparison between 2005 and 2009 proves gradual transformation of the pattern of websites use by Polish local government.

TABLE I.   LOCAL GOVERNMENT WEBSITES SCORES (SELECTED YEARS)

| | 2005 | 2007 | 2009 | 2005 = 100 | |
				2007	*2009*
Total score	40,00	44,21	47,76	110,5	119,4
Information	49,30	55,80	58,15	113,2	118,0
Promotion	46,86	47,14	48,00	100,6	102,4
Consultation	26,56	32,29	34,29	121,6	129,1
Service Delivery	19,33	17,00	28,75	87,9	148,7

In the first year of the research passive and one-way forms of web communication (information and promotion) were dominating in the offer of self-government institutions for the Internet users. In the successive years, mostly interactive features of websites were improved, making the content of websites more balanced and open to more active participation of citizens. It represents the typical model of e-government and e-democracy development [16].

Nevertheless, functions which are essential from the perspective of democratic theory – consultation and service delivery – are still evidently delayed. Unless the pace of described changes accelerates, websites of Polish local governments will continue to function as the electronic bulletin boards as opposed to the tools of real political and civic interaction.

C. Availability of resources encouraging the development of e-democracy

In the framework of the analysis of Polish local governments websites three functions play critical role in terms of supporting the citizens-oriented model of e-government. They are: information, consultation and service delivery. Accessibility of particular types of information, web tools and services is then the adequate measure of the "democratic maturity" of the assessed websites.

Table II presents data on selected criteria of the information function. As mentioned in the previous part of this text the provision of information is performed at relatively satisfactory level.

Basic data on the county office are available on virtually every one of the analyzed websites (however, in 2009 precise instructions on handling particular matters could have been found only on every second – 49,4% – of assessed sites). Moreover, local government site gradually becomes an information center for the local community. In the consecutive years of research there was a visible growth in the availability of resources useful in everyday life of residents. It refers to local newsletter (with information on program of movies, cultural events, etc.), links to websites of municipalities in the county as well as sites of local NGOs. In 2009 these data were available on the vast majority of the surveyed websites.

A completely different picture emerges when consultation resources are analyzed (see Table III). These are services dedicated directly to the encouragement of civic activity and public debate. Therefore, their presence on local government sites is the indicator of local authorities' readiness to face the real e-participation. Research results suggest that representatives of Polish local governments are not exactly enthusiastic about this prospect.

TABLE II.   LOCAL GOVERNMENT WEBSITES SCORES (SELECTED YEARS)

Content	2005	2007	2009
Organization of the office	89,2	89,2	92,0
Local newsletter	54,8	58,0	70,4
Links to government websites	33,1	33,8	29,3
Links to websites of municipalities	74,2	87,6	87,6
Links to websites of local NGOs	51,6	57,9	63,7

TABLE III.   AVAILABILITY OF SELECTED CONSULTATION RESOURCES

Content	2005	2007	2009
Email address to the office	90,8	95,5	95,5
Online discussion forum	27,1	16,2	13,7
Online poll on local issues	15,6	19,1	18,8
Chat with county officials	4,5	2,2	2,6
Interactive service for the direct contact with county officials	8,0	14,3	16,9

The only resource commonly available on the assessed websites is the office email address (it is worth stressing however that even in 2009 a few counties have not published their own email addresses on their websites). Nevertheless, making email address accessible is not the same as responsiveness. In 2009, only one fifth of websites (21,7%) replied to electronic messages sent to local authorities during the research. It proves that email is still not perceived as the regular means of communication with citizens.

All the other, much more sophisticated, resources can be only found on the relatively small part of the analyzed sites. It refers to discussion forums, online polls, chats as well as various types of interactive services facilitating contacts with representatives of local authorities. In 2009 none of these resources was available on more than one fifth of evaluated sites. Specifically, chat can be hardly found in general (only 2,6% of sites enabled the use of that service). Out of tools stimulating the public debate, in 2005 a discussion forum was the most popular one. Every fourth of assessed sites (27,1%) provided the opportunity to debate on local issues. The following years brought about the remarkable decline of the accessibility of that service (2009 – 13,7%). This tendency goes together with growing popularity of online tools, which assist in the direct contact with county officials. Both services represent however various forms of online communication. Discussion forums are open for multilateral communication, protect anonymity and provide the arena for real deliberation of public problems. Conversely, services facilitating contact with local representatives enable only bilateral interaction, during which an individual Internet user can ask a question or present his or her views to the particular county official. In addition, in 2009 more than every second of the latter services (54,7%) required revealing personal data of a user. Growing popularity of this mode of local debate proves an obvious intention of local authorities to manage the course of online dialogue with citizens. What can be observed is then the emergence of the supervised model of e-democracy.

Distribution of public services is another aspect of online pursuit, which is of fundamental importance in the context of e-government development. With regard to Polish local governments, electronic delivery of services – as mentioned before – performs at a disappointingly low level (see Table IV). A relatively well accessible option is the ability to download various forms from the county site. Close to two thirds of local governments (59,6%) provided this opportunity in 2009. On the contrary, online transactions are still hardly possible on the analyzed sites. Only seven out of 314 counties (2,2%) made that service available.

TABLE IV.   AVAILABILITY OF SELECTED SERVICE DELIVERY RESOURCES

Content	2005	2007	2009
Downloading forms	46,2	55,1	59,6
Ability to apply online	2,9	2,6	28,7
Online transactions[a]	-	0,3	2,2

a. The criterion was included to the questionnaire in 2006.

Thus, apart from considerable improvement during last years, public services delivery remains the major challenge for local governments. Their websites will either include electronic distribution of services to online offer, or they stay behind the main current of information revolution.

VI.   CONCLUSION

The use of ICT can support various forms of democracy. E-voting obviously strengthens representative, procedural model of government, while virtual local communities reinforce libertarian aspects of democracy [17]. In the theoretical framework of the research presented in this paper the ultimate model of democracy formed by ICT was not decided in advance. Instead, the general term of "citizens empowerment" was introduced, as the possible model of the growing role of individuals in political processes.

It is worth stressing that the same analytical framework can be applied in the study of various levels of government. Further research is needed however to assess if phenomena and processes which characterize local democracy are visible in states and democratic political systems as well.

The data presented above indicate that with regard to Polish local government websites we can barely observe the reinforcement of the individuals' status in their interactions with public institutions. Thanks to websites citizens have certainly much better access to information. Thus, in that domain costs they bear to pursue their democratic rights are visibly reduced. It is however the only dimension of e-government that really works. Well informed individuals, who are ready to get involved in local public life face the challenge of a very poor offer provided by local authorities. In case of Polish counties, the increase of e-participation is not among top priorities of local elites. Obviously, there are numerous locations where online local debate can proceed. Websites of local government (which are the natural spot to confront residents' and their representatives' views and opinions) are not in the forefront of civic engagement encouragement.

Electronic delivery of services, which makes operations of public institutions more transparent and customer oriented is yet another aspect of possible empowerment of citizens. This element of e-government has recently undergone perhaps the most spectacular transformation to enable the improvement of a citizen position in his or her relation with the state. Nevertheless, benefits of the ICT use in service distribution bypass users of Polish local government sites. Inability to perform transactions with the office and very limited access to online applications prove that electronic service delivery is still in the preliminary stage of development. In his or her relations with local administration a resident of the county is still considered more as the

passive petitioner than the customer, whose satisfaction is critical in the evaluation of the performance of the office.

The overall image of local e-government in Poland, based on data concerning counties websites, does not support the thesis of the observable reinforcement of the role individuals play in political processes. Thus far, ICT seem to have very limited impact on the nature of local democracy. They rather strengthen the existing rules of the game, with dominating position of political institutions, sluggish public debate and poor intensity of political participation. Members of local communities are still in search for the effective means to empower their political position. It seems that at the moment local government websites remain less than helpful in this endeavor.

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