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Digital Governance (in Romanian Municipalities).
A Longitudinal Assessment of Municipal Web Sites in Romania

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Abstract: This article presents a comparative cross-country study in order to know the level of web services implementation at the municipality level (what are the public services that municipalities offer to their citizens using the electronic platforms). We've accessed each municipality web portal from Romania (103 in total) and using a defined scale; and rated every one very strictly. Most of the elements used in this research are taken from previous studies, adapted afterwards to take in relevant values for my country. Although there are numerous Romanian initiatives of connecting to the Internet even smaller communities, like small towns or even communes, we have chosen the municipalities due to the positive relation between the number of inhabitants and the capacity to e-Government of the local public administration. All of the 103 Romanian municipalities have been analysed and the results obtained will be presented on each class (there are 5 different classes – e-doc, transparency, etc.), but also by the final results.

Keywords: Electronic; government; local; analysis

1 Introduction

For a correct development of a system, whatever that might be, it's actual status must be examined closely first. This is the reason why the test of analysing it, in its dynamics, starts from a horizontal analysis done with the maximum accuracy possible. The data obtained in this manner can be used to create models optimum for development.

The computers and the Internet have changed significantly the way in which the citizens can have access to public services. The informational society is more and more present in all the activities of the public sector, including through complex applications of electronic governance.

For the municipalities in Romania electronic governance is a relatively new practice (the first national project on this theme was initiated in the year 2003 - www.e-guvernare.ro[1]) and it includes digital governance (the offering of public services through electronic means) as well as digital democracy (citizen participation at the governance activity); (Holzer & Kim, 2005).

Today, for interacting with the public administration a computer connected to the Internet is usualy enough. Connecting from a browser to the Web page of the institution you look for is enough

[1] Law no.161/2003 sets the legal basis of the National Electronic System, with the declared purpose of ensuring access to "public information and provision of public services towards physical and juridical persons."

(generally) for obtaining and sending information to/from the public administration. Scientific literature presents 5 pillars of interaction of the PA with its environment (Pardon 2000; Baltac 2008).

Pillar 1. Displaying information on the Web pages – one-way communication. This is the easiest form of interaction, the posting of information on the official Web page of the institution with the purpose of informing the citizens.

Pillar 2. Two-way communication. Through this method the public administration can collect data from the environment to which it addresses, be it through e-mail or more evolved systems of data transferring using intranets or extranets.

Pillar 3. Financial systems and Web transactions. The Web site available to the public offers the possibility of effectuating the complete public service through, or including, the decision of using the service and the actual supplying of it. For the applicant there is no need for another official procedure through which he must use documents written on paper. This type of government is partially possible through offering access for the citizens and the business environment to on-line databases.

Pillar 4. Vertical integration (inter-department) and horizontal (intra-department) of the public services available on-line. This level of interaction is dependent on the speed with which the synchronization of information is realised for the on-line IT systems to provide in time the data needed by the users.

Pillar 5. Citizen participation to the government activity. In this phase it is promoted the participation through electronic systems like: discussion forums, blogs, electronically voting systems (not necessarily electoral), electronic questioner, or any other method of direct and immediate interaction.

The conceptual frame marked by these 5 pillars is necessary only for the understanding of the evolution of eGovernment. In Romania, in this moment there are 41 districts and 103 municipalities, from which only 96 (93.20%) are present on the Internet in the moment of this study. From these, only few of them (we will find in the following pages more detailed information) have a Web site sufficiently developed to allow communication as it is described in the pillars 3, 4 and 5. Practice has showed that there is no lineal evolution and this is a good reason to expect that at the next analysis the number of municipalities that use well developed Web platforms to be greater.

To the point, the elements taken into account in the analysis were: *the presence of transparency elements*, *the management of electronic documents*, *useful content*, *methods of bidirectional communication* and *some general elements regarding the Web site taken into discussion (graphic interface, the easiness in navigating, the richness of information connected to the municipality etc.).*

2 Research methodology

Although there are numerous Romanian initiatives of connecting to the Internet even smaller communities, like small towns or even communes (one example would be the project www.ecomunitate.ro[1], that has the ambition of connecting to the Internet 255 communes and medium to small size towns from Romania), I have chosen the municipalities due to the positive relation between

[1] The institutions involved in the project are: the Ministry for Administration and Internal Problems, the Ministry for Education, Research and Innovation, the Ministry for Culture, Cults and National Patrimony and the Ministry for Small and Medium Sized Enterprises, Commerce and the Business Environment with the support from the World Bank and the European Union.

the number of inhabitants and the capacity to eGovernment of the local public administration (Moon 2002; Moon and Leon 2001; Musso et al. 2000).

Most of the elements used in this research are taken from previous studies, adapted afterwards to take in relevant values (table 2.1). We can observe, as an example, the study "Digital Governance in Municipalities Worldwide (2007)" realised by Mark Holzer and Seang-Tae Kim in 2007, where Bucharest, the only Romanian municipality, is present on the 37th spot, much higher compared to 2005, when it was situated on the 64th spot.

The obtaining of the data was made through individually accessing of each official Web site of the municipalities, just after these were found on the Internet with the help of the well known search engine Google (this intermediary step was necessary due to the lack of a standard model of Web address; for example the mayor office in the capital city has the address www.pmb.ro and the mayor office in the city of Iasi uses www.primaria-iasi.ro). The whole research was made in the December 2009 – January 2010 period.

Once accessed the Web site, the elements presented in the table 2.1, were followed and values from a scale of 1 to 5 were attributed (according to the table 1 – C5 section) to those elements that present a potential risk of subjectivity from the observer, like: *easiness of browsing, attractive design* etc. In all the rest (for sections C1 to C4 – see the exceptions described below, box 1.1.) the attributing of values was made with 0 or 1 (0 = it doesn't exist; 1= it exists) for every element submitted to the research, for example: "Can you submit petitions on-line?" or: "Is there an electronic map of the municipality?"

We can find two exceptions to these rules, and these are:

1. In the case of the chapter "Transparence", especially at the presence on the Web site of the CVs of the employees. In case the CVs of all the employees are present, the value that must be introduced is 2 (C14 = 2), if only the CVs from the leaders of the institution are present, then the value 1 must be introduced (C14 = 1), and if none of the CVs can be found, 0 (C14 = 0); (amazingly but in this last situation we can find 37 municipalities from Romania, among which we can count the mayor offices from Baia Mare, Ramnicu Valcea, Sibiu, Targoviste, etc.);
2. In the case of the chapter "E-DOC", if on the Web site can be found documents for on-line fill-in (C211 = 1), as well as in standard electronic format .doc and/or .pdf (C212 = 1), then C21 will take as an exceptional case the value 3, or else C21 will be equal to the sum of C211 and C212, which obviously will be equal with 0 or 1.

Box 1.1. Exceptions

Table 2.1 Elements submitted to the research

The research element	The values that can be registered	Codification
TRANSPARENCY		**C1**
Declaration of fortune	0 or 1	C11
Organisational chart	0 or 1	C12
Minutes/meetings published on the Web site	0 or 1	C13
CVs of the employees	0, 1 or 2	C14*
Legislation	0 or 1	C15
E-DOC		**C2**
Authorizations/certificates/electronic forms		C21**
.pdf, doc, .rtf format	0 or 1	C211
On-line fill in of forms	0 or 1	C212
On-line following of submitted request, electronic or not (after registering no.)	0 or 1	C22
On-line petitions	0 or 1	C23
Public announcements for: acquisition projects, concession, renting	0 or 1	C24
COMMUNICATION		**C3**
The possibility to send an e-mail directly to the mayor (or his cabinet)	0 or 1	C31
The possibility to send suggestions (other then regarding the Web site)	0 or 1	C32
Discussion forum between/with the citizens	0 or 1	C33
USEFUL CONTENT		**C4**
Electronic map of the city	0 or 1	C41
Map of public transportation	0 or 1	C42
Possibility to search within the Web site	0 or 1	C43
Mayors' office news	0 or 1	C44
Mayor Office news	0 or 1	C45
Web cam	0 or 1	C46
GENERAL		**C5*** **
Attractive design	Between 1 and 5	C51
Easy browsing	Between 1 and 5	C52
It presents information with general character (taxi phone no., hotel, shows etc.)	Between 1 and 5	C53

Explanations:

0 - not found on the Web site;

1 - found on the Web site

* Exception 1

** Exception 2

*** see table 3.8

The study used 24 instruments for the radiography of the Web site[1], grouped on 5 distinct classes (C1, C2, C3, C4 and C5 as they're presented in the same table), each with a different number of subclasses according to the relevance it had in the analysis. The 5 classes have the same weight in the final classification. The grade on each class is given by the sum of the point's weight obtained at each subclass, so that the subclass will have a value between 1 and 5. In the appendix 1, a model of calculus is presented on the example of the mayor office in Bucharest.

Below is presented the calculus formulas for each class at a time and for the final result:

$$C1\ (\text{TRANSPARENCE}) = \frac{Nmax}{Pmax} * \sum_{i=1}^{5} C1i$$

$$C2(\text{E} - \text{DOC}) = \frac{Nmax}{Pmax} * \sum_{i=1}^{4} C2i$$

$$C3(\text{COMMUNICATION}) = \frac{Nmax}{Pmax} * \sum_{i=1}^{3} C3i$$

$$C4(\text{USEFUL CONTENT}) = \frac{Nmax}{Pmax} * \sum_{i=1}^{6} C4i$$

$$C5(\text{GENERAL INFO}) = \frac{\sum_{i=1}^{3} C5i}{Nelem}$$

$$Pfinal = \frac{\sum_{i=1}^{5} Ci}{Ncls}$$

Where:

C1, C2, C3, C4, C5 – analysis classes (for C1 and C2 we must keep in sight the exceptions described before);

C1i, C2i, C3i, C4i, C5i – subclasses (elements) of analysis, the values obtained after receiving the answers;

N_{max} – maximum grade that can be obtained, (5 in this case);

P_{max} – maximum points that can be obtained through summing up the maximum values that can be given to each element;

N_{elem} – number of elements submitted to the analysis;

N_{cls} – number of classes, (5 in this case);

P_{final} – the points obtained on the Web site under analysis (on a scale of 1 to 5).

[1] Undertook and adapted after The Rutgers - SKKU E-Governance Survey Instrument, that can also be found in the paper „Digital Governance in Municipalities Worldwide (2007)" [Marc Holzer & Seang-Tae Kim]

3 Obtained Results

All of the 103 Romanian municipalities have been analysed and the results obtained can be presented on each class, but also by the final results. As it was expected, the municipality of Bucharest is in the top if we judge according to the final result, but we can find drawbacks at the chapters of "Transparency" and "Generalities" (details in appendix 1).

Table 3.1. The stage of eGov development in Romania

Grade	Municipalities	%
Very good	3	2,91
Good	28	27,18
Satisfactory	46	44,66
Low	16	15,53
Very low	10	9,71

From those 103 municipalities only 96 (93,20%) had at the end of the year 2009 (beginning of 2010) an active page on the Internet[1], from which – after the final results – 3 have obtained the grade *very good* (final points situated between 4,01 and 5,00), 28 *good* (points between 3,01 and 4,00), 46 *satisfactory* (points between 2,01 and 3,00), 16 *low* (points between 1,01 and 2,00) and 3, to which I added the 7 that didn't have an on-line page in the moment of research was realised, *very low* (points under 1,01).

We can see this way that almost half of the Romanian municipalities of the country have a *satisfactory* Web page (information about which we can't say that it is satisfactory from the point of view of the citizen or the business environment) and a third is *good* or *very good.*

Table 3.2. The level of eGov development divided by counties

Grade	Counties	%
Very good	2	4,88%
Good	7	17,07%
Satisfactory	27	65,85%
Low	5	12,20%
Very low	0	0,00%

Further, I made averages for each county and created a chromatic map (Image 3.1) displaying the level of implementation of Web technologies from the municipalities of the analysed county.

[1] The 7 municipalities which are missing are: Falticeni, Toplita, Calafat, Gheorghieni, Targu Secuiesc, Sebes and Moinesti.

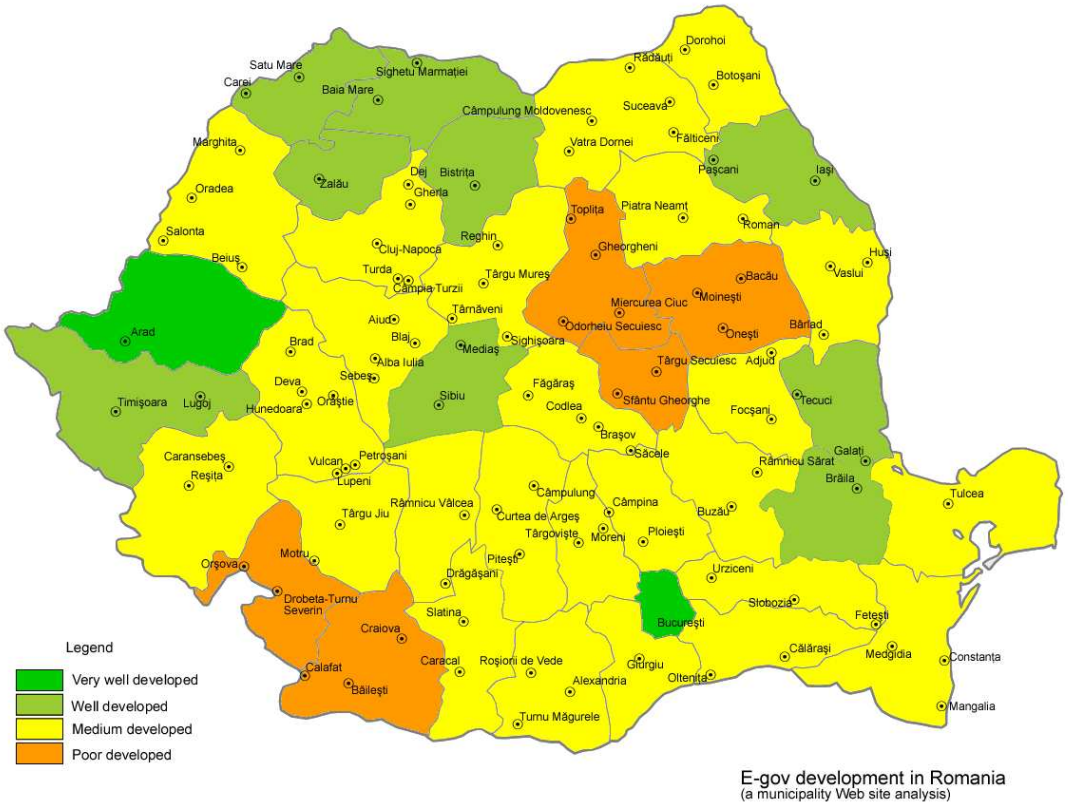


Image 3.1 EGov development in Romania

We can see after the analysis of the counties (table 3.2) that the level of eGovernment development in Romania is mostly *satisfactory* – two thirds of Romania's divisions have received this grade (points between 2.01 and 3.00), while only 2 obtained *very good:* Bucharest (together with Ilfov county) and Arad. We must notice that none of the counties received the grade *very low*.

3.1. Transparency Elements

Law no. 52 from 21 January 2003 regarding decisional transparency in the public administration[1] governs the way in which the local public administration authorities must relate to the communities in the legislative process, especially to involve the interested parts, be it members of the communities, associations or other interested parts (stakeholders). The normative act determines as objective the honour of 3 principles: previously informing, ex officio, the people over the issues of public interest that will be debated, consulting of citizen and legal constituted associations in the process of elaborating normative act projects, as well as the active participation of citizens in the administrative decision making and in the process of elaborating them. (Septimius Parvu)

In the procedures of elaborating normative acts, the authorities are obliged to make a public announcement, with minimum 30 days before submitting it for analysis, notification and adoption by the authorities, which must publish it on *its own Internet Web page*, to post it on its notice board (in a space

[1] Issued by the Romanian Parliament, published in the Official Monitor no. 70 on 3 February 2003

accessible for the public) and to send it to the mass media. The announcement must include a foundation note, an exhibit of reasons or a paper of approval regarding the necessity of adopting the proposed normative act, the full text of the project as well as a deadline, the place and the way through which the citizens can advance written proposals or recommendations. Normative act projects are transmitter to all the people that have submitted a request for receiving the information in discussion.

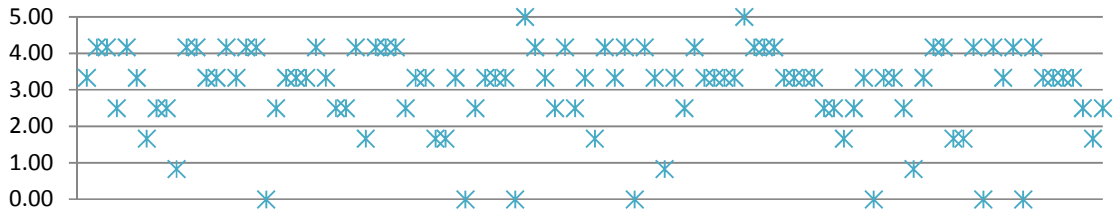
A part of the transparency elements can also be found in the C4 analysis (*Useful content*) subclass C45 (*Mayor Office news*). The weight of this information category (C1 class) is 20% in the calculation of the final result and in its structure we can find 5 elements: *declaration of fortune, organization chart, minutes that are accessible through the institution Web site, Employees CVs* or *legislation available for informing the citizens* interested in the activity of the local elected leaders. At the top of the chart for the most transparent mayor offices we identify Piatra Neamt and Giurgiu, which have obtained the maximum, followed by 28 municipalities with 4.17 points. Sadly there were 3 municipalities (Sighisoara, Odorheiul Secuiesc and Beius) to which, if we count the 7[1] that didn't have a Web site on the Internet, we gather 10 municipalities that counted, in this class, fewer than 1 point.

Table 3.3. The municipalities' status at the Transparency chapter

Grade	Municipalities	%
Very good	30	29,13
Good	37	35,92
Satisfactory	17	16,50
Low	9	8,74
Very low	10	9.71

From all the 103 municipalities, only 4: Piatra Neamt, Giurgiu, Slobozia and Miercurea Ciuc, had on their Web site CVs for the entire personnel. The rest either didn't have any CVs on the Web site or they had only the CVs for the leading personnel.

The average score obtained at this chapter is the highest – 3.01, but probably this high number of points is obtained due to legislative obligations rather than the interest of the officials. We will see that at the E-DOC chapter, where the legislation isn't so compelling, the average is much lower.



Graph 3.1. Dispersion graph at the Transparency chapter

The graphic displayed above shows us that the score of most of the municipalities (65, meaning 63.10% of their total) is situated in the interval 3.33 – 4.17, which is over the average. This may show that in the future also the ones under the average will go up.

[1] Idem 4;

3.2 Electronic Document Management

The E-DOC section includes the documents to which the citizens can have access through the digital environment, whether they're destined to downloading for a future fill in, or for filling in directly on the Web page. On the same section it was included the checking for announcements on acquisitions, franchising or renting; that the mayor's office publishes on its Web site.

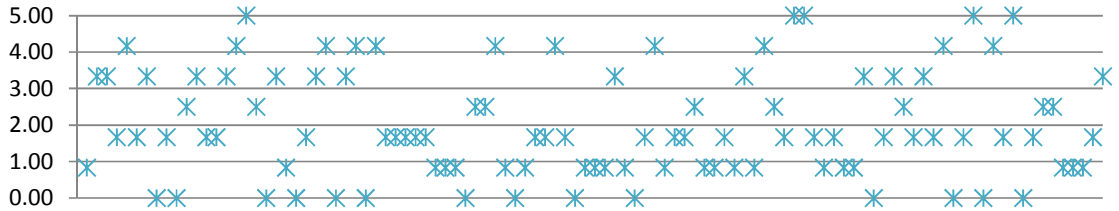
Electronic authorizations / certificates / forms. This category can include documents in .pdf, .doc, .rtf format that can be downloaded for diverse purposes from the mayor office Web site. Most often these represent forms destined to be handed in at the public institution after a previous filling in. From the 103 Web sites analysed, 80 (77,67%) presented documents meant for downloading, as the ones presented above, 34 municipalities (33,01%) benefit from an on-line filling in system for forms – from which only 14 (13,59%) allow the on-line following of the form's track (an easy to implement system from a programming view). For example, the mayor's office in Bucharest has implemented in its Web site an on-line system for tracking the paying of taxes and contributions, as well as tracking of citizen's petitions (in this case a user account must be created by every citizen that wishes to use this service).

Table 3.4. The municipalities' status on the E-DOC chapter

Grade	Municipalities	%
Very good	16	15,53
Good	14	13,59
Satisfactory	9	8,74
Low	28	27,18
Very low	36	34,95

The most developed Web sites from this point of view are those from Bucharest, Timisoara, Targu-Mures, Reghin and Ramnicu Valcea, each of them obtaining a full score. It is also worth mentioning that 23 municipalities (22,33%) have obtained a score lower than 1 point, a finding not so encouraging considering the fact that through these on-line services the mayor's office can get closer to the citizens.

At this chapter we find the lowest average on the entire study (1.99), a fact that shows how many issues the municipalities' Web sites have on the delivering of on-line public services.



Graph 3.2. Dispersion graph at the E-DOC chapter

In the graph above we can observe that most of the municipalities (63 – 61.16%) are positioned under the average. For avoiding a further decrease of it the authorities should "force" the mayors' offices - through an adequate legislative frame - on posting on their Web sites electronic forms/materials for the citizens' access.

3.3. Electronic Methods for Bidirectional Communication

Citizen participation on the act of governance continues to be the most recent area of study for eGovernment. Very few public agencies offer on-line opportunities for their citizens on active participating to the governance process. This can be done through the presence of electronic voting forms when a public decision must be made (a procedure so rarely found that is has not been introduced in the study for the purpose of not diluting the researches' results), or through discussion forums with and between citizens. In this way the present part of the analysis stops at the research of the mechanisms through which the users can send on-line comments or can generate feedback for the institution or its officials. A mayor's office can display on its Web site a considerable amount of documents and information of public interest, but the lack of possibility for the citizen to contact the public institution (for questions as well as for suggestions) damages the citizen – administration communication.

Table 3.5. The municipality's status on the *Contact* chapter

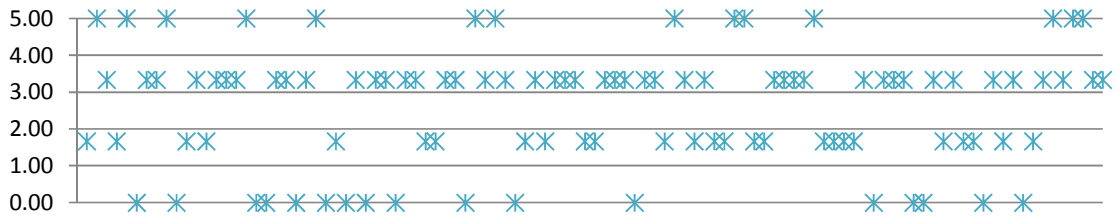
Grade	Municipalities	%
Very good	14	13,59
Good	46	44,66
Satisfactory	0	0,00
Low	26	25,24
Very low	17	16,50

The indicators used for measuring the Web site's capacity of allowing its users to interact easier with the administration were: *the possibility to send an e-mail directly to the mayor (or his cabinet), the possibility to send suggestions (other than referring to the Web site)* and *the presence of a discussion forum between/with the citizens.*

If the possibility to send an e-mail directly to the mayor or his cabinet was encountered in 61 cases (59.22%) and the possibility to send different suggestions to the authorities in 74 cases (71.84%). We can observe that only 25 (24.27%) have implemented a discussion forum. In some rare cases I have encountered institutions that facilitate the communication with the citizens through applications of instant messaging (Yahoo Messenger) or situations where the on-line discussions are structured according to a certain topic (e.g. public politics), more or less a successful ideas, depending on the total number of participants (directly proportional to the population of the community) .

The average score obtained at this chapter was 2.59. The maximum number of points was gained by 14 municipalities (13.59%) – here in this chapter, I have encountered the biggest number of municipalities which obtained maximum points. Sadly, this number is balanced by 10+7[1] municipalities (16.50%) which obtained 0 (zero) points on this subject, a fact that considerably decreased the average score under the expectations, at a value of 2.59.

[1] Idem 4



Graph 3.3. Dispersion graph at the C*ontact* chapter

We can gather from this graph that the scale is slightly out of balance in favour of those with a score over the average results: 60 municipalities (58.25%) are above and 43 (41.75%) below, pointing a possible growth of it.

3.4. Useful content of the Web sites studied

The content is an essential component for a Web site. It is irrelevant how advanced the technologies used are, if the content is not up to date, if it is difficult to navigate on the Web site or if the information is hard to find or inaccurate. In this scenario the Web site doesn't fulfil its purpose.

Table 3.6. The municipalities' status on the *Useful content* chapter

Grade	Municipalities	%
Very good	13	12,62
Good	15	14,56
Satisfactory	22	21,36
Low	19	18,45
Very low	34	33,01

Useful content can be considered the information presented on the Web site like news, or other useful information about the city for its citizens (through an on-line city map, a map of transportation means or the Web cams installed in key points of the city). This type of content is not related only to the external elements of the mayors' office, but also to the easiness with which you can access the information on the Web site, the possibility to choose between languages or the option to search within the site.

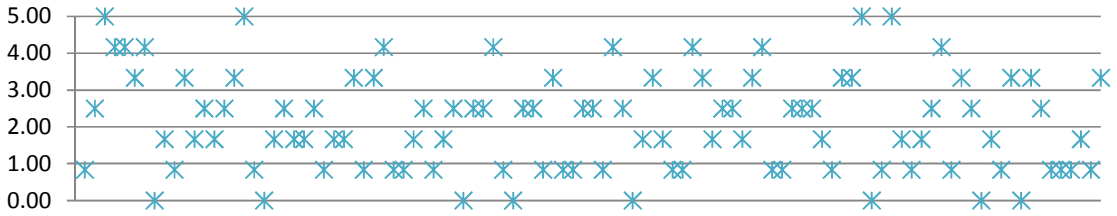
The results on this chapter show that Bucharest, Alba Iulia, Sibiu and Satu Mare are the top cities on the chart, with a maximum score equal to 5. Unfortunate 27+7[1] municipalities (33%) have reached a score below 1 (about the same situation as in the chapter E-DOC – were it was 29+7), which can be interpreted as a situation where the mayors' offices Web sites are not oriented to satisfy the citizen's needs, but due to legislative regulations in the field.

The obtained average is 2.10, which shows that there is an unbalanced situation between the number of municipalities that don't offer information on the Web site about the city and those that present this information. Only 35 Web sites (33.33%) allow citizens to choose between several used languages, and

[1] Idem 4

19 (18.44%) have the option of viewing live images through Web cams. The map for transportation means is available only on 14 Web sites (13.59%) and the map for the entire municipality (a very important element) is presented in 53 Web sites (51.46% - a little more than a half).

A category with higher performance form the Web sites is the *News about the mayor's office*; 81 of them (78.63%) have a section especially designed for this purpose. A note must be made to the fact that this section belongs also to the chapter for *Transparency*, signifying that there are legislative norms which oblige the mayor's offices to make information of this sort available on their Web sites.



Graph 3.4. Dispersion graph at the *Useful content* chapter

Graph 3.4. reveals a concentration of municipalities in its lower part rather than in its upper part (as it would be desired). A number of 53 municipalities (51.46%) are situated below average. It is possible that a legislative intervention, or a higher interest from the local authorities, will increase the values obtained at this category.

3.5. General information about the Web sites in view

This research examines also the level of accessibility of the Web site. In other words, I wanted to see how user friendly the Web sites are. For measuring this, I used mostly, the same techniques applied on to the Web sites analyses made in the private sector, studying how attractive is the design, how easy it is to work inside the Web site, the quality and quantity of information about the municipality.

This is the chapter where none of the municipalities (excepting those 7[1]) didn't obtain a score lower than 1 point, a fact that rise the average to 2.94, very close to the maximum obtained in this analysis (3.01 at the *transparency* chapter, only that in this case the result isn't due to legislative constrains). These results indicate that there is nevertheless an interest from the municipalities for being visible on to the Internet, and this visibility to lead to a pleasant visit (e.g. for tourism the Web site of a city is like its business card).

The results are balanced between those three subclasses analyzed (table 3.7.). We can observe that maximum points were obtained by: 11 municipalities (10.68%) for *design*, 15 for *easy browsing* (14.56%) and 10 for *general information* (9.71%). Despite this, only 5 municipalities can be found in each subclass (Sibiu, Arad, Bistrita, Botosani, Craiova).

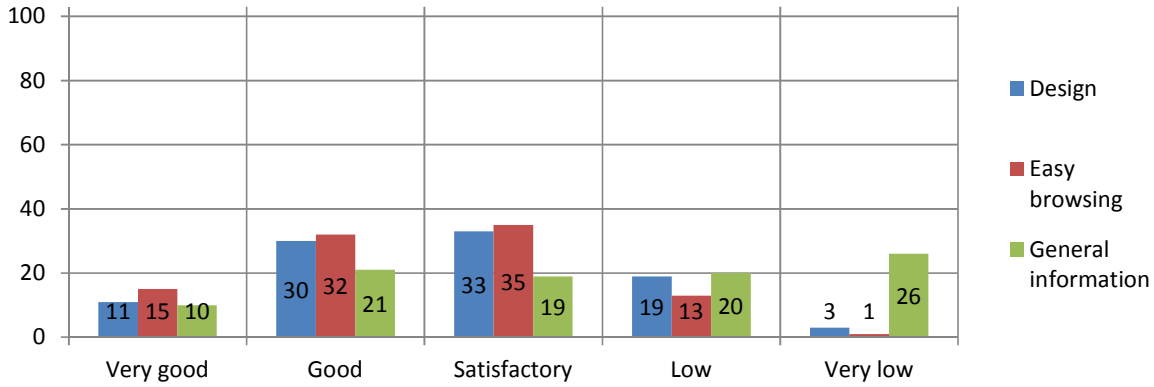
Minimum rating (*Very low* – 1 point) was obtained by:

- 3 municipalities at *design* (Rosiorii de Vede, Roman, Motru);
- 1 municipality at *easy browsing* (Sighisoara);
- 26 municipalities at *general information*.

[1] Idem 4;

Table 3.7. Results balance for the chapter *General information*

Grade	*Attractive design*		*Easy browsing*		*General information*	
Very good	11	10,68%	15	14,56%	10	9,71%
Good	30	29,13%	32	31,07%	21	20,39%
Satisfactory	33	32,04%	35	33,98%	19	18,45%
Low	19	18,45%	13	12,62%	20	19,42%
Very low	3	2,91%	1	0,97%	26	25,24%



Graph 3.5. The balanced results of the chapter *General information*

The scale, according to the table presented bellow, registered values starting with 1 – very bad, to 5 – very good:

Table 3.8. Description of the evaluation scale in the 5th class – *General information*

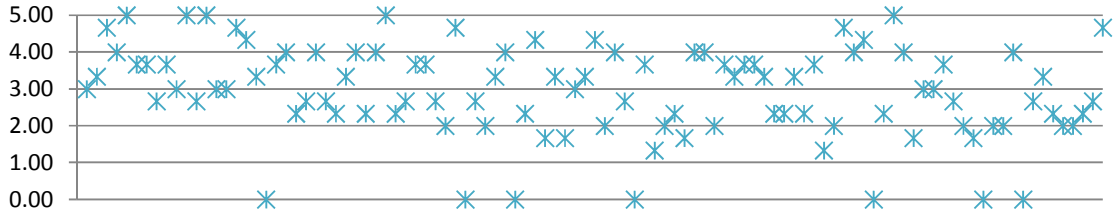
Value	*Description*
1	the design of the Web site is very unprofessional, unattractive, probably the municipality realised it with its own resources/ difficult inside browsing, the Web site is developed in .html and did not present dynamism, the maximum number of needed clicks to reach the last page in a branch is greater than 4/ doesn't present information of general interest for those who are visiting the municipality (phone no. for taxi, hotel etc.)
2	the design of the Web site is unattractive, probably the municipality realised it with its own resources / difficult inside browsing, the Web site is developed in .html did not present dynamism / presents too little information of general interest for those who visit the municipality;
3	design with a satisfactory aspect; the page is still too crowded/ difficult inside browsing, overweighed menus, hard to identify the place where a certain info is located/ general information about the city are displayed in the manner "let's put that here";
4	attractive contrasts, structured pages/ easy browsing, but with overweighed menus even if these are programmed in advanced programming languages like ASP, PHP, etc. / information about the municipality is rich and easy to be accessed;
5	the Web site is designed in a professional manner, with structured pages/ dynamic and intuitive navigation/ Information about the municipality is rich and easy to find/

As an example, I have analysed how visible are the links, if the presence of chromatic elements isn't clumsy, if the number of clicks that must be made to reach the last page of the Web site isn't to great etc.

The general information section includes two information categories. One refers to the Web site itself, to the degree of difficulty found in using it and accessing the information presented on it - finalised in appreciating the Web site's design and the easiness of browsing in it. A second category refers to the information of general interest presented on the Web site: telephone no. for taxi, hotels, shows/events).

Table 3.9. The municipalities' status on the *General information* chapter

Grade	Municipalities	%
Very good	14	13,59
Good	34	33,01
Satisfactory	30	29,13
Low	18	17,48
Very low	7	6,80



Graph 3.6. Dispersion graph at the *General information* chapter

From the graphic above we can conclude that most of the municipalities (55 in absolute measure, 53.40% in relative measure) have obtained a rating superior, or very close, to the average (11 cities, meaning 10.67% out of the total, have obtained the rating 2.67). The "concentration", contrary to the previous chapter, is found in the upper region of the graphic, with an obvious inclination towards an attractive design rather than utility.

4 Best Practice – Models Worth Following

SEOUL – SOUTH COREEA

The Internet is a means of assuring transparency and reducing the corruption. Chile, Colombia, Mexico and – from the European area – Austria, have published the acquisition procedures on-line. These allow public access to information related to public acquisitions. The system was also applied in the case of big cities like Seoul (which occupies the first place in the study conducted by Mark Holzer and Seang-Tae Kim in 2007). Although it is not a European city, the Korean case is worth mentioning for stressing the utility of such systems. In the case of the Seoul municipality the system is called On-line Procedures Enhancement for Civil Applications (OPEN), an application which benefited from a great success, offering the possibility for citizens to monitor the requests for approval and offering them the right to raise questions if illegalities are observed. For example, if a citizen submits a building request he can follow all the stages of approval or rejection of the request from any computer connected to the Internet

– an initiative that can be found at 14 municipalities from Romania (according to the section C22). The Seoul Web page has over 2000 visitors daily[1].

TAMPERE – FINLAND

Another model that worth following is the eTampere Programme[2], implemented in the city of Tampere in Finland. The eGovernment system includes an on-line discussion platform on various themes, a citizen consultation system regarding the development priorities, an especially design section where citizens have the possibility of commenting the administration's plans and their financing, e-cabins on the system of question and answer that assure the obtaining of an answer in the interval of several days.

BLAGOEVGRAD – BULGARIA

An e-service project was launched in 2006 in Bulgaria, which materialized in a system for exchanging documents between the administration and the institutions. The 14 municipalities from the region of Blagoevgrad are the partners, a regional administration and six central institutions represented at regional level (e.g. the regional inspectorate for prevention and control in public health). The project aimed at unifying the separate administrative services from the municipalities, the reduction of the time needed for exchanging the documents, the cutting of expenses in postal taxes, the decrease in the number of contacts between the citizens and multiple authorities. As a conclusion, the decrease in the possibilities of corruption acts.

Another aspect in regard to spreading information through electronic means is the presence of information cabins. These can be present inside institutions as well as in public places, and have the purpose of offering the possibility for citizens to get information about the practices in the public administration, without interacting with civil servants. This kind of method is intensely applied in Greece and Portugal.

TIMISOARA – ROMANIA

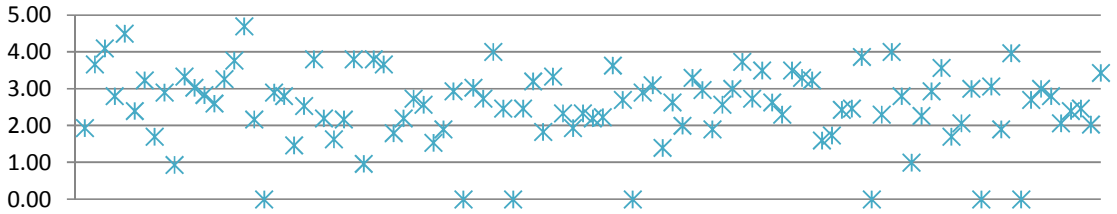
The project "Together for transparency", implemented by the mayor's office in Timisoara, offers a system through which the meetings of the Local Council are broadcasted through radio. West City Radio transmits the extraordinary and ordinary meetings, as well as events. The citizens can submit suggestions to the forum@westcity.ro e-mail address or can transmit messages that are recorded by a telephonic robot. In addition, the members of the Local Council are invited weekly for a direct dialogue with the citizens, hosted by the "Castana de foc"[3] show, broadcasted each Thursday, between 13 and 14 o'clock.

Best practice instruments can be considered consulting the citizens through dedicated e-mail addresses, where citizens can send opinions or complains regarding a specific field; the existence of information sources like newsgroups, as well as through chat instruments. In the new-media era the means through which the local authorities can make themselves visible are extremely diverse, varying from posting information on social networks like MySpace, Twitter or Facebook, to the Web page and blog creation and sending information through newsletters and other forms of electronic subscription. An instrument already used by several public administration authorities from Romania is the on-line broadcasting of their meetings.

[1] Online Procedures Enhancement for Civil Applications. The presentation of the application is available at the Web page: http://english.seoul.go.kr/government/down/OPEN.pdf
[2] www.etampere.fi/english
[3] The fire chestnut

5 Study Conclusions

In this study it is revealed the present situation in the level of implementing eGovernment through the mayor's offices Web sites of all Romanian municipalities. As we can observe from the map displayed earlier (img. 3.1.) or from the table 3.1., and table 3.2, the situation is *medium* which signifies that there are still multiple steps to be made in order for us to be able to speak about electronic governance in Romania, as we encounter it in other European countries (and not only).



Graph 5.1. Dispersion chart obtained by using the final results of the study

This can also be seen in the graph 5.1, by the fact that the "concentration" can be found around the average value (2.52), with 56 municipalities (54.37%) obtaining a rating over the average and 47 underneath it (45.63%).

Fearing a dilution effect which probably would have appeared in the final results, I haven't introduced in this study elements that can be found in similar studies conducted in other countries, like: the possibility to perform on-line pays (a situation rarely found in Romania) or the participation of citizens to the governance activity through electronic vote or electronic referendum (rarely found as well), on-line questioner meant to collect citizen opinions in regard to a possible actions by the mayors' office. This is the reason why the comparison of the best result obtained (that of the mayors' office in Bucharest) with the best results worldwide, or from Europe, wouldn't be quite accurate. But for diversity these information are presented shortly in the box 5.1.

The mayors' office in Bucharest was situated in 2007 on the 37th spot in the world on eGovernance (nevertheless better than in 2005, when it was in the 64th position), outmatching cities like Brussels (38th place), Athens (52nd place), Kuala Lumpur (64th place), Budapest (67th place) or Chisinau (69th place). In the same study, this time at the continent comparison, Bucharest occupies the 19th position in Europe, after Helsinki (1st place), Madrid, London, Vienna; but also in front of the Danish capital of Copenhagen (22th place) or other cities like: Oslo (27th place), Lisbon (28th place), Warsaw (34th place) etc.

SOURCE: Digital Governance in Municipalities Worldwide (2007) - A Longitudinal Assessment of Municipal websites Throughout the World, 2007 - Marc HOLZER, Seang-Tae KIM

Box 5.1. Bucharest vs. Cities of the world

In comparison with most of the cities (even when these were outmatched by Bucharest) we can say that the biggest limitation found in this study, in relation to the Romanian municipalities, is civic participation. It is here that the deficiencies in the relation between the authorities and the citizens are highlighted. The reasons can be diverse, from the lack of informing over the electronic means of

communication, the lack of ways of communication, to the lack of interest from the authorities or the civic qualities of the citizens.

As I declared from the beginning, I will repeat this study every 2 years in order to observe the adjustments appeared and for a possible comparison with other cities of the world. I expect a substantial improvement of the ratings obtained.

APPENDIX 1

Example of Research

The Municipality of Bucharest Web Site (Www.Pmb.Ro)

Start page of the portal:

The form used for research

Bucharest municipality	
Web site: http://www.pmb.ro	
Elements research element	**Points obtained**
TRANSPARENCY	
Declaration of fortune	1
Organisation chart	1
Minutes/meetings published on the Web site	1
CVs of the employees	1
Legislation	1
E-DOC	
Authorizations/certificates/electronic forms	
.pdf, .doc, .rtf format	1
On-line fill in of forms	1
On-line following of submitted request, electronic or not (after registering no.)	1
On-line petitions	1
Public announcements for: acquisition projects, concession, renting	1
COMMUNICATION	
The possibility to send an e-mail directly to the mayor (or his cabinet)	1
The possibility to send suggestions (other than regarding the Web site)	1
Discussion forum between/with the citizens	1
USEFUL CONTENT	
Electronic map of the city	1
Map of public transportation	1
Possibility to search within the Web site	1
Mayors' office news	1
Web cam	1
Electronic map of the city	1
GENERAL INFORMATION	
Attractive design	3
Easy browsing	5
It presents information with general character (taxi phone no., hotel, shows etc.)?	5

Calculating results:

$$C1(\text{TRANSPARENCY}) = \frac{Nmax}{Pmax} * \sum_{i=1}^{5} C1i = \frac{5}{6} * (1 + 1 + 1 + 1 + 1) = 4{,}17$$

$$C2\ (\text{E} - \text{DOC}) = \frac{Nmax}{Pmax} * \sum_{i=1}^{4} C2i = \frac{5}{6} * (3 + 1 + 1 + 1) = 5{,}00$$

$$C3(\text{COMMUNICATION}) = \frac{Nmax}{Pmax} * \sum_{i=1}^{3} C3i = \frac{5}{3} * (1 + 1 + 1) = 5{,}00$$

$$C4(\text{USEFUL CONTENT}) = \frac{Nmax}{Pmax} * \sum_{i=1}^{6} C4i = \frac{5}{6} * (1 + 1 + 1 + 1 + 1 + 1) = 5{,}00$$

$$C5(\text{GENERAL INFO}) = \frac{\sum_{i=1}^{3} C5i}{Nelem} = \frac{3 + 5 + 5}{3} = 4{,}33$$

$$Pfinal = \frac{\sum_{i=1}^{5} Ci}{Ncls} = \frac{4{,}17 + 5{,}00 + 5{,}00 + 5{,}00 + 4{,}33}{5} = 4{,}70$$

Case Study Discussion

From all the 103 municipalities submitted for research, the capital has ranked firs obtaining the highest score, the reason for which it was taken as example of calculus. As I presented above, to the results contributed:

- transparency – 4.17. It was surpassed only by Piatra Neamt and Giurgiu, and shared its place with other 27 municipalities from Romania. The average of the category: 3,01;
- E-DOC – 5.00. It obtained maximum rating together with other 4 municipalities: Ramnicu Valcea, Timisoara, Reghin and Targu Mures. The average for the category: 1,99;
- communication – 5.00. It is also at this category that it obtained maximum rating, together with 12 municipalities. The category average: 2,59;
- useful content – 5.00. Again, maximum rating – it is here that Bucharest's mayors' office excels: GIS maps, other means of public transportation (in great detail) made the 5 points obtained to fail in reflecting its real value. Sibiu, Satu Mare and Alba Iulia have also obtained maximum rating in this field of study. Category average: 2.10;
- general information – 4.33. Ten municipalities surpass Bucharest at this chapter, and this is especially thanks to the completely unattractive design where it obtained only 3 points from a maximum of 5. Category average: 2,94;

- final result – 4.70. The highest rating obtained in this study, followed by Arad with 4.50 and Alba Iulia with 4.10 points. The average of the final results: 2.52.

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*** Sistemul Electronic National/National Digital System: http://www.e-guvernare.ro/.