The social media impact on local e-government institutions in Romania

Maria Gheorghe-Moisii, Tirziu Eugenia, Dragos Daniel Iordache,
ICI Bucharest
Bd. Mareşal Averescu nr.8-10, Bucharest
moise@ici.ro, ginet@ici.ro, iordache@ici.ro

ABSTRACT

In this research paper we analyze the extent and manner in which e-government institutions from public administration currently use social media networks. The sample consist in a number of 30 local e-government institutions analyzed using the collective case study, based on a set of indicators for three social media networks, frequently used in Romania. The results showed a larger representation of Romanian local e-government institutions on Facebook and less on Twitter or YouTube.

Author Keywords

Social media, e-government, local e-government institutions, case study.

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

General Terms

Human Factors

INTRODUCTION

Social media networks gained a remarkable popularity in recent years. They are currently key communication tools. E-government institutions can benefit from social media facilities to improve their communications. Social media networks can help promote public institutions' initiatives and inform citizens and beneficiaries of social services. At the same time, social media networks have the advantage of capitalizing on the dialogue with the public and improving the internal communication processes of the institutions.

Social Media networks allows real-world communication in both ways, meaning not only the use of special tools or techniques, but also the promotion of digital engagement through the transition from disseminating information (site) to conversation, from an observer to listening and to respond, from public awareness to pro-activity. At the same time, the social networking level can create an online learning center. Online Learning Centers can be used in e-government as an online training and education infrastructure. Boxer and Johnson (2002) suggest that the Learning and Training Center should serve as a focal point for all government learning activities.

The digital commitment that an institution or public authority assumes facilitates community involvement in decision-making at the local level.

This study identifies the key impact analysis of social media networks as instruments to ensure greater transparency of public institutions, increase awareness and participation of citizens in decision-making and improved quality of services.

The following section presents related work in the area of the impact of social media networks in e-government. In the next section the evaluation results are presented and discussed. The paper ends with conclusion and directions for future work.

RELATED WORK

The impact of social media networks in e-government has been studied from different theoretical perspectives by using various methods. Few approaches exist that investigate the impact of social media networks in e-government using case study perspective in Romania.

Bonsón et al. (2015) conducted a study in order to measure the impact of social media and content types on stakeholders' engagement on Western European local governments' Facebook pages. The sample includes 15-member countries of the EU via 75 local governments belonging to four different public administration styles, analyzing 50 posts from each municipality. The posts were coded into 16 content types (e.g. environment, housing) and 5media types (e.g. video, text), respectively. Metrics of popularity, commitment and engagement were also computed for each post. Results show that the most used media types are links and photos. Cultural activities, sports and marketing related topics are the most widely posted by Western European local governments, but these contents do not seem to be the most relevant for citizens. Local governments' preferences to different media and content types seem to depend on the institutional context. Significant differences on engagement levels by citizens have been found among media and content types and in different institutional contexts.

The study conducted by Mickoleit et al (2014) takes a comparative analysis of social media use in and by Organization for European Economic Cooperation (OECD) governments. The analysis is based on a large amount of empirical data, including a survey of OECD governments on policies and objectives in this area. The paper proposes tools to guide decision makers: a checklist of issues to be considered by government institutions, a set of potential indicators to appraise impacts, and a range of options for more in-depth policy analysis. The set of potential indicators to appraise impacts were mainly related to presence, popularity, penetration, perception and purpose.

The study of Lev-On & Steinfeld (2015) analyzed the scope and character of the activities of the Israeli

municipalities on Facebook. The study maps the Facebook presence of Israeli municipalities and checks for correlations between Facebook presence, municipality size and the geographic and socio-demographic characteristics of the municipalities. Several engagement indices of municipal activities on Facebook (number of fans, average likes, comments, and shares of posts) have been measured and checked for correlations of these engagement indices with municipality size and geographic and social demographic characteristics of the municipalities. The study found that municipalities' Facebook adoption is significant. More than half of the Israeli municipalities maintained an official Facebook page at the time of data collection.

Hrdinova et al. (2010) developed a framework of 8 elements that can be addressed for a successful social media policy: employee access, account management, acceptable use, employee conduct, content, security, legal issues, and citizen conduct.

CASE STUDIES

Method and procedure

As a method of collecting and analyzing data, we used the collective case study, structured on the basis of a set of indicators for each social network analyzed for assessing social media impact in e-government. The case study can be defined as the research that provides a detailed analysis and explanation of one or more cases (Johnson & Christensen, 2008). According to Stake (1995), three types of case studies can be identified: intrinsic, instrumental and collective. In the collective case study, the researcher believes that he can reach a much deeper understanding of the subject of the research by concomitantly studying several cases in a comprehensive research.

Three social media networks: Facebook, Twitter, and YouTube have been analyzed. The presence of each municipality was examined by the official name provided on their site. In Facebook, we checked the following: the existence of an official Facebook page, the number of visitors, the number of followers, the number of likes, the number of conversations, the number of ratings and the engagement score.

In Twitter, we've checked the following: existence of an official Twitter account, number of Twitter tweets, number of Twitter following, number of Twitter followers, number of twitter rating and number of Twitter lists. In YouTube, we analyzed the following: existence of an official YouTube channel, number of subscribers to the official YouTube channel, YouTube Chat Counts, and YouTube Interactions as Response to Comments.

To analyze the data obtained through site content analysis, an exploratory analysis was first conducted to provide a broad perspective on how to use social media networks. Moreover, each local government has been assessed according to its active presence.

In the present study, social media impact assessment in e-government has three main objectives: inventory, assessment and guidance to decision makers. To achieve these objectives, both quantitative and qualitative data are required, but at different degrees in each phase. It has been demonstrated that Facebook's social media has the biggest impact on citizens in Romania, being the most visited and most official sites, as shown in Figure 1.

The development of case studies involved, in the first instance, a hierarchical classification of the objectives that provide a mature preliminary criterion for measuring social media impact in e-government (Table 1).

Social Media	Indicators
FACEBOOK	- number of visitors - number of followers - number of likes - number of ratings - engagement score - number of conversations.
TWITTER	- number of Twitter tweets - number of Twitter following - number of Twitter followers - Twitter rating - number of Twitter lists
YOUTUBE	- number of subscribers - interactions as response to comments - uploads on YouTube during the evaluation period

Table 1. Indicators used in Social media assessment in e-government

These include the indicators analyzed to test their feasibility and relevance for comparisons, for example on the presence, perception and purpose of using social media in governance.

Sample

In order to assess the impact of social media networks on e-government institutions in Romania, empirical research was carried out based on a sample of 30 public administration sites, taking into account the comparison of different social media networks.

The sample used was selected according to the number of inhabitants of the cities. The analysis of the use of government websites by means of social media was conducted between April and May 2017. First of all, the presence of town halls in the virtual space of social media was analyzed. The second part of the research consisted of analyzing social media platforms. In addition to the elements included in the official site, the presence and activity of local governments from the most widely known social media platforms were measured using different indicators such as number of followers, number of comments, number of likes, and number of shares.

RESULTS

Evaluation of the impact on Facebook network

Facebook page analysis was done using LikeAlyzer instrument. LikeAlyzer measures and analyzes the potential and effectiveness of the Facebook page. It monitors and compares all the features of the Facebook page.

In the Figure 1 we can see the presence and the involvement of local e-government institutions in Romania that have been analyzed in this study. The generated results have highlighted a major gap between the sites analyzed. Facebook is the most preferred network in terms of as presence, interaction and information distributed by local e-government institutions in Romania.

From the 30 local e-government institutions, a number of 27 institutions have an official page on Facebook. Three

institutions do not have an official Facebook page, but there are unofficial pages create by users.

The number of the followers varied between 20412 and 54 with a mean of 5565. There are many who visit sites, just to inform themselves, but they do not actually interact. Therefore, the engagement score is relevant, measuring the interaction of citizens.
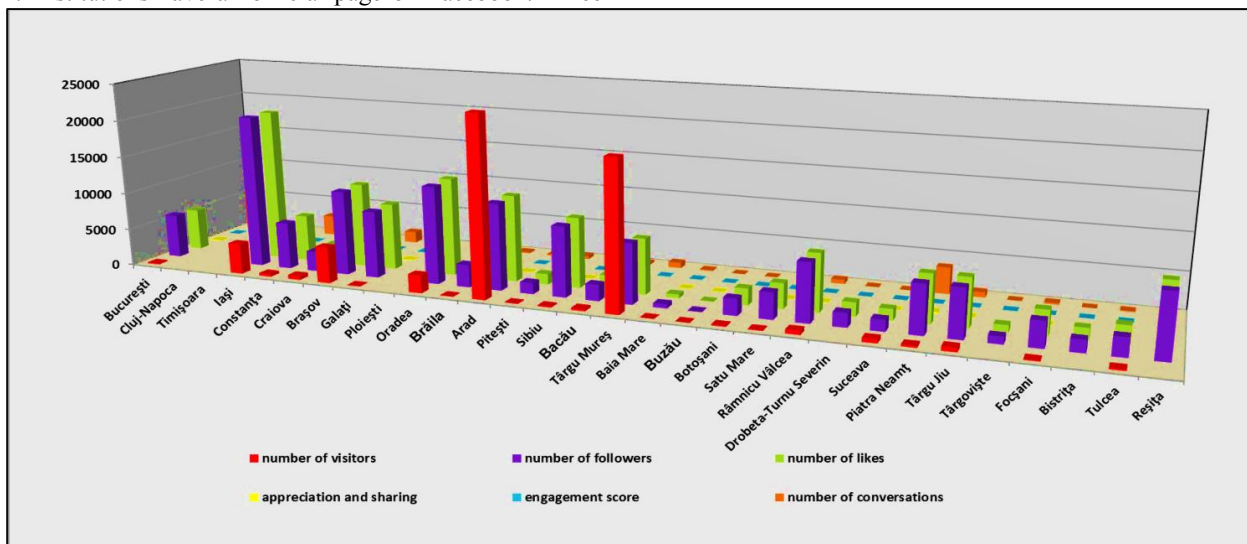

Figure 1: The presence and involvement of local e-government institutions on Facebook

Evaluation of the impact on Twitter network
The presence and the involvement of local e-government institutions analyzed in this study are presented in Figure 2

The analysis of Twitter pages was done by analyzing official public websites. The results highlighted a minimal involvement of the local e-government institutions on the Twitter network. Only seven of the 30 municipalities

surveyed have an official Twitter account but also a weak official data.

The number of the tweets varied between 6089 and 8 with a mean of 2627. Five of the seven online present have tweets and all of the sites have followers. Therefore the Twitter network is very little used in e-government by local e-government institutions in Romania.
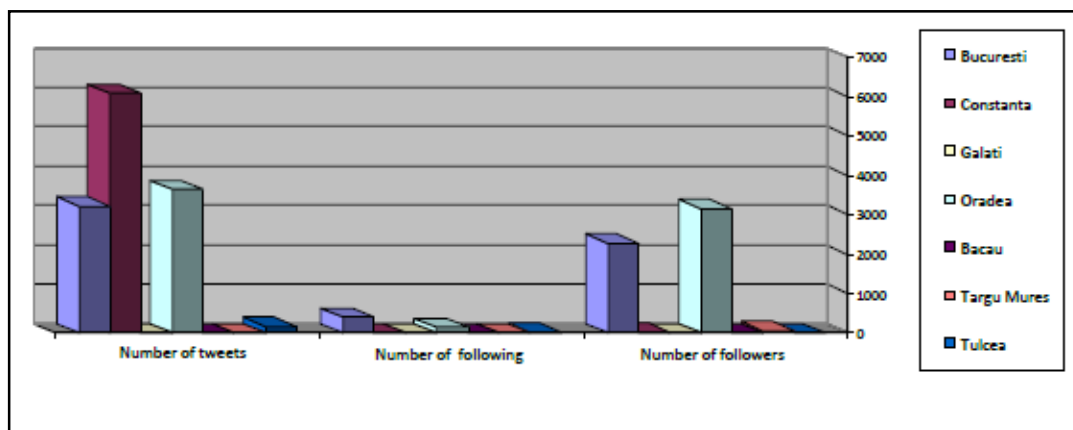

Figure 2: The presence and involvement of local e-government institutions on Twitter

Evaluation of the impact on YouTube network
The evaluation was carried out by analyzing the official public sites. The generated results highlighted a major discrepancy in the presence and media coverage of online

information of institutions, resulting in a minimal interaction impact of this network on the sample used. Only four of the 30 municipalities have an official channel, but also that the information provided rather

summarily. The number of uploads on YouTube during the evaluation period varied between 18 and 2 with a mean of 9 uploads.

Comparative results on the three Social Media networks

A comparative study of the three networks underlined highlights the fact that the Facebook network has the highest share in presence, transparency and collaboration. The local e-government institutions in Romania are mostly represented in the online environment by the Facebook network. Thus, the institution's reporting to the Facebook network is the most relevant (see Figure 3).
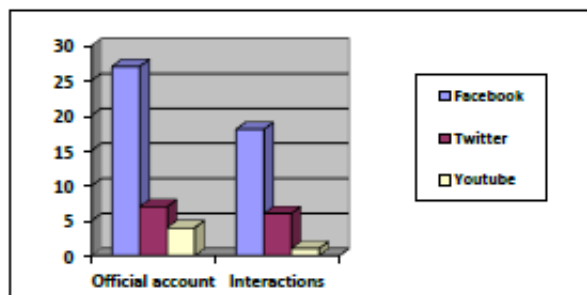
Figure 3: Social Media Comparison of Online Interaction

CONCLUSION AND FUTURE WORK

The impact of social media on e-government processes can be derived from the openness and transparency of e-government to the public, the collaboration between different administrative units in the process of public policy making policy making, participation of citizens in political decisions, faster dissemination and greater information.

It is important for local e-government institutions to have a presence on social media sites in order to build a high level of people trust especially if governments use social media to provide citizens with an active information channel to ensure that governments not only listen or monitor the process but also respond.

Social media networks give local e-government institutions an opportunity to take the advantage of using more creative and innovative ways in communicating with citizens and making effective use of the valuable resources available on such sites and outside its control. Future research may have the following main working directions:

- Carrying out intercultural studies for the comparative analysis of the integration of social media networks in different e-government applications;
- Developing software applications for monitoring social media impact in e-government.

REFERENCES

1. Bonsón, E., Royo, S., & Ratkai, M.. Citizens' engagement on local governments' Facebook sites. An empirical analysis: The impact of different media and content types in Western Europe. *Government Information Quarterly*, 32(1), (2015), 52-62.
2. Boxer, K. M., & Johnson, B. How To Build an Online Learning Center. T+D, 56(8), (2002), 36-42.
3. Hrdinova, J.; Helbig, N.; Peters, C.S. Designing social media policy for government: Eight essential elements. *Center for Technology in Government*: Albany, NY, USA, 2010.
4. Johnson, B., & Christensen, L. Educational research: Quantitative, qualitative, and mixed approaches. *Sage*, 2008
5. Lev-On, A., & Steinfeld, N. Local engagement online: Municipal Facebook pages as hubs of interaction. *Government Information Quarterly*, 32(3), (2015), 299-307.
6. Mickoleit, A. "Social Media Use by Governments: A Policy Primer to Discuss Trends, Identify Policy Opportunities and Guide Decision Makers*", OECD Working Papers on Public Governance*, No. 26, (2014), OECD Publishing http://dx.doi.org/10.1787/5jxrcmghmk0s-en
7. Stake, R. E. The art of case study research. *Thousand Oaks, CA: Sage*, 1995
8. http://likealyzer.com.