MUNI
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XXII. MEZINÁRODNÍ KOLOKVIUM O REGIONÁLNÍCH VĚDÁCH. SBORNÍK PŘÍSPĚVKŮ

22ND INTERNATIONAL COLLOQUIUM ON REGIONAL SCIENCES. CONFERENCE PROCEEDINGS

Place: Velké Bílovice (Czech Republic)
June 12-16, 2019

Publisher: Masarykova univerzita (Masaryk University Press), Brno

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Vzor citace / Citation example:

AUTOR, A. Název článku. In Klímová, V., Žítek, V. (eds.) *XXII. mezinárodní kolokvium o regionálních vědách. Sborník příspěvků.* Brno: Masarykova univerzita, 2019. s. 1–5. ISBN 978-80-210-9268-6. DOI.

AUTHOR, A. Title of paper. In Klímová, V., Žítek, V. (eds.) 22nd *International Colloquium on Regional Sciences. Conference Proceedings.* Brno: Masaryk University Press, 2019. pp. 1–5. ISBN 978-80-210-9268-6. DOI.

ISBN 978-80-210-9268-6 (online : pdf)

DOI: 10.5817/CZ.MUNI.P210-9268-2019-43

E-PARTICIPATION TOOLS AND THEIR USE IN THE MORAVIAN-SILESIAN REGION

Nástroje e-participace a jejich užívání v prostředí Moravskoslezského kraje

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Annotation
The aim of the publication is to evaluate, based on the classification analysis, the scale of tools of citizen's e-participation in the lower territorial self-governing units (municipalities) in the Moravian-Silesian Region. Out of the total of 300 municipalities located in the Moravian-Silesian Region, 34 of them belonging to three types of municipal sizes, were selected by stratified random selection. Municipalities are divided into three groups: with a population of up to 1000 inhabitants, from 1001 to 35 000 inhabitants, and municipalities with more than 35 000 inhabitants (i.e. statutory cities). The authors assume that larger municipalities use more e-participation tools, due to the fact that citizens do not have as much direct contact with the elected representatives as they do in smaller municipalities. However, the correlation analysis did not fully confirm this hypothesis, only a weak positive dependence was proven.

Key words
active participation, e-participation, e-informing, e-consultation, Moravian-Silesian Region

Anotace
Cílem článku je na základě klasifikační analýzy posoudit škálu nástrojů e-participace občanů na místní správě využívaných základními územními samosprávnými celky (obcemi) v Moravskoslezském kraji. Z celkového počtu 300 obcí nacházejících se na území Moravskoslezského kraje bylo stratifikovaným náhodným výběrem zvoleno celkem 34 obcí rozdělených do tří velikostních kategorií podle počtu obyvatel. Zastoupeny jsou obce do 1 000 obyvatel, od 1 001 do 35 000 obyvatel a obce nad 35 000 obyvatel (tj. statutární města). Autoři vycházeli z předpokladu, že větší obce nabízejí svým občanům více možností e-participace, a to vzhledem k faktu, že občané nemají s volenými zástupci tolik přímého kontaktu jako u obcí menší velikosti. Tato teze nebyla na základě korelační analýzy zcela potvrzena, prokázána byla pouze slabá pozitivní závislost.

Klíčová slova
aktivní participace, e-participace, e-informování, e-konzultace, Moravskoslezský kraj

***JEL classification**: H11*

1. Introduction

In the age of a rising digitalization and gradual inclusion of the internet in the everyday life, the structure of the society is a subject to changes, which, inevitably, needs to be reacted to. While in 2007 55% of households had access to the internet, the number rose to 97% of households by 2016, 83% of which were households with fixed broadband connection (Eurostat, 2018). Needless to say, an easier access to information increases the general awareness of the civil society, which is enabled, by the means of the internet, to react to any external stimuli practically immediately, i.e. in real time. The internet has become the principal means of communication of our age, and its spreading and development has allowed, among others, the municipalities to come closer to their

citizens – to provide them with the opportunity to actively participate in the public life of their community from the comfort of their homes, i.e. to "e-participate" in the local governance.

Falk and Carley (2012) claim that engaging the public in the decision-making processes plays a key role in preserving the sustainability of the area. Placing responsibility in the hands of the citizens directs them towards a consciousness to environment and education, and leads to a more appropriate planning of future projects. This inclusion takes mostly the form of public consultations, advisory committees or interest groups where citizens can present their visions and ideas. The most convenient manner of making this participation efficient, and, in some cases, possible in the first place, especially with regard to the participation of individuals, seems to be the use of information and communication technologies (ICT) (Albrecht et al., 2008). Owing to the development of information technologies and an increasing number of its users, an opportunity to communicate with citizens through online platforms is emerging (Mergel, 2013). This citizens' participation is referred to as e-participation and can be implemented on three levels (Gramberger, 2001):

- E-informing*:* a one-sided provision of information by the public administration to the citizens via ICT. Under the terms of e-informing, the public administration should initiate the publishing of information or, in case of citizens' request for information, fulfil their plea beyond its requirements.
- E-consulting: this level represents a two-directional relationship between the local administration and the citizens, who thereby communicate their opinions, comments and feedback to the policies and political decisions under discussion.
- Active participation is the highest level of e-participation which includes an active involvement of citizens in decisions concerning policy-making and forms of public service activities. It is the local authority, still, who is always responsible for the final decision. This level represents an advanced two-sided relationship between the local administration and the citizens, which is based on the principle of partnership (Astrom et al. 2012).

The objective of e-participation should be facilitating citizens' access to information and public services as well as supporting the participation of citizens in public decision-making, which affects the prosperity of both the society as a whole, and the individuals (Gramberger, 2001). Besides, due to the growing resident population and the subsequent rising urbanization, information technologies are often the only communication tool suitable for the discussion between the citizens and the public administration (Nick, Pongrácz, Radács, 2018). In spite of its wide range of advantages, such as time and costs economy and efficiency, some disadvantages related to e-participation need to be pointed out. The presupposition that people should and can use the ICT technologies must always be satisfied. It is not surprising, then, that the use of e-participation is more popular among young citizens. Research shows, for instance, that, in Poland, more than ¾ of the Generation Y uses the internet to take part in the participatory budgeting (Bednarska-Olejniczak, 2018). Another disadvantage is the possible abuse of an individual's identity, and, finally, the lack of willingness and related issues with establishing e-participation need to be considered (Čermák a Vobecká, 2011).

1.1 Methodology and objectives

The objective of this contribution is to evaluate the use of the tools of citizens' e-participation in local administration that are used by the lower territorial self-governing units (municipalities) in the Moravian-Silesian Region under the criteria laid down below. Is it expected that, in the municipalities with a higher number of citizens, the e-participation tools will have more importance as, in the vast majority of cases, its citizens are not personally acquainted with their representatives in the local governments, and do not usually have the chance to meet with them and present their suggestions, as is the case in small municipalities. For that reasons, the citizens' only remaining option is often the use of available online tools. Firstly, the use of e-participation tools is evaluated by means of the classification analysis. Subsequently, the correlation between the size of the municipality (given by the number of inhabitants) and the number of established tools is analyzed.

For the purposes of the analysis of the use of e-participation tools, a sample of 34 out of the total 300 municipalities in the Moravian-Silesian Region has been selected by a stratified random selection. The selected municipalities are divided into the three following categories based on the number of inhabitants: small municipalities (less than 1000 inhabitants); medium-size municipalities (between 1001 and 35 000 inhabitants); statutory cities (above 35 000 inhabitants). The list of all municipalities in the Moravian-Silesian Region and the numbers of inhabitants as of the 1st January 2017 were acquired from the website of the Czech Statistical Office (Český statistický úřad, 2017).

The research investigates whether the selected municipalities use e-participation tools on the level of e-informing, e-consulting or active participation. The tools were chosen and classified based on typologies introduced by several other authors (Astrom, 2012, Špaček, 2012, Tambouris, 2007, Al-Dalou, 2013) as shown in table 1.

Tab. 1: E-participation tools

Level	Analyzed tools
E-informing	obligatory disclosures, frequently asked questions, electronic notice board, direct mailing, local online newspaper, webcasting/podcasting, search box on a municipality's website, mobile app
E-consulting	chatting rooms, discussion fora, electronic polls, public opinion questionnaires, letterboxes, e-mail addresses of persons responsible for communication with citizens, social media profiles
Active participation	e-připomínkování ("e-collaboration" – an online application that allows commenting in real time), e-voting

Source: Authors' own compilation based on: Astrom (2012), Špaček (2012), Tambouris (2007), Al-Dalou (2013)

On the grounds of the obtained data, it is further examined whether there is a correlation between the size of the municipality (given by the number of inhabitants) and the number of citizens' e-participation tools in the given municipality. For this purpose, a correlation coefficient was calculated for the levels of e-informing and e-consulting.

Properties of the correlation coefficient *r*:

- $r \in \langle -1; 1 \rangle$
- $r = 0 \Rightarrow$ independence
- $r = 1 \Rightarrow$ direct dependence
- $r = -1 \Rightarrow$ indirect dependence

Pearson correlation coefficient is a measure of statistical dependence in linear data. It is computed from standard deviations of both variables and their covariance.

Formula for the correlation coefficient *r:*

$$r = \frac{\Sigma(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\Sigma(x_i - \bar{x})^2 \Sigma(y_i - \bar{y})^2}}$$

2. E-participation tools analysis

For the purpose of this research, 34 municipalities were chosen by means of stratified random selection and divided into 3 categories according to the number of inhabitants, as shown in table 2.

Tab. 2: Overview of analyzed municipalities

size category	number of analyzed municipalities	names of municipalities
municipalities with less than 1 000 inhabitants (small municipalities)	12	Heřmánky, Jezdkovice, Vysoká, Uhlířov, Bítov, Životice u Nového Jičína, Albrechtičky, Hostašovice, Vražné, Spálov, Litultovice, Hladké Životice
municipalities with 1 001 to 35 000 inhabitants (medium-size municipalities)	16	Ženklava, Hrabyně, Darkovice, Bartošovice, Kunín, Hukvaldy, Suchdol nad Odrou, Starý Jičín, Budišov nad Budišovkou, Štramberk, Klimkovice, Fulnek, Odry, Bílovec, Studénka, Nový Jičín
municipalities with more than 35 000 inhabitants (statutory cities)	6	Třinec, Karviná, Frýdek-Místek, Opava, Havířov, Ostrava

Source: Czech Statistical Office (2017)

It is further investigated whether the above municipalities use e-participation tools on the level of e-informing, e-consulting or active participation. Websites of the selected municipalities as well as their social media profiles were, thus, analyzed. The number of municipalities, which use the analyzed e-participation tools, in both absolute and relative formulations in individual size categories are shown in table 3.

Tab. 3: E-participation tools and the frequency of use

E-participation tool	municipalities with less than 1 000 inhabitants		municipalities with 1 001 to 35 000 inhabitants		municipalities with more than 35 000 inhabitants (statutory cities)	
Level: E-informing						
Search box	10	83%	16	100%	6	100%
Navigation menu on the home page	12	100%	16	100%	6	100%
Obligatory disclosures section	11	92%	16	100%	6	100%
Frequently asked questions (FAQ)	0	0%	0	0%	1	17%
Electronic notice board	12	100%	16	100%	6	100%
Direct mailing	6	50%	9	56%	6	100%
Local online newspaper	9	75%	12	75%	6	100%
Webcasting – live video broadcast from municipal authority meetings	0	0%	2	13%	2	33%
Webcasting – video records from municipal authority meetings	0	0%	5	31%	1	17%
Podcasting – live audio broadcast from municipal authority meetings	0	0%	0	0%	0	0%
Podcasting – audio records from municipal authority meetings	0	0%	0	0%	0	0%
Mobile applications	2	17%	7	44%	4	67%
Level: E-consulting						
Chatting rooms	0	0%	0	0%	0	0%
Discussion fora	1	8%	3	19%	0	0%
Electronic polls/questionnaires	3	25%	8	50%	6	100%
Letterboxes, contact details of a person responsible for communication with citizens	11	92%	16	100%	6	100%
Social media profiles	5	42%	14	88%	6	100%
Level: Active participation						
E-comments	0	0%	0	0%	0	0%
E-voting	0	0%	0	0%	0	0%

Source: Authors' own compilation

Following the conducted classification analysis, it can be concluded that the websites of selected municipalities are well organized. The citizens can always find a navigation menu on the home pages to help with orientation on the site. A majority of the municipalities have a search box on their websites, with the exception of municipalities Hostašovice and Vražné. All municipalities fulfil the obligation to set up an electronic notice board. In addition to the above, most do, by their own choice, provide information in digital editions of local newspapers and magazines and offer subscriptions. The most common means of these subscriptions to information are e-mail newsletters and short text messages (in Vysoká, Životice u Nového Jičína, Suchdol nad Odrou, Studénka a Nový Jičín). None of the statutory cities offer subscriptions to text messages, which can be partly explained by the fact that all of the cities have a profile on social networking sites that is used for the communication with citizens. Municipalities with less than 1 000 inhabitants, which do use the text messages (Vysoká and Životice u Nového Jičína), do not, on the contrary, have an account on social media and, thus, rely on the messages instead.

The absence of an FAQ section, which is only provided by Ostrava, can be seen as rather unwelcoming. It can lead to a situation where the citizens keep asking the same question or repeatedly look the same answers on the website. It is recommendable that the municipalities construct an FAQ section on the basis of frequently searched terms or inquires, as it can save a great deal of work and time otherwise spent on responding to recurrent questions.

On the other hand, a proactive approach of the few municipalities that make it possible for their citizens to watch live streaming from the local authority's meeting is very positive. Further, Hukvaldy and Štramberk publish records of the meetings. Podcasting is not provided by any of the analyzed municipalities. Webcasting gives citizens a chance to assess whether their elected representatives fulfil their election promises, which makes the whole process very transparent. Štramberk publishes recordings on a YouTube channel, which clearly shows low financial burden of this practice.

On the level of e-consulting, none of the analyzed municipalities engage in online chatting with the citizens. Discussion fora are not frequent either – they are used in Hladké Životice, Štramberk, Studénka and Nový Jičín only. As to the fora, persistent responses to the citizens' suggestions and questions are praiseworthy. Electronic polls and questionnaires are quite common as they allow for inexpensive and efficient way of carrying out surveys of the citizens' opinion on a given topic. Letterboxes (or e-mail addresses of responsible persons) are a usual practice applied by all selected municipalities. With a few exceptions, the municipalities have their accounts on social media which are also used to respond to the questions and suggestions of people. Considering the nature of the social media, one could assume that they serve the same purpose as a chatting room or a discussion forum. It is unnecessary, then, to have these on the websites as well.

The conducted classification analysis pointed out that the level of active participation is not employed by the municipalities whatsoever. The absence of cases of e-voting can be explained by the lack of infrastructure needed for the electronic identification of citizens. National identification cards issued after 1 July 2018, however, make unique identification of citizens on the internet possible thanks to electronic contact chips. An amendment of the Act No. 22/2004 Coll., on local referendum and amendments of some acts, in favor of local electronic referendum would, if approved, remove the obstacle of lacking infrastructure.

Second part of the research focuses on whether there is a correlation between the size of a municipality according to the number of its inhabitants and the established e-participation tools. For this purpose, a correlation coefficient was calculated for the levels of e-informing and e-consulting. Its numeric value is given below. Due to zero occurrences, the level of active participation is excluded. The variable for e-informing is *einf*, for e-consulting *econs* and for the number of inhabitants *inhab.*

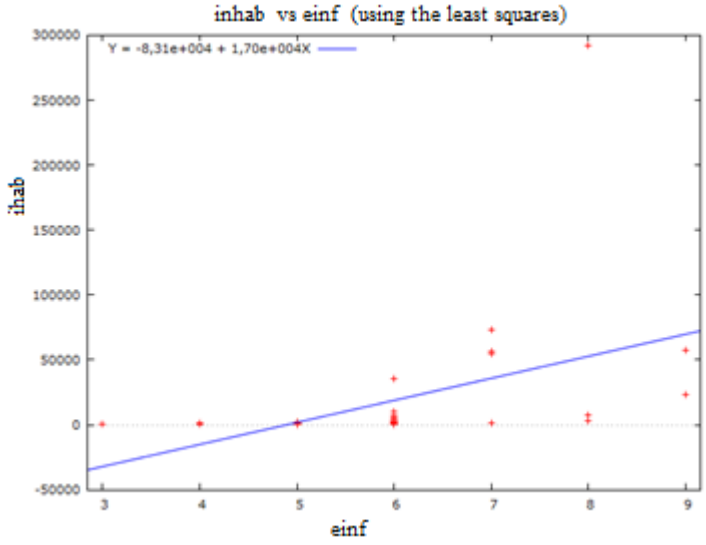
Tab. 3: Correlation coefficients for observations 1–34

inhab	einf	econs	
1,0000	0,4363	0,2834	inhab
	1,0000	0,6631	einf
		1,0000	econs

Note: n = 34
Source: Authors' own compilation

The calculated correlation coefficients indicate minor correlation between the size of the municipality according to the number of inhabitants and the access to e-participation tools. In comparison to e-consulting, the results within the level of e-informing show stronger correlation, as shown in the figure 1. It can, thus, be concluded that the more inhabitants a municipality has, the more tools it provides, but, since the positive dependence is weak, the difference between small and bigger municipalities in terms of the number of tools is not that significant.

Fig. 1: Graphic representation of the relation between the number of inhabitants and the number of e-informing tools



Source: Authors' compilation, processed in Gretl software

3. Conclusion

The aim of this contribution was to evaluate the use of tools of citizens' e-participation in local administration of lower territorial self-governing units (municipalities) in the Moravian-Silesian Region in view of the pre-established criteria. The primary assumption was that, in the municipalities with a higher number of inhabitants, the e-participation tools are increasingly important, since the citizens do not usually know their representatives in the local governments and do not have many opportunities to meet them in person. This hypothesis, however, has not been definitely confirmed.

A sample of 34 randomly selected municipalities in the Moravian-Silesian Region has been created for the purpose of this analysis. The municipalities are divided into three categories by the number of inhabitants, i.e. municipalities with less than 1 000 inhabitants, between 1 001 and 35 000 inhabitants, and above 35 000 inhabitants (statutory cities). The analysis of websites and the social media profiles of studied municipalities has shown that the scale of used e-participation tools differs in each individual case. At the same time, only a weak positive correlation between the size of a municipality (determined by the number of inhabitants) and the frequency of the use of the tools has been revealed. The size of the municipality is, therefore, not the main factor influencing the implementation of the said tools. This opens the path for further research, which could focus on an analysis of other influencing factors that could affect the frequency of use of the tools of the citizens' e-participation in local administration.

On the level of e-informing, the clear arrangement of the websites of all studied municipalities is judged as positive as well as the extent of published information. There is a space for improvement especially as far as the introduction of a section for frequently asked questions is concerned. It would allow the citizens to search easily and quickly for answers to their questions and the municipality would not be burdened by recurrent inquires. The city of Ostrava already works with such section and it is expected that other municipalities will follow its example. The authors consider the lack of webcasting from the local authorities meetings as a substantial drawback. Introducing this tool would increase the transparency of elected representatives and would positively benefit the civil society. It would be appropriate if the municipalities that put this tool successfully into practice shared their experience through the *best practices*. The level of e-consulting is dominated by the use of letterboxes and social media profiles. As to the third level – the active participation, none of the selected municipalities has implemented any of the possible tools that would fall in this category.

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This contribution has been completed as a part of the grant project Kreativní a smart města: strategie a nástroje udržitelného rozvoje (MUNI/A/11372018).