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# Websites and social networks of communes in Slovakia: development and current state

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**Abstract.** One of the main features of today's information society is the availability of data of various kinds provided by various companies and organisations. In the following paper, we focus on evaluating the dynamics of development and the current state of existence of websites of communes in Slovakia, which represent a database of their activities and serve as the main communication channel between citizens and self-government representatives. Another important channel is social networks, which are still enjoying huge popularity among Internet users. On the basis of the results of an online questionnaire that involved almost 60% of the addressed self-governments, we will point out the adaptation of self-governments to the use of social networks. One of the important tasks of such research is the distribution of the obtained results to end users. This is achieved through an example of a description of basic technical and functional specifications by using the website created by the authors. This website has the ambition of becoming a sort of central access point for all those interested in information about communes in Slovakia. By means of standard tabular, but also interactive graphic and map outputs, it gives an idea of selected indicators of self-governments in a user-friendly form, thus helping to increase client awareness of this specific issue.

**Contents:**

## 1. Introduction

The Internet is considered an important communication channel today. Self-governments actively use the possibilities of the Internet; most of them already have their own website, which, with the advent of new information technologies and innovations, is gaining more users, especially from the ranks of citizens themselves. Self-governments build and publish invaluable archives of information from the activities of the offices themselves through their own websites (Kubica, 2008). Information on, for example, meetings of boards of representatives and their committees, regulation and directives, tenders, contracts, public procurement or implemented projects is important for informing citizens about the activities of self-government. There is also specific information in the field of history, demography, waste management, culture and sports.

Within the presented contribution, three basic goals can be identified. The primary goal is to point out the dynamics of the creation and the current state of existence of self-government websites. In this case, we will use our long-term observations of self-government websites, as well as accurate data on their existence, which we have had since 2012. Another goal is to evaluate the adaptation of self-governments to current trends in the use of basic social networks, based on an online questionnaire survey, which involved 59.8% of all communes in Slovakia (1,750 of the total number of 2,927 addressed communes). The last goal is to present a website created by the authors, in which we constantly update our long-term observations, and thus bring the opportunity to share this information with professionals and the general public; we consider this a valuable contribution from our many years of research. For development of this website, we use the available technologies to make

the results we share clear and graphically attractive for visitors to this website.

Electronic communication by self-governments is one of the first steps in building eGovernment. The basic idea of any progress in eGovernment is the gradual introduction of changes in the functioning of organisations, as well as in the provision of public services, which reflect not only the requirements of new technologies, but also the requirements of citizens. Here, too, the fact is that the sooner cities and communes learn to use the potential of the Internet, the easier and more successful the transition of cities to electronic administration becomes (Dienerová, 2007).

Self-government websites can no longer be considered just a tool designed to increase the awareness of the local population, but also a kind of targeted spatial marketing that seeks to attract residents to permanent residence, entrepreneurs to implement their investment plans, or tourists to visit. Thus, the Internet has become an effective spatial marketing tool that helps states, regions, cities and rural communes take at least an initial step in utilising their potential for socio-economic development (Székely and Michniak, 2010).

The development of self-government websites, even with regard to technological solutions, changes significantly over time. Gaule and Zilinskas (2013) pointed out that the complexity of several external economic, social and geographical factors had a significant influence on the development of self-government websites in Lithuania. The results of this study also clearly showed the differences between the factors that influenced the level of website development in rural communes and cities. The dynamics of website changes, including in terms of EU standards, can be seen in the study by Kous et al. (2020). In this study, the authors examined whether the websites of Slovenian municipalities complied with the mentioned standard in 2017 and 2018, i.e. before and after the adoption of the standard.

The results of the statistical analysis indicated that the accessibility of websites according to the given standard significantly improved in Slovenia in two years. (Up to 62 websites were in full compliance with the requirements for web content according to the mentioned EU standard.)

In previous research, several authors have tried to outline the issue of the quality of self-government websites as well, noting various categories in the analyses. In their study, Holzer and Manoharan (2016) examine five components: privacy and security, usability, content, services, and ultimately civic engagement on the websites of the world's biggest cities. Scott (2005) proved that the quality of a self-government's websites is directly related to the size of the city. The relationship between population size and number of electronic transactions is particularly strong and very important. The size and form of self-government are important factors in the future progress of websites (Feeney and Brown, 2017). The quality of the websites of the regional centres of the Italian regions was examined in the study by Pollifroni (2014), who analysed the relationship between the technological level, transparency, and online services provided.

The content of websites is no less important in the evaluation of self-government websites. The result of a study by Annis and Murtini (2018) indicates that political competition and the complexity of government have a significant impact on the availability of regional financial information available at local self-government websites. A common problem between the self-government and its citizens is a low level of transparency of information on their websites. As Mohelská and Sokolová (2017) indicate in their example of communes in the Czech Republic, legislation generally aims to support the expression of openness of self-governments; however, transparent behaviour depends on each commune. The degree of disclosure of information decreases with the "freedom" of communes to disclose such information. The authors assume that once the legal regulations are precisely defined, the scope and form of mandatory disclosure of information on the websites of communes will increase significantly.

Accessibility standards are rules that must be met by law in all public administration information systems, including, of course, self-governments.

Whether it is the structure of the website and the content, the "Blindfriendly" rules for the visually impaired and the blind, the rules for updating the system and backing up of data must be in accordance with the law and the like. As Bai et al. (2020) state, the majority provides only a survey of the state of accessibility of websites and focuses rather on a smaller sample of self-governments of the given state.

The problem faced by many self-governments' website presentations is not only the sufficiency, but also availability of information on the website. The analysis of local self-government websites in the Czech Republic, which was described in the study by Kopackova et al. (2010), revealed the fundamental shortcomings for users in finding and displaying the required information. The availability of information on the websites of communes will not improve the overall level of democracy in itself, but may allow citizens to monitor and participate more in self-governments (da Cruz and Marques, 2014).

The interaction between citizens and elected self-government representatives using the website is also the subject of much debate. Research has indicated that the implementation of information and communication technologies (ICT) is not only a step towards increasing the use of e-government by citizens, but also provides numerous opportunities for their civic engagement. It thus enables citizens to become acquainted with new technologies or allows the use of civic resources to gain technological processes, experience, and know-how (Cegarra-Navarro, 2012). The lack of quality of online interactions between communal boards of representatives, their representatives, and citizens in the Wielkopolska Province was pointed out in the study by Buchwald et al. (2017). New tools, such as social networks, have the potential to improve the interaction of self-governments with citizens. The biggest cities have traditionally been at the forefront of embracing eGovernment innovations (Mossberger et al., 2013). The results show that most local authorities use social media tools to increase transparency. The introduction of information and communication technologies (ICT) without corresponding changes in leadership, policy and administration of public affairs is unlikely to result in greater transparency and

citizen participation in self-government (Bonsón et al., 2012). Recently, platforms such as Facebook, Twitter or YouTube have become increasingly pervasive in the communication strategy of public administration, including self-government websites, and have become the subject of several professional studies (e.g., Bonsón and Bednárová, 2018; Bonsón et al., 2017; Ellison and Hardey, 2014; Oliveira and Welch, 2013).

## 2. Dynamics of development and current state of communal websites

Before we begin discussing this topic, it is worth noting that the legal obligation to operate a website only applies to cities. Rural communes do not have this obligation embodied in law (in the Slovak Republic), but from the point of view of informing citizens, having one's own website is now considered to be a matter of course. Given the problems with identifying the year of the creation of a self-government's website, which is described in the section devoted to the analysis of the questionnaire survey, we will try to compare the long-term development (or initial phase) of the existence of websites based on other results of similarly focused research. In their study, Michniak and Székely (2010) compare the situation in the field of rural self-government's websites in Slovakia between 2006 and 2009. They state that this is a relatively short period of time, but in terms of the dynamics of the website's creation, it is a very important period with many changes. In 2006, they identified 844 rural communes with their own websites of varying content levels among 2,753 rural communes (30.7%), while by the end of 2009, this number had increased to 1,820 rural communes (66.1%). From the above, we can see that the creation of websites of rural communes was very dynamic, and this period can be described as the most intensive in terms of the observed characteristics. Similar research was carried out by Bačík (2010), who, as of 31 May 2010, identified a total of 2,151 websites of self-governments, including municipal authorities. Compared to the study by Michniak and Székely (2010), this is an increase of 331 self-government

websites (but here, the absence of 140 municipal authorities must be taken into account, and thus the difference may be around 191 self-governments). However, due to the low time difference between the monitored studies, as well as their similarity of results, it is possible to use these data for other monitored periods. In our paper, we will follow up on the mentioned studies by comparing differences in the situation between 2012 and 2020 (Fig. 1). It is therefore a longer period, and we will be interested in the extent to which this situation has changed during this period in the area of self-governments providing information on the Internet.

Comparing the maps for 2012 and 2020, we see that, even in this longer period, there was a significant increase in the number of websites of communes (for the whole period, it was an increase of 365 websites). The current situation is very close to the level of saturation, as only the smallest communes (in terms of population) no longer have their own websites, which relates to the age composition of the inhabitants of these communes. In addition, there is minimal interest from local people in having their own communal website. The questionnaire survey reveals that, in these small communes, personal contact between residents and self-government representatives is still preferred. Official and unofficial websites are shown separately in Fig. 1. It should be noted here that this criterion was monitored only as an ancillary one, since there is no legislative provision that states what kind of information the commune's website must contain in order to be declared official. In most cases, this attribute was declared directly on the website, or we recorded it on the basis of a quick browsing of the website (if the website contained data on meetings of board of representatives, information of an economic nature, etc., the website was recorded as official). The content and quality of the information provided was not primarily monitored, but based on observations it can be stated that the quality of individual websites was significantly strengthened in this period. Many communes perceive their own website as a certain issue of prestige, and therefore try to improve the information provided in this way. A significant number of websites currently also reflect the trend of dominance of visitors using their smartphones, and thus websites are switching to responsive design, which has become an important
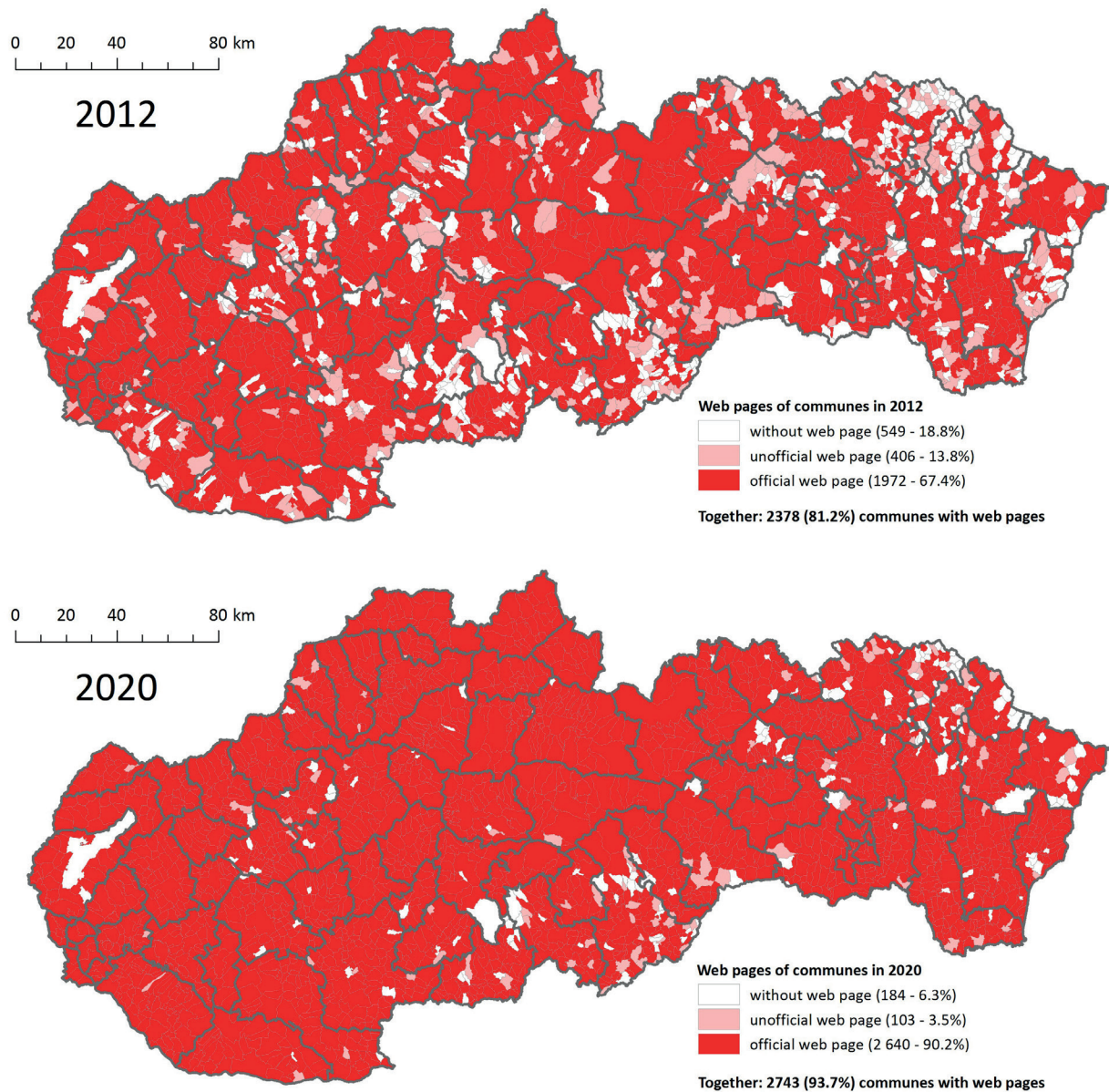
## 2012

Web pages of communes in 2012

☐ without web page (549 - 18.8%)
☐ unofficial web page (406 - 13.8%)
☐ official web page (1972 - 67.4%)

**Together: 2378 (81.2%) communes with web pages**

## 2020

Web pages of communes in 2020

☐ without web page (184 - 6.3%)
☐ unofficial web page (103 - 3.5%)
☐ official web page (2 640 - 90.2%)

**Together: 2743 (93.7%) communes with web pages**

**Fig. 1.** Comparison of the existence of communes' websites in 2012 and 2020
Source: authors' research

of integration with another commune. In such communes, no significant dynamics can be expected in the creation of new self-government websites. Elderly people have lower computer literacy and prefer personal contact with self-government representatives. They are also communes on the outskirts of Slovakia; not only in geographical, but also economic terms. These are self-governments that have difficulty carrying out the basic agenda on their own, let alone paying attention to things like publishing information on the Internet. Such

standard of web design in recent years. It is also very important to look at the website as a service to citizens. Figure 2 shows that all communes of the size category with more than 1000 inhabitants have their own website. The absence of websites can be seen only in communes with a lower population. The main reason for the absence of websites is mainly the age structure of the population. These are usually communes with a significantly higher proportion of elderly population, and in many cases they are communes that are on the verge
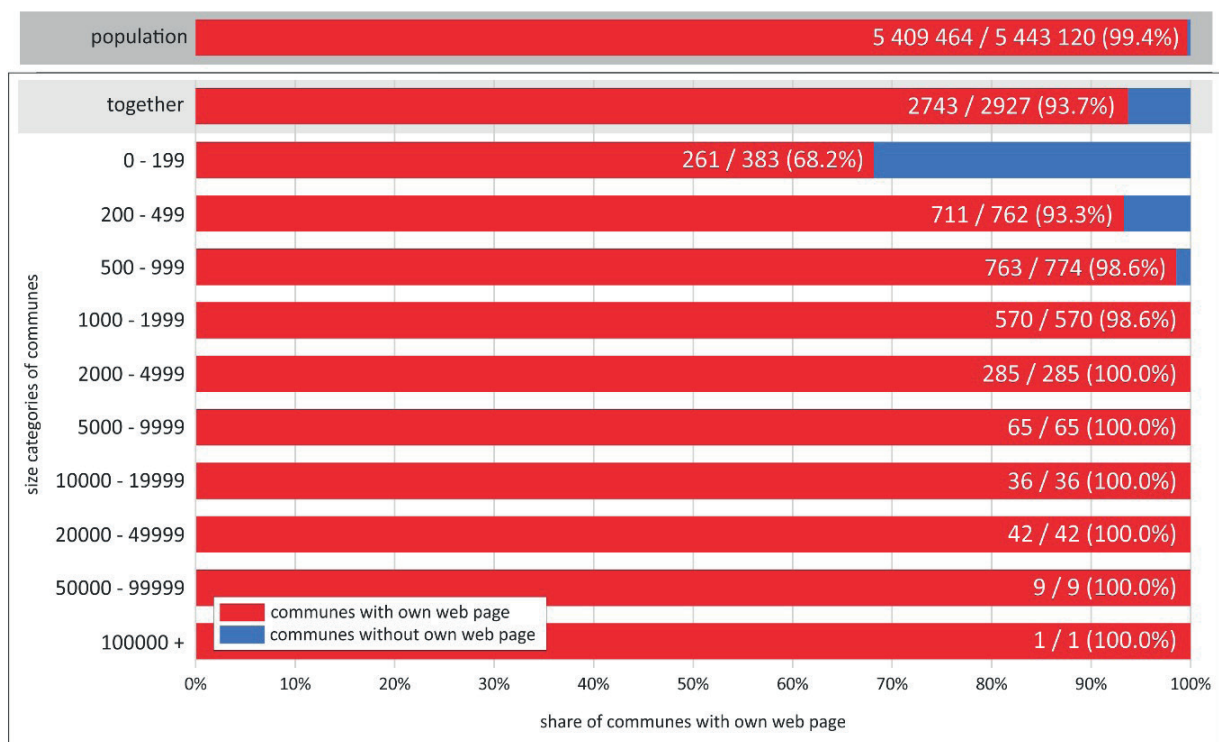
**Fig. 2.** Existence of self-government's websites according to size categories of communes
Source: authors' research

a situation is described by the commentary of the mayor of Horná Lehota (551 inhabitants): "We are a small commune, the average age of citizens is 46 years, in the commune we have free wifi for citizens, but citizens over 50 years do not communicate via networks, and sending tax and waste assessments is better for us to do in writing, not electronically." When we look at websites as a service of self-government for its own citizens, we can state that more than 99% of the population of Slovakia has access to the website of the self-government in which they live. This is a key moment in evaluating the website as a basic communication channel between the self-government and the citizen. Of course, we abstract from exceptions in terms of the technical availability of the Internet connection due to weak technical infrastructure or natural conditions (relief).

## 3. Questionnaire survey

Self-observation and evaluation of various aspects of the use of websites by self-governments, as well as social networks, which are a kind of additional service for the population, is not feasible for such a large number (2,927) of self-governments. Therefore, we decided to conduct a short online questionnaire survey, which was conducted in three rounds in the period from 5 May to 20 July 2020. During this period, the self-governments had to comment on three basic issues on the basis of several questions: whether their commune had its own website and, if so, what period it dated from; whether the commune used various social networks to communicate with citizens; and thirdly, whether the commune had or planned to use a mobile application aimed at informing citizens about the region (self-government) in which they lived (and thus use standard services, which are, according to the relevant law, the task of individual self-governments). It should be said that in such an extensive research sample, the involvement of individual self-governments is always questionable, but here, the willingness of self-governments to comment on the observed characteristics must be appreciated very positively. Out of the total number of 2,927 self-governments, 1,750 self-governments participated in the online research,
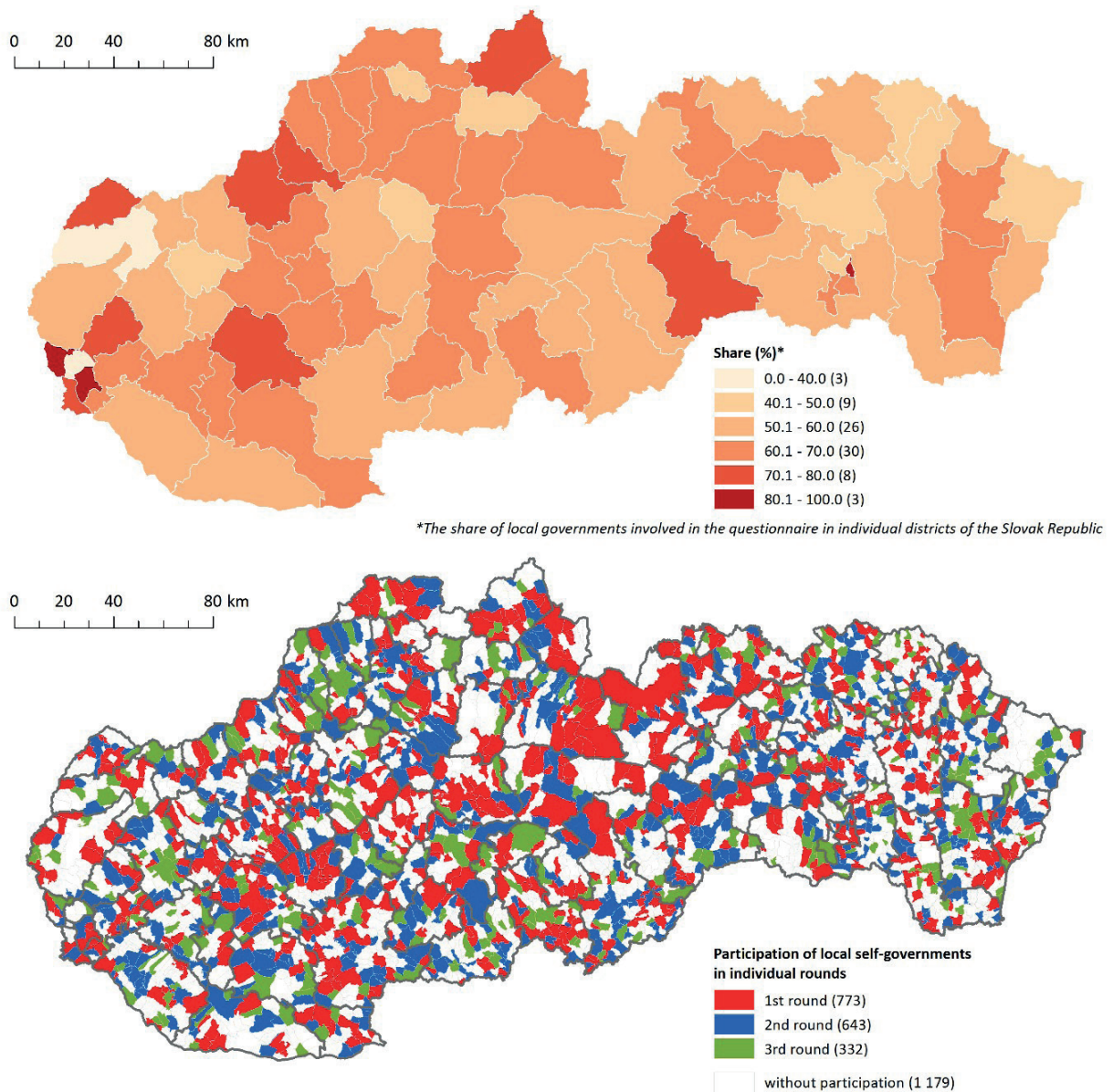
**Fig. 3.** Involvement of self-governments at the level of communes and districts of the Slovak Republic
Source: authors' research

which represents 59.8% of all self-governments in Slovakia. We evaluate this as a very positive result, since this percentage of participating self-governments is all the more significant because the questionnaire survey was conducted during the pandemic related to the spread of Sars-COV-2 virus worldwide, including in Slovakia. At this point, we think it is appropriate to thank the participating self-governments for their willingness to participate in our research during this challenging period. The involvement of individual self-governments at the level of districts and communes is shown in Fig. 3. It follows from the above that in almost all districts of Slovakia, the participation of individual communes was higher than 50% (except for the districts of Senica (38.7%), Piešťany (40.7%), Kysucké Nové Mesto (42.9%), Prešov (48.4%), Snina (41.2%), Svidník (44.1%), Stropkov (46.5%) and urban districts within the capital Bratislava – Bratislava I and Bratislava III, which is due to the low number of self-governments of these units)(1).
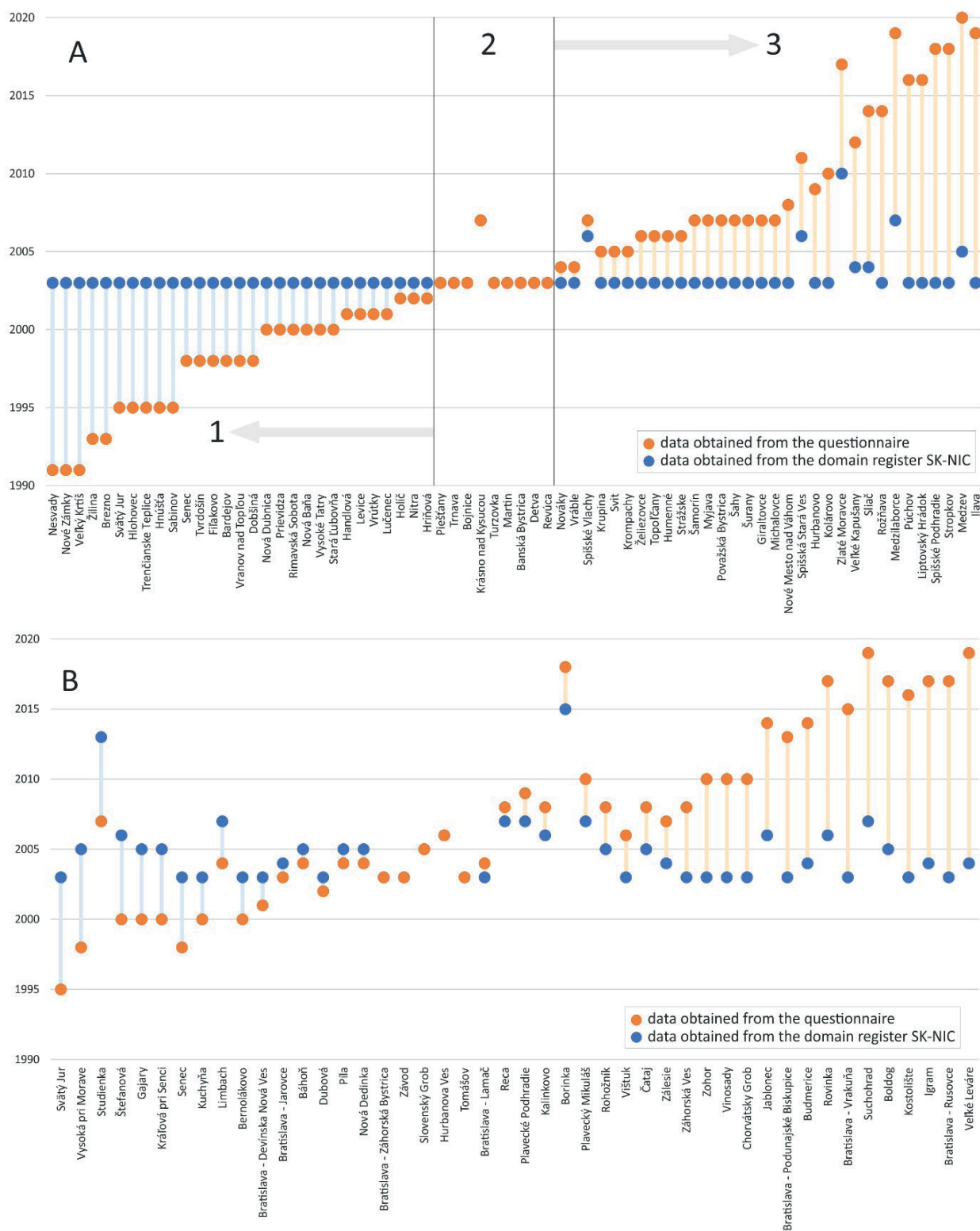
**Fig. 4.** Comparison of year of registration of commune websites based on the answer from the questionnaire and the SK-NIC database (A – cities, B – communes of the Bratislava self-government unit)(2)

1 –Website could theoretically exist, but we cannot verify it.

2 –Answer from questionnaire is identical to entry in SK-NIC database, but is not necessarily the period of real origin of the website.

3 –Answers are significantly inaccurate due to the period about which we really know that the commune website existed

Source: authors' research

## 3.1. Website creation period

It must be stated at the outset that finding out the real date of domain registration is a relatively complicated and almost unsolvable task. The responses of self-governments are at least partially verifiable in this indicator on the basis of a comparison of their responses and the extraction of the date of registration of the domain with the national domain registrar. Since 1993, SK-NIC, a.s. (formerly EuroWeb Slovakia a.s. and EUnet Slovakia s.r.o.) has been entrusted with this task. However, even this portal will not allow us to obtain the exact date of domain registration. In 2003, data was migrated in this system, and therefore, data from before this period are not published. And because the date of the first registration of any domain is non-public and is provided by this company exclusively to the domain holder, it is not possible to reveal the exact date of registration of the websites before 2003. We have also tried to find out the information of the creation of the domain from other international registries available on the Internet (whois.domaintools.com, https://www.whois.com/), but these take the data from the national registrar and thus display the same date as the SK-NIC registrar used primarily. Therefore, we tried at least to compare the answers of self-governments with the SK-NIC database for cities (70) and communes of the Bratislava self-government region (46). Figure 4 shows differences

in the replies to the questionnaires and in real dates, which, given the above, are not available until 2003 at the earliest.

In comparison with the database of the central registrar, this inaccuracy of answers may be caused by frequent changes in the management of self-governments after communal elections, and thus less knowledge of technical facts by self-government representatives compared to the previous period. The second problem from the point of view of the date of creation of the website is also the fact of a relatively frequent change in the shape of the domain for individual websites. When comparing the databases of communes' websites from 2012 and 2020, it is possible to identify a total of 2,332 communes that had a website in both of these years. When comparing the shape of domains, we find that up to 716 of them (30.7%) changed the domain, and thus there was also a change in the entry of the creation of the domain in the database of the registrar SK-NIC. The most common changes include changing the domain suffix (from .eu to .sk or vice versa, adding the word "obec" to the domain name (changing "gan.sk" to "obecgan.sk"), or deleting the word "ocu" from the domain name (from "castkov.ocu.sk" to "castkov.sk"). The search for a formula in these changes is irrelevant, as there was no legislative rule that would determine what primary form of domain the commune can register; in many cases, it was really just an attempt to change something in relation to the previous
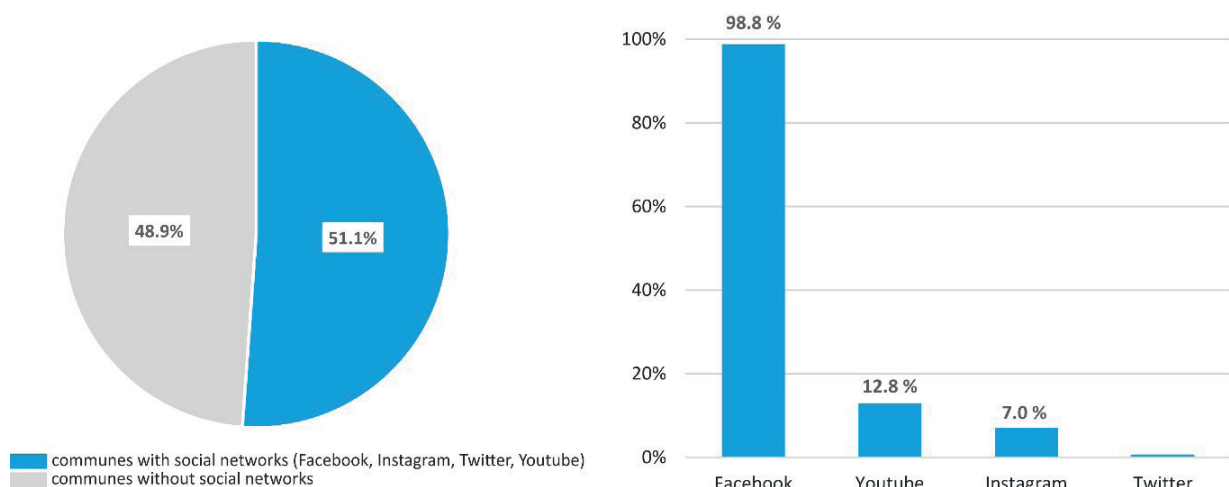


**Fig. 5.** Involvement of local self-governments in the questionnaire (May–June 2020)
Source: authors' research

period. However, from the methodological point of view of identifying the exact date of creation of the commune's website, the role of the researcher is considerably complicated.

## 3.2 Social networks

As previously mentioned, the website is a kind of base of communication between citizen and self-government. At present, however, there is a clear trend in the use of social networks not only by individuals, but also by organisations that have understood the importance of these services in the modern information society (Popovych et al. 2020). Our questionnaire survey, which involved 1,750 rural communes and cities in Slovakia, shows that more than 50% of self-governments use social networks or services in their contact with the public

(Fig. 5a). Research has further shown that some larger self-governments have not only one, but also several services at the same time. Of the communes that use social networks and services, the largest share (almost 100%) is covered by Facebook, followed by YouTube and Instagram platforms; the smallest percentage is represented by Twitter (Fig. 5b). Bonsón and Bednárová (2018) found that only 39% of the surveyed self-governments had an official YouTube channel in Western European countries. In our case, this share was even lower; however, it should be noted that the size of self-governments also played an important role here. In some cases, self-governments have other services in place than those mentioned above, in particular various mobile applications and platforms through which they communicate and share information among citizens. Nevertheless, their occurrence
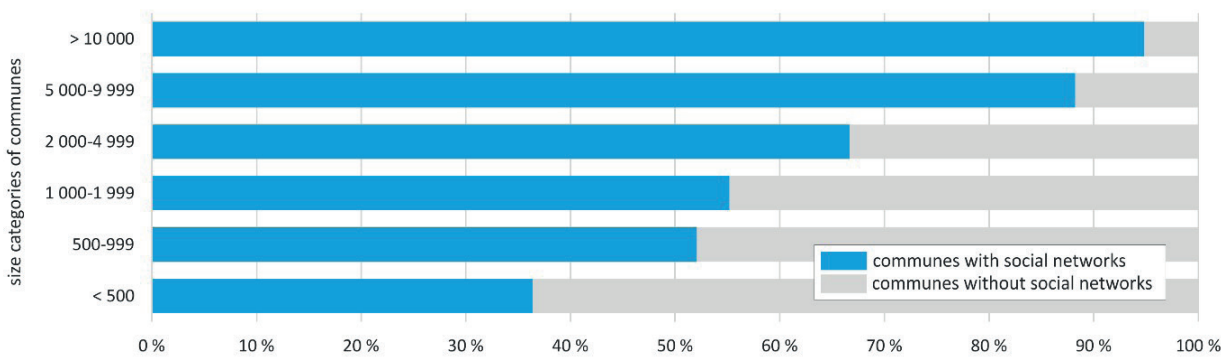


**Fig. 6.** Overview of occurrence of social networks by size of self-governments in the Slovak Republic (May–June 2020)
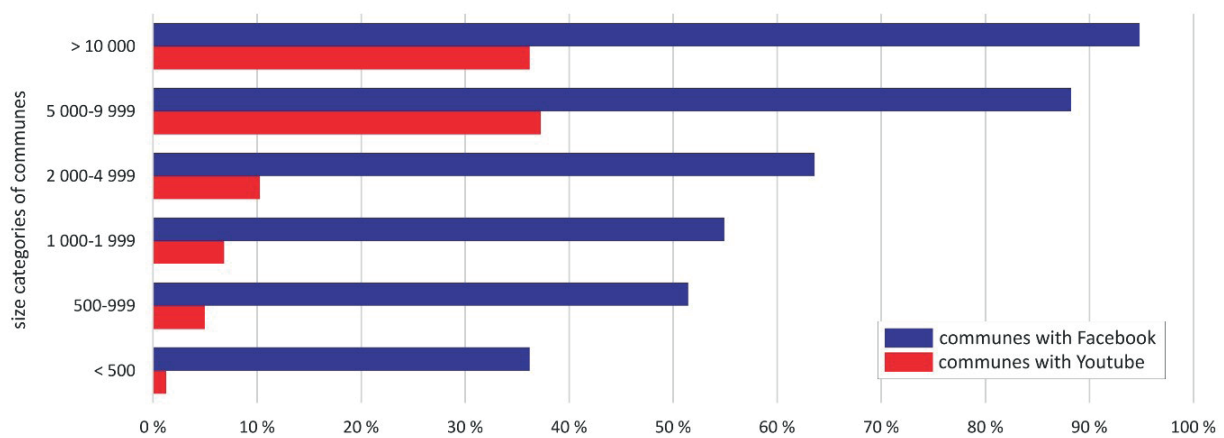Source: authors' research



**Fig. 7.** Overview of occurrence of Facebook and YouTube services by size of self-governments in the Slovak Republic (May–June 2020)
Source: authors' research

and use is very low in terms of the share of self-governments in Slovakia.

It is interesting to compare the occurrence of social networks and services (Facebook, Instagram, Twitter and YouTube) according to the size of self-governments (Fig. 6). The smallest self-governments use social networks and services to a much lesser extent than do communes that are larger in terms of population. Research has shown that only a little more than 36% of self-governments in the size category of up to 500 inhabitants use social services and networks. By contrast, almost 95% of self-governments (10,000+ inhabitants) use Facebook and other social networks for their citizens. Here, one can clearly see a greater interest in public affairs on the part of citizens, who have a higher level of civic engagement than in smaller communes. When comparing the two most used services (Facebook and YouTube), we can see considerable variability (Fig. 7.). The social network Facebook also occurs to a large extent in smaller communes; the YouTube service is used mainly in larger self-governments. In the two largest size categories (i.e. in communes and cities with more than 5,000 inhabitants), the share of YouTube use was at the level of 40%, i.e. exactly as we discovered in the research by Bonbón and Bednárová (2018). The content of these established YouTube channels can be different, since it can involve cultural and sports activities, or promotional videos about the commune; however, as a part of our conditions, they are mainly recordings from public meetings of boards of representatives, which significantly increase the share of civic participation.

The size of self-government and the related age composition of the population play a key role. In smaller communes, which usually have a significantly regressive age structure, personal contact to equip the relevant agenda is still dominant. One of the participants in the questionnaire commented this as follows (Vlkovce, 480 inhabitants): "Electronic services for citizens of small communes are thus less used, although of course the age composition of the population and the related computer literacy are also determinants." Of course, the financial aspect also plays a role, in which, again, smaller local governments may have a problem with the implementation of these technologies in the functioning of local governments.

In addition to online services, of course, older services are also used in communes that were known mainly before the era of Internet use, and these include especially various forms of communal newspapers or information leaflets on current events, as well as local radio and official bulletin boards. These are still important for sharing up-to-date information in self-governments, especially for senior citizens, who do not have information literacy at the same level as younger age groups. These tools are used mainly by smaller communes, where the lack of infrastructure may be an obstacle to some extent, and the demands of the population for the use of older methods of communication are primarily related to senior citizens.

## 4. Website distributing the results obtained

One of the goals of our paper is to present a website (www.sodbtn.sk/obce) where we try to constantly update our observations and share the results of research with the general public in the form of various tabular, graphical and map expressions. We have been working on this website since 2007, and its design and, moreover, its content are subject to constant changes. In the initial period, the website was only a list of communes with their declaration of administrative affiliation to districts and higher territorial units, including a link to the commune's own website. This information can be obtained, of course, from various search engines on the Internet, but our goal was to create a kind of central access point to the websites of communes, which was absent from the "Internet market" at that time. Gradually, we added many other characteristics and statistics to the website that increased its attractiveness to other users, which in the long-term trend also affected its number of visits (3) (Fig. 8). The growth in visitor numbers and the dramatic increase in user numbers will both atrract interest. So too will the number of websites viewed in October 2020, which is when we began publishing data on the spread of the SARS-COV2 virus on the website at the district level. Given the current pandemic situation, these statistics are highly sought after.

When elaborating on the concept of the website, we considered the distribution of data primarily
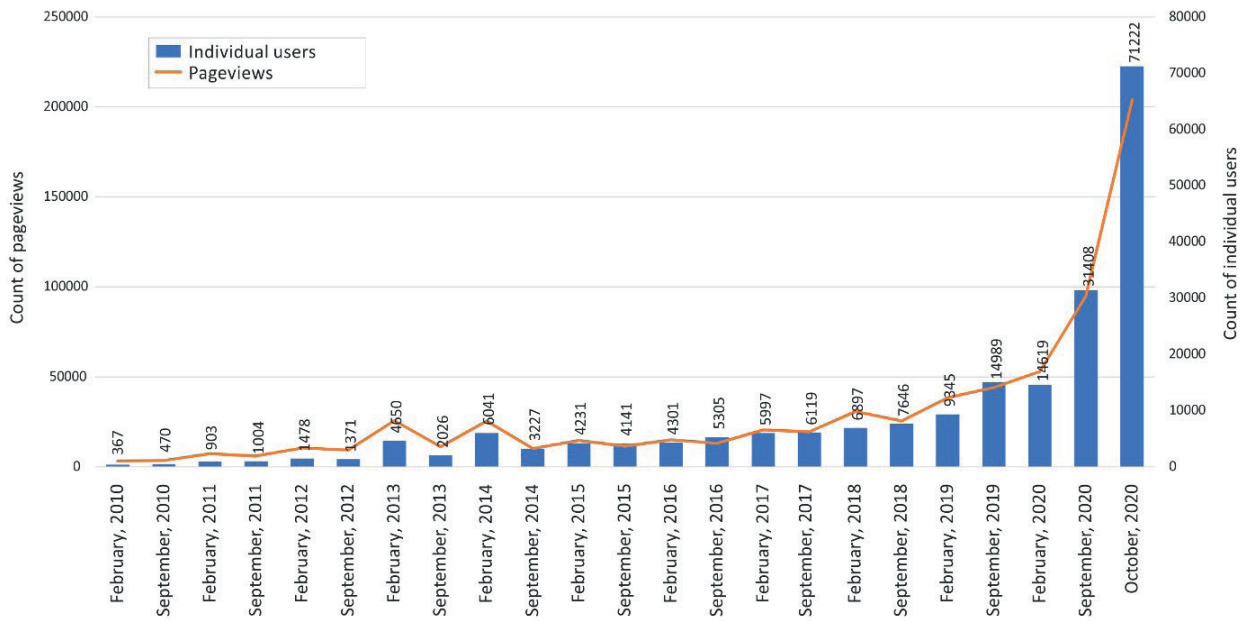
**Fig. 8.** Development of the number of visits to sodbtn.sk
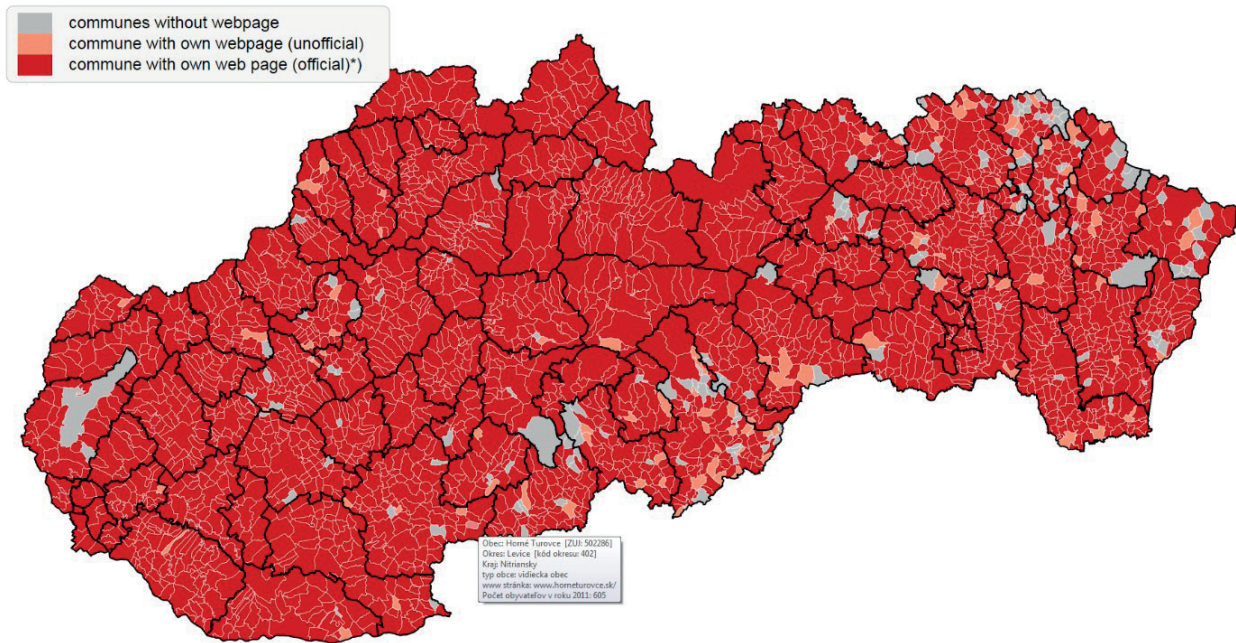Source: authors' research



**Fig. 9.** Example of an interactive map display on a website using the D3 library and format (Existence of communes' websites as of 9 June 2020)
Source: authors' research

at the level of communes, but also at the level of higher administrative units (districts, higher territorial units). An equally important task was the distribution of this data in a client-attractive form of graphic and cartographic outputs with an emphasis on achieving the highest possible degree of client interactivity with the displayed information.

From the point of view of acquiring new clients for our website, we considered the graphic and map expression of the displayed statistics to be extremely important. The current trend of displaying various

visualisations on websites is obvious, and these graphic elements are becoming the driving force of these websites (Murray, 2017). Currently available methods and formats allow such an attractive display in a relatively simple way, while their inclusion significantly influences the behaviour of Internet users (Daradkeh, 2017). With regard to the observed characteristics of communes, which are spatial units, to a large extent, the effort to capture the spatial dimension of individual attributes in the form of interactive maps was understandable. For this purpose, we used the D3 library, which allows the display of maps written in the TopoJSON format (Bostock et. al., 2011). An example of such an illustration is shown in Fig. 9.

The created page is currently displayed in the first results of a Google search when entering keywords from the area of self-governments of the Slovak Republic (e.g., list of communes of the Slovak Republic, communes of the Slovak Republic, communes of Slovakia, etc.). This is important from the point of view of the distribution of information about Slovak communes among the public looking for information oriented in this way. We also evaluate positively the fact that this website is also known among self-government representatives, which was evident from some of their comments made during their participation in the online questionnaire.

## 5. Discussion and conclusion

The information age represents an extremely dynamic period of development in our society. The quantity and quality of information provided by various organisations, institutions, as well as natural persons, has become a key factor in decision-making processes in all spheres. Undoubtedly, such institutions also include self-governments (which herein represent communes – in which we live and perform daily activities). Therefore, it is important that these communes have their own websites, which can currently be considered the basic communication channel between citizens and self-governments. In our paper, we focused on evaluating the basic quantitative attributes of the existence of websites. In terms of the dynamics of development, it is very positive that currently more

than 93% of all communes in Slovakia have their own websites (2,743 out of the total of 2,927 monitored communes accounting for a total of more than 99% of all inhabitants of the Slovak Republic. They have the opportunity (of course, in the case of their active interest) to monitor events in their commune, to monitor key information from the areas of public finance management, cultural and sports activities, major events, and many other matters falling within the competence of self-governments in terms of public administration organisation in the Slovak Republic. When comparing the current state of communes with their own websites (2,743 communes) with the initial year of monitoring (2006), when Székely and Michniak (2010) identified a total of 844 rural communes with their own website, we see that there was a huge increase in the number of these communes. This fact clearly follows from the society-wide demand for up-to-date information at all levels of society. It is logical that the representatives of self-governments react to this situation and meet the needs of their citizens, who prefer this means of obtaining information. This situation is also supported by the significant expansion of mobile platforms among the population (especially smartphones), as well as the nationwide availability of the Internet in communes. People use these devices very intensively, which is also visible when comparing the number of visits to the website we created (www.sodbtn.sk/obce). While in 2010, according to the website monitoring by means of Google Analytics, 98% of all access to websites was by PC users, in 2020, this situation was had turned around, with 61% in favour of mobile devices (smartphones and tablets). At present, those communes without their own websites belong to the size categories of fewer than 1000 inhabitants. The main reason for the absence of websites is mainly the age structure of the population: elderly people have lower computer literacy and prefer personal contact with self-government representatives. Similar conclusions apply to the use of social networks and mobile applications by self-governments, which was ascertained by an online questionnaire that was completed by almost 60% of all self-governments contacted (1,750 communes). Here, we found out the extent of use of the four most-used social networks (Facebook, YouTube, Instagram and Twitter), when the representatives of self-governments could also

list other ones used (this which did not happen in any case). In this case, a clear dominance of perhaps the world's most popular social network, Facebook, was ascertained. This is not a surprising situation, since this network is extremely popular among users in Slovakia; Internet surveys show that up to 2.5 million inhabitants of Slovakia regularly log on to this network. It is therefore understandable that self-governments try to publish current information about life in the commune through this channel. Of the 1,750 communes involved in the questionnaire, 51.1% stated that they use social networks. Of this number, Facebook accounted for up to 98%. In particular, larger communal authorities use several social networks at the same time to be as close as possible to their citizens in this virtual, but intensively used space. From the point of view of the existence of the commune's website and the use of social networks by local governments, several key factors influencing this situation can be identified. The size of self-government and the related age composition of the population play a key role. In smaller communes, which usually have a significantly regressive age structure, personal contact to equip the relevant agenda still dominates. However, this can be replaced by enthusiasm and a willingness to "sacrifice" for the commune among employees. This fact is well illustrated by the statement of the mayor of the village Jaslovské Bohunice (2,292 inhabitants):

The websites of the communes are an interesting topic. Mostly in small and medium-sized villages, it's about where to find enthusiasts and volunteers who can do it. Such local governments do not have a person to do so during their working hours. The fact that webmasters receive information from employees to keep the site up-to-date also plays a lot in this regard. And then it's definitely about the financial side as well. Because the web also needs to be innovated and moved forward. From my own experience, I can say that it is a struggle for information and photos that will not even reach me or will arrive late. And I have to ask that. It's a long debate. The fact that we entered the ZlatyErb.sk competition three years ago, and that since then the village has come first twice and second, is due to

enthusiasm and working from home. It's really about many small details.

The last goal was to present our own website focused on the distribution of the obtained results. We included this goal in the paper because we consider the distribution of the obtained results to be as important as the long-term continuous research itself. The website we created has the ambition to serve users as a kind of central access point for those interested in information about Slovak communes. This information is displayed in a clear form, supplemented by a number of graphic and map outputs. Visual websites help increase the number of visits, and thus the research results themselves are more accessible to an ever-widening spectrum of people. There are other similar products on the Slovak market (e-obce.sk, obce.info), but they offer information about communes to a much lesser extent. From the perspective of the future, the issue of monitoring the quality level of these websites appears to be a current issue. We did not pay attention to this in our paper since it is a relatively large statistical file, which is to some extent a decisive factor. However, from the point of view of the website's own records and their registration in the database (and thus the need for at least a cursory glance), we can observe considerable dynamics. This can be assessed at least from a design point of view, with most self-governments accepting current trends in visits to websites by mobile devices and redesigning their websites into a responsive design, which has been the driving force behind website development in recent years. Websites can also be considered a basic communication pillar of self-government with citizens, even at a time of significant dynamics of social network progress. The website itself allows you to share much more data of a different nature and focus. However, the importance of using social networks will continue to increase, since their popularity among the population is still very high and they allow citizens to participate more actively in what is happening in their commune. Finally, it may be appropriate to express a personal desire that these social networks be used effectively, and that citizens get to know their communes intimately in real life, and not just in virtual space.

## Notes

1. An online demonstration of the involvement of individual self-governments at the level of districts and communes is available at http://www.sodbtn.sk/obce/dotaznik_okresy.php. (This is prepared exclusively by the authors of this paper.)
2. Only those self-governments that participated in the online questionnaire were compared.
3. When evaluating the number of visits, we use the Google Analytics service, which we have activated on the website since January 2010.

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