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Electronic Communication Tools in Participatory/Civic Budgeting: The Case of Warsaw¹

Abstract: The aim of this study is to analyse the participatory/civic budget in Warsaw in terms of the use of electronic communication tools. Answers to the following two research questions are sought: (1) At what stages of participatory/civic budgeting are electronic tools used? (2) What are residents' opinions regarding electronic tools used in participatory/civic budgeting in Warsaw? During the research process, the following research hypothesis will be verified: the electronic tools used in the participatory/civic budget in Warsaw are being gradually improved, and the budget in this city is increasingly becoming an electronic one. This research primarily uses an in-depth analysis of primary sources, including statistical data, legal acts, reports, and evaluation documents. Eleven versions of the participatory/civic budget in Warsaw were analysed. The research hypothesis was partially verified positively.

Keywords: civic budget, participatory budget, Warsaw, electronic communication tools

Introduction

Participatory budgeting is a form of social consultation (with results that are binding on the government), which is one of the tools of participatory democracy and public co-management (Bateman, 2020; Lerner, 2014; Marczevska-Rytko &

1 The article presents some of the research results obtained during the research project “The Comparative Analysis of French and Polish Participatory Budgeting” at the Paris-Est Créteil University val de Marne, Centre d’Étude des Discours, Images, Texts Écrits, Communication (Céditec) in Paris from 1 May to 15 June 2025 and at Catholic University of Lille in Lille from 15 to 30 June 2025. The project was made possible thanks to a scholarship from the French Government.

Maj, 2021; Sintomer et al., 2016; Wampler et al., 2021; Zawadzka-Pąk & Tomášková, 2019). In practice, the institution of participatory budgeting combines, to varying degrees, elements of both direct and deliberative democracy, depending on the country in which it is used (Marczevska-Rytko, 2024a). In Poland, the literature on the subject and in social and political practice uses two terms: 'civic budgets' and 'participatory budgets' (Sroka et al., 2022). The use of the concept of a civic budget is supported by the fact that in this case, the emphasis is transferred from participation as a specific activity to the entity performing this activity, that is, the citizens. Some researchers, however, point out that participatory budgeting is not limited to citizens, and that people who are not citizens of a given country can take part in the decision-making process (Kębłowski, 2013, p. 8). Some authors use the term 'civic/participatory budget' (Marczevska-Rytko, 2024b). Outside Poland, the term participatory budget is most often used. In Warsaw, the Polish capital, the initial name of participatory budget was changed to civic budget. Due to the complexity of the problem and the diverse practices in the research that has been conducted, the term participatory budget is used in relation to the first five versions of budgets in Warsaw, and civic budget in relation to the other versions.

In the era of an information society and the increasing use of electronic tools in our everyday lives, it is important to analyse the functioning of participatory/civic budgets from the perspective of e-democracy and e-participation. An important element is electronic voting (e-voting), which is defined as voting using electronic devices. Electronic participation refers to the inclusion (e-engagement) of citizens in public affairs through electronic communication, including electronic consultations (e-consultations). This is particularly important when citizens feel that they are not represented by their elected officials and doubt the effectiveness of participation as a tool for solving public problems (Allegretti, 2014). Therefore high hopes are placed on the use of modern information and communication technologies to increase public participation in the decision-making process (Friess, 2021). For example, modern communication tools allow citizens to digitally access information (Troitiño, 2022); they can also amplify citizens' voices and improve the quality of public services, but only if the technology is properly designed and linked to real, useful institutional, political, and social pathways. For example, the issue of access inequality has been highlighted, as these tools can amplify the voices of those with access and digital skills (Peixoto & Fox, 2016). It should also be emphasized that not every resident has the opportunity to use electronic tools, which leads to digital exclusion, affecting mainly older people. Additionally, the possibility of using specific features of new technologies and the properties of public media to manipulate public opinion should be considered (Porębski, 2020). For these reasons, electronic communication tools seem to be most effective when they complement existing budgeting procedures, that is, when they are one of the elements of a hybrid 'control and repair' system (Peixoto & Fox, 2016).

This article uses a chronological-problematizing structure because it reflects both the changes in the use of modern electronic tools over the years and shows what Schulz & Newig (2015) have defined as the need to rethink such technologically supported participation. The few scholarly studies conducted in Poland on the use of modern technologies in participatory budgeting have shown, among other things, that modern technologies and traditional ways of communicating in participatory budgeting are not separate (Zawadzka-Pąk, 2022). This study aims to analyse participatory/civic budgets in Poland in terms of the use of electronic communication tools. Several research questions were formulated during the research process: (1) At what stages of conducting a participatory/civic budget are electronic tools used (e.g. is it possible for residents to submit projects electronically; is it possible to vote electronically)? (2) What are residents' opinions on the electronic tools used in the participatory/civic budget in Warsaw? This study verifies the research hypothesis that the electronic tools used in the participatory/civic budgeting in Warsaw are gradually improving, and that the budget in this city is increasingly becoming an electronic one.

The research process mostly used primary sources (statistical data, legal acts, reports, and evaluation documents) and to a limited extent used scholarly studies. Deep-source analyses and comparative methods have also been used. The research was conducted on versions of the participatory/civic budget covering the Capital City of Warsaw. This was done for several reasons: first, Warsaw is the capital of Poland and largest city in Poland in terms of population; second, it is home to the main government offices and ministries, which makes it, at least theoretically, the place where new solutions are implemented on a large scale, including solutions in the field of e-democracy and e-participation; third, for political reasons, administrative decisions made in Warsaw are the subject of lively political and public discourse; fourth, the progress of individual versions of the participatory/civic budget is the subject of in-depth evaluation, carried out using surveys and interviews, among other things. All the participatory/civic budgets carried out in Warsaw were analysed during the research process.

This article consists of five sections. The first presents introductory issues; the second describes legal solutions connected with participatory budgeting in Poland. The third section evaluates the use of electronic tools in the first five versions of Warsaw's participatory budget. Subsequently, the fourth section analyses the use of electronic tools in the remaining six budgets, which was renamed the civic budget. Finally, the conclusion points out the positive and negative aspects of using electronic communication tools in the practice of participatory/civic budgeting in Warsaw.

1. Legal solutions

Until 2018, there were no statutory regulations on the functioning of participatory/civic budgets in Poland. Legal solutions contained in various acts were used. Usually, participatory/civic budgets were created based on Article 5a of the Act of 8 March 1990 on Municipal Self-Government (Sejm RP, 1990). Pursuant to Article 5a, paragraph 2, the local council has the power to establish the procedures and rules for conducting consultations on matters important to the community, and participatory/civic budgeting was treated as important. Therefore municipalities could adopt local laws regarding the principles of creating a participatory/civic budget. In other words, each community could adopt its own rules regarding submitting projects to the participatory/civic budget, as well as the methods of consulting on and selecting them. Financial resources allocated within such a budget could be assigned to implementing projects covering the statutory tasks of a given territorial unit. Therefore the procedures were optional and depended entirely on the decisions of the authorities of a given local government section. Individual units defined the conditions and scope of the participatory/civic budget and the pool of financial resources allocated for the implementation of the adopted projects.

In November 2017, a parliamentary draft act to amend certain acts in order to increase citizens' participation in the process of electing, functioning, and controlling certain public bodies was submitted to the Sejm (Poselski projekt ustawy o zmianie niektórych ustaw, 2017). Among other things, it concerned regulations on participatory/civic budgets. The Act was enacted on 11 January 2018, and the acts on municipal, district, and voivodeship self-government were amended. Thus the institution of civic/participatory budgeting as an obligatory form was anchored in legal provisions. According to the amendment, the civic/participatory budget was recognized as a special form of public consultation. The amended Act of 8 March 1990 on municipal self-government adopted a solution according to which, as part of the civic budget, residents decide annually in direct voting on part of the expenses of the municipal budget (Sejm RP, 1990). Tasks selected as part of the civic budget are included in the municipal budget resolutions. In the course of working on the draft budget resolution, a local council may not remove or significantly change the tasks selected under the civic budget. Municipalities with county rights are obliged to create a participatory budget. The amount of such a budget cannot be lower than 0.5% of the community's expenditure, as calculated based on the last submitted budget implementation report. There are 66 such cities in Poland. The financial resources spent under the participatory/civic budget can be divided into: 1) pools covering the entire community and its parts in the form of auxiliary units or groups of auxiliary units, and 2) project amount categories covering the entire community or part thereof (Article 5a, point 6). The local council is obliged to prepare a resolution containing detailed formal requirements that the submitted project must meet, the required number of sig-

natures under the project (which cannot be greater than 0.1% of the inhabitants of the area covered by the civic budget in which the project is submitted), and rules for assessing submitted projects (compliance with the law, technical feasibility, meeting formal requirements, appeal procedure, rules for carrying out voting, determining the results, and making them known to residents) (Article 5a, point 7).

In March 2022, the Sejm amended the Act on Municipal Self-Government (Sejm RP, 1990). Under Article 5a, point 6, funds spent under the civic budget may be divided into pools covering the entire community and its parts or categories of amounts for projects covering the entire area of the community or its parts. The new provisions were first applied during public consultations on budgets for 2023, when the submission of participatory/civic budget projects in a given community had not been completed.

2. Participatory budgeting in Warsaw

Participatory budgeting in Warsaw includes the following stages: development of a procedure, information and educational campaigns (including discussions about the district's needs), development and submission of projects, initial verification of projects, discussion of projects, selection of projects for verification (pre-selection), detailed verification, promotion of projects submitted to a residents' vote, selection of projects for implementation, and evaluation process.

In the first budget, the website www.twojbudzet.um.warszawa.pl was launched. One way to submit a project was to send it to the email address of the relevant district office. A list of positively verified projects, along with the changes introduced, was published online. If the project was withdrawn, the project promoter notified the appropriate organizational unit of the district office via email. A list of projects selected for resident voting was announced on these sites, and voting was possible electronically. In this case, it was necessary to have an active email account. However, the condition for a vote to be recognized was to open the link sent by Warsaw City Hall to confirm one's participation. The voting results and lists of projects to be implemented were published on the website. The recommendations indicated in the evaluation documents did not raise the issue of electronic tools being used to conduct participatory budgeting (Gójska et al., 2014).

The regulations regarding the second version of the participatory budget in 2016 referred to the ESOG (Elektroniczny System Obsługi Głosowania – Electronic Voting Service System) platform (Prezydent Miasta Stołecznego Warszawy, 2014). Thus an electronic system was developed to facilitate the participatory budgeting process. This system allowed users to use the following functionalities: submitting ideas; viewing submitted ideas, including attachments; commenting on the content published on the system, including the content of submitted projects; voting for projects;

and checking the implementation status of projects selected for voting. The website www.twojbudzet.um.warszawa.pl contained the basic information, and an official Facebook profile was integrated into the website. It can be emphasized that the profile functioned as a newsletter for people who had a Facebook account and were interested in current news. Moreover, the grassroots initiative of an open discussion group on participatory budgeting in Warsaw was created on social media and enjoyed great interest among residents.

Evaluation documents of this second version of the budget indicated that the website was the main knowledge channel for project authors; however, social media played a significant role (SACADA, 2015, pp. 27, 32). The electronic system was assessed positively, considering the understandability of the content, ease of use, aesthetics, and transparency (SACADA, 2015, p. 50). Among all the respondent groups, those aged up to 18 years old rated the ease of use of the voting system the best; the average ease of use decreased slightly with age. Respondents in the oldest age group rated ease of use the lowest among all groups, but this rating remained high on an overall scale. The transparency of the online voting system was rated the lowest among all age groups. Some respondents pointed out the difficulty in finding a specific project (SACADA, 2015, p. 50); in their opinion, it would be easier to build a search engine for projects using words and to search for an area by street addresses. This suggestion was also made by residents via emails sent to the office, which suggested introducing the possibility of searching for projects using 'tags'. The respondents also claimed that online voting required many clicks, an opinion shared by members of the districts' participatory budgeting teams (SACADA, 2015, p. 50).

The problem in the case of online voting was vote activation, that is, confirmation via email (SACADA, 2015, p. 51). Younger children who voted did not have email addresses. As for the activation links, they did not always reach the email addresses entered. During the evaluation, many of the email addresses provided by residents were found to be inactive or incorrect. Despite the highlighted 'confirm your vote' information on the website, not all residents noticed this message. Comments were also made regarding the impossibility of using one email address multiple times (SACADA, 2015, p. 51). It should be emphasized that the evaluation of the electronic tools used in the participatory budgeting was the most in-depth of all evaluations of the ten budgets.

In the 2017 budget, electronic communication was more visible on a larger scale. The posts appeared on www.facebook.com/groups/budzetwaw and on the official website www.twojbudzet.um.warszawa.pl; the email address used was twojbudzet@um.warszawa.pl. This information was also posted on district websites dedicated to participatory budgeting (Leszczyńska et al., 2016, p. 21). The electronic system developed for the purposes of conducting the participatory budgeting in Warsaw was rated better in this year than in the second year (Leszczyńska et al., 2016, p. 55). The idea of automatically deducting the costs of selected projects from the total sum and

marking which items were or were not still available was evaluated positively. The online voting system was assessed as being intuitive and simple (Leszczyńska et al., 2016, p. 55). There was also a positive reaction to the solution of sending an email in the event of an incomplete vote.

Based on the evaluation of the 2018 participatory budget, it can be concluded that the traditional method of voting was most often used by people over 50 (Huras et al., 2017, p. 16). Voters believed that the electronic voting system was aesthetic, transparent, easy to use, and had understandable content (Huras et al., 2017, pp. 16–17). The vast majority of the surveyed residents did not notice any technical problems while voting.

In the 2019 participatory budget, projects could be submitted, among others through the electronic participatory budget system available at www.app.twojbudzet.um.warszawa.pl (Centrum Komunikacji Społecznej Urzędu m.st. Warszawy, 2018, p. 25). This budget saw a reduction in the number of projects submitted (Makurat et al., 2018, p. 17). Voting was in electronic form, among others, using the electronic voting tool app.twojbudzet.um.warszawa.pl (Centrum Komunikacji Społecznej Urzędu m.st. Warszawy, 2018, p. 47). In this case, it was necessary to have (or set up) an email. A maximum of three people could vote using the same email address. The results of the participatory budgets in Warsaw are shown in Table 1.

Table 1. Participatory budgeting versions in Warsaw.

Versions	Electronically submitted projects in %	Number of voters	Electronic voting in %
1 (2015)	-	166,893	72.33
2 (2016)	68	172,395	58.91
3 (2017)	77	128,406	95.00
4 (2018)	84	117,381	95.00
5 (2019)	84	89,807	95.00

Source: Own work based on <https://um.warszawa.pl/waw/bo/popzednie-edycje>

In 2015, electronic voting accounted for 72.33% of all votes. In 2016, there was a decrease to 58.91%. Since 2017, the share of electronic voters has increased rapidly, and stabilized at a very high level of 95% in 2017, 2018, and 2019. Since 2017, almost all voters have used the electronic form, suggesting a lasting change in residents' preferences and the effective digitalization of the participatory budget process. This seems to be the result of the widespread digitalization of everyday life and the increasing availability of the internet and mobile devices in particular. It should be noted that despite the growing percentage of electronic votes, the total number of voters has been decreasing year by year (from 172,395 in 2016 to 89,807 in 2019),

which may indicate other challenges to participation unrelated to the availability of the electronic voting system.

During the pandemic, many public, educational, and social services moved online. Often out of necessity, people began to use digital tools, breaking down previous barriers and resistance to new technologies. The pandemic meant that even people who were less digitally savvy had to learn how to use the internet for work, study, shopping, or contacting government offices; this translated into a greater openness to online voting. The analysed data on the first five years of the participatory budget in Warsaw show that even before the pandemic, the share of electronic voting in Warsaw was very high (95% from 2017 to 2019). The pandemic may have further consolidated this trend, making online voting the obvious choice for most residents.

3. Civic budgeting in Warsaw

The sixth version of the budget, in 2020, was based on the new legal provisions. Moreover, the name of the budget was changed to 'civic'; supporters of changing the name claimed that the new name was more understandable for residents. Previously, when submitting applications, it was not necessary to provide an identification number (PESEL), so foreigners could submit projects. According to the new rules, each resident could vote only once; therefore a PESEL number had to be provided for identification purposes, and foreigners could not vote for projects under civic budgets (Centrum Komunikacji Społecznej Urzędu m.st. Warszawy, 2019, p. 7). Such solutions still exist in practice today. Projects could be submitted in traditional or electronic forms, and residents could vote online on app.twojbudzet.um.warszawa.pl. Twenty additional electronic voting points were organized throughout the city, including in local activity centers, libraries, and community centres (Centrum Komunikacji Społecznej Urzędu m.st. Warszawy, 2019, p. 16).

A city discussion forum was created on app.twojbudzet.um.warszawa.pl. However, opinions regarding the functioning of the forum were negative: respondents complained about the lack of real discussion and low interest in the subject matter. A lack of moderation or a discussion supervisor were also mentioned as weaknesses. In the opinion of the project authors, the office should have been more involved in this discussion. Some people pointed out that the website was not working properly and that comments were insufficiently visible, which was not conducive to starting a discussion (Ośrodek Ewaluacji, 2019, pp. 47–48). As for the Facebook pages, the critical opinions were similar to those regarding the city website: no substantive discussion or no discussion at all, so-called hate, and little involvement in significant conversation. It was also pointed out that, compared to the website, the Facebook page was not a place for serious discussions (Ośrodek Ewaluacji, 2019, p. 49).

The evaluation interviews also revealed problems with online voting (Ośrodek Ewaluacji, 2019, p. 58). People expressed surprise that it took so long to thoroughly familiarize themselves with at least one project. The individuals were disappointed with the technical aspects of the online voting system; among other things, they pointed out an unintuitive interface and inconvenient filtering. Recurring technical difficulties were reported, such as a broken voting link, an error causing the list of district projects to be empty, problems with entering a postal code, and inaccuracies in the designation of project types (such as 'health' and 'healthcare') (Ośrodek Ewaluacji, 2019, p. 61).

During the seventh budget, for 2021, 17 additional electronic voting points were organized throughout the city. Due to the Covid pandemic, the ceremonial gala did not take place, and the results were published on the website. The promotional campaign used, among others, announcements on the civic budget website app.civ-icbudget.um.warszawa.pl, mailing, and posts on social media (Facebook) and on internet portals (Centrum Komunikacji Społecznej Urzędu m.st. Warszawy, 2020, p. 24). Regarding technical issues, it was pointed out that the power of servers should increase on the day at the end of voting. It was emphasized that electronic voting is difficult and excludes people who are less digitally competent, and searching for projects is not intuitive (Urbanik & Wilk, 2021, p. 9).

The opening meeting for the eighth version of the civic budget in Warsaw was organized online on the Zoom platform, due to the epidemiological restrictions. Online meetings dedicated to the new project authors were also organized. A new functionality was made available on the website <https://bo.um.warszawa.pl/>, the ability to generate posters and graphics encouraging voting for a given project. Each resident, without logging into their account, could download promotional material in various formats, including an A4 poster or a graphic for Facebook (Centrum Komunikacji Społecznej Urzędu Warszawy, 2021, p. 21).

The opening meeting for the ninth version of the budget was also organized online on Zoom (Centrum Komunikacji Społecznej Urzędu m.st. Warszawy, 2022, p. 8). As in the previous year, online meetings dedicated to new project authors were organized, and as before, the civic budget week was organized entirely online (Centrum Komunikacji Społecznej Urzędu m.st. Warszawy, 2022, p. 10). The promotional campaign was conducted on the bo.um.warszawa.pl website (Centrum Komunikacji Społecznej Urzędu m.st. Warszawy, 2022, p. 22); all interested persons could generate posters and graphics to encourage people to vote for a given project. Residents could again download promotional material in various formats without logging into their accounts, including an A4 poster or a graphic for Facebook. To make it easier for project developers to distribute posters in urban spaces, an interactive map of places (poles, noticeboards, and shop windows) was prepared (on google.com/maps) where authors could hang their promotional materials.

During the evaluation phase of the tenth anniversary version of the civic budget in 2024, residents submitted comments. Among other things, confusion about project numbers at different stages of the budget was reported to be a problem, and the existence of two websites about the civic budget in Warsaw was considered confusing (Centrum Komunikacji Społecznej Urzędu m.st. Warszawy, 2023, p. 2). The problem with hate speech in discussions about projects on the website was highlighted (Centrum Komunikacji Społecznej Urzędu m.st. Warszawy, 2023, p. 3). The introduction of forum regulations, more stringent moderation, or the de-anonymization of comment authors was proposed to address this issue; one idea was to introduce the requirement of first and last names for logging in. Regarding voting, the lack of the possibility of voting with a trusted profile (a free tool that allows to confirm the identity online without the need to visit an office in person) was reported as a problem, which is important for people who, for example, do not want to provide their PESEL number for security reasons (Centrum Komunikacji Społecznej Urzędu m.st. Warszawy, 2023, p. 4).

During the evaluation phase of the 2025 civic budget of the 11th version of the civic budget, residents submitted comments on the budget. In relation to the project submission stage, an idea emerged for a tool in the form of a map that would suggest to project developers the location in which a project could be implemented (Centrum Komunikacji Społecznej Urzędu m.st. Warszawy, 2024a, p. 1). The tool 'How much does the city cost?' was assessed positively; however, a need for its systematic updating was emphasized (Centrum Komunikacji Społecznej Urzędu m.st. Warszawy, 2024a, p. 1). Electronic or paper voting was considered insufficient; an idea was proposed to create voting points in the urban space. In relation to the voting stage, the introduction of the possibility of searching for projects on the website, using the ESOG number for which the user wants to vote, was postulated. Digital exclusion was also observed; the development of a solution that would counteract digital exclusion and enable all residents of Warsaw to vote was suggested (Centrum Komunikacji Społecznej Urzędu m.st. Warszawy, 2024a, p. 5). A problem was also reported regarding the lack of access to the bo.um.warszawa.pl website when outside Poland (Centrum Komunikacji Społecznej Urzędu m.st. Warszawy, 2024b, p. 2). The results of the versions of civic budgeting in Warsaw are shown in Table 2.

Table 2. Civic budgeting versions in Warsaw.

Versions	Electronically submitted projects in %	Number of voters	Electronic voting in %
6 (2020)	88	105,822	99.0
7 (2021)	88	109,025	99.6
8 (2022)	92	93,539	99.4
9 (2023)	92	88,861	99.0

10 (2024)	93	85,048	99.2
11 (2025)	93	75,657	99.4

Source: Own work based on <https://um.warszawa.pl/waw/bo/popzednie-edycje>

The six civic budgets in Warsaw from 2020 to 2025 took place under different formal and legal conditions, with changed the nomenclature: the participatory budget was renamed as ‘civic’. The share of online submissions increased from 88% in 2020 to 93% in 2024 and 2025. There was also a clear drop in the number of voters, from 105,822 in 2020 to 75,657 in 2025. This indicates a drop of over 28% during the six years, which may indicate fatigue with the participatory budget formula or other barriers to participation in the programme. The percentage of people voting electronically increased from 99% in 2020 to 99.6% in 2021 and then remained at a very high level (99–99.4%) in subsequent years. In practice, almost all voting occurs online, confirming a permanent change in social habits. Both project submissions and voting are almost entirely electronic processes; this is the result of technological and social changes, reinforced by the Covid-19 pandemic.

Conclusions

This study aimed to analyse the participatory/civic budget in Warsaw in terms of the use of electronic communication tools. Therefore two research questions were formulated: (1) At what stages of conducting a participatory/civic budget are electronic tools used? (2) What are the residents’ opinions regarding electronic tools used in participatory/civic budgeting in Warsaw? The research process verified the research hypothesis that the electronic tools used in the participatory/civic budget in Warsaw are being gradually improved, and that the budget in the city is increasingly becoming an electronic one. The analysis of 11 years of the participatory/civic budget in Warsaw allows both the research questions and the research hypothesis to be addressed.

Referring to the first research question, it should be stated that electronic tools have been used to conduct participatory/civic budgeting in Warsaw. They are primarily used in the project submission and voting phases, and interest in the use of electronic tools in both phases is increasing every year. Recently, they have also been used in the promotion phase for submitted projects, while attempts have been made to use electronic communication tools to enhance deliberation in the budgeting process. However, as demonstrated, users criticized the level of debate both on dedicated platforms and on Facebook. The research has shown that the biggest problem related to participatory/civic budgeting is the low interest of residents. The voting turnout is also low, amounting to approximately a dozen or so per cent of the total population. Electronic tools can support the process of educating residents and raising their level of awareness related to the participatory/civic budget. Changes in the regulations for

conducting the budget, as well as changing the name, generally do not support interest in participating in the preparation of a project or projects or in voting. We should therefore expect greater transparency in terms of formal and legal solutions. The Covid-19 pandemic has increased interest in the use of electronic tools in budgeting.

To answer the second research question, it should be stated that residents' opinions about the electronic tools were divided. Criticisms were generally directed at websites, and the voting system was perceived as being unintuitive. The discussion site was criticized for lacking proper moderation. However, it should be noted that the tools have gradually improved. On the one hand, the overwhelming majority of residents in Warsaw use electronic communication tools in the budgeting process, which undoubtedly makes it easier for them. On the other hand, however, the use of electronic communication tools is generally not a significant factor in increasing resident participation in local decision-making.

During the research process, the research hypothesis – the electronic tools used in the participatory/civic budget in Warsaw are gradually improving, and the budget in this city is increasingly becoming an electronic one – was partly verified positively. On the one hand, electronic tools are commonly used in every phase of the participatory/civic budget. However, there are problems with these electronic tools for many residents, and there are some residents who are not familiar with them; this is why some respondents stated the digital exclusion of some residents. The research also shows that the participatory/civic budget in Warsaw is in fact a tool of participatory democracy for residents who want to take part; however, it can only be considered a tool for deliberative democracy to a limited extent. The use of electronic communication tools has not changed this.

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