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CITIZEN BUDGET PROJECT WITH CROWDSOURCING CONCEPT – IDENTIFICATION OF ATTITUDES

PROJEKT BUDŻETU OBYWATELSKIEGO Z WYKORZYSTANIEM CROWDSOURCINGU – IDENTYFIKACJA POSTAW

ABSTRACT

Aim: This paper aims to identify community attitudes towards implemented local budgets and to make a comparative assessment of these community attitudes in different locations.

Methods: The study was carried out based on an analysis of the foundational data, particularly the reports of the civic budgets. The entire available period of implementation of civic budgets, i.e. 2014-2024 in Białystok and Szczecin, was analyzed.

Results: Data on the implementation of civic budgets in the two cities show two different trends in the attitudes of local communities. Despite similar legal and social conditions and the same maturity period, the Białystok community is increasing its involvement in the civic budget idea, while the Szczecin community is reducing it.

Discussion: Our analyses indicate that the use of crowd knowledge in these two areas, i.e. idea generation and idea evaluation, is used to a different extent in the implementation of the civic budget idea. We suppose that the differences in the attitudes of the indicated local communities are mainly socio-cultural and political in nature. We point to the necessary measures to reduce the decline in activity and thus the increase in local community dissatisfaction.

KEYWORDS: *citizen budget, crowd creation, crowdsourcing, crowd voting, cultural capital*

STRESZCZENIE

Cel: Celem artykułu jest zidentyfikowanie postaw społeczności lokalnych wobec realizowanych budżetów lokalnych oraz ocena porównawcza tych postaw w różnych lokalizacjach.

Metody: Badanie zrealizowano w oparciu o analizę danych zastanych, a w szczególności sprawozdań budżetów obywatelskich. Przeanalizowano cały dostępny okres realizacji budżetów obywatelskich, tj. 2014-2024 w Białymstoku i Szczecinie.

Wyniki: Dane dotyczące realizacji budżetu obywatelskiego w dwóch miastach wskazują na dwie odmienne tendencje w postawach społeczności lokalnych. Pomimo podobnych uwarunkowań prawnych i społecznych oraz takiego samego okresu dojrzałości społeczność Białegostoku zwiększa swoje zaangażowanie w ideę budżetu obywatelskiego, podczas gdy społeczność Szczecina ogranicza je.

Omówienie: Nasze analizy wskazują, że wykorzystanie wiedzy tłumu w tych dwóch obszarach, tj. generowania pomysłów oraz ich oceny jest wykorzystywane w różnym zakresie w realizacji idei budżetu obywatelskiego. Przypuszczamy, że różnice w postawach wskazanych społeczności lokalnych wynikają z atrakcyjności obszarów, w których mogły być zgłaszane projekty, jak również z różnych czynników społeczno-kulturowych i politycznych. Wskazujemy na niezbędne działania zmierzające do ograniczenia spadku aktywności i tym samym wzrostu niezadowolenia społeczności lokalnej.

SŁOWA KLUCZOWE: *budżet obywatelski, crowdcreation, crowdsourcing, crowdvoting, kapitał kulturowy*

INTRODUCTION

The spread of the citizen-oriented public service approach to service delivery has enabled the active participation of a wide range of citizens in public budgeting at the local level (Bilge, 2015). The promotion of this approach required a consensus to be reached between the growing and changing social needs reported by citizens the limited public resources and the need to spend them purposefully and rationally. This gave rise to the need for the tool that the civic budget became. Its idea was to ensure the participation of citizens in the budgeting process through the submission and selection of projects to be financed from public funds while maintaining transparency. The origins of the emergence and use of the civic budget can be traced back to the concept of crowdsourcing. It was assuming the use of knowledge, ideas, and competencies of local and virtual communities (the crowd) to carry out tasks performed by the employees of an organization (Howe, 2006).

The first participatory budget was introduced in 1985 in Porto Alegre, Brazil. It was recognized as a social innovation on a global scale. The first participatory budgeting practices of Polish municipalities were applied in Sopot in 2011 (i.e. after 25 years). At that time, the statutory regulation was not yet in force. Since then, local participatory budgets have been introduced in many Polish municipalities, districts, and provincial governments. As a result of the budget regulations introduced by the 2018 Act, there was a need to modify or abandon some solutions (Sroka, et al., 2022, p. 30).

The concept of a civic budget in Poland is legally formalized in Article 5a of the Act of March 8, 1990, on Municipal Self-Government, as amended (Law on Local Self-Government, Law on Amendments to Certain Laws), concerning consultations with residents of a municipality. According to the current regulation, the civic budget is a special form of social consultation. Residents of municipalities, which are cities with county rights, decide annually on a portion of expenditures (in an amount of at least 0.5% of the expenditures incurred in the previous reporting year), participating in a direct vote for projects that have received a positive assessment in terms of legal compliance, technical feasibility, and formal requirements. The legislator set the maximum number of required signatures of residents supporting the project at no more than 0.1% of the residents of the area covered by the civic budget

pool, while it was left to the discretion of the municipal council to determine the requirements for projects submitted under the civic budget. An analysis of these legal regulations allows us to conclude that the restriction on the maximum number of residents supporting a project within the framework of the civic budget is in line with the idea of increasing the involvement of local society (the crowd) in generating ideas for residence investments. Even small but good projects can be approved and voted on. In addition, the activity of project initiators and supporters should intensify with voting so that they receive funding and are implemented. One should be aware that projects submitted by communities will help deliver more benefits than if this work were done by employees or experts (Leimeister, 2012).

In addition to legal considerations, the involvement of local society in projects implemented under the civic budget is influenced by economic and social considerations, such as cost savings at the stage of initiating and developing ideas, relieving the burden on local government employees and shifting them to other tasks, high creativity of the community in generating ideas, access to external resources (crowd knowledge and competence), better accuracy in identifying needed projects, increasing the level of satisfaction of the needs and satisfaction of residents, shifting part of the responsibility for the submission and selection of ideas to the local community, the need for local governments to count with the voice of the public and building relationships of mutual trust and cooperation. As a result of cooperation, local governments should receive ready-made projects, ideas, and knowledge, and be able to spend public funds effectively and transparently, while civic leaders should gain recognition among the community, increase self-esteem (Lenart-Gansiniec, 2017) and the desire to continue to engage in improving the well-being of local communities.

The aforementioned factors speak in favor of the need to launch a civic budget. That's why some Polish cities have been implementing civic budgets for more than a dozen years, allocating at least a minimum level of expenditures to them, as defined by law. However, the level of satisfaction of social needs and the satisfaction of residents will depend largely on their attitude, in particular their creativity and involvement in the selection of projects.

The purpose of this article is to identify the attitudes of local communities towards implemented local budgets and to make a comparative assessment of

these attitudes of communities in different locations. It becomes interesting to answer the question of whether, as the maturity of these budgets increases, the activity of communities in generating ideas (crowd creation) and in voting on approved projects (crowd voting) increases.

The article will help fill the gap in identifying community attitudes toward implemented budgets. It will also offer recommendations on directions for modifying these budgets to make resource allocation more justified and public spending more productive, transparent, and accountable.

METHODOLOGICAL ASSUMPTIONS

The study aimed to characterize the civic budget in Poland as an element of the concept of crowdsourcing based on case studies of two cities, namely Białystok and Szczecin. The focus was on identifying the attitudes of local communities towards implemented local budgets and their comparative evaluation. This leads to the formulation of the following research question: as the maturity of these budgets increases, does the activity of communities in generating ideas (crowd creation) and in voting on approved projects (crowd voting) increase? Thus, the issue of the study concerned the legal, economic, and socio-cultural determinants of the involvement of the intellectual capital of the local collective in the development and investment activities of local government administration. In addition, an assessment was made of the directions of the tools used for the implementation of the civic budget, with a particular focus on formal and legal solutions, as well as tools indicating the staggered emphasis between the generation of ideas by the residents of the municipality (the crowd) and their evaluation and selection of ideas for implementation. As a result, it allowed us to assess the development of the civic budget instrument in two model cities, namely Białystok and Szczecin.

The study was carried out based on a desk data analysis, which consisted of collecting information from the literature on the subject, databases, and online portals, in particular, reports of civic budgets. Using available sources, such as public statistics and numerous studies on the survey, mainly quantitative data was analyzed, i.e. the entire available period of implementation

of civic budgets (i.e. 2014-2024) in Białystok and Szczecin. These two cities were chosen because of their similarity in size (number of residents) and extremely different geographic locations, which may suggest different attitudes of residents depending on socio-cultural, economic, etc. contexts.

In terms of quantitative data, descriptive and mathematical statistical techniques were used to formulate a coherent picture of reality. Statistical analysis was carried out using IBM SPSS Statistics 21 software. Qualitative data from source materials such as reports, studies and articles complemented and allowed for a deeper understanding of the issues under study. As a result, the information obtained made it possible to formulate some conclusions about the subject of the study.

CIVIC BUDGET IN THE CONTEXT OF THE IDEA OF CROWDSOURCING

Research on civic budgets is multifaceted in both Polish and foreign language literature. The main considerations of civic budgets concern: the determinants of the use of civic budgets in public administration (Sorychta-Wojczyk, 2015), civic budgets as a participatory form of governance (Burchard-Dziubinska) and civic participation (Tańczuk, 2018); civic budgets as initiatives to foster social attitudes (Krześ, 2014); civic budgets vs. participatory budgets (Czyszczon, 2023); legal and social conditions of civic budgeting (Rodak, 2016); civic budgeting from the perspective of officials (Brol, Derlukiewicz, 2023).

The field of participatory budgeting research is also expanding rapidly, with recent systematic reviews pointing to its increasing interdisciplinarity and global relevance. Bartocci et al. (2023) highlight that the evolution of participatory budgeting spans public administration, economics, information systems, and civic technologies, calling for integrated research agendas that reflect this complexity. Their findings underscore the need to study participatory budgeting not only as a governance tool but also as a platform for innovation, democratization, and social inclusion.

Research on civic budgeting notes that civic budgets are a significant element in shaping good practices in democracy and participation of the youngest

citizens, as indicated, among others, by the analyzed case of the Częstochowa civic budget (Widawska, 2017). The literature points out that public participation is becoming an important tool for local government practice, and the civic budget itself allows for the inclusion of residents in the process of co-governance, so in effect, such a budget can be treated as a tool for local development. Studies also emphasize that participatory budgets, compared to other forms of involving the public, are the most accessible to so-called *ordinary residents* which is their advantage over other tools (Sobol, 2017). The body of work emphasizes and points out the important features of the civic budget, which include: public discussion among residents as an integral part of this budget; the subject of discussion boils down to indicated financial resources; the lack of restriction of the civic budget to one district, neighbourhood or institution; the fact that the results of voting on the budget are binding and that it is not a one-time process but a long-term one (Sempiak, 2017). Publications emphasize the role and importance of the civic budget in the process of knowledge sharing, particularly highlighting the sharing of knowledge by members of the information society in the innovative creation of the civic budget and pointing to the possibilities of using Web 2.0 technologies in this process (Hauke, 2018). An important and interesting strand of research is the role of the civic budget in shaping the spatial development of the city. Such research was conducted for the City of Katowice. As a result of the research, it was shown that the civic budget has significant advantages, but it can also lead to the *disintegration of the urban fabric* (Studencka, 2017).

In foreign-language literature, the currents of research are like the problems described, above presented against the background of domestic publications. In particular, considerations of the civic budget in foreign publications concern: the civic budget as a tool for developing local democracy (Kempa, Kozłowski, 2020); analyzing case studies of civic budgets, for example, in Porto Alegre (Novy, Leubolt, 2005) or Sao Paulo (Acharya et al., 2004); the informational function of the civic budget (Kiselev et al., 2018), or the civic budget as a form of influencing budget processes (Thindawa, 2009).

The context of research on the civic budget is broad, this research addresses the issue of using the civic budget as an instrument to support the building of local democracy, but also as a tool for managing local development and

acting on land use. An important research thread is the connection of the civic budget with decision-making and information management in the context of the use of modern technologies.

In the digital age, where information and communication technologies are constantly transforming our daily lives, there are more and more opportunities for innovative forms of involving local communities in decision-making processes (Pajor, 2022) regarding the management of public resources. One such innovative approach is civic budgeting based on the principles of crowdsourcing (Chrisidu-Budnik, Korczak, 2014), that is, harnessing the knowledge and ideas of communities using appropriately adapted information and communication technologies. This participatory form represents a whole new dimension in the relationship between authorities and citizens, allowing residents to directly influence the direction of public spending and thus shape the future of their communities. Recent scholarship highlights how digital participatory budgeting platforms represent an evolution of traditional crowdsourcing, shifting from simple idea gathering to a more complex system of co-governance. As Spada et al. (2021) demonstrate through research in Brazil, such platforms not only broaden participation but also increase transparency and responsiveness of public institutions. Similarly, Sæbø, Rose, and Flak (2022) point out that while digital tools facilitate civic engagement, they also introduce new concerns regarding inclusivity and equitable access to participation. Recent studies show that the COVID-19 pandemic acted as a catalyst for the digitalization of participatory processes, including civic budgeting initiatives in Poland. As Roztocki, Strzelczyk, and Weistroffer (2024) note, the necessity of remote participation encouraged local governments to adopt e-participation tools that are now likely to remain an integral part of future citizen engagement strategies. This transition aligns with the broader transformation of civic engagement into a hybrid model—blending in-person and digital participation modes.

A participatory budget can be understood as a special form of participatory crowdsourcing, which differs from classic applications of crowdsourcing in the private sector but is based on the same logic: an open call to a wide group of recipients—in this case, residents—to actively participate in the process of solving public problems. The local public administration acts as the initiator (the client), defining the framework and rules for participation, while citizens,

as a collective *crowd*, are both the authors of investment ideas (crowd creation) and the decision-makers who select the best solutions (crowd voting). This structure corresponds to the participatory crowdsourcing model, in which the community's contribution does not end with suggestions or one-off opinions, but includes real co-decision-making on the allocation of public funds. In practice, participatory budgeting thus becomes a tool for democratizing local governance, based on the principle of shared responsibility and co-creation, while also serving as an incubator for the growth of social capital, civic engagement, and trust in public institutions.

In this context, there is also a new term *crowd citizen*, which combines elements of crowdsourcing with active citizen participation in public life. It is a phenomenon of active, participatory participation of citizens in generating and evaluating community projects, within the framework of the civic budget using modern technologies and ICT means. It responds to the growing need for deeper democratization and public participation. Crowd citizen is a combination of two concepts: (1) crowdsourcing or harnessing the wisdom of the crowd to solve problems or get things done, and (2) citizenship, or citizen participation in social, political, and public life. Unlike traditional crowdsourcing, which often focuses on gathering ideas, solutions, or funding from the broader community for a specific business or technological problems, crowd citizen emphasizes active citizen participation in shaping social, political, and public life, which in practice means taking the initiative and getting involved in community development ventures. In other words, it refers to the involvement of local community citizens in decision-making and implementation processes, using existing types of crowdsourcing such as: crowd creation (crowdsourcing of services) – the collective creation of public projects or initiatives by the community; crowd voting (crowdsourcing of opinions) – voting for specific projects or ideas that should be implemented with public funds; crowd wisdom – (crowdsourcing of knowledge and ideas) using the collective knowledge of the community to identify and solve social problems; crowdfunding (crowdsourcing of funds) – collective financing of projects of a public or social nature.

The civic budget, as one form of crowd citizen, thus illustrates how this new tool can be used practically to directly influence decisions affecting local communities. It is thus an extension of the crowdsourcing concept to the field

of public management and civic participation in various contexts. Moreover, participatory budgeting aligns with broader democratic innovations that seek to embed citizen knowledge and collective judgment into governance. Scholars such as Sintomer and Ganuza (2020) argue that civic budgets serve not only as allocation tools but as arenas for democratic experimentation, where citizens redefine the boundaries of political participation. By allowing residents to decide on the allocation of a portion of public funds to projects submitted by citizens themselves, the civic budget implements the tenets of crowdsourcing, including crowd creation and crowd voting in the following ways:

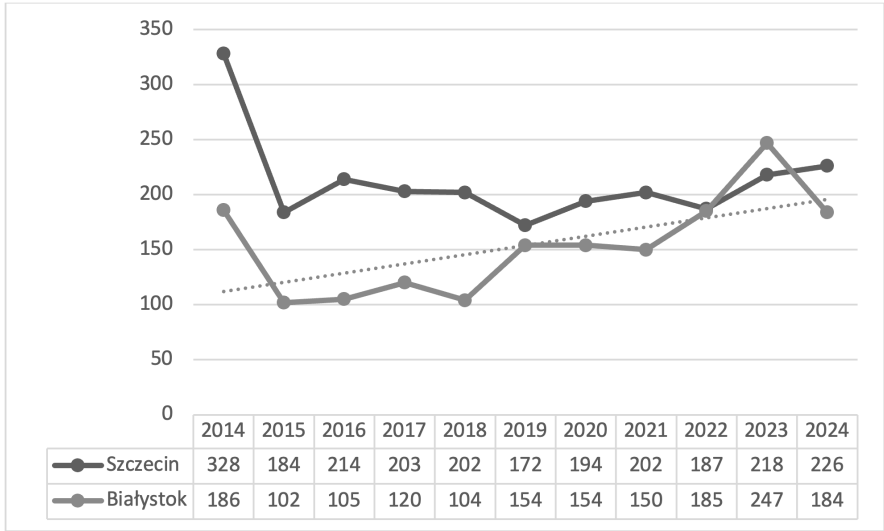
- Crowd creation: the civic budget allows the community to create projects and ideas for public investment. Residents could submit proposals for infrastructure development, social services, or other initiatives to improve the life of the local community.
- Crowd voting: As part of the civic budget, residents also could vote for the projects they deem most valuable or important to their community. By participating in voting, citizens have a direct impact on decisions regarding the allocation of public funds.

Citizen budgeting, based on crowdsourcing, is a bottom-up process in which the community decides on priorities and investments at the local level, transcending traditional methods of public management. Modern technologies play an invaluable role in the development and implementation of the civic budget. Thanks to online platforms, mobile apps and other digital tools, the process is becoming more accessible and affordable to a wide range of citizens. Technology not only makes it easy to submit project proposals and vote for them, but also fosters greater transparency and the ability to monitor the progress of selected initiatives. In this way, digital tools not only streamline but also democratize the decision-making process, making public participation more effective. The participatory budget can be further conceptualized as a form of open-call crowdsourcing, where not only the ideas but also the collective will of citizens shape municipal agendas (Aitamurto & Landemore, 2021). Unlike traditional top-down governance, such frameworks allow the emergence of distributed deliberative intelligence among the crowd, contributing to democratic resilience and innovation.

RESULTS

The crowd creation indicator for the civic budget instrument is the number of projects submitted for implementation each year. It reflects involvement in the creation of solutions, responding to the expectations of the residents themselves, and involves direct causality, i.e. the submission of a specific idea or ideas in the form of a ready-made infrastructure project for evaluation (substantive by experts and acceptance by residents). This attitude can be seen as a higher level of involvement of residents in the process of changing their own surroundings, as it requires a significant amount of time for conceptualization and development of the relevant project documentation.

Figure 1. *The number of projects submitted for implementation under the civic budget in Białystok and Szczecin in 2014-2024*



Source: own compilation based on data from the Public Information Bulletin of the Białystok City Hall and the Szczecin City Hall.

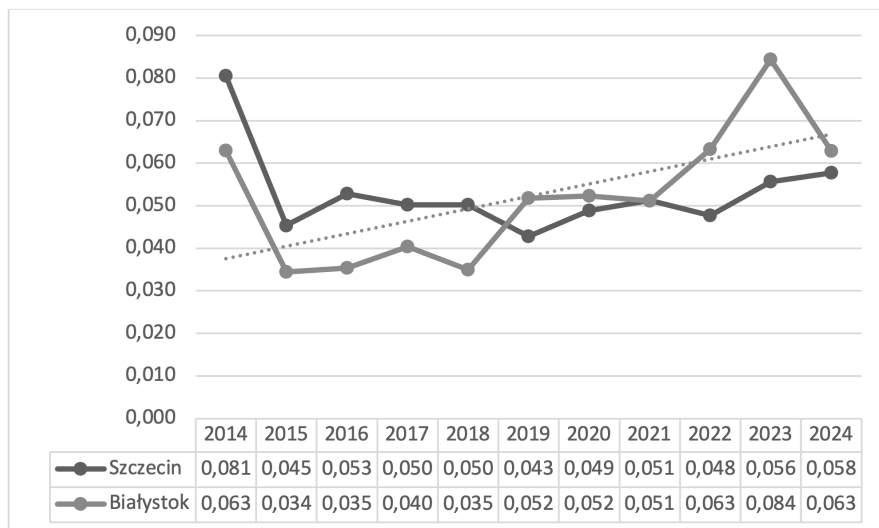
The number of projects (ideas) submitted by residents of Szczecin for implementation as part of the civic budget has remained at a similar level since the beginning of the initiative, varying slightly from year to year (the deviation from

the average number of submitted projects, in this case, is 25.22). Slightly greater fluctuations in the number of projects submitted for implementation under the civic budget are shown by residents of Białystok (in their case, the deviation from the average number of submitted projects is 34.12). The data clearly shows that the moment of launching the civic budget initiative was met with the highest level of direct involvement in the process of changing the environment, i.e. the highest number of projects submitted by the local communities of both cities (in 2014, Szczecinians submitted 328 projects, and residents of Białystok submitted 186 projects). The experience of the first year of the civic budget showed that too large many submitted projects resulted in the dispersion of the local community's votes, and the relatively small budget limited the possibility of implementing more expensive investment projects. In the second year of civic budget operation (i.e. 2015), there was a significant decrease in the number of submitted projects in both analyzed cities. In the case of Szczecin, there is a stable number of projects submitted by residents each year to the civic budget. In the case of Białystok, on the other hand, there is a tendency to increase the level of involvement of residents in the creation of infrastructural solutions.

Comparison of the level of occurrence of a phenomenon (p) is possible using the phenomenon index per 100 residents (i_p) created during the analysis, which was calculated using the following formula:

$$i_p = \frac{\text{number of } p}{\text{number of residents}} \times 100$$

The index of the level of creativity per 100 residents is therefore the number of submitted projects for the civic budget divided by the number of residents and multiplied by one hundred. The results thus obtained make it possible to compare the two cities in terms of the creativity of their residents, as shown in Figure 2.

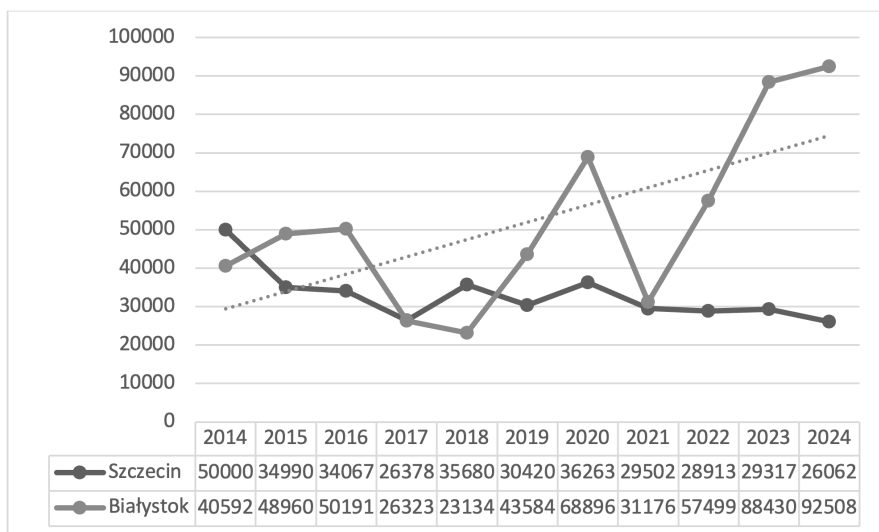
Figure 2. *Creativity index of Białystok and Szczecin residents in 2014-2024*

Source: own compilation based on data from the Public Information Bulletin of the Białystok City Hall and the Szczecin City Hall.

The data presented in Figure 2 shows that only a small number of residents are involved in creating new ideas and solutions for their city. The highest value of the creativity index does not exceed 0.081 for residents of Szczecin (2014) and 0.084 for residents of Białystok (2023). In the analyzed period (2014-2024), there is a stable level of creativity of Szczecinians (the deviation from the average in this case is 0.006) and a tendency to increase the level of creativity among residents of Białystok (the deviation from the average in their case is higher at 0.011). There was a breakthrough in 2019, when the level of creativity of Białystok residents surpassed that of Szczecin residents, and this slight advantage has continued ever since.

The crowdvoting indicator for the civic budget instrument is the number of people who participated in voting for the submitted and merit-verified projects.

Figure 3. *The number of people who participated in the civic budget voting in Białystok and Szczecin between 2014 and 2024*



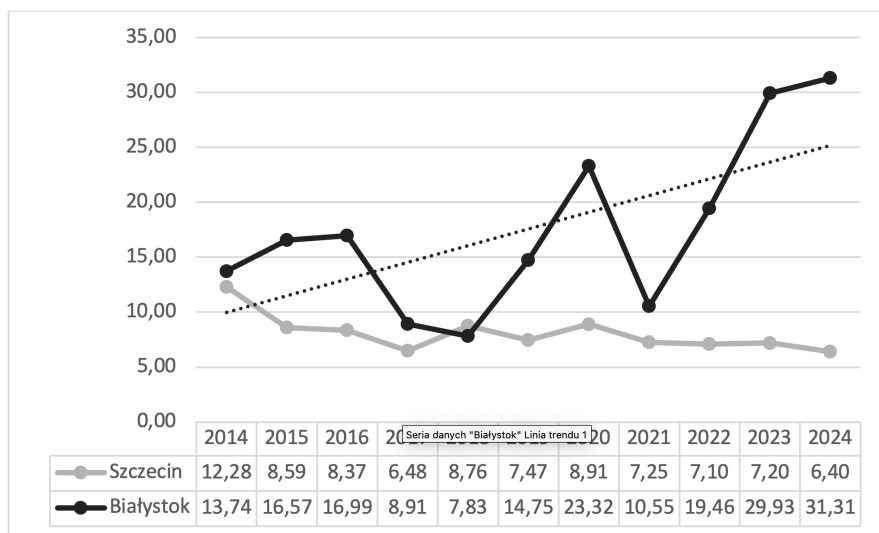
Source: own compilation based on data from the Public Information Bulletin of the Białystok City Hall and the Szczecin City Hall.

The data presented in the table shows significant differences between the analyzed cities. In Szczecin, there is a systematic decline in the number of people who participate in voting in the civic budget. In 2014, almost every eighth person voted in the civic budget and in the last year (2024) only one in fifteen residents took part in this initiative. However, the downward trend is quite mild (the deviation from the average in this case is 4440). In Białystok, on the other hand, the trend is the opposite, which means that an increasing number of residents are taking advantage of the opportunity to vote under the civic budget initiative. However, the increase in the number of people casting a vote is not obvious and has the character of an alternating increase and decrease (the deviation from the average in this case is 16598.35).

Comparison of the two analyzed cities requires the calculation of an indicator of residents' involvement (per 100 residents) in voting in the civic budget, which was constructed analogously to the indicator of residents' creativity.

The result of the calculation is more precise (*sensitive*) than in the case of the crowd voting indicator and is shown in Figure 4.

Figure 4. *The rate of involvement of residents in voting in the civic budget in Białystok and Szczecin between 2014 and 2024*



Source: own compilation based on data from the Public Information Bulletin of the Białystok City Hall and the Szczecin City Hall.

The data presented in Figure 4 shows that residents of Białystok are more likely to engage in civic budget voting than residents of Szczecin. In all previous editions of the civic budget, an average of 8.07 per 100 Szczecinians and 17.58 per 100 Białystok residents participated in voting on approved projects. In addition, residents of Białystok have shown a tendency to increase their commitment to participate in voting on projects submitted to the civic budget. At the beginning of this initiative (2014), 13.74 out of 100 residents of Białystok participated in voting, while in the last edition of the civic budget, 31.31 out of 100 residents of this city indicated their favorites among the approved projects. On the other hand, the residents of Szczecin seem to be less and less interested in enjoying the privilege of deciding on some of the city's investments. In the first edition of the civic budget, 12.28 out of 100 residents of this city cast their vote,

while in the latest edition (2024) it was already 6.40 out of 100 Szczecinians. The observed trends in the attitudes of residents of the two analyzed cities also run differently. That is, in the case of Szczecinians, the decrease in interest in casting votes for projects approved in the civic budget proceeds quite *gently* (the deviation from the average is 1.09 in the type). On the other hand, the increase in the level of involvement of Białystokers takes place by leaps and bounds (the deviation from the average in this case is considerably greater at 5.62).

DISCUSSION AND CONCLUSIONS

The dynamic development of modern technologies, especially information and communication technologies and the Internet, is causing changes in many areas of reality. One such application that can be considered in terms of radical innovation is the use of the idea of crowdsourcing in civic activity and building civil society through, among other things, the instrument of the civic budget. In practice, this boils down to the use of the knowledge of the crowd (in this case meaning the residents of a particular city) not only in the evaluation of individual investment projects (crowd voting), but also in the generation of ideas (crowd creation) for the development of a particular urban space.

Our analyses indicate that the extent to which crowd knowledge is used in the areas of idea generation and evaluation in the implementation of the civic budget idea varies. Data on the implementation of the civic budget in two cities show two different trends in community attitudes. Despite similar legal and social conditions and the same maturity period, the Białystok community is increasing its involvement in the idea of a civic budget, while the Szczecin community is reducing it. We suppose that the differences in the attitudes of the indicated local communities are primarily socio-cultural and political, which requires further in-depth research to be able to fully explain the reasons for this situation.

The analysis of case studies of the implementation of the participatory budget in two cities clearly shows how important a role citizens themselves can play in the decision-making processes. Examples of citizen budgets from various cities and around the world prove the effectiveness of this type of project in strengthening civil society and building trust between residents

and authorities, but not only that. They also prove that crowdsourcing can be used not only for business or technological purposes but also as a tool for democratizing decision-making processes.

Implementing the idea of crowd citizen, including participatory budgeting and other forms of participation, involves many challenges. These include ensuring equal access to decision-making processes for all citizens, counter-acting digital exclusion, as well as social education aimed at raising awareness of the possibilities of active participation in public life. At the same time, the development of digital technologies offers extraordinary opportunities to increase the scale and effectiveness of these activities, opening new spaces for social dialogue and cooperation between citizens and authorities. The participatory budget is just an example of how this idea can be practically applied to build more engaged, aware, and responsible communities. The challenges associated with implementing such ideas are as great as the opportunities they offer, and their future will depend on the readiness of societies to experiment, adapt, and cooperate for the common good. We can therefore expect that future platforms and initiatives will focus on facilitating dialogue between the community and local authorities, enabling citizens to express their ideas, opinions, and needs, as well as participating in decision-making processes that affect the life of the community.

Moreover, recent advances in data science and algorithmic modeling are opening new opportunities for optimizing participatory budgeting processes. Faliszewski et al. (2023) propose using structured data and analytical tools to better understand voter preferences, improve vote aggregation methods, and simulate project outcomes. These developments point to a future in which civic engagement is enhanced not only by citizen motivation, but also by evidence-based tools that ensure fairer and more effective allocation of public resources. These transformations also raise questions about the institutional adaptability required to sustain such innovations. As Wampler and Touchton (2021) suggest, only when participatory institutions are robustly designed and transparently implemented can they enhance well-being and trust in governance.

Economic and social benefits resulting from a social initiative such as the citizen budget occur on both sides, i.e. local governments, and local

communities. Easy access to participation in the citizen budget, as Sobol (2017) notes, awareness of the agency of action and transparency of the rules for carrying it out should encourage *ordinary citizens* to increase their involvement in co-management by submitting ideas that meet their needs and actively and responsibly voting on them.

To limit the decline in activity and thus the increase in dissatisfaction of the local community, it is necessary:

- analyzing the attractiveness of groups of projects within the participatory budget, indicated by local governments, and modifying them to meet the needs of citizens;
- conducting information campaigns promoting the civic budget and raising awareness of the role of involvement of local communities in its implementation;
- identifying and monitoring the causes of varying community involvement in voting on projects;
- local governments organizing substantive support points for residents in the preparation of project documentation;
- conducting social campaigns promoting pro-social behavior and showing the benefits of implementing projects.

The findings of this study allow us to formulate several broader reflections on the nature of participatory budgeting as an evolving instrument of civic engagement and public governance. First, the divergent trends observed in Białystok and Szczecin highlight that the success of civic budget initiatives depends not only on legal frameworks or institutional maturity but also on contextual, often intangible, socio-cultural factors. This confirms that civic participation should not be analyzed solely through administrative or procedural lenses, but also as a dynamic social practice rooted in local identities, trust in public institutions, and informal networks of civic leadership (Bartocci et al., 2023; Kempa & Kozłowski, 2020).

Second, the growing role of digital tools in participatory budgeting—accelerated by the pandemic—raises new opportunities but also challenges. While online platforms facilitate access and transparency, they may reinforce digital exclusion among certain population groups, especially the elderly or digitally

marginalized (Roztocki et al., 2024; Davies et al., 2022). Therefore, future civic budgeting strategies should adopt a blended approach that combines digital and traditional forms of engagement. Moreover, the adoption of data-driven decision-making tools (e.g., vote aggregation algorithms) should be accompanied by public education on their logic and fairness to maintain trust in the system (Faliszewski et al., 2023; Fairstein et al., 2024).

Third, the results support the interpretation of participatory budgeting as a form of civic crowdsourcing. However, our study shows that the intensity of crowd creation and crowd voting is not stable over time and varies geographically, which calls into question the assumption that once introduced, such processes will naturally become self-sustaining. This suggests the need for continuous institutional support, including informational campaigns, project facilitation for first-time participants, and mechanisms for feedback loops after project completion. Without such support, participatory budgeting may risk becoming a symbolic gesture rather than a transformative tool for inclusive governance (Lenart-Gansiniec, 2017; Sobol, 2017).

Finally, from a theoretical perspective, these findings contribute to the understanding of participatory governance as a hybrid model, blending deliberative and aggregative elements, and requiring a balance between institutional design and civic agency. The future of participatory budgeting—and more broadly of civic crowdsourcing—depends on the readiness of local governments to treat citizens not only as voters or beneficiaries, but as co-designers of public value (Burchard-Dziubińska, 2014; Pajor, 2022).

Given the above findings, it seems necessary to undertake further research on this topic, and on the socio-cultural, economic, and political reasons for the observed different tendencies in the attitudes of the local communities of the two cities.

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