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Participatory Budgeting in the Digital Era: A Comparative Case Study of German Cities

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Abbreviations

PB	Participatory Budgeting
PR	Public Relations
AI	Artificial Intelligence
ICT	Information and communication technologies
SMS	Short Messaging Service

1 introduction

Managing a city, independent of its size, is a complex matter. City administrators must balance the expenditures with the limited budget a city might have, and this budgeting plan must be approved by the city council in Germany (Bundesministerium der Finanzen 2015). Administrators must ensure that the city can cover the costs for the services they are responsible for, such as schools, roads, parks, and other public facilities like libraries and museums. The city's income consists mostly of the collected taxes (trade, sales, property, income taxes) but also from loans, stakes in companies, and investment grants given by the state, central government, or European Union (European Commission 2020). But who decides what to spend money on?

The basic law, as well as the state constitutions in Germany, give cities and towns the right to locally self-govern, meaning the municipal administration and the municipal council are authorized and responsible for allocating the budget of the city, otherwise known as a communal budget (Bundesministerium der Finanzen 2015). First, a draft budget is composed by the city administrators; this is normally the task of the mayor and the director of the municipal finance department. Then, this draft is presented to the city council. In Germany, this draft proposal is also publicly published so citizens can stay informed on current and future city spending. Both the city council and regular citizens can suggest amendments to the budget proposal, and these suggestions will be discussed during the budget discussion sections in the city council meetings. Requests that get a majority vote will be added to the proposal, and these can include changes in the tax rate, the approval or denial of taking on new loans, new investments into different projects, or the discontinuation of initiatives. After a deliberation period which depends on the city, the final budget for the next one or two years is approved and will be implemented accordingly (Wißmann 2021).

One relatively novel method in which citizens can take a more active approach to shape how the city budgets are managed is called participatory budgeting (PB), a technique pioneered in Porto Alegre, Brazil, in 1989. This method has been studied by academics and used by city administrators as a democratic innovation to increase transparency, inclusiveness, accountability, and better communal governance. Additionally, it aims to improve the citizens' understanding of the budgeting processes, aiding the influence of policy and the allocation of public resources. PB works as a mechanism that can improve a government's responsiveness to citizens' needs and lead to a higher quality of democratic participation (Shah, 2007, 17). These are some of the main reasons why participatory budgeting is an important governance tool: it improves state capabilities while potentially increasing democratic participation.

Engaging with participatory budgeting can open complex and obscure procedures to the public that would empower citizens to understand their rights and duties within society better and provide an equal ground for negotiations over the distribution of resources (Shah, 2007, 48). It gives citizens a clearer overview of how their tax money is spent and if the administration is spending responsibly. The engagement and participation of citizens when it comes to the communal budget is a way of democratizing the decision-making of the budgeting process (Boukhris et al. 2016). It enables new input forms to develop a more transparent and responsible community. Governments that use PB help build a shared sense of community and incentivize a proactive, innovative, transparent, and understandable budget strategy. This, in return, can increase deliberation and participation, helping to establish partnerships for the inclusive planning of programs and services (Mitchell 2014). Digital tools have become popular tools to support PB projects; tools like online platforms, interactive dashboards, and social media can increase access to PB projects, enhance communication, and increase participation (Barros and Sampaio 2016).

Participatory budgeting is a concept that has been experimented with in German cities for the past 15 years; there are currently around 80 cities and towns in Germany that have an active participatory budgeting process (Berlin Institut für Partizipation 2021). Germany has 10.796 cities and municipalities, meaning that only 0,07% of municipalities offer these initiatives. Some projects that claim to be successful are the cities of Stuttgart, Freiburg, and Monheim am Rhein, amongst others (Bertelsmann-Stiftung 2021). However, one of the main issues in many other cities is the participation rate, or the number of participants in these initiatives, is disappointingly low, ranging from 0,3 % to the absolute highest amount recorded yet of 16,4%, which is still not a satisfactory number of participation (Konrad-Adenauer-Stiftung 2015). A possible cause for this, according to the literature, is that regular citizens can only devote so much limited time to active political participation (Uittenbroek et al. 2019), which reflects the usage of PB initiatives as a political tool that alienates citizens who are not interested in party-based politics (de Renzio et al. 2019). The complex web of PB initiatives, citizen participation, and the city (re)actions within those initiatives make PB difficult. It is unrealistic to expect the “average citizen” to devote time and effort to participate (Ebdon & Franklin, 2006; Wang & Niu, 2020), and this can lead to initiatives performing poorly, which then can increase the disillusionment with the democratic processes and institutions (McNulty 2019). This predicament leads to the main research question:

How are established best practices and digital tools applied in participatory budgeting initiatives in German cities?

Since this research was conducted inductively, gathering data first and extracting insights and conclusions from the collected data, no other sub-questions or hypotheses guide this research. This research will focus on the factors contributing to the success of PB initiatives and evaluate different digital tools that could improve the existing processes. It is already well-established that participation is the most important factor in success in PB. However, other factors can contribute to the success of these projects, such as effective communication and outreach by the city stating clear objectives and guidelines, building capacities for effective participation to support local citizens and city administrators, following a transparent process, and monitoring and evaluating the different stages of the initiative to optimize its performance. Digital tools can also enhance existing or upcoming initiatives, including online participation platforms (websites or forums), interactive budget visualization tools to familiarize citizens with the budgeting process, online education resources, and social media campaigns to engage with locals and promote the initiative. Hence, this research will focus on the different aspects of this socio-technical phenomenon to provide a holistic overview of the best practices used in PB initiatives and compare these established best practices with currently ongoing PB initiatives in various German cities.

To do so, the literature review of this research will focus on the different core concepts of a modern participatory budgeting initiative, what PB is, where it comes from and why it is important, what factors have made PB initiatives successful, and digital tools to enhance PB initiatives. The methodology will be introduced as a mixed approach; first, a self-designed questionnaire will be filled out with data that is publicly available about the selected cities' PB projects and information about the practices used in the PB projects that are being conducted in their respective cities will be collected first. Then, qualitative interviews will be shown after the survey with the city's project managers to delve deeper into the contextual details of the outlier cases. With this, it will be possible to answer the research question and give a holistic overview of the best practices used by city administrators in Germany. This research aims to identify best practices that can be used to conceptualize future PB processes, thereby helping citizens voice their preferences and values when allocating resources. The results can serve as a comprehensive overview of best practices for PB projects and how, the current landscape and the way they are implemented in German cities. This could guide German towns and cities, and municipalities outside Germany looking to implement or improve their PB projects. This research also displays how different digital tools are perceived and used in various German cities, contributing to the knowledge about the intersection between democratic processes and technology.

2 Literature Review

A growing body of literature and cases have been published about PB as it has gained more and more popularity in the past few decades (Ebdon & Franklin, 2006; Warren, 2014; Schneider, 2018; Shah, 2016; Röcke, 2013). There is literature on the importance of citizen participation and how to increase it (Moynihan 2007; Cantador & Cortés-Cediel 2018), in which part of the process citizens should participate (Mattei et al., 2022; Krenjova, J & Raudla, R. 2013), how to structure initiatives (Williams 2017; Davies et al. 2021) and what tools to use (Cantador & Cortés-Cediel 2018, Mærøe et al. 2021). Yet there is a research gap in pinpointing PB projects' potential pitfalls and shortcomings and, consequently, the lack of practical and holistic guidelines that aid better practices.

This literature review aims to gain a theoretical understanding of relevant concepts regarding PB to appropriately identify best practices and their characteristics and understand the role of digital technologies and tools in PB. This literature review will be presented largely in three parts.

First, the theoretical foundation for this research will start with the basic and overarching topic of participatory budgeting: what it is, where it comes from, why it is important, and how it can be implemented. The issue of participation will be examined, and why it constitutes such a crucial part of every PB initiative. This theoretical foundation will present the history of participatory budgeting in Germany and its current landscape.

The second part will focus on the best practices employed in PB projects, design techniques, administration and management strategies, organizational methods, and what institutions can do with the results and follow-up of a PB project.

The final part of the literature review will showcase digital tools that can be used to enhance existing or future PB projects. Detailed explanations of how PB websites and online platforms function as digital tools for PB projects, different forms of data visualization for budgeting purposes, and educational online resources for capacity building will be examined. Social media and AI will also be researched as tools for optimizing PB processes.

2.1 Participatory Budgeting

Participatory budgeting has various definitions and conceptual frameworks to understand further what it is. However, it can be said that PB is the most prominent name given to describe a democratic process that is used for making decisions and negotiating the distribution of public resources (Shah 2007). This research highlighted the potential of

PB to improve democratic decision-making, state performance, and decentralization of power. Another definition that supports this is the process of engaging citizens, governments, non-governmental organizations (NGOs), and other types of organizations in exchanging information, engaging in civilized discussions, active deliberation, decision-making, implementation, and monitoring the financial resources, and financial decision-making a neighborhood, city, county, or state has (Mitchell 2014). This innovative process allows the local community and residents to decide on public resource allocation and service provision. This process is valuable because it aims at improving three different democratic needs: improving the quality of democracy, improving state performance, and decentralizing decision-making power. It enhances the quality of democracy through participation and deliberation of budgetary decisions. It improves the state's performance by setting more rules, constraints, and checks on the municipal government regarding financial decisions. It decentralizes decision-making by opening the budgeting process and allowing citizens to influence budget allocation (Shah 2007).

In addition to PB being a democratic tool, it also opens municipalities' complex and mostly inaccessible budgeting process to residents. This creates an environment that fosters discussions between citizens and administrators or representatives about taxation, spending, cost-cutting, and implementation. It can “confront social and political legacies of clientelism, social exclusion, and corruption by making the budgetary process transparent and public” (Wampler 2000, 2). Participatory budgeting initiatives also serve as a learning tool for citizens and representatives as it empowers them to engage in a better understanding of rights and duties by citizens and their governments and levels the playing field for both parties so that a better discussion and negotiation over public resources becomes possible (Wampler 2000).

To better understand the different aspects of participatory budgeting, various scholars have proposed frameworks to describe the key elements of these processes. A few prominent frameworks will be stated here.

According to Röcke (2014), five different aspects encompass most PB processes:

1. PB initiatives focus on financial or budgeting manners.
2. The city or district and its elected representatives or some administrative powers are part of the process.
3. It is a repeated process (one-time referendums or consultations regarding communal budgets do not count as participatory budgeting).
4. It includes a public discussion and deliberation in meetings or an open (offline/online) forum.
5. Accountability on the output if the process must be established.

These steps can be paralleled to the ones suggested by Mitchell (2014), in which PB is displayed as the following cycle:

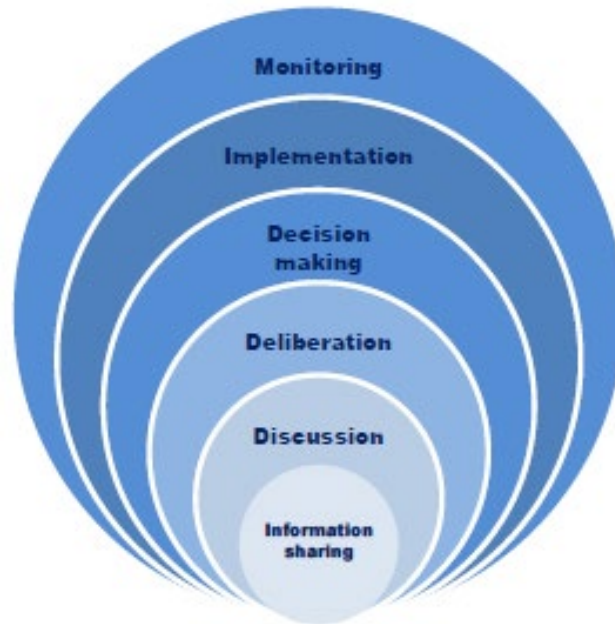


Figure 1: Participatory Budgeting Cycles - Mitchell 2014, 79

Using the frameworks provided by Mitchell and Röcke, it is possible to conceptualize a Participatory Budgeting process as the following:

1. A political decision allows citizens to participate in budgeting (Röcke 2014).
2. Information about the PB process and the opportunities for citizen participation is communicated to the population and the relevant administrative parties. (Mitchell 2014).
3. Public discussions occur, during which citizens and administrators deliberate on the proposed budget and suggest changes (Röcke 2014; Mitchell 2014).
4. Administrators assess the viability of the proposals and make decisions accordingly. Further discussions and deliberations may be necessary until a final budget plan is agreed upon (Mitchell 2014).
5. Once the budget is approved, administrators are held accountable for its implementation. Civil society actors or individuals can monitor the process, providing an additional layer of oversight (Röcke 2014; Mitchell 2014).
6. The PB process is repeated each time a new budget must be approved (Röcke 2014).

In short, it is possible to understand participatory budgeting as an innovative approach to democratic decision-making by involving citizens, governments, NGOs, and other organizations in allocating public resources. Focusing on the local budget and involving elected representatives allows a general discussion and deliberation for financial

decisions, increasing transparency and empowering citizens and administration to understand their rights and responsibilities better. To better understand the impact of PB, it is important to review its history, starting in Porto Alegre, Brazil. The initial PB project has set a benchmark for shaping—local governance and fostering a more inclusive and responsive bottom-up-driven democratic system.

Considering the pre-existing frameworks, the subsequent literature review was conducted. However, it was noticed that most of the literature either dealt with the theoretical aspects of participatory budgeting, focused on specific case studies or country-specific contexts, on particular parts of the participatory budgeting process, like the voting methods or on the tools that were used to enhance the process, the original approach of this research is to combine the different parts of the literature to provide a holistic picture of the theoretical foundations of PB but also all the steps it encompasses, which tools are used for it and how it translates into practice through the collection of empirical evidence from nine cities in Germany.

2.1.1 History of Participatory Budgeting

Participatory budgeting originated in the Brazilian city of Porto Alegre in 1989. The political context surrounding the country's state played a major role in the development of PB. In the late 80s, Brazil had just emerged from a military dictatorship characterized by heavy clientelism and corruption by the political elites (De Sousa Santos 1998). The countries' economy was not in the best state, limiting the state's ability to act. Participatory budgeting was an idea advanced by the Worker's Party, the progressive political party that won the mayoral election in 1988 (Wampler 2000). The idea was to involve most of the population in the political process and the spending priorities. PB countered the long trend of prioritizing public funding for middle- and upper-class neighborhoods (Wampler 2000). According to Avritzer, the emergence of PB in Porto Alegre can be attributed to three factors:

1. The new Brazilian constitution of 1988 explicitly expands the participation methods for individuals and civil society groups in policy making (Avritzer 2006).
2. A solid network of neighborhood organizations in Porto Alegre were all united under a bigger umbrella organization that called for the participation of all citizens in the budget planning (Avritzer 2006).

3. The Victory of the Workers Party in the mayoral election in 1988, a party with close ties to the previously mentioned neighborhood organizations (Avritzer 2006).

Though it had a slow start, with less than 1000 participants joining the initiative in its first two years, 1989 & 1990, the process gained popularity as soon as people started seeing the implemented results. By 1992 the number of participants had grown to 8000. After the Worker's Party's re-election the same year, the participation rate increased to more than 20,000 participants a year in the following decade, becoming an established decision-making process for citizens and their representatives. This process improved the overall situation of the municipality, increasing the percentage of the public budget available for investments to nearly 20% in 1994 from 2% in 1989 (Bartocci et al. 2022).

The process established a positive feedback loop in which administrators and elected officials supported and optimized. It increased the budget for PB, and citizens saw the positive results and thus decided to participate in the process. One notable feature was that this was being done with an established blueprint for the process; there needed to be empirical data to rely upon, and it was a process that kept improving through discussion and deliberation by citizens and organizations. Being mostly supported by the PT (Partido dos Trabalhadores – Workers Party), the PB process in Porto Alegre became a reflection of the party's grassroots movements and critical attitude towards the existing status quo in the state, which favored middle- and upper-class citizens (Bartocci et al. 2022). This even led to the creation of a specific office (GAPLAN) to legitimize PB decisions and make them as binding as possible while maintaining the PB process as an independent mechanism to avoid biases. Ultimately, not only did the number of participants increase, but also the percentage of the total budget allocated to PB went from 17% to 21%, signifying confidence in the effectiveness of the process (Bartocci et al., 2022).

The increase in participants could be explained by how the PB project in Porto Alegre was originally structured. There are eight thematic assemblies within each of the 16 districts where the community and civil societies can propose budget priorities and new investments. These proposals are also scrutinized and discussed during these assemblies. Elected deputies on the PB committee finalize the recommendations and negotiate the budget with the administration (Avritzer 2006). The PB committee would meet monthly with smaller groups in various districts to get a more comprehensive picture of fruitful participation's local, technical, and administrative needs. This PB committee can also question why the administration would veto certain proposals submitted by the citizens. The elected committee can also shape or change procedural rules of the PB for its district, allowing for more autonomy for the citizens (Avritzer 2006). Sharing the budget

responsibilities with citizens aims to increase the effectiveness of budget allocation by synthesizing certain budget priorities through proposals and discussion. However, it also challenges reaching a critical mass of participants and elevating the debate to a level where most participants understand the process and its complexities (Avritzer 2006).

The most notable successes of PB in Porto Alegre are the infrastructure improvement, especially in socio-economically weaker areas of the city, as well as an increase in the participation in civil societies through neighborhood initiatives (Wampler 2000). Since the introduction of PB, there has been an increase in transparency and accountability by the citizens and administrators (Avritzer 2006). Although there are still some conflicts of power and legitimacy between PB representatives and the municipal administration, the PB process in Porto Alegre can be seen as a social and politically successful bottom-up democratic innovation (Bartocci et al., 2022). The Porto Alegre PB process maintains its success by maintaining its focus, active local participation, and adapting internal processes and structures to maximize participation and discussion; civil organizations also maintain an active role leading to a strengthened sense of community (Bartocci et al. 2022). As we can see in the graph below, the number of participants in the PB project in Porto Alegre consistently grew until 2003, when it reached a maximum of 20000 participants, highlighting the project's popularity and the citizens' willingness to participate.

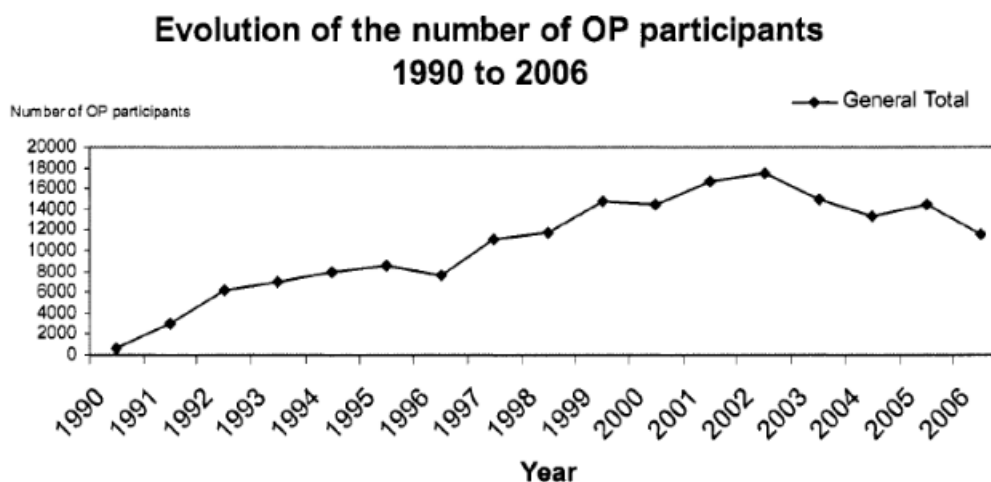


Figure 2: Participants in PB in Porto Alegre – World Bank 2008, 23

PB is a process that takes multiple years to show its effects truly. It is also worth mentioning that despite its local success and PB in Porto Alegre is a brilliant case that was able to spread this idea not only through Latin America but worldwide, it is still unable to solve some of Brazil's most pressing problems, such as poverty, inequality, violence, and political corruption (Wampler 2000). A comparative study of 220 Brazilian cities between 1991 and 2000 found no correlation between having a PB initiative present

and an increased Human Development Index (Boulding & Wampler 2010). However, it does serve as a case of successful political participation initiatives that can be broken down even to individual neighborhoods. This case brings many small individual elements together and allows citizens to have a tangible influence on the budget (Avritzer 2006). The process that started in Brazil has spread across the globe. Even though it has not been adapted everywhere this rigidly, it has served as a basis for implementation in the local context, combining it with other approaches for gender and minority inclusion policies, as well as modernization and reform efforts for different administrations (Sintomer et al. 2010).

2.1.2 Political Participation and Participatory Budgeting

Political participation is a crucial component of participatory budgeting. PB is based on the understanding that modern democracies are representative, in which elected political leaders are given legitimacy through the democratic process for a certain period to make certain decisions and represent institutions (Nohlen 2010). Since many areas nowadays count on many citizens, solutions like direct democracy have become less feasible (Dahl 1998). To have a functioning representative democracy, Dahl summarized the following points:

“1. Elected officials, 2. Free, fair, and frequent elections, 3. Freedom of expression, 4. Alternative sources of information, 5. associational autonomy, 6. inclusive citizenship “(Dahl 1998: 85).

Participation is one of the foundations of the democratic process, even more so when spending public resources; citizens' participation is a key component in developing, promoting, and preserving democratic processes (Brenner et al., 2011).

Participation enables citizens to recognize their value, fostering a sense of responsibility, encouraging them to actively shape their environment, and improving their autonomy (Moynihan 2007). Citizen engagement and participation can be vital for government performance, “Good public participation practices can help governments be more accountable and responsive and can also improve the public’s perception of governmental performance and the value the public receives from the government” (GFOA 2022). The growing demand for open and transparent participation is a response to the traditional, insulated, and bureaucratic modes of governance. Factors such as the lack of responsiveness and unease with government growth have driven the need for a more democratic and participatory form of governance (Moynahan 2007). Societal change has led to a greater demand for involvement and access to information that can be facilitated by new technologies (Moynahan 2007).

It is important to distinguish between citizen participation and engagement, as these terms have different meanings. Citizen participation is described in the literature as something done quickly, such as an assembly, a vote, or a referendum. In contrast, citizen engagement describes an ongoing process, such as community activism, political advocacy, or volunteering (Feldmann et al. 2006). When it comes to participation, Offenbacher identifies six types of participation: Decision-making, community building, education, conflict resolution, collaboration, and delivery.

Participation As	Goal	Examples of Techniques
Decision-making	Compliance with laws and regulation; negotiation; arriving at better decisions	Advisory Committees
Community-building	Building or sustaining democratic society through individual or collective action	Grassroots Efforts
Education	Creating understanding and/or appreciation for alternative views or varying policy options through the use of deliberation or dialogue; may or may not be in support of action	Community Deliberative Forums
Conflict Resolution	Resolving conflicts about competing views, goals, perspectives; establishing relationships	Study Circles
Collaboration	Levering formal and informal relationships or networks for mutual gain	Public-Private Partnerships
Discovery	Sharing insights, learning collectively or thinking creatively about common problems or challenges	World Cafe

Figure 3: Types of Participation. Offenbacher 2010

Collaboration promotes “ongoing relationships between agency staff and groups, working to mitigate differences between policy and program preferences expressed by the public and those delivered by the government, and building capacity for ongoing implementation activity and cooperation among stakeholders” (Lukensmeyer et al., 2009). Effective participation also requires feedback from administrators showing a reaction to the given input and increasing accountability for the citizens' demands, and a space for conflict resolution between the involved parties to create collective learning opportunities (Offenbacher 2010). As Jorgensen and Bozeman put it, “Jorgensen and Bozeman (2007) posit that “political deliberation and public discourse not only point the way to public values but also contributes directly to them” (Jorgensen & Bozeman 2007, 356).

This is a more inclusive approach than the one described by Schumpeter in which the role of the citizen is confined to being an observer in the political process and casting votes to determine the representative electives; for Schumpeter, ordinary citizens should not take part in complex political processes.

"Thus, the typical citizen drops down to a lower level of mental performance as soon as he enters the political field. He argues and analyses in a way he readily recognizes as

infantile within his real interests. He becomes primitive again. His thinking becomes associative and affective" (Schumpeter 2008: 262).

Peter Bachrach argued in his 1967 book "The Theory of Democratic Elitism: A Critique." Democracy is not only a political method but also an ethical goal; a functioning democracy is not only concerned with the output and the results of the process but also with the input and the process itself (Bachrach 1967).

Concepts & Empirical Statement	Democratic Elitism	Modern Self-Developmental
Democracy	political method	political method and ethical end
Interest	interest-as-end-results	interest-as-end-results and interest-as-process
Equality	equality of opportunity	equality of power
Political	governmental decision-making and that which relates to it	decision-making which significantly affect societal values
Elite-mass structure of modern industrial societies	unalterable	alterable
Anti-liberal propensity of a great number of non-elites	reliance upon elites to safeguard the system	Reliance upon broadening and enriching the democratic process

Figure 4: Differences between democratic elitism and modern self-developmental democracy (Bachrach 1967, 100)

Beyond these forms of democracies, there are also different processes of participation, such as a direct democracy which involves citizens making decisions directly through referenda that are initiated by themselves or politicians. Co-governance provides citizens with some form of influence or agenda-setting power. Consultative discourses like public assemblies, focus groups, and polls don't transfer decision-making power yet serve as a method to increase the discourse and deliberation of a decision (Talpin 2011). These can have a "top-down" or "bottom-up" foundation (Smith 2005). The fostering of political participation can be seen as a way for institutions to combat political apathy in their citizens; using different participation methods can be seen as a way in which political education is incentivized, where citizens can learn the rules and processes of the political sphere—something that deepens the democratic process and increases legitimacy (Talpin 2011). Political participation can also depend on the societal context and can be selective through factors such as education, income, or gender (Pattie & Johnston 2009). Participatory democracies emphasize broad participation and a transfer of decision-making power. In contrast, deliberative democracies put a wider focus on public discussion and deliberation without the transfer of decision-making power. (Pateman 2012). PB combines elements of both forms of democracies, focusing on dialogue and reflection but also the transfer of decision-making power.

Public services can be improved through participation; by involving users in its development, administrators can gather feedback and better understand the needs and wants of users for public services. Civic engagement can also strengthen social bonds between individuals and increase social capital in a community (Reichert 2001). Moynihan concluded in his research that participation could foster good governance, promote transparency, advance social justice, and help individuals become better citizens (Moynihan 2007). All these factors can have a positive impact on PB projects.

Citizen engagement and participation are crucial components of Participatory Budgeting practices. They provide insights on community priorities, help determine which projects should be funded first, and offer better data for decision-makers and administrators by enhancing their understanding of public needs and values. (Mitchel 2014). To establish a democratic discussion and foster discourse about democracy, it is important to utilize multiple public forums and provide resources for political education. The internet, online platforms, and mass media offer valuable tools for individuals and organizations to achieve this goal and make political discussions and decision-making more accessible and transparent (Schneider 2018). Still, it is important to remember that these new technologies also pose unknown risks like miss information, privacy risks, and online harassment (Nash et al. 2017). A well-defined strategy and long-term financial plan are essential for effective participation. They enable organizations to anticipate obstacles, adapt accordingly, and continuously optimize internal and external processes. Administrators should also focus on providing the broadest possible participation so that special interest groups don't disproportionately influence the PB process (GFOA 2022).

As demonstrated, political participation and citizen engagement play a critical role in the success and effectiveness of participatory budgeting. They foster democratic values and strengthen bonds within communities. Governments increasingly recognize the importance of inclusive and transparent governance and are adopting innovative approaches to enhance citizen participation. Participatory budgeting bridges the gap between traditional representative democracy and modern self-developmental democracy, including the criteria of participatory and deliberative democracies. This empowers citizens to engage in political deliberation and influence the allocation of public resources, leading to more informed decisions and improved public services. Why PB is considered a democratic innovation and what implications this has will follow now.

2.1.3 Democratic Innovation

The idea of PB had enormous success inside and outside Brazil; the results of the process made it so that the concept of participatory budgeting diffused all over the world, making

it one of the first democratic innovations that are implemented in the global north that originated in the global south (Röcke 2014).

One of the simplest definitions describes a democratic innovation as an institution that has been specifically designed to increase and deepen citizen participation in the political decision-making process" (Smith 2009, 1). Another definition sees democratic innovations as "the successful implementation of a new idea that is intended to change the structures or processes of democratic government and politics to improve them „and as „new institutions and practices that have been deliberately and purposefully introduced to improve the functioning and quality of democracy (Geissel & Newton 2012, 4, 229). Democratic innovations go beyond the most established forms of participation, such as elected political offices; most of these innovations focus on citizens, not necessarily on special interest groups, although they are often included, and some innovations focus on the interaction between citizens and civil society groups (Kellas 2003). Democratic innovation commits to democratic values of participation and equality to develop new solutions for democratic problems (Saward 2000). Yet the biggest focus of democratic innovations lies on the formalization of institutional participation processes; this does not imply that these processes must be legally established (Smith 2009). More so, the "democratic devices that provide citizens with a formal role in policy, legislative or constitutional decision-making." They are important, but not so much where they happen (very 2002). The idea behind democratic innovation consists in increasing citizens' participation for all citizens equally; they should be able to participate in all decisions where citizens can participate in or have influence (Roth & Rucht 2008).

Rowe and Frewer suggest a categorical typology to understand better the different levels of participation and the levels at which democratic innovations can be implemented. First, they distinguish between three forms of citizen participation: Communication, consultation, and participation (meaning actual influence on a decision). Within the categories, they differentiate between the art of participants (controlled/uncontrolled), if there is any moderation (Yes/no), the types of response that participants can give (Open/Closed), The type of information input (Flexible/Fixed), the form of communication if there is any at all (Online/ face to face) / (yes/no) and the aggregation of input meaning the result of the process (Structure/unstructured). It is important to mention that these categories do not apply to all methods of participation, but they constitute an important cornerstone in systemizing democratic innovations.

Democratic innovations are established with certain goals, goals that are pursued by politicians and administrators but also by civil society actors. These actors aim to reduce the distance between citizens and politics and help administrators navigate the complex

problems of modern society (Smith 2009). These goals can also be linked to democratic theory, which also aims to increase the legitimacy of political decisions; the ideals of democratic innovations can be the following:

- Increase legitimacy through more responsiveness, higher efficiency, and effectiveness.
- More Participation with increased representation
- Strengthening communication between citizens and decision-makers
- Creating an understanding of democratic processes
- Increasing transparency
- Fostering free personality development and political opinion building
- A more precise articulation of the interests of the stakeholders
- Strengthening the quality of political decisions
- Cutting costs and finding cost-effective alternatives

Here we can see how the concept of democratic innovations is both focused on the input and output of the democratic process, aiming to improve communication between citizens and administrators, which in turn will lead to enhanced credibility and trust, to have a greater acceptance of political decision and a democratic output. (Vetter 2008b). An important aspect of increasing this democratic input is offering more opportunities for citizens in general, especially for marginalized groups such as migrants, socially disadvantaged groups, young people, and seniors, to participate in the process (Fung & Wright 2001). Democratic innovation also aims to make policies more efficient and easier to implement by involving citizens in the planning and implementation. Aligning the proposed policies more with the citizen's interest and reducing resistance and potential conflict (Fung & Wright 2001).

It is also possible to evaluate democratic innovations by focusing on inclusiveness, empowerment, civic education, and quality of education criteria (Hertie School 2017). A possible structure for an evaluation could be established along the following lines (Röcke 2014):

1. Measure to reach broad participation (including citizens in lower socio-economical milieus)
2. Transfer decision power to participants and increase the influence on the political process.

3. The influence of the participants on the procedural rules
4. Measures are taken to ensure a high quality of deliberation.

Successful democratic innovation can also be an opportunity for control and potential sanctions of the political decisions done by politicians and administrators, allowing politicians to use citizens' input as “fire alarms” to notice problematic developments in local government (McCubbins & Schwartz 1984). Democratic innovations can also lead to a higher sense of community, the same way that political participation increases political knowledge, the political efficacy of citizens, the public welfare orientation, and the build-up of social capital (Reichert 2001).

Another important distinction is the fact that these democratic innovations mostly start as experiments at the local administrative level before they are rolled out state or nationwide, even if this is mostly unlikely to happen (Geissel & Newton 2012). Therefore, it is important to analyze democratic innovations such as participatory budgeting initiatives at the municipal level; in the case of Germany, it makes the most sense since Germany is a federal republic, meaning that states enjoy high autonomy and municipalities are responsible for the execution of public services (Schneider 2018). Yet municipal politics should not be underestimated, as some authors call municipal politics “the lifeline of democracy,” and as mentioned previously, it is considered a School of democracy where citizens are confronted on the closest level with political affairs in which they can learn to participate in different political processes and gather the relevant information from the appropriate channels. Citizens can learn to have real influence and affect their local administration (Vetter 2008).

Some of the criticisms about democratic innovations can be summarized as the following:

- Not having a real influence in the political process (Citizen’s playground)
- The dilutions of assigned responsibilities
- The weakening of political parties
- Low participation or limited participation based on sociodemographic aspects.
- Possible “Not in my backyard” conflicts
- Conflicts between different stakeholders
- Resistance from politicians and administrators.

The most fundamental point of critique is that democratic innovation focuses on fixing some of the symptoms of a democratic crisis without addressing the root problems (Schneider 2018). Democratic innovations fail to reduce political complexities and the cognitive distress of citizens and don't change the established power structures and decision-making processes (Blühdorn 2013). Another criticism is drawn at some democratic innovations fail to increase the levels of participation in consultative-dialogical processes, leading to an oversight in the interest of weaker sociodemographic groups since some groups with a higher social status might be able to assert their claims more efficiently, which contradicts the original goal of democratic innovations (Cain 2014). Democratic innovations also fail to include Psychosocial phenomena in their implementation, such as peer pressure or shame at expressing certain opinions in a public setting such as a debate (Cooke & Kothari 2001). This ties into the "Not in my backyard" problem in which some groups can prevent or influence situations they define as unsatiable (Vetter & Heidelberger 2013), such as a community center or a homeless shelter in certain neighborhoods. This, in turn, highlights why the participation of resource-rich and organized groups can be problematic for democratic innovations, citizens' involvement, and participatory budgeting. Lastly, the final crucial challenge for democratic innovations comes from the possible resistance by governments and administrators. In the case of participatory budgeting, one of the biggest obstacles is the precarious budget situation for certain municipalities, where it is very difficult to free up funds for such projects (Bogumil & Holtkamp 2007).

Participatory budgeting, originating from Brazil, has gained significant traction as a democratic innovation worldwide, including in Germany (Röcke, 2014). The concept of democratic innovations seeks to increase citizens' participation in decision-making processes and enhance the legitimacy, efficiency, and effectiveness of political decisions (Smith, 2009; Geissel & Newton, 2012). By offering equal opportunities for all citizens, including marginalized groups, democratic innovations aim to bridge the gap between citizens and politics while improving communication and understanding of democratic processes (Fung & Wright, 2001; Roth & Rucht, 2008).

However, accurately measuring the prevalence of these innovations remains challenging due to varying definitions and terms (Rowe & Frewer, 2005: 256-260). Recent surveys conducted by the German Institute of Urban Affairs (DIFU) provide valuable insights

into the implementation of consultative-dialogical procedures in German cities, particularly in urban development, construction, and transport planning (Landua et al., 2013). Interestingly, the surveys also reveal a need for more procedures granting citizens decision-making powers (Landua et al., 2013). The following section will delve deeper into the specifics of participatory budgeting in the German context and explore its impact on local decision-making processes.

2.1.4 Participatory Budgeting in Germany

Participatory budgeting (PB) has increasingly gained attention as a democratic innovation in Germany. This section provides an overview of PB's development in the German context, including its historical origins, prominent cases, and associated challenges and opportunities in implementation. By examining these PB processes, insights can be gained into their impact on citizen participation, policy outcomes, and local decision-making. Additionally, identifying challenges allows for reviewing potential barriers to PB adoption and exploring solutions.

Historically, Germany has witnessed early versions of participatory budgeting. The Prussian Charter of 1808 and the Weimar Republic in 1919 had elements of PB. Post World War II, a policy-making model emphasizing institutionalized dialogue between state representatives emerged, prompting a significant politicization movement by municipalities in the 1960s. In the 1990s, citizens sought a more active role in local governments, leading to the spread of co-determination ideas (Wollmann, 2000). With a high degree of autonomy for states in Germany, municipalities became a focal point for political mobilization, as they implement 80% of laws and two-thirds of public investments (Geissel, 2009).

The participatory surge in the 1990s was influenced by social organizations, movements, and the newly formed green party. Additionally, the collapse of the Soviet Union and German reunification played substantial roles (Röcke, 2014). Growing political discontent, declining party memberships, and decreased trust in political institutions spurred unconventional political engagement, making active citizen participation a legal question in the 2000s. At that time, 12 out of 16 states allowed municipalities to conduct top-down referendums and citizen-led initiatives to influence decision-making (Wollmann, 2002).

In Germany, PB has primarily been adopted at the municipal level due to the country's federal system and states' high autonomy in providing public services (Schneider, 2018). Each state has at least one PB initiative, with Brandenburg and Saxony having the most, followed by Bavaria and Baden-Württemberg (Herzberg et al., 2019). PB initiatives have been implemented in many cities regardless of size, signaling a trend toward increased participation in local governance (Baiocchi & Ganzua, 2014). While absent in every town, PB has gained popularity and support. Some cities, like Frankfurt, saw their original PB projects fail but successfully transformed them into idea platforms for citizens to suggest initiatives and report city deficiencies (Frankfurter Rundschau, 2014). On the other hand, cities like Stuttgart have achieved success with an ongoing yearly PB process, handling thousands of requests since its establishment in 2011 (Bürgerhaushalt Stuttgart, 2023). Smaller cities like Solingen, Berlin-Lichtenberg, Potsdam, Leipzig, and Freiburg have also experienced success with PB projects (BPB, 2023). However, there have been instances, like Osnabruck, where PB projects were abandoned due to low participation rates. Current research in Germany focuses on identifying barriers to political participation and encouraging accessibility and involvement in PB initiatives, resulting in mixed success and growth of PB in the country (Schneider, 2018).

A significant portion of PB initiatives in Germany are project-oriented, where administrators focus on implementing specific projects chosen by citizens rather than engaging in city-wide budget allocation discussions (Sommer, 2021). For instance, the Bertelsmann Foundation conducted a four-year pilot project from 2000 to 2004, which revealed that PB was primarily used as a consultation method to inform citizens and enhance accountability without significantly increasing their representation in the democratic process. Citizens' decision-making authority remained limited, and the focus was on top-down information gathering, transparency, and fostering dialogue between politicians and citizens. While citizens could propose spending priorities, the ultimate power of decision-making remained in the political and administrative sphere (Herzberg, 2009). In this context, PB in Germany is viewed as a tool for political marketing and a means to legitimize cost-cutting measures (Röcke, 2014).

One of the significant PB projects in Germany was in Berlin Lichtenberg, aiming to provide broader and more extensive citizen participation opportunities than existing measures (Röcke, 2014). While the project's goals were well-defined in policy documents, the lack of a clear framework hindered establishing precise processes, leading to a loss of support within the district parliament (Röcke, 2014). On a positive note,

participants efficiently defined budget priorities, which were then evaluated by administrators for viability. Successful proposals were included in the district's annual budget (Röcke, 2014). The community also effectively informed citizens about the initiative, setting clear deadlines for each phase (input, accounting, decision), which enhanced transparency. Additionally, the district utilized a well-designed campaign website, improving proposal evaluation and overall accessibility (Scherer & Wimmer, 2012).

Stuttgart's PB initiative stands out as one of Germany's most successful ones, with a high level of participation and proactive outreach to traditionally marginalized groups like immigrants, young people, and seniors. This demonstrates citizens' willingness to engage with complex municipal financial matters (Schneider, 2018). The PB in Stuttgart has resulted in greater satisfaction with the democratic process and a more diverse range of project proposals (Geißel et al., 2015). Cases like these highlight how PB initiatives involving citizens and providing platforms for discussion and deliberation can enhance transparency and inclusivity in local decision-making. Prioritizing budgets and fostering responsive communication between citizens and administrators can improve policy outcomes (Berlin Institut für Partizipation, 2021).

Common strategies for implementing PB initiatives in Germany include mobilization campaigns to disseminate information through various channels, including local media and measures for non-German speakers (Schneider, 2018). Online campaigns through municipal websites, project-specific platforms, newsletters, and social media channels were also utilized (Zepic et al., 2017). Moreover, cities integrated non-political associations like sports and invested in civic skills education programs (Schneider, 2017). A successful example is the PB online platform in Freiburg, Bavaria, where citizens can propose and discuss ideas funded by the city, and officials directly engage with suggestions for increased discourse quality and accountability (Zepic et al., 2017). The platform's success is attributed to appealing web design, user-centric development, and citizen involvement in all project stages (Vowe, 2014).

In Germany, PB initiatives encounter various barriers and obstacles throughout their implementation. One significant challenge lies in the informational asymmetry between newly elected city council representatives and city administrators, as newcomers must familiarise themselves with complex municipal budget planning. PB aims to address this

lack of accessibility to closed-off administrative procedures (Schneider, 2018). Another major obstacle is political apathy among citizens, which has led to the discontinuation of PB projects in certain German cities due to low participation rates (Zepic et al., 2017). Zepic, Dapp, and Kremer identified five dimensions that act as barriers to participation:

1. The participation opportunity is not available (Online)
2. The process still needs to be discovered.
3. Citizens cannot participate.
4. Citizens need to be more interested.
5. Citizens refuse to participate.

In Germany, the resolution of one barrier can often influence others, making it challenging to provide a cross-dimensional solution. Disappointment in political institutions and poor implementations stand out as the most significant obstacles for PB (Geißel et al., 2015). By exploring the historical context, studying case studies of PB in German cities, and understanding the strategies and challenges faced by administrators, a comprehensive understanding of the impact of PB on citizen participation, policy outcomes, and local decision-making emerges. This groundwork sets the stage for Section 2.2, which will focus on analyzing best practices in PB. This section aims to provide valuable insights for administrators in implementing measures that enhance the chances of PB project success.

2.2 Research Gap

Participatory Budgeting (PB) projects have been extensively studied regarding their impact on civic engagement and democratic processes. Research has also been conducted on the different steps that can be taken to execute a successful project and what cities have done to increase the success of their respective PB projects; these can be considered the best practices. There is also a growing body of literature on using digital tools for PB projects. However, the combination of the different steps taken in PB projects and how digital tools support these steps remains to be explored. When combined with empirical data, this research fills the knowledge gap on how these different practices and tools translate to real-life projects in Germany, giving practitioners a modern and holistic guide on the process and the current status quo as well as possible suggestions for methods and tools that can be implemented in their respective project.

The following graph illustrates how the literature was categorized into four key phases.

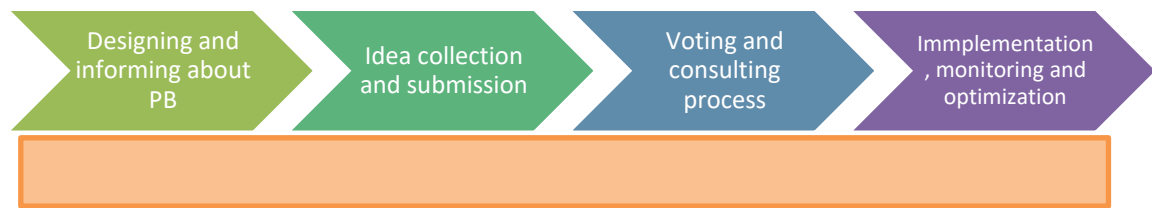


Figure 5: Categorization of participatory budgeting steps

Digital Tools

In this paper, the different processes that encompass a PB project have been categorized into the following four phases:

- Designing and informing about PB: This part of the process focuses on clear guidelines and key aspects that must be considered to make the decisions that will be the project's foundation. It also highlights the importance of effective promotion and online and offline methods to ensure broad citizen participation and engagement.
- Idea collection and submission: This step goes into idea collection and submission processes in Participatory Budgeting (PB) projects. It also discusses the need for a structured and transparent approach to handle, categorize, and evaluate these ideas.
- Voting and consulting process: It emphasizes the importance of a transparent voting system and the role of consultation in refining proposals and ensuring they meet the established guidelines and reflect the community's needs and priorities.
- Implementation, monitoring, and optimization is all about implementing chosen proposals, monitoring their progress, and optimizing the process for future iterations.

All these steps can be supported and enhanced with digital tools, which is why they can be present in every phase of the project.

2.3 Best Practices in Participatory Budgeting

After examining the origins of PB, the relationship between PB and political participation, the reasons why PB is considered a democratic innovation, and the context of PB in Germany, it is now possible to examine the best practices that can be used to enhance a

PB project. This can offer valuable insights for administrators and provide ideas for optimizing citizen engagement, policy outcomes, and decision-making processes.

This section will focus primarily on the four key phases that compose a successful PB initiative such as the design of the initiative, how information about the industry is distributed, how ideas are submitted, evaluated, and chosen, how the voting and final selection takes place and how to implement best the winning ideas as well as monitor the completion and continuation of the project. This will ensure a coherent discussion about the best practices in PB and help answer the research question by providing a comprehensive list of best practices that German city administrators can use to inquire about their use.

The concept of PB has been around for over 30 Years, being implemented worldwide in various manners; some projects have been incredibly successful, while others have failed (De Vries et al. 2022). Identifying the practices that can improve the chances of success for such a process is essential for modern implementations of such initiatives. As mentioned, this section will focus on the key components of PB initiatives and present the identified practices. It is important to keep in mind that the suggested best practices of this research should not be seen as a one-fit-for-all solution but rather as a starting point that can be adapted to the specific context of the municipality while giving space for possible flexibility and innovation.

To identify the best practices, a literature review will be conducted, and specific case studies will be studied to analyze the factors that contributed to the success of these projects and to identify common themes that were applied; context-specific factors will also be examined such as political climate and available resources to determine how these factors might have influenced the initiatives. In the following section, this research will delve deeper into the first key component of a PB initiative, the design of a participatory budgeting project. It will include all the relevant factors and elements to consider when planning a PB project to archive its intended outcomes.

2.3.1 Designing and informing about a Participatory Budgeting Initiative

To increase the chances of success of a PB initiative, some factors must be considered during its design stage. A PB project can be established with the goals of increasing citizen participation, increasing transparency, government responsiveness, and legitimizing the decisions of elected officials (Bertelsmann-Stiftung 2004), for this some key aspects should be explored, such as the defining scope and objectives as well as the various methods that can be used to increase participation, inclusiveness, and accessibility (De Vries et al. 2022). Since the budget and consequent budget for PB projects are

approved by the city council in Germany more than by administrators, it is important that the city council is involved in all phases of the project since they are the ones that decide the final budget (Bertelsmann-Stiftung 2004). This also opens the possibility of establishing a culture of transparency and openness in which citizens, politicians, and administrators can look for information on what is happening in each phase and join the discussion or voice their concerns or support for a particular part of the process (Lehtonen 2022). It is recommended that city administrators establish clear goals and deadlines for the different methods that should be included in the project, such as the idea generation and discussion part, the budget allocation, and the voting and funding phase of the project (Cook & Nelis 2021). Before starting it is also important to define the milestones of the project, as well as what departments within the city will be involved and designate responsible staff for the different tasks in the project. Preferably a project manager can be appointed who is mainly responsible for the development of the project as well as aligning the other concerns of the city council, the citizens, and administrators (Bertelsmann-Stiftung 2004). Depending on the city's size, it is also possible to divide the project into specific districts or neighborhoods (EmPaci 2021). Clear rules for the proposals should be established so that, for example, they don't exceed the budget or involve not publicly owned land; rules should also be set for the administrators regarding accountability, how they reply to appeals and concerns, and the deadline for implementation. For example, the city of Reykjavik established a mandatory 18-month period for the implementation of a PB project (EmPaci 2021).

A recommendable method that could aid in designing a PB initiative is developing a customer journey. A technique usually used in the private sector, but that can be transferred to the public sector. This method creates a set of fictional personas using clusters of different characteristics (demographic, economic, social milieus). This allows to represent of possible users that will be interacting with a product, and then all the touchpoints and steps of the interaction are mapped; this provides for qualitative speculation of how different users might react to the various stages and what the diverse needs and wants for user groups could be. (Reiz et al. 2021) Focusing more on the citizen, the touchpoints they encounter while requesting a public service or participating in a shared initiative, and their experiences with city politics and administration (Reiz et al. 2021). Customer journeys establish means of systematically recording touch recipients to analyze them on the customer; they also allow the identification of contact partners, recording interactions between different stakeholders, and evaluating sub-steps in a process (Reiz et al. 2021). Customer journeys can enable effective communication between stakeholders in a PB project, help lower the barriers to participation, and enable administrators to find a good balance between promotion on offline and online channels. This can lead to citizens becoming "micro-influencers" for the project, helping spread

information and participation. It enables citizens to be seen as customers and co-producers of public services, allowing for a holistic view of the quality of public services, their usage, and how users experience them. (Reiz et al. 2021).

Besides the scope and goal of the project, informing citizens about a PB project is equally important; for any PB, participation is a key factor, and ensuring citizens know about the project can increase the chances of success (De Vries et al. 2022). This phase should start before the city council approves the final annual or bi-annual budget plan; studies have shown that if PB becomes a yearly process, it becomes easier for the city council administrators and citizens to participate (Bertelsmann-Stiftung 2004). Administrators can use multiple channels to inform the citizens about the project, offline and online. The city can print out brochures, create a designated website, do PR work such as working with newspapers or other publications (Bertelsmann-Stiftung 2004), inform about it on social media, organize information events (offline/online/hybrid), have information booths on public occasions. Also, it should be promoted to city employees via the intranet or internal newsletters (Cook & Nelis 2021). A balanced mix of participation channels and information can help avoid the fact that only certain groups or special interest groups participate in the initiative. A possible solution to prevent participation by “the usual suspects” is a random selection of citizens from the register that are called to participate in the project. (Democratic society for the Scottish government 2016). All in all, it is important to maintain a good mix between offline and online communication; the online means helps reach more people but providing citizens with ways for direct information, and discussion helps build a community around the subject and empowers them to be more active in the project (Mattei et al. 2022). It is also possible to provide the necessary means for participation through both channels, such as different platforms for sharing and discussing PB ideas, media that showcase and explain the communal budget and how it is used, educational material (offline civic workshops can also be offered) to provide all citizens all the possible resources needed to participate in a PB project (EmPaci 2021) successfully.

2.3.2 Idea collection and submission

The second key phase of a PB project is the one of idea collection and submission; this is the phase where the co-creation process between citizens and administrators can occur, as well as the development and refinement of ideas that can be voted on in the project (Bertelsmann-Stiftung 2004). This usually happens after the city council accepts the final budget, providing a basis with a designated budget and different rules for idea submission. In this step, the PB project manager should establish clear rules for the participants and idea submission. Usually, all citizens are allowed to participate; the only exclusion

criterion is age; while it varies from municipality to municipality, the decision mostly lies in including minors in the pool of eligible voters (EmPaci 2021). Submission rules can include proposals that don't exceed the proposed budget, recommendations based only on public-owned property, potential impact, etc. It is context dependent on what rules should be applied to the proposals; At the same time, some municipalities prefer adding some restrictions to maintain a realistic and focused discussion; the city of Stuttgart, for example, has no rules or requirements for their proposals; citizens can submit any bid for any topic (spend, collect, save money, etc.) other municipalities have divided the proposal into different categories like culture, sports, youth, mobility to sort them better and assign them (EmPaci 2021). Again, the addition of predetermined requirements for idea submission is context-dependent and dependent on the resources a city must work through the proposals and answer to the citizens.

If some requirements are added to the proposals, providing educational resources and guidance on writing them is advisable. These can be offered as civic workshops or free online materials that teach citizens how to write proposals. Additional resources can be delivered to provide information on how the city works, how the city's digital tools work, and how the budget is collected and spent (EmPaci 2021). These resources should also be offered to city employees as they should also be encouraged to participate in the project; all citizens should be able to co-design the proposals so that citizens can have a proper influence on the decision-making process (Mattei et al. 2021).

Once proposals can be submitted, administrators should create different spaces where citizens can debate and discuss the proposals; these should be moderated areas where there can be meaningful deliberation that includes all points of view so that echo chambers can be avoided (Democratic society for the Scottish government 2016). Online platforms are a popular option for this. The city of Reykjavik developed an open-source platform that serves as an umbrella for many different projects. Citizens can log in with their social media accounts but also through email and a two-factor verification; reducing anonymity is a priority for the platform to increase engagement accountability. There are pre-established categories in which citizens can add their proposals, and only the top-voted projects get discussed by administrators. Other municipalities reply to every suggestion or only the ones that fulfill the established requirements. One innovative aspect of the Reykjavik initiative is that all proposals are automatically considered public property to allow the city the right to use the idea (EmPaci 2021).

The window for discussion and deliberation should be broad and as inclusive as possible, including both online and offline channels; the goal is to gather citizens' feedback on the proposals and overall process. Some municipalities that use an online platform for idea

submission have designed the process so that ideas must collect a minimum number of votes before being open for discussion and voting (Empaci 2021). Some municipalities also involve citizens in evaluating the proposals through briefing materials, public meetings and workshops, online experts, and smaller group discussions led by experts (He 2019). Once the idea-collection is finished, the winning ideas can be voted on. Depending on the municipality, either a shortlist of projects is available during the vote, or all proposals are listed, and citizens are given one or multiple votes (EmPaci 2021). Lastly, it is important to mention that participation and political will are crucial factors for this step. Any type of proposal will only be successful with the participation of the citizens and the willingness of the city council and city administrators to engage with the recommendations seriously. City administrators and politicians must be open to new ideas. They must stand behind the project without presenting it in a manner that makes it look like a “Citizens Wishlist” (Bertelsmann-Stiftung 2004).

2.3.3 Voting and consulting process

After the Ideas have been collected and are approved for voting, and after the clear criteria for the eligibility of the voters have been established, the voting process can start. The voting phase with the selected projects (or all projects) should also be campaigned and advertised so that citizens can again engage in voting; this can be done again through offline and online channels; sending out voting invitations to citizens is an option, as well as conducting a press event and inform the local media, it is also possible to use display advertising like billboards and posters to educate citizens about the vote (Bertelsmann-Stiftung 2004). It is possible first to survey the most pressing topics to prioritize the budget and award different categories (Mitchell 2014). Adding incentives to the voting process can encourage more citizens to participate, such as giveaways or a contest; the municipality of Hilden in Germany organized a whole information event with interactive elements, info panels, and discussion rounds on the same day of the voting to encourage participation (Bertelsmann-Stiftung 2004).

Voting can proceed through in-person voting in polls, mail voting, and e-voting; some municipalities even prepare events for citizens to vote on the proposals (De Vries et al., 2022). Tartu in Estonia provides smart screens in various public buildings that citizens can use to vote with their e-ID (Mærøe et al. 2021). With the rise of the internet, smartphones, the advances in e-voting, and the COVID-19 pandemic, online voting has become very popular for PB projects; as mentioned before, it is advisable to offer as many channels for participation as possible, but electronic voting should not replace other options since, it can also bring some issues with it like a gap in digital literacy, the potential digital divide between districts or regions as well as some cybersecurity issues

like user confirmation and making sure only one vote is casted person (De Vries et al. 2022). Online voting for these types of civic engagement initiatives has become popular because it offers a low-cost alternative to the traditional methods; organizing elections can be a costly process that requires resources and workforce (Jafar et al. 2021), but it should be used with caution and considering that it has its potential downsides). The voting process should be as long as possible and be made family-friendly and accessible for all citizens; cities like Eberswalde in Germany were successful at not just attracting “the usual suspects” into participating by making voting as accessible as possible even including SMS votes for people without internet access (EmPaci 2021).

Other municipalities have established e-participation platforms that allow the hosting of PB initiatives; such is the case for the city of Olsztyn in Poland; their e-participation platforms enable users to vote for proposals online and submit suggestions, the submitted proposals are divided into city-wide bids (meaning that all citizens are eligible to vote) or recommendations for a certain district (only citizens who live in this district are eligible to vote), the different categories get different funding but at the end of the voting period various projects from both types are funded (EmPaci 2021). Some municipalities also allow for the appeal of a decision taken by the city council if an idea is not approved, which makes the process somewhat more complex but increases the city council's deliberation and transparency (EmPaci 2021).

The vote results should be communicated through all available channels, social media, local press, municipal websites, information brochures, etc. (Cook & Nelis 2016). The city of Krakow in Poland announces the result on its website and social media channel. It holds a live event/press conference that is also open to the public and is broadcasted and published online (Zawadzka-Pak 2022). It is important to prioritize the dialogue on the projects over the presentation of the results. (Bertelsmann-Stiftung 2004) Once the winning projects are decided, the city council will determine the implementation of these. This again varies depending on the context; for some municipalities, the performance of the winning projects is mandatory (He 2019), while others see it more as a consultation for what should be done without being legally binding (De Vries et al. 2022). This is especially true for Germany, where PB has a consultative function instead of a deciding one. However, PB will likely influence the local agenda-setting and pressure politicians to follow through with the voted proposals. The decision ultimately lies in the hands of the mayor or the city council to implement the results of the PB vote (Schneider 2018).

2.3.4 Implementation, Monitoring & Optimization

The final phase of a PB project involves the implementation of the winning projects, the project's monitoring, and the optimization of processes for future iterations; this is done

to ensure the project's success and inform future PB processes. This phase is heavily characterized by the amount of transparency and accountability that city council members, administrators, and politicians are held to and the support provided by these actors (Mattei et al., 2022). Some municipalities have implemented mandatory winning ideas, overriding the council and government turn (EmPaci 2021). Suppose some projects cannot be implemented or are difficult to implement. In that case, there should also be accountability measures, such as a citizen forum where administrators must explain why these issues are arising (EmPaci 2021). The desirable suggestion would be to truly grant citizens authority in the decision-making, ensuring citizens can have a real impact on implementing PB projects and allocating resources (Miller et al. 2019). The alternative would be participation without redistribution of power, which can be an empty and frustrating process; these are practices aimed at consulting citizens without including them in decision-making (Miller et al. 2019).

Depending on the municipal context, it would be advisable to include citizens more and directly influence the actual process to bring them to the table with decision-makers and establish a dialogue where all parties can discuss possible solutions. Beyond that, there is also the possibility of granting citizens authority, meaning that some projects would be implemented because the citizens have decided so though technically and legally, they are not required to do so (Miller et al. 2019)

A suggestion box (offline/online/mixed) to gather citizens' feedback can be used to optimize future processes for the next iteration of the PB project. Surveys and discussion rounds with citizens can also help gather input on the process; all stakeholders should participate. After implementing the projects, PB project managers can start planning the next PB project, implementing the different stakeholders' feedback, and actively informing citizens through various media channels about the process (Bertelsmann-Stiftung 2004).

In the German context, it is important to remember that PB serves more as a consultative method. Still, it is possible to pressure politicians and administrators through participation to implement some projects. The project implementation lies in the hands of the city council and or mayor due to the Germanys legal framework where the budget is exempt from participatory processes (Schneider 2018). After a review, the council would pass a resolution regarding implementing the proposals for the city budget (Schneider 2018). Competent leadership, properly selected instruments for the implementation, the inclusion of citizens into all steps of the process, and commitment to the project by decision-makers can significantly increase the chances of success for a PB project; if the

process is successful in multiple instances, more citizens will be motivated to participate because the results can be seen (EmPaci 2021).

At the end of the project, one of the fundamental goals of PB should have been archived increased transparency and accountability on budgetary matters that lets citizens see and understand the budget to understand better the decisions that were made according to the budget and why they were made (EmPaci 2021). Involving citizens in the process, letting them help define the rules for the operation, and allowing them to participate can enhance trust in the local government and the sense of community (Mattei et al. 2021). This would lead to real collaboration between the stakeholders, focusing on issues to arrive at outcomes that all parties can agree to (Miller et al. 2019).

These best practices can be used to conduct PB projects from strategic goals, action plans, and measures collectively created by all the relevant stakeholders (OECD 2020). PB can help citizens, administrators, and politicians focus on preserving and increasing the quality of life even in times of financial strain by increasing transparency and allowing for the discussion of cost-saving measures. Some municipalities report that developing strategic goals becomes easier once all stakeholders know the financial possibilities (De Vries et al., 2022). For a successful PB, decision-makers must be open to sharing power with citizens, and citizens must be motivated to participate. This happens by viewing citizens not just as demanders but as customers and even co-producers of public services. Their feedback can increase the quality of services, processes, and user experience (Reiz et al., 2021).

The following chapter will discuss the role of the multiple digital tools that can be used in PB projects, such as online platforms and websites, data visualization tools, online education resources, social media, and even artificial intelligence. These tools can enhance and fundamentally transform PB processes. Therefore, it is valuable for academics and practitioners to understand the utility of these tools and the strengths and limitations that they can offer to gather valuable insights into the future of participatory budgeting.

2.4 Digital Tools to Enhance Participatory Budgeting

This research section will focus on using digital tools to enhance PB projects. Technology's role in PB can be multifaceted. It can be used to create online platforms, data visualization tools, and educational resources for better decision-making. It can significantly transform the PB process by increasing participation, transparency, and new possibilities.

Digital Tools or ICTs can be seen as methods to enhance participation and reconnect citizens to their representatives; through these tools, more citizens, including minorities, can have digital access to more information and resources regarding PB processes (Barros and Sampaio 2016). The success of these digitization processes depends on the proper adoption by administrators and politicians; the political and technical environment has to be provided for these projects, or else there is the risk of projects failing and citizens losing trust in government and e-governance (Breuer et al. 2018).

According to van der Does, and Bos, Digital tools can promote six types of citizens' rights.

1. It plays into the right to information by allowing administrators to be more transparent by sharing information online in different formats.
2. It helps citizens claim their right to public services by allowing them to access them online.
3. Citizens reclaim the right to their own time by dealing with less complex administrative tasks.
4. Citizens can better monitor policies and procedures individually or as part of an organization, increasing trust in government and accountability.
5. Citizens have the right to participate, which can also be enhanced by digital tools through e-participation, e-voting, or better access to information.
6. Citizens have the right to be heard; digital channels provide an extra avenue for citizens to connect with their representatives and share their concerns.

To maintain these rights, continuous service provision and relationship management by all relevant stakeholders is needed (van der Does and Bos 2021).

For city administrators, digital tools for e-governance have become increasingly popular in the last decade as it grants more access, and citizens are not bound by time and space to a specific process, making bureaucracy possible even in situations like the COVID-19 Pandemic; digital tools can save money and workforce, less paper and people preparing events is needed, by providing resources online help desks can be refocused on other tasks, It can increase the range of government communication using different channels like websites and social media platforms (Cook and Nelis 2021).

It is important to note that technology should not be the main driver of PB, and the design and process of the PB project itself is the factor that determines the value that digital tools can add to the project. Good PB projects should be characterized by allowing real impact, increased participation, a transparent process throughout all stages, and allowing feedback for improvement, digital tools have the potential to enhance these characteristics, but as for now, technology has not been able to replace the output generated by face to face community interactions. (Democratic society for the Scottish government 2016).

It should be stated that there are no tools that are perfect for every step of the process; the choice of digital tools depends on the local context and factors such as the needs & wants of the administrators and project leaders, budget and technical expertise of the workers that will operate the system (Cook and Nelis 2021).

Lastly, it should be noted that even though digital tools can enhance PB processes, they also risk producing inequalities created by the digital divide, lack of digital literacy, and access to digital infrastructure such as the internet or internet-capable devices (Ragnedda and Muschert 2013).

2.4.1 Websites and Online Platforms

Well Designed websites and online platforms can be used effectively to increase citizen participation; by minimizing barriers for participants and making the process more inclusive, the PB process can be more legitimate and effective (Davies et al., 2022). For administrators to effectively use these tools, the capacities for use and management of these platforms must be built, which means that these digital PB platforms must be supported by trained teams that the city must qualify (Davies et al. 2022).

Digital platforms have been increasingly popular, with practitioners as they have shown that they can encourage citizens to participate more; some practitioners reported that during in-person events, the attendance rates were low (in this case, the success of the project depended on the attendance) and participation consisted only in voting without providing other types of input, there was also the added workload when it came to organizing events, provide voting material (Davies et al. 2022).

Online platforms must be designed in a way that makes participation and deliberation of a PB project effective and intuitive for users; it should promote engagement and discussion and incorporate incentives and feedback loops that nudge the user towards completing the established goals, such as submitting a proposal, commenting on submissions, or voting. Benefits have to be given to users that contribute with suggestions

and comments to the projects; users should also be incentivized to ask questions about the proposals that could further encourage participation (van der Does and Bos 2021).

Another possible strategy to increase online participation is to send out personal invitations to citizens and, as mentioned, promote the project through different channels; one municipality in the Netherlands even organized in-person meetings to address the digital divide that these platforms can cause (van der Does and Bos 2021).

This municipality also made the design choice to juxtapose arguments for and against a proposal to encourage the users not to like or dislike a proposal and ideas but to comment on proposals or statements actively; they also added a minimum of 40 character requirement and added an introduction sentence (*I am in favor/against this proposal because...*) to maintain an argumentative discourse (van der Does and Bos 2021).

The image shows a screenshot of a web-based proposal interface. At the top, there is a header with a red banner that says 'Dit plan is niet geselecteerd'. Below this is a photograph of a park area with trees and a building in the background. To the right of the photo is a voting section titled 'Stemmen' with two buttons: 'Voor' (0 15) and 'Tegen' (0 15). Below the voting section is a progress bar and a 'Status' section indicating 'Dit plan is niet geselecteerd'. There are also social media sharing icons under 'Deel dit voorstel'.

Jeu de Boule baan Sweelinckplein

Door: Geanonimiseerd
13 maart 2019

Jeu de Boule baan op grasveld Sweelinckplein bij Reinkenstraat. Hierdoor meer beweging voor ouderen en daardoor meer sociale contacten.

Jeu de Boule speciaal voor 65+ ers hierdoor heeft de doelgroep een benodigde lichamelijke inspanning en ontstaat er een groter sociaal contact. Het plan kan door Gemeente en evt andere organisatie worden uitgevoerd.

Below the text is a map showing the location of the proposal on a street grid. A red arrow points to a specific location on the map.

Argumenten

Argumenten voor
Nog geen argumenten voor

Argumenten tegen
Geanonimiseerd | 21 maart 2019 19:39
Ik ben tegen, omdat:
Het zou jammer zijn om het gazon van het plantsoen hiervoor af te zetten. Nu is dit een ruimte voor de kinderen.

Figure 6: Example of an online proposal (archived version).

Source: Retrieved from <https://www.duinoordbegroot.nl/archief>.

Online platforms must balance accessibility and security in that citizens should not be too difficult to register; some cities require just an email or phone number, and others ask for an extra confirmation code that arrives separately by mail. By allowing users to participate online, they can join at various times of the day and even on weekends, making the process more accessible (De Vries et al. 2022). Administrators can also decide to moderate or not to moderate the platform depending on the context, some projects don't have users using offensive language, and the discussion can maintain civility online without moderation (van der Does and Bos 2021). Still, other municipalities have dedicated or automated moderators that block certain keywords (De Vries et al. 2022).

Accountability is another factor that can be enhanced through platforms with moderation used to increase accountability amongst users, but administrators can also use media to increase accountability and transparency by commenting on proposals and posting pictures of completed proposals; this requires active two-way communication by the administrators else they risk alienating citizens and losing trust in the institution and the project (Menendez-Blanco and Bjørn 2022) Some platforms allow user to protest decisions taken by the platform managers like deletion of comments or disapproved proposals (Zawadzka-Pak 2022).

Platform design is a crucial process for the development of online PB projects, some platforms like "Decide Madrid" aimed at encouraging users to vote and comment on proposals, but the result was a platform that made interactions competitive; users focused mostly on getting votes for their specific recommendations (Menendez-Blanco and Bjørn 2022) This can amplify existing offline voices, like the ones from local celebrities as well as polarize and fragment the community (Davies et al. 2022). The possibility of a small group of very engaged users dominating the conversation is also possible; better-designed usability to encourage more engagement, like asking questions or liking, is needed to counter this. (Van der Does and Bos 2021). PB benefits more from collective support and co-creation, and deliberation between conflicting opinions meaning that platforms that focus too much on individualistic and competitive participation can limit citizen empowerment (Menendez-Blanco and Bjørn 2022). In Bigger cities with hundreds of proposals, it is easier to overwhelm the user with an overload of information, making it difficult to interact with the platform (Davies et al. 2022). Therefore, it is suggested that platforms allow users to message each other individually and in groups presenting collectively developed proposals and increasing a sense of community (Menendez-Blanco and Bjørn 2022).

From the empirical evidence, the trend suggests that blended approaches have the greatest success and allow for greater participation. They provide online and in-person

alternatives, voting, and educational even that help citizens use digital tools (Davies et al. 2022). Administrators are aware that they need to measure, evaluate, and report the results of the implemented process; such as secure voter verification, online and offline integration of different methods (votes, suggestions, appeals, etc.), the development or license for the project should be within budget and not too pricey, the platform should allow for plenty of discussion through different means, posts, comments but also individual and group direct messages, the backend should be able to produce some analytics that administrators can evaluate, the platform should also allow for responses on part of the city and allow for updates on project timelines, milestones, allocation of funding and results (Democratic society for the Scottish government 2016).

2.4.2 Educational Data Visualization Dashboards

Opening access to information about a municipal budget and providing educational resources that citizens can use to understand the budgeting processes of a municipality are vital for sustainable and successful PB Projects (Zawadzka-Pak 2022). Cities all over the world have experimented with different formats to complement the PB project; the city of Krakow in Poland has implemented an interactive map where users can see which tasks are proposed where, as well as information and updates about the project (Zawadzka-Pak 2022). The city of Palo Alto in California pioneered its interactive web tool for displaying and analyzing city budget information; the information is displayed in graphs, tables, and charts, making it easier to explore and enquire about specific revenues, expenses, and funds. This is a significant departure from the established custom of uploading a static PDF or spreadsheet about financial data (Jones n.d.).



Figure 7: Palo Alto open budget dashboard.

Source: <https://paloalto.opengov.com/transparency#/>

The Website also provides in-depth know-how guides that users can use to learn about the various features like viewing spending trends and extracting data from the site; this increases access to the PB process (Jones n.d.); Palo alto has also hosted hackathons to create innovative solutions and software that the city can benefit from, outside of just PB. Administrators interested in following a similar approach should know that a significant allocation of time and resources are needed to visualize data like this and provide the desired transparency; a private-public partnership for the platform management, as well as expectations management from the public, can help such an initiative (Institute for Local Government 2013).

PB Managers must provide free access and training to use these new technologies to all citizens, including city staff (Matheus et al. 2010). A blended approach can also be the answer here. City staff could organize a webinar for interested residents or workshops for communities that might be excluded from the process. The webinars and seminars could subsequently be uploaded as a video on demand on a video hosting platform (Zawadzka-Pąk 2022).

Other platforms like Consul are built on open-source software, allowing other users to use the available data to create new solutions or software that can contribute to the forum or specific project participation (Matheus et al. 2010).

2.4.3 Social Media and Participatory Budgeting

Social media can help mobilize citizens towards participation in PB projects; City administrators can use social media to promote the project and share updates and information about the project. Social media can serve as one-way communication (to inform citizens) or as a two-way communication method by social media account managers interacting with followers and answering questions and comments, but also encouraging them to submit proposals and vote, transforming passive followers into active ones (Zawadzka-Pąk 2022). Some citizens can become ambassadors for the project, helping with the promotion and participation, winning which could make the project more attractive to a larger audience, including “excluded communities,” and reduces the risk of an engaged minority deciding over the winning proposals (Zawadzka-Pąk 2022). Municipalities should carefully consider which social media platforms to use to maximize their reach but also consider other alternative channels like email newsletters (Gordon et al. 2017)

The lack of knowledge, lack of trust, legitimacy, and citizen apathy is exactly what municipalities' use of social media could reverse by increasing their outreach efforts (Gordon et al. 2017). Three-quarters of local government CIOs use some social media

channels for their communications and federal-level agencies to build better relationships with citizens. Social media can grant access to leaders (allowing citizens to give informal feedback about policy or program), educate the public and facilitate information sharing (Perlman 2012).

It is difficult to evaluate the real impact social media campaigns have on a project because of the anonymity of the participants as well as their lack of social bond; a successful social media campaign does not translate into a successful PB project, but it can influence it (Zawadzka-Pak 2022). The level of competency by city officials can also be a decisive factor, which is why some author suggests providing workshops on how to grow accounts and maximize social media engagement (Gordon et al. 2017). The social media accounts of municipalities should also be tied to some restrictions such as established practices on acceptable use, employee conduct, content, security, and legal issues, making it a special account to handle and requiring more specific training. Feedback from the different stakeholders should be allowed and evaluated to form cohesive social media use policies and adjust procedures and practices accordingly (Perlman 2012).

The use of social media should be implemented so that it does not significantly increase the workload of current staff or PB team members; this then becomes a question of resources and political will, as the training and capacities are needed to use this tool effectively. Therefore, politicians must commit to the resources required to use social media properly (Gordon et al. 2017).

2.4.4 Artificial Intelligence in Participatory Budgeting

Artificial intelligence can also be used for PB-related topics; some governments have desired to establish ethical boundaries to increase transparency in using AI in the public sector (Waters et al. 2023). Local governments can use AI to help citizens get information, assist them with queries, help citizens engage online and in public meetings, or help with administrative tasks for public works (Snyder et al. 2023).

PB is another process that can benefit from the use of AI; though not a lot of research has been conducted on the subject, the existing literature (Przysucha 2022) (Davies et al. 2021) (Arana-Catania et al. 2021) identifies the following use cases for AI in PB:

1. **Data Analysis:** It can help administrators analyze large quantities of data and identify trends and patterns, providing valuable insights for project managers.
2. **Crowdsourcing and engagement:** AI could facilitate the collection of ideas and feedback from the public and help categorize and rank them to enable decision-making and allow for creating a global map of discussed topics. This could also

let an AI tool suggest users connect with others who share similar interests or have a similar comment history to encourage them to collaborate.

3. **Security and Privacy:** The security and privacy aspects of PB can also be enhanced by AI by training algorithms to detect unusual activities and potential security threats.
4. **Communication and information dissemination:** Communication between residents and the administration could be improved by using AI power chatbots that can respond to citizens' inquiries about PB FAQs, update project proposals and simplify the complexity of the information that encompasses a PB project. The focus could lay on natural language processing (NLP) which could lessen the information overload experienced by users by, for example, summarizing proposals and comments and improving citizen participation and information analysis.

AI could also facilitate the participation of marginalized communities or foreigners by simplifying the translation of contents and providing and operating in open data sets to enable users to write innovative proposals using this data (UN-Habitat 2021).



Figure 8: AI System for data analysis in a Spanish PB project.

Source: igualA.madrid.es

The platform consul improved the participatory process using AI tools that guided communication, data analysis, and engagement (Arana-Catania et al. 2021). Researchers also are aware of the social acceptance of these new tools and that practitioners have to ensure that they will comply with all the ethical and legal requirements, a transparent process design, audits, and an impact assessment framework are some of the methods that can be used to ensure compliance with the existing regulations (Arana-Catania et al. 2021). It is important n6oreognize that AI is not a universal solution for social and institutional problems and that governments need to carefully consider and plan how these tools can be used for the benefit of the public (UN-Habitat 2021)

To conclude this chapter, it is important to state again that the use of digital tools in the PB project must be accompanied by the political will to shift between the traditional methods and the newer innovative ones, as well as accept the possible changes to the power dynamics that come with these innovations. Administrators must be trained and equipped to use these new digital technologies to provide transparency, accountability, and access (Davies et al., 2022). By using digital technologies, PB project managers have to make sure that the public values of personal, open, and cheap participation are upheld; the criteria for participation for both citizens and city employees should not become too complex because of the use of digital technologies (van der Does and Bos 2021).

The PB software should be codesigned and co-produced by PB practitioners with expertise and should offer a wide use of applications or various requirements and modules that can adapt to the local context while maintaining a flexible, user-friendly, accessible, and engaging design (Cook and Nelis 2021)

An efficient design can nudge users interacting with digital tools to certain actions, such as maintaining a civil discussion. Rewards such as likes can motivate users to engage in an online discussion, and allowing users to ask questions can increase participation; if users are allowed to edit their proposal after having discussed the proposal publicly, other users could see this as a form of validation for their contributions further strengthening the deliberation on a platform (van der Does and Bos 2021). Yet ICTs cannot replace the traditional forms of communication, and PB managers should use both forms of communication to facilitate and reinforce each other (Zawadzka-Pąk 2022).

3 Methodology

This research paper is structured as exploratory research. It aims to understand the current state of PB in Germany and evaluate the implementation of established best practices and digital tools in participatory budgeting initiatives in German cities. This is done through an inductive research design in which no prior theory or framework was used to analyze the data. Still, after the collection of data, the analysis of it led to the identification of patterns and trends used to derive conclusions that answered the research question. The following chapter will detail the research design, the data collection methods used for this research, the data collection tools, and the data analysis approach used in this study.

3.1 Research Design

The research design first identified established best practices and the most prevalent used digital tools in participatory budgeting initiatives through a literature review. Once installed, a mixed-methods approach was used for quantitative and qualitative data collection and analysis methods. This allows for a holistic understanding of the researched phenomena through the strengths of both ways. This research was conducted with an inductive approach, merely observing and measuring different categories and characteristics (Creswell 2014) of PB initiatives to detect patterns that can aid the development of conclusions and suggestions to give practitioners data-based recommendations that can be used to enhance the effectiveness of PB initiatives.

The first step in the research design was identifying the data that had to be collected. In this study, a total of nine German cities were selected that had an active participatory budgeting initiative. These cities are Stuttgart, Freiburg, Monheim am Rhein, Potsdam, Leipzig, Darmstadt, Trier, Norderstedt, and Jena. These cities were chosen from the most current database offered by the Federal Agency for Civic Education (Bundeszentrale für Politische Bildung 2023). This is Germany's central point of contact for information questions relating to participatory budgeting. These cities were selected to establish a representative sample of German cities that conduct participatory budgeting initiatives. These cities were chosen from different states in Germany; the cities have various sizes of populations and various lengths of implementation, meaning that some cities have had PB initiatives for varying lengths of time, allowing them to observe a possible evolution of the process. The reasoning behind this selection was to capture the widest possible range of experiences and practices across various contexts of PB in Germany.

The second step was selecting the appropriate data collection methods, and this was based on surveys and semi-structured interviews. The survey was designed to obtain a broad overview of each city's PB initiative and to enquire about the most crucial dimensions

that could answer the research question. There must be more than one type of question to answer this complex question. Therefore, open-ended, multiple choice and Likert scale questions were employed to enquire about each specific data point. Open-ended questions were used to capture qualitative data that is difficult to quantify; these questions allowed the interviewees to provide detailed context-rich insights and express their expert opinions on the initiatives in their city. Multiple choice questions were used to collect structured data that could easily be compared across categories and cities; these were especially helpful for identifying the implementation of best practices and digital tools. The Likert scale questions were used to enquire about the perceptions and attitudes towards different measures taken during the project (Creswell 2014).

The survey questions were open-ended for the semi-structured interviews with the different project managers of the other PB initiatives in the various cities. The original scope of the research consisted of surveying all 80 cities on the BPB database. However, due to logistical and time constraints and an expected response rate of about 10%, it was decided to limit the scope of the research. The designed survey was answered only for the nine selected cities using publicly available data as much as possible. The remaining questions were answered through oral and written interviews with city administrators; this allowed us to delve deeper into different aspects of the PB initiatives and ensure a comprehensive data collection process.

3.2 Data Collection Methods

This paper's research choice consisted of a mixed method approach, encompassing quantitative (survey) and qualitative (semi-structured interviews) methods to provide a more comprehensive answer to the research question and combining both methods permitted to overcome the weaknesses of the other way and give a more wholistic and nuanced response to the research question (Creswell 2009).

The quantitative data for this research was derived from the survey that was answered through desk research using publicly available data, allowing for a broad understanding of the different PB initiatives in other German cities; it was also designed to enquire about various aspects of the participatory budgeting initiatives like basic information about the project, project structure and management, the use of digital tools for the project and user experience and engagement, the questionnaire enabled the collection of greater quantities of data in a shorter period. This secondary data was obtained from various publicly available resources, like governmental websites and city websites, but also news articles that included comments by the administrators or detailed specific procedures of the project. The answered survey provides a structured and comparable dataset across all

cities, which can help determine patterns, relationships, and trends among the sampled cities.

The qualitative data was collected through semi-structured interviews with the city's PB project managers; this data complemented the survey and gave insight into the context-specific nuances of each city as well as a more holistic view that shed light into the different factors that facilitated or complicated the use and implementation of certain best practices or digital tools. This helped them understand why and how certain characteristics were present in their respective PB projects (Yin 2018). Combining both methods makes it possible to provide a more comprehensive analysis of the state of participatory budgeting in Germany.

The interviewees were selected by contacting the relevant contact person listed on the website of each's cities PB project; they were responsible for the project, qualifying them to provide deep insider knowledge of the city's PB project. Out of the nine selected cities, 6 Interviews were conducted online, two were answered in written form, and one responded and declined the interview after an initial confirmation. Choosing the relevant project manager as an interview partner ensured the accuracy of the information as well as the direct involvement of the individuals in the researched phenomenon. As mentioned above, through the interviews, enquiring about data that would not have been possible to enquire through public sources alone was possible. A semi-rigid questionnaire was prepared for the interviews, in which, most of the time, the same questions were asked; however, the interviews maintained the semi-structured format to allow for flexibility during the discussion, as well as follow-up on interesting answers given during the interview.

The time horizon for this research consisted of 4 months, which could capture a part of the current reality of PB in Germany without studying the phenomenon for an extended period. Regarding ethics, the interviewees were informed about the aims of the research before accepting the interview, their data has been anonymized, and they will only be referred to as "Participatory Budgeting representatives from – X city" The interviews were recorded, transcribed, and translated for research purposes.

3.3 Data Analysis

Before the data could be analyzed, the data collection method had to ensure validity and reliability, this was done by answering the same set of survey questions for each city, and since the interview questions were survey questions that could not be answered with public data, this also ensured the consistency of the data collection. The data was triangulation through the different data sources and data collection methods by verifying

the data obtained through desk research into public data to fill out the designed survey and compared that with the data enquired in the interviews (Creswell 2009). Validity was ensured through the mixed method approach, and the study design was designed to answer the research question accurately. The sampling of the cities also helped ensure reliability, including different types of cities from other states with different sizes and various lengths of time conducting a PB project, increasing the chances of making the findings of this research more representative of the broader status of German cities with a PB initiative.

These were identified through desk research, covering the different aspects of PB, and numerous case studies to identify best practices suggested by academics and practitioners. Through desk research, it was also possible to identify the main digital tools that can be used for PB; the study of use cases allowed for categorizing these tools and identifying patterns of use.

Completing the questionnaire with publicly available data allows for a broad data collection and the quantification of the responses, which will aid the comparative case study and the cross-case analysis, helping to identify patterns, such as the frequency and extent of usage of certain best practices and digital tools in PB projects.

The qualitative phase with the in-depth interview gives a more detailed insight into the actual PB processes in some German municipalities, allowing for a contextual understanding of the phenomenon that can consider any nuance or complexity difficult to reflect with a survey. The interview will be conducted with the city official conducting the PB project in the respective municipality. The interviews will be conducted online due to the different geographical locations of the interviewees. As mentioned, the goals are to interview the project managers from the selected municipalities and get deep insights into using the identified best practices and digital tools. Lastly, by conducting semi-structured interviews, it is possible to provide a layer of flexibility to the method allowing to adapt questions based on the responses (Creswell 2014).

The qualitative survey/questionnaire is composed of 95 Questions divided into ten sections with 12 open-ended questions, two Likert scale questions that go from 1 to 5, and 81 Multiple choice questions in which most questions are yes or no questions; this was done to gather as much qualitative data as possible but also to simplify the effort it takes to collect the data to fill out each cities questionnaire. The questions for the survey were developed based on the previously done literature review and aimed at mapping out all the different methods, techniques, practices, and digital tools that could be used by PB project managers, as well as gather some qualitative data that could be used to dig deeper into the local and specific context and could give insight into some of the attitudes,

enables and blockers that can make a PB project more successful or difficult in a particular municipality. The questions aim to be unbiased, clear, concise, and easy to understand, only using jargon for specific terms that practitioners should know. However, the definitions of jargon are also included at the beginning of the relevant question. The sections cover the aspects of the PB project that will be evaluated and are structured to build upon one another, from the more easily answered to the more technical questions at the end.

The Semi-structured interview was based on the survey results and was conducted with the project managers of the nine selected municipalities. The interviews aimed to dig deeper into the local context and identify / blockers that make implementing these best practices and digital tools more challenging or successful. The interview span was roughly 30 Mins for each interviewee, in which approximately 30 questions were asked, but also leaving the possibility to ask follow-up questions depending on the answer in case a particular subject needed further exploration. The interviews were conducted online to accommodate the different geographical locations of the participants. Most of the interviews were recorded and transcribed, others were not possible to register due to the nature of the interview (phone call), and some discussions were answered in a written manner, all of this enabling the data analysis that was employed used to establish the results of this study.

To protect the participant's privacy, the survey did not ask personal questions such as name, age, gender, etc. A consent form was also provided for the survey participants and interviewees to cover all GDPR-related questions.

With the results of the semi-structured interviews combined with the gathered data from the questionnaire, a comparative case study and a cross-case analysis determined the presence of patterns, themes, and insights that served as the basis for the discussions and conclusions of this research.

3.4 Limitations

This methodology has several limitations, yet there were also efforts to reduce the possible biases. Since this methodology can have a sampling bias by not including practitioners from discontinued or planned PB projects, the decision to only include active initiatives was taken to realistically gather the most updated data on the current affairs of PB projects in Germany. The survey also covers cities of various sizes in different German states, reducing the possible sampling bias.

There is a possible response bias, in which practitioners, even if they are anonymous, want to present themselves, their work, or the municipality they present positively, one

that might not reflect reality. To mitigate this bias, the survey and interview questions were developed to avoid leading the respondents toward an answer; anonymity can also increase the veracity of the solutions provided.

A possible measurement error in which the questions asked do not effectively reflect the phenomenon asked about was mitigated by reviewing the measurement instruments with various academics that are experts in the topic. Lastly, limited time and resources could affect this research, as one person conducted it over four months. It was also difficult to reach respondents in the given time for the survey since it coincided with the typical summer holiday period in Germany, where many city officials are on vacation.

4 Results

After collecting the data through mixed methods, a comparative case study was conducted based on the methods proposed by Goodrick (2014) and Yin (2018); these methods included examining the collected data and categorizing the questions and answers to recognize patterns, concepts, and insights given by the data. Again, it is important to mention that this research was conducted inductively, meaning that the concluded ideas and hypotheses reflect the patterns and insights in the collected data and observations. First, observations for each city PB project were conducted. The common themes and patterns were observed to answer the research question about how the established best practices and digital tools are implemented in PB projects in Germany.

According to Goodrick, comparative case studies enable comparison within and across contexts; they allow for the “synthesis of similarities, differences, and patterns across two or more cases that share a common focus or goal” (Goodrick 2014, 2). But to do so properly, it is important to describe “similarities and differences between the cases to generate a holistic view” (Goodrick 2014, 3) of how PB projects are conducted in Germany; this is followed by an interpretation of the implications between these similarities and differences (Goodrick 2014, 3).

Since the data collection was divided into sections, each summary will be used for the pattern analysis. These categories helped establish the pattern-matching logic and explained the observed processes and behaviors. These patterns help answer the research question. Pattern matching will help identify recurring themes or patterns that can be compared to the best practices and digital tools identified in the literature to increase the validity of the specified pattern, possibly leading to new theories or models in the field of participatory budgeting.

Following the pattern-matching method proposed by Yin 2018, a cross-case synthesis will be conducted to compare and synthesize the identified patterns across cases and sections to establish relationships between the cases and explain why or how some patterns seem replicable (Yin 2018). This research was conducted in an inductive manner meaning that the patterns and themes emerged from the collected data rather than preexisting theories or hypotheses, helping understand the phenomenon of participatory budgeting in German real-world settings. The synthesis draws on a comprehensive review of the art literature on the subject and the primary data collected from the researched cities and their respective projects. The synthesis is structured around key themes identified through the data analysis; each theme is explored in detail by analyzing data from the cases and the relevant literature to answer the research question properly.

4.1 Basic information about the city and project

The first pattern that is identifiable is the start year of the projects; most cities initiated the PB project in the late 2000s or early 2010s, except Monheim am Rhein, which pioneered the project in the year 2000; both Monheim and Jena paused the project for a period but reinstated it. The difference in population makes the sample size more representative within the German context, in which currently only 80 cities run a PB project. There is no correlation between the people and participation in this sample size. When it comes to the evaluation of the decision-making power that citizens gain through the PB project, the response was mixed. At the same time, some cities stated that it does not increase the decision-making power of the citizens since, as mentioned in the literature, the federalist nature of Germany gives communes authority over their budget, which can only be exercised by the city council. Citizens can submit ideas, but the ultimate decision still lies within the administration and city council. The cities that vote not also see this as part of the project; it is aimed more at consulting citizens' participation instead of increasing decision-making power. The cities that replied with a positive answer either have a vaguer PB project in which broad topics are voted on which will be funded more actively (bike lanes, public toilets, etc.) or have secondary mechanisms in their PB project that allow for a higher autonomy on the sides of the citizens such as district based PB that in which the approval of funds is easier.

4.2 Overview of the PB Project

The cities were asked to name the reasons they started the PB project, and among all of them, we can find answers that match with the literature; most cities initiated the project to increase transparency and citizen participation (Holtkamp 2008), many others do it to increase accountability (Bertelsmann-Stiftung 2004), some do it to increase the responsiveness of the administration towards citizen's needs (Shah et al. 2007) and other reasons like the top-down approach by elected officials, promote the understanding of communal finances and (Smith 2009) experiment with innovative methods was also listed.

The participation methods are varied between the projects, yet most of them reflect the same steps that were identified in the literature; there is a registration process if the participation is conducted online; citizens can submit ideas and comment on the different proposals, which can lead to discussion and deliberation and finally, they can vote for their favorite proposals (Bertelsmann-Stiftung 2004; De Vries et al. 2022; EmPaci 2021). Cities like Stuttgart and Freiburg go a step further and let citizens participate in a feedback round after the project to gather their comments and suggestions about the finished project.

The project scope was properly defined before the project started, and objectives and methods were established (De Vries et al. 2022) with anticipation for all cities except Norderstedt, where a more open approach was taken. The project was conducted without being tied to any goals or expectations.

All cities have defined rules on how citizens should submit their ideas; some are more strict (Monheim, Jena, Trier) than others (Stuttgart, Darmstadt, Norderstedt), yet there is always a ground set of rules present that citizens have to follow to submit their ideas (EmPaci 2021). These rules were communicated through various channels such as the websites of the respective cities, information brochures, displays, postal advertisements, publications in the local press, and the work with registered societies (Eingetragene Vereine) who would share the information with their members.

When it comes to the communication between the city and the citizens, the cities rated their communication across the whole scale, meaning that, in general, it could be said that most cities prefer a mixed method of communication involving online and offline strategies and channels with a slight preference towards online methods which could be explained by the repercussions of the COVID-19 pandemic that started in 2020. The cities also tend to lean more towards a two-way communication approach made easier through online platforms, email newsletters, and social media channels, indicating a higher disposition to establish a dialogue with the citizens (Cook and Nelis 2021; van der Does and Bos 2021).

4.3 Project structure and management

When it comes to the clarity on which departments will be involved in the project, all cities gave a positive answer meaning that it is well-known which departments will assess the submission uploaded by the citizens; a possible hypothesis could be that most of the time, the suggestions of the citizens cover the same topics (More green spaces, more infrastructure for parks and recreation, road construction, cultural opportunities, etc.). There is also one project manager present in each city for the PB project; in all cases, this was also the person with whom the interview was conducted, indicating a centralized responsibility for the execution of the project (van der Does and Bos 2021; EmPaci 2021). All cities except Norderstedt also have other staff members who help with the project indicating a bigger commitment on the part of the city administration to execute the project; the case of Stuttgart is especially interesting because they also established a voluntary citizen group that is in contact with association, interested groups, and institutions, they help other citizens submit their ideas and aid participation.

The project deadlines were also mostly kept by all cities, with only one citing some disruptions due to the pandemic and the Ukraine war that led to an energy crisis in Germany. Another city even has a mandatory policy that every project should be able to be implemented within two years of approval, which also counts as one of the best practices in PB, according to the literature (Cook and Nelis 2021).

Monheim was the only city that confirmed following the customer journey approach (Reiz et al. 2021), showing a great understanding about the state of the art, an innovative attitude, and an institutional desire to follow the best practices for their PB project.

All cities reported establishing deadlines for each phase and defined milestones before starting. This is not only fitting to the literature (Bertelsmann-Stiftung 2004; Democratic Society for the Scottish Government 2016; EmPaci 2021) but also reflects the internal processes to which PB projects are subjected in which they have to fit the schedule of the council's decision on the budget as the example of Leipzig illustrates in Figure 6.

Citizens need to possess the ability to vote on changing the rules or procedures of the project. Still, some cities allow citizens to leave suggestions and feedback through different means, like Stuttgart's voluntary group, which reaches out to citizens after the project to gather feedback.



Figure 9: Roadmap of the Leipzig PB process

Source: <https://www.leipzig.de/buergerservice-und-erwaltung/stadtverwaltung/haushalt-und-finanzen/buergerbeteiligung>

4.4 Proposal submission and discussion

There are no restrictions for citizens to participate in any of the city's PB projects, and there are no strict checks to confirm if a citizen lives in the city; some cities have a minimum and maximum age of participation, but this is not enforced since the registration happens mostly online, the incentive behind this is to avoid excessive hurdles for the citizen and increase participation through an easy registration (De Vries et al. 2022).

Every cities project budget covers the entire city. However, some cities like Potsdam, Leipzig, Darmstadt, and Trier also divided the budget into neighborhoods; Potsdam, Leipzig, and Darmstadt this is the case because they have two parallels projects of

participatory budgeting; one is the well known “Bürgerhaushalt“ in which citizens can vote to include proposals in the official budget plan of the city that becomes legislation. The other projects are called “Bürgerbudgets” or citizens budgets, in which a smaller budget is allocated to smaller neighborhood projects, this budget is also more accessible for citizens, and citizens have easier access to funds because it is not tied to a vote by the city council. The city of Leipzig has a unique spin on this, allowing for citizen participation on different levels. First, the citizens can comment on the presented budget in the city and attend the discussion sessions, and their bigger citywide participatory budgeting project randomly selects 15000 citizens that are invited to participate, submit and vote for ideas; this is to counter participation by “the usual suspects” (Democratic society for the Scottish government 2016; EmPaci 2021). Darmstadt divides its project into smaller district projects with a maximum funding of 5000 euro and bigger ideas that politicians should discuss; citizens get one vote for each category. Monheim focuses on the user experience covering the entire city with their project. However, providing a map in which users can see in which spots something was suggested, for example, new park benches or fixing a street, is easier to visualize thanks to the interactive map.

There are multiple ways in which citizens can submit proposals; this includes the website, email, telephone, offline forms, discussion rounds (online /offline), and in person. Stuttgart was the only city that pro-actively mentioned in the interviews that their staff is willing to help citizens who have a proposal and stop by their office at the city hall.

All cities provide some educational tools for citizens to familiarize them with the project and the procedures, be it guides on other websites, videos, blog posts, PDFs, and even events or information stands that are organized by the city to increase the awareness and participation of the project (Mattei et al. 2022). This used to be the case with Trier, but the events stopped because, according to the project manager, the project is well known by now.

Seven cities categorize their proposals into topics of interest (Environment, sports, roads, etc.) Some cities have pre-defined categories to which citizens can attach their ideas; others bundle identical proposals, consistent with the literature (EmPaci 2021).

All cities provide citizens with an established process through which citizens can discuss the different proposals through the online platform, discussion rounds (online / offline), social media, or city-organized events following the best practices in the literature (EmPaci 2021; He 2019). All cities have also stated that there is moderation during the discussion process, either by removing comments from the online platform, providing guidelines on internet etiquette, or there was a moderator present during the discussion rounds; this is another best practice for a well-conducted that wants to ensure a respectful

and productive discussion between citizens PB project (De Vries et al. 2022; Democratic society for the Scottish government 2016; Rowe and Frewer 2005). The duration of the discussion varies from one to six months. Still, this timeline is very context-specific and aligns with the different project deadlines and the dates for the city council discussion and decisions on the budget.

4.5 Voting and Incentives

In all cities, citizens can vote for all the projects submitted on the platform, except in Jena, where the submitted ideas must be approved before publication on the forum. The majority of cities also allow casting more than one vote, with Darmstadt being the exception, only letting citizens cast one vote for each type of PB project; all in all, the selected cities try to have an engaging voting process, which can lead to more democratic participation on the platform (Shah et al. 2007; Wampler 2000).

According to the literature reviewed by Bertelsmann-Stiftung and van der Does and Bos, cities should incentivize participation in the project through different means, such as giveaways or contests. However, the reality for German cities is different; for the interviewed project managers, the incentive to participate in the project should be the desire to shape one's environment, neighborhood, and city. The encouragement comes from successful projects where citizens can see that their voice matters and projects are implemented. It's also an opportunity for the administration to ask about the needs of the citizens. In the instance in which the practice of offering incentives was implemented (free tickets for cultural events in Monheim), citizens didn't pick up their prizes.

The voting methods also reflect an effort to be as flexible and inclusive as possible (De Vries et al. 2022; EmPaci 2021), with most cities offering more than one channel for the vote, be it the online platform, offline forms, the collection of signatures and even in person voting booths.

Digital literacy and the digital divide, which can affect PB projects, especially if they are heavily based online, also affect German cities. With some cities reporting a big drop in participation numbers once they fully switched to online, overall, the digital divide is reported as being a smaller barrier in the selected projects than digital literacy, which is seen as a more significant factor, with cities acknowledging that it has a bigger impact on certain parts of their population, an expected consequence of these type of changes in these projects (Ragnedda and Muschert 2013).

4.6 Project evaluation and feedback

All cities allow multiple projects to win, but in the case of Germany, winning means being passed to the city administration for further evaluation and assessment and to the city council for a final vote (Schneider 2018). The exception here is Jena, which has a total budget of 100.000 Euros, in which cities with a smaller citizen budget in winning projects are implemented faster. Some cities have a maximum budget for the submissions and the project, some have a minimum budget for the submission, and others don't have a budget cap at all because if an idea is passed after the assessment by the city administration and the city council, it is considered realistic enough to fit within the current city budget meaning that it can also realistically be implemented. This depends on the city context, and there is no way of establishing a common pattern within the researched cities besides evaluating multiple winning ideas, which is consistent with the literature (EmPaci 2021; Miller et al. 2019).

All cities provide channels through which citizens can leave feedback; some are more direct than others, with Stuttgart, Potsdam, and Darmstadt having dedicated staff members who actively work with citizens to gather feedback on the project. While it is not that straightforward in other cities, citizens can still reach out online or offline to the administrations and leave their feedback indicating an openness to hear out citizens and use their feedback to learn, improve, and refine the PB project. How this feedback is collected is also mixed. Still, all the cities employ a mix of online and offline methods available to citizens to leave feedback, be it the online platform and email through telephone and discussion groups about the project. Allowing and listening to the citizens' feedback and providing diverse and inclusive channels for citizens to reach out are further examples of best practices identified in the literature (Bertelsmann-Stiftung 2004; EmPaci 2021; Reichard 2001).

The assessment of the submissions is a task that lies mostly within the city administration and its different departments (infrastructure, education, culture, environment, etc.) in all cities. These departments assess the submissions and test how feasible they are before passing them to the city council for a vote; sometimes, they are supported by PB, the project staff; in Darmstadt, some submissions could be implemented as a private-public partnership so the proposals are also evaluated by external third parties and in Monheim there is a citizens council who also helps evaluate the submitted ideas, adding an extra layer of transparency. This, combined with the evaluation through multiple stakeholders, was another suggestion in the reviewed literature (Miller et al. 2019).

Since the PB projects are heavily subjected to the city council's decisions in Germany, it was important to enquire about the exact involvement of this part of the

administration/government in the respective PB projects. The city council is involved in all cities, but this is also heavily context-dependent, which only allows for identifying a specific pattern beyond confirming the crucial role of city councils in the voting and implementation part of German PB projects. In Stuttgart, the decisions are taken by the city council, whom the treasury and other district advisory councils advise. In Potsdam, some council members are involved in the different project groups that plan, shape and help implement the PB project. In Leipzig city council, members are included in every process step: planning, idea submission and evaluation, voting, and implementation. In Darmstadt, the district councils deal with the smaller citizens' budgets while the city council decides on the participatory budgeting submissions, which the different administrative departments curated. As seen in the literature, the city council plays the decisive role in German cities on which projects get approved and not, but once projects are officially voted into the budget plan, this one becomes legislation, and the cities are bound to implement them (Berlin Institut für Partizipation 2021; Röcke 2014; Schneider 2018).

4.7 Project accountability

All cities have instituted a process in which updates on the project and the running submissions are communicated, which is in line with the literature regarding the commitment to transparency and accountability on the part of the city administration (Democratic Society for the Scottish Government 2016; Zawadzka-Pak 2022). How these updates are communicated varies from city to city, but online communication through the city's website is present in all cities. Methods like social media, in-person events, press releases, available information hours via telephone, and in Monheim, there is even a live broadcast of the city council session in which the submissions are discussed. The results are communicated similarly across the cities, with some cities organizing in-person events to communicate the outcome and reaching out to registered societies to communicate the results, again showing a commitment to transparency and an understanding of the diverse channels that citizens use to maintain themselves informed (Zawadzka-Pak 2022).

There is also clarity on the departments that are responsible for the communication of the results, which is generally split up between either the PB project staff, the city PR department, and sometimes the website operators when the updates are communicated through the website, and there is no designated website administrator working for the city.

All cities stated that they believe that the PB influences the agenda of the decision-makers in the town because the submissions have to be processed by the relevant city departments and the city council, which has a real impact on the cities agenda on policies, priorities, and legislation (Miller et al. 2019; Schneider 2018). Since the approved projects enter

the official city budget, which in turn becomes legislation, it is fair to say that once a submission enters the budget, it becomes binding, which was pointed out by Schneider and Röcke; this is not to be confused with PB projects like the ones mentioned by He and De Vries in which once a project wins through popular election it becomes binding legislation. However, this mechanism ensures accountability once submission passes the different hurdles in the process. This is especially useful because in all cities, it is up to the relevant administrative departments to implement the winning proposals, and being already familiarized with an evaluation and a possible roadmap of the implementation while also being granted funding and the legal basis to act is a very useful combination of factors for the departments that have to implement the ideas be it through different city services and contracts or in collaboration with third parties.

The involvement of citizens in the implementation of cities varies on the city. Here the deciding factor is the size of the city. At the same time, there is no way for citizens to get involved with the implementation of their ideas in bigger cities like Stuttgart, Potsdam, or Leipzig, smaller cities like Norderstedt, Trier, and Monheim and Freiburg do allow the involvement of citizens. At the same time, this takes a more passive approach in Norderstedt, where citizens are merely notified about the status of their submission and invited to attend the council session in which the idea will be discussed in Monheim and Freiburg citizens can participate in meetings or onsite consultations to help administrators with the implementation of their idea, increasing authority and participation of the citizens (Miller et al. 2019).

In none of the cities there has ever been a case in which a project could not be delivered upon. One city has needed help implementing some of the suggestions. Still, even if asked what would happen in the case of non-delivery, all cities replied that this would be communicated appropriately to the citizens, which is another commitment towards transparent and accountable communication.

Lastly, there is no appealing process for citizens if they want to change the decision of the city council, they can re-submit their idea and leave feedback for the administrators, but there is no legal tool for appealing a decision like suggested in the literature (EmPaci 2021), this is again due to the autonomy of the budget lying strictly in the hands of the city council by German law (Schneider 2018).

4.8 Digital tools and platform management

The questions in this section evaluated the use and perceived benefit of digital tools in Participatory budgeting projects. They enquired about the availability of project information online, the impact of digital tools on key aspects of PB projects like

engagement, communication, service accessibility, transparency, trust, and accountability, as well as the training provided by the staff and the cybersecurity measures taken to keep user data safe.

All cities reported using digital tools for their PB projects; during the interviews, it became clear that this is something that cannot be avoided anymore, citizens are mostly online now, and cities have to provide methods in which online citizens can better engage with the city, showing a widespread adoption of technology and innovation in the participatory budgeting processes in Germany (Breuer et al. 2018; van der Does and Bos 2021). As reported by the cities, these tools are used extensively, with Stuttgart taking the biggest step and moving all the processes online. In contrast, Trier says that only slightly using these tools.

All cities reported that the budget information about the PB project and city budget is available online, increasing accessibility and transparency and being a resource that citizens can use to access better and understand the communal finances (Mitchell 2014). The discussion will explain how this is still a point of contention in Germany that is only sometimes on par with the best practices and cutting-edge solutions available nowadays.

Regarding the perceived benefits of digital tools, all cities believe that using digital tools makes the PB service more transparent and accessible and improves the communication between the city administration and the citizens (Barros and Sampaio 2016; Cook and Nelis 2021). Opinions start to be more divided on the question of PB increasing accountability and trust in the administration; some cities state that it does not increase accountability because there is no promise of ideas being implemented; these must be assessed by the city first and then approved by the city council and only then one can start talking about accountability. Regarding trust, cities reported that it takes more than just one project like PB to gain and increase citizens' trust. It must be a consistent effort, so it is impossible to reduce the trust in the administration to one successful project (Transcript Stuttgart, Page 79). On the question of costs, there was also no unison between the respondents; some cities have always had digital tools present, so it is not possible to calculate the cost without them; for others, it increased the project costs, and for others, it reduced them, and for some it stayed roughly the same, meaning that this is a factor that is heavily dependent on the context and the individual methods in which the project is managed in every city. There is, however, an overwhelmingly positive perception about digital tools reducing the workload, with seven cities stating that the use of digital tools indeed reduced the workload; for one, it stayed the same, and only Leipzig reported an increased workload from the use of digital tools because that staff did not receive proper training and had to “learn by doing.”

This was not an uncommon occurrence during the research; the staff in Stuttgart also didn't receive proper training on managing the platform; most other cities did or still have the process outsourced to the website operator/provider who manages the platform for the city, the ideal scenario would be that all cities have at least one trained staff member who can manage the platform effectively as suggested in the literature (Gordon et al. 2017; Matheus et al. 2010).

None of the cities use two-factor authentication for the registered users; the closest thing was the Norderstedt platform, which uses a captcha before new registrations; this could lead to potential security concerns and data manipulation (De Vries et al. 2022). Yet this is consistent with the city's desire to make the registration and participation process as easy and user-friendly as possible. All cities confirmed using cybersecurity measures to prevent privacy breaches or data manipulation, but this has not always been effective; in the case of Freiburg, there was a hack that led to a data Leak, and in the case of Potsdam and Darmstadt, there have been allegations of data manipulation by interest groups who sign up with multiple accounts to skew a vote (Bürgerbeteiligung Potsdam 2011; Darmstadt 2022).

After analyzing the data, it became clear that there is no single universal platform for PB projects in Germany, different cities contract different providers for their projects, and besides some cities that do use CONSUL (the open source and most widely used platform for PB projects), it is also not possible to tell if there is one tool that is significantly better than the others. This highlights how PB projects are heavily context-dependent, and the project and its agencies must adapt to the different needs of the administrators and the project. Online PB tools must serve various functions as was presented in the data; they have been able to cover all the steps of a PB project and the subsequent data analysis and more. It is still being determined how much these tools can be adapted and customized to cover changing needs and requirements and if there is a vendor lock-in with the municipalities. Online tools are still popular in Germany since 94% of the population has access to the internet (Tagesschau, 2023), meaning that infrastructure and access to the internet are a lesser problem for German citizens.

4.9 User Experience and Engagement

When it comes to the user experience and engagement on the online platforms, the surveyed cities have different approaches and beliefs about the impact of the online platforms on participation and discussion.

Most cities believe that using the online platform increased participation, with Stuttgart being an exception because once they moved to fully online participation, their numbers

dropped. Mannheim, in which the online platform has always been present, evaluated participation with the platform as possible. All of the project managers also believe that the platform has increased the discussion and deliberation of ideas in the PB project; this is mostly due to the commenting feature on the platform, which makes the exchange of ideas easier (Democratic Society for the Scottish Government 2016; van der Does and Bos 2021). However, some project managers admit that this is mostly useful to certain parts of the population and that a good mix of offline and online discussion methods is still the best approach (CITA TRANSCRIPT POTSDAM).

All cities responded that their platform is intuitive for the citizens, facilitating and encouraging participation; they also all provide content on how users are supposed to use the platform, these can be PDFs, videos, offline info events, and discussion rounds, and some cities even used print media methods before, informing and educating citizens on how to use the platform can effectively facilitate participation (De Vries et al. 2022; EmPaci 2021). Most platforms report on their platforms nudging the user to engage with the platform, except for Trier and Leipzig, in which participation is very limited. Hence, there is no need to nudge them to participate more.

The cities described the various incentives provided to users to engage with the platforms. Such as voting, liking and disliking proposals, interacting with other users, commenting, and submitting a proposal are ways citizens can actively shape their environment, set the agenda for the city council, and communicate with the administration. Leipzig, Trier, and Jena even allow for the submission of group proposals, something recommended in the literature (Menendez-Blanco and Bjørn 2022). According to the interviewed project managers, the main incentive provided is the ease of use; the mentioned goals are much easier to achieve because the platform is easy to use. Therefore citizens should participate (van der Does and Bos, 2021).

Cities monitor and evaluate their platform's engagement in a very different manner. Still, the most common analytics used for evaluation is the number of new users, the number of active users, demographical data like age and gender, the number of comments, votes, and of course, proposals, and some cities are also interested in the district users live in. Other cities are also interested in the most popular pages on the platform and the device/operating system used. Some cities have their analytics on demand others have to request them by the platform operator or are reported at the end of the project. Still, all cities have some analytics in place to monitor and evaluate the activity on the platform, which is consistent with the literature (Democratic Society for the Scottish Government 2016).

Good online participation, therefore, also requires integration with offline participation. While digital tools go along with the modern standard and might be easier to use,

facilitating the processes for administrators and users, they must maintain people's offline IRL engagement with their neighborhood, city administrators, and the city itself.

Online platforms can enhance the reach and accessibility of PB projects, making participation more flexible and not location bound; they can facilitate the submission of ideas, communication among users, categorization of proposals, and the collection of data for further analysis as well as increasing transparency through public, visible for all answers by city administrators and city council members (De Vries et al. 2022; van der Does and Bos 2021). As mentioned, this should not be a complete replacement for the IRL alternatives, such as town hall meetings, workshops, and discussion rounds; the literature also suggests a mixed approach that allows for a more lengthy form of deliberation and might even foster a sense of community while also closing the digital divide (Davies et al. 2022). One form of mixed approach is live streams which have become increasingly popular after the pandemic in which there is an offline event that can be joined virtually, and both forms of participation are counted; this could serve as a promotion for the other method, where offline visitors see that they can join online and online viewers see that there is an event they can go to possibly with other interested citizens. Doing so would improve the engagement of the citizens with the project, cater to the different interests and needs of the citizens, and make the whole project more inclusive and possibly democratic with increased participation.

4.10 Social Media and AI

Social media is one of the newer tools incorporated into PB projects. We are witnessing a boom in the interest and the deployment of AI applications for many different uses; some of the literature has already proposed some possible use cases for PB projects. Therefore this research enquired about using these tools and how they impact the projects in their respective cities.

All cities except Trier reported actively promoting the PB project on social media, some even paying for sponsored ads on the platforms, which indicates that project managers see social media as an effective tool for increasing the reach and promotion among the citizens (Gordon et al. 2017; Zawadzka-Pak 2022). Most cities also reported having established guidelines on how to interact on social media; the ones that didn't provide an affirmative answer lacked the knowledge to answer the question, which doesn't mean that there are no guidelines present. Mostly this is handled by the city's public relations department, and if the PB staff handles it is reported that not always training for this type of task was provided; this is an aspect that can be improved upon (Gordon et al. 2017; Perlman 2012).

The platform of choice for most cities is Facebook, Instagram, and Twitter, with some cities also using YouTube to upload videos about city affairs or the project itself. All cities also interact with their followers on these platforms, making it a two-way communication channel that can improve interest and engagement. All cities also reported involving citizens in their social media accounts, which only applies to the PB project since its social media channels cover all relevant city topics. There were mixed answers regarding the impact of social media on citizens' engagement with the PB project; some project managers believe it has had a positive effect on the project, while others don't, meaning that the effectiveness of social media in promoting engagement with PB projects may depend on factors such as how the accounts are managed and what strategy is used (Gordon et al. 2017).

Lastly, on the topic of AI, there are no cities currently using AI for their PB project, nor is it in the plans for the near future to implement AI functions in their platform, allowing improvement. The integration of AI has the potential to improve the way PB projects are managed and how users can maximize their engagement with the platforms, according to the literature (Arana-Catania et al. 2021; Davies et al. 2022; Przysucha 2022), AI tool can be integrated with PB projects to analyze large volumes of data to identify patterns and trends which could help budget allocation. It could facilitate the collection and categorization of ideas and connect users with other users who share similar submissions. It could facilitate communication by improving accessibility and translations for non-native speakers. The ignorance of AI in German PB projects can come with technical challenges, a lack of know-how by the project staff, and possible regulatory hurdles.

5 Discussion

Through the data collected and the conducted comparative case study and cross-case synthesis, a variety of practices, approaches, and patterns reflect the complexity of PB projects, how diverse the needs of the cities are, and how some parts of the project are heavily dependent on the local context. The following section will discuss the details of the findings while exploring some themes that were identified through the data, which can serve to provide a more holistic and comprehensive understanding of the current landscape of PB projects in Germany as well as the use of best practices and digital tools, which can offer deep practical insights for practitioners and policymakers to understand the phenomenon better and capitalize on potential opportunities.

Participatory budgeting projects are complex matters that must be planned and designed meticulously; they should be divided into different phases, starting with the design and information stages. In this stage, some key factors should be included to improve the chances of success of the project, such as a clear roadmap with well-defined goals and objectives; the empirical data confirmed that the researched cities have a well-defined scope, objectives, and methods before they start the project except for Norderstedt. The involvement of all relevant stakeholders in the different stages of the project is also clear, with special staff and project managers assigned to the project, Stuttgart stands out the most with its voluntary citizen group that aids the participation in the project and works with different groups and organization in the city. The inclusion of methods to increase participation, accessibility, and inclusiveness was also present. All this while maintaining transparency and improving government responsiveness (De Vries et al. 2022), which was confirmed by the empirical data. The different cities also used different participation methods. Depending on the size of the city the project could be divided into specific districts or neighborhoods (EmPaci 2021).

One of the findings from the data was that, according to the literature, offering incentives (such as contests or prizes) to citizens might increase the rate of participation in PB projects (Bertelsmann-Stiftung 2004). This contradicted the findings; for all cities except Monheim, the project itself serves as an incentive to participate, and even in the case of Monheim, the winners still need to claim the incentives provided. In the German context, the motivation for participation in PB projects might be based on a sense of community, wanting to contribute to their city and neighborhoods, or a sense of civic duty rather than external incentives such as prizes. Since the incentives for participation could be more in line with the actual impact that the project can have, it would be recommended for practitioners to focus more on these factors such as transparency, accountability, accessible information, and communication about the project to increase participation,

further research could delve into why the provided incentives such as prizes do not seem to work in the German context and pinpoint the deciding factors that do increase citizen participation in German PB projects.

The PB project should have clear rules for the proposals that do not exceed the planned budget and do not involve aspects that the city has no control over, as well as deadlines for implementation (Cook and Nelis 2021). The use of a customer journey is well recommended as a method to map out better and react to the different citizens' needs during the various steps of the project (Reiz et al. 2021); this method was only used in the city of Monheim.

Cities can use multiple channels to inform citizens about the PB project, offline and online, such as websites or social media, brochures, local press, and information events that can be organized in a hybrid setting (Cook and Nelis 2021). A balanced mix of participation channels can make the project more accessible to the different groups and types of citizens in a community; this tends to be the trend in the researched cities, with some cities leaning more towards online communication, especially because of the COVID-19 pandemic.

The way in which ideas are collected and submitted is also important for the execution of a successful PB project; as mentioned above, there are usually clear rules on how to submit proposals, what should be included in them, and what not (Bertelsmann-Stiftung 2004); some cities have stricter rules than others, but all of these rules and guidelines are communicated through various channels and are most prominently featured on the website of the project. It should be defined who can participate in the project; in all cities, there was a registration process for the online platform; this process requires a delicate balance between accessibility and the degree in which users are authenticated; more authentication methods could increase barriers for participation and reduce the number of active users. Most cities decide to make the registration as easy as possible to attract the greatest number of users; besides the online options there are also offline participation methods like mail ballots and in-person events. How citizens can submit their ideas, the dates they can be submitted, and who will assess the proposals also need to be defined, not to mention that many of these rules are context-dependent (EmPaci 2021). Citizens should be familiarized with the established rules for the project; cities can offer online and offline resources to do so (Mattei et al. 2022). Administrators should create spaces and opportunities for citizens to debate and discuss the submitted proposals before the voting starts, this was present in all the researched cities and included moderation to help maintain a civil discussion (EmPaci 2021). The duration of this discussion process varies depending on the city, but it usually lasts from one to six months. Lastly it is important

to mention the importance of political will for this step because, with participation, proposals will be successful. Still, there can be only successful proposals with the city council's or city administrators' willingness to seriously engage with the proposal and stand behind the project so that it appears as something other than a mere citizen Wishlist (Bertelsmann-Stiftung 2004).

Before the voting commences, it is recommendable to announce the start of the voting phase and advertise it to the public to encourage participation, again it is recommendable to use a mix of offline and online methods to make the announcement. From the discussion, it was possible to conclude that although the literature recommends providing external incentives such as prizes and giveaways, this has yet to work in the German context. The voting can be conducted through online methods (email, online platform) or offline methods (mail ballots, in-person voting); preferably, a mix of both methods is recommended since both come with their strengths and weaknesses (De Vries et al. 2022). The voting methods try to be as inclusive and flexible as possible to counter factors such as the digital gap and the different levels of digital literacy amongst the population. Notable here are the examples of Leipzig, which randomly selects 15000 citizens that participate in the PB project to get a representative vote from the population and avoid disproportionate participation by “the usual suspects.” Monheim also has an innovative approach by providing users with a map of the city where they can place a pin on the spot where they wish to suggest, allowing for the easier identification of problem areas and reducing the number of duplicate submissions. In the case of Jena, submissions must be approved before they are published on the platform. Most cities allow for the cast of more than one vote, and contrary to the literature providing outside incentives does not increase participation among citizens.

The results of the vote should be communicated through all available channels (Cook and Nelis 2021). While in Germany, it is usually the case that projects go through different assessments by the city administrators and city council before they get approved and added to the budget, putting the final decision more in the hands of the elected officials and administrators than the citizens. However, there are cases like the one in the city of Eberswalde in which the winning projects for the smaller citizens' budget get immediately approved through popular vote (EmPaci 2021).

The success of implementing, monitoring, and optimizing PB projects depends on various factors such as the level of transparency, accountability, and support that are willing to invest in the project. Since PB projects in Germany do not grant citizens full authority over the municipal budget, city administrators and council evaluate the winning project. There is either included in the city budget though a vote from the city council or not.

Therefore it is recommendable to implement the proposals in such a manner that citizens can still see the impact of their participation to avoid frustration and the perception of a pointless project (Miller et al. 2019), such as the case of Jena in which the budget is split up between the winning projects without the need for a city council vote. In accordance with the literature, some cities include citizens in the process of implementation, but all of them include them in a feedback process through discussion groups, surveys, or other outreaching methods; gathering this feedback helps optimize the process and gives project managers valuable insights to increase the quality of the service and the experience of the users for the next project (Reiz et al. 2021).

From the data, it can also be concluded that cities that run a smaller, more flexible “citizen budget” manage to implement smaller projects faster for neighborhoods and registered associations, giving citizens more agency and autonomy over a part of the municipal budget. All cities established processes to communicate updates on the project; these were again a mix of offline and online methods, the responsibility for the communication was generally split between the PB and the public relations (PR) department, and sometimes the website operators had to publish the updates on the website. Although it is arguable how much PB in German cities influences the actual decision-makers, project managers unanimously believed that PB influences the city council's agenda and makes them interact and respond to citizens' submissions.

Citizen involvement depends on the cities, it is not a common practice in the bigger cities, and in smaller cities, it usually takes the form of extra consultation. Another aspect that stood out was that none of the city's citizens can vote on changing the rules of the procedure of the project, re-submission of ideas, and attending the discussions served as alternatives. The project's goal, of course, is to increase transparency and accountability on communal budget matters that engage citizens and let them understand how the process works and why the decisions were taken the ways the city administrators took them. This seems to work well in Germany since it was reported that none of the cities ever failed to deliver on a project.

Another finding based on the data relates to the accessibility and user-friendliness of the city budget information. According to the literature, it is important to share the financial data of a city with the public, as it creates an opportunity for citizens to interact more with communal finance, increases transparency, and opens up the black box that is communal budgeting to make it more inclusive and accessible (Jones n.d.). How this is done in Germany is split based on the collected data. Cities like Stuttgart, Potsdam, Leipzig, Tier, and Mohnheim display the information on the budget in lengthy PDF documents. In contrast, cities like Potsdam and Leipzig try to make these documents more accessible

and user-friendly by adding graphs and charts, and summaries on the topics. The overall level at which regular citizens can understand this complex financial data could be better; this can create a barrier that affects citizens interested in the topic. Other cities like Norderstedt, Darmstadt, Jena, and Freiburg also upload extensive PDF reports. Still, they also use a more dynamic and interactive approach, using inline interactive budget tools that let users explore the different aspects of communal finance, filter departments and specific costs, and even export the data. All to make the process and information more approachable and understandable, which aligns more with the best practices identified in the literature. This could be another area of improvement and future research to investigate how well these dashboards perform and if they truly succeed at educating citizens on communal finance and increasing engagement with the topic.

Regarding the perceived intuitiveness of the platforms, all the project managers responded that they perceived the online platforms for the PB projects to be intuitive for the users. This could raise a question about the potential bias of the respondents to make the platform seem intuitive (since they work with it constantly) but also their understanding of UI/UX principles which can be crucial when determining the intuitiveness of a platform. This could hint at a potential disconnect between the perceived and actual intuitiveness of the platform. To answer this question, user testing and feedback are necessary by involving the users in the process and their feedback cities to ensure their platforms are as user-friendly and intuitive as possible. External UI/UX experts could also be consulted to enhance the user experience on the platform and increase engagement with the platform and the PB project.

Something similar stood out when discussing the different “nudges” on the platform; nudging as “small cues or prompts within the app or website that guide users to do the actions you want them to do” (Netcore 2022). The responses were positive when the project managers were asked if they believed their platform nudged the user to participate more. However, in the interviews, it seemed as if, even after the explanation, the term was confusing for the respondents; this raises the question of whether it is possible that some participants equated nudging with intuitiveness, which is not the same thing. The goal of nudges is to encourage users to engage more with the interface or action being executed. The potential lack of clarity about the term hinders the understanding of the potential benefits that come with nudging users and opens a possibility of improvement in which project managers can pay more attention to the way the platform nudges users to certain calls to action and maximize the engagement of the users potentially increasing participation.

Another area that has potential for further research is the use of social media in PB projects; according to the respondents, most cities have some guidelines on how the city's social media accounts are used, yet the real impact these channels have needs to be clarified. Social media has become one of the most used methods of communication and can be a powerful tool for informing citizens and promoting the PB project (Zawadzka-Pąk 2022). Further research could investigate the relationship between strategically and well-executed social media campaigns and the number of participants or engagement rate of the participants with a PB project.

One of the aspects that stood out the most was the combination of offline and online engagement. All cities used an online platform for their project, which indicates a commitment to online methods. However, project managers were very aware that the offline channels for citizens outreach cannot be neglected or fully replaced., with all cities maintaining one or multiple ways in which citizens could engage with the project without having access to the internet, like Leipzig that reported that their biggest success came from a small Ad on one of the local papers (CITA Transcript Leipzig). The use of social media is an intersection of this, with online posts on social media promoting offline events. The same goes for the variety of voting methods that the cities use (online, in-person events, via mail, printed ballots, etc.), reflecting a desire to make the process as inclusive as possible.

It is possible to deduct from the data that German cities can be considered innovative and open to experimentation when it comes to the use of digital tools; all cities use a digital platform for their PB projects, and the variety of voting methods shows an openness to experimenting with methods that best reach all the citizens. Also, all cities use social media to promote their projects and are increasingly trying to strengthen their online presence and platform effectiveness.

Lastly, on the topic of AI, there is the finding that all cities not currently use or plan on using AI tools for their project soon; this presents an interesting opportunity for cities in Germany to innovate and potentially improve the management and execution of their PB projects. From the literature (Arana-Catania et al. 2021; Davies et al. 2022; Przysucha 2022), it has been established that AI tools have the potential to improve some of the processes associated with PB projects instead of across-the-board widescale implementation cities could start running smaller pilot projects that employ these tests to assess the feasibility and benefits but also challenges of utilizing these tools, these test could run on one or multiple dimensions of the project like data analysis or categorization of proposals. Further research could explore this topic further and the benefits and challenges of implementing AI tools in German PB projects.

6 Conclusions

This research aimed to investigate the current landscape of participatory budgeting (PB) in German cities, focusing on **how established best practices and digital tools are applied in participatory budgeting initiatives in German cities**. Aiming to provide a holistic answer to this question, a multi-layered exploration of PB projects in Germany was conducted. Starting with a review of the literature on the definition of participatory budgeting, the history of the phenomenon, the relationship between political participation and participatory budgeting, the reasons why participatory budgeting is considered a democratic innovation, and the reality of how participatory budgeting works in Germany as a country and in German cities. The second part of the literature review examined the best practices that can be applied to PB projects and the different stages that these projects encompass—such as the designing phase, informing the citizens about a PB project, the idea-collection and submission process, the voting and consulting process and the implementation stage followed by the monitoring and optimization processes of a PB project. The last part of the literature review focused on the various digital tools that can be used to enhance and improve PB projects, such as websites and online platforms, educational data visualization tools, social media, and artificial intelligence tools.

The methodology used in this research followed an inductive approach in which first the data would be collected, then with the collected data, theory, and insights would be developed. First, there was a collection of secondary data from public sources to gather data on the selected cities, the data that was not publicly available was enquired through semi-structured interviews with the city's PB project managers. With the collected data, a comparative case study was conducted, analyzing the collected data for patterns and trends; a cross-case synthesis was used to extract different themes, insights, and possible opportunities from the collected data, all through which larger conclusions could be built. Some limitations included the time constraint of the research, the availability of the cities, leading to a possible selection bias, and a potential measurement error through lack of clarity on certain concepts that were enquired about. The evolving nature of PB and the digital tools used for these types of projects means that the described practices might change quickly as new technologies emerge, leaving the door open for potential follow-up studies.

In the following sections, the various findings will be reiterated and reflected upon, the strengths and weaknesses of the research approach will be discussed, and the significance of the research for the phenomenon of PB in Germany.

PB is an innovative approach that enhances democracy, state performance, and decentralization of decision-making powers. It involves citizens, institutions, and other

NGOs in the discussion about allocating public resources. Five key aspects that encompass most PB projects have been identified: The focus on financial and budgetary matters, the communication about the project, the involvement of some elected officials or administrative power, the evaluation of the proposals before a decision is taken, the repetition of the process, there must be some discussion about the findings and accountability on the output must be established. Through all this, PB has the potential to make the communal budgeting process more accessible and transparent and also helps citizens engage with the topic and gives them a more active role in the matter.

Participatory budgeting originated in 1989 in Porto Alegre, Brazil, as a measure to counter the institutional clientelism and corruption that was present during Brazil's military dictatorship (De Sousa Santos 1998). The idea was to involve a bigger part of the city's population and counter the trend to prioritize public funding for wealthy neighborhoods (Wampler 2000); a solid network of neighborhood organizations served as an important mechanism to mobilize citizens for the planned vote (AVRITZER 2006). The process established a positive feedback loop in the city in which administrators and officials kept supporting, optimizing, and increasing the budget for the project, and citizens, by seeing the effects of the project, would participate more, all this without having empirical data to support decisions or a blueprint to follow (Bartocci et al. 2022). The success of PB in Porto Alegre has led to its adoption worldwide, with various adaptations in different contexts.

Political participation is a crucial part of PB, both are needed to bridge the gap between traditional and modern democracies by fostering democratic values and community engagement (Berbach 1967). It empowers citizens to shape their environment, increase political autonomy, and heighten civic awareness (Moynihan 2007). PB can also enhance government transparency and provide valuable data for decision-making by highlighting community priorities (Mitchell 2014). New developed digital tools such as email, online platforms, and social media have further increased the accessibility and transparency of PB projects (Schneider 2018).

Participatory budgeting is a democratic innovation designed to increase and deepen citizen participation in political decision-making (Smith 2009). PB enhances the structures and processes of democratic governments (Geissel and Newton 2012). PB can be considered a democratic innovation because its purpose of it is to increase legitimacy through efficiency and effectiveness, enhance participation and representation, make communication more effective between governmental institutions and citizens (Vetter 2008). In the German context, surveys conducted by the German Institute of Urban Affairs (DIFU) have given insight into the implementation of consultative-dialogical

processes in German cities; the bigger issue here is the lack of procedures granting citizens decision-making powers (Landua et al. 2013).

Participatory budgeting in Germany, is now primarily employed at the municipal level, with some cities being more successful at it than others (Frankfurter Rundschau 2014; Herzberg 2009; Schneider 2018). It serves as more of a consultation tool with decision-making power remaining with the administration and city council (Sommer 2021). The response from the researched cities was mixed on the point of granting citizen's more decision-making power. The cities with a positive response usually had a secondary "citizen budget" that was more accessible to citizens. Although this many cities still organize PB projects that have a high rate of participation because they are conducted inclusively and transparently, there are still some issues like information asymmetry among citizens, political apathy, and disappointment in political institutions (Geißel et al. 2015; Schneider 2018; Zepic et al. 2017). The initiation of PB projects in most cities occurred in the late 2000s and early 2010s, with no correlation found between population size and participation.

Participatory Budgeting projects are complex processes that require careful planning and a structured design; in this paper, we divide the process into four key steps starting with the design and information phase. This phase is characterized by establishing a clear project roadmap with well-defined goals, objectives, relevant stakeholders, methods to conduct the project, and key decisions on the inclusiveness, transparency, and accessibility of the project (De Vries et al. 2022). The empirical findings confirmed that these aspects were present in all researched cities, with Stuttgart standing out thanks to their voluntary citizen groups that aid participation for the project.

Contrary to the literature, cities should offer incentives to citizens to increase participation (Bertelsmann-Stiftung 2004). The empirical data indicated that in the German context, no need for such an incentive is needed since citizens seem to participate out of their desire to contribute to their city or neighborhood; participation is based more on civic duty, leading project managers to focus more on the transparency, accessibility, inclusivity, and communication of the project to increase participation.

PB projects should have clear rules for proposals (Cook and Nelis 2021); this was something that all cities had present. The use of a customer journey is a recommendation to all cities except Monheim; this method can help to map out the different citizens' needs during a project and plan adequate reaction to it (Reiz et al. 2021)

All in all, German cities followed many of the literature describes best practices, such as offering multiple offline and online channels to inform citizens about the PB projects,

offering multiple methods to submit ideas for the project, announcing and advertising the voting phase for the project and providing multiple offline and online voting avenues for citizens to make the project as inclusive as possible. All cities were also transparent in communicating the results and updates on the winning projects.

Cities that conduct a smaller project, usually called “citizens budgets,” are more flexible when it comes to giving citizens funds to fund the different projects in their neighborhood because these types of proposals don’t have to be approved by the city council, giving citizens more agency and autonomy over a smaller part of the communal budget. Project managers had mixed opinions on whether or not OPB increases citizens' decision-making power but unanimously believed that PB has the power to influence the policy agenda of their respective cities, making the city council more aware and responsive to citizen’s needs.

Digital tools have become an essential asset for PB projects; these tools can potentially increase the important aspects of PB projects, such as transparency, effective communication, participation, and accessibility (Barros and Sampaio 2016). This depends on how city administrators employ and manage these tools, which help reduce the administrative workload and help them collect useful data about the project. The choice of the tools depends on the local context, the needs of the city, the available budget and the capacity of the staff (Cook and Nelis 2021). In this research, all cities reported using digital tools for their PB project, including digital tools for participation and educational tools like a budgetary dashboard and social media. One of the conclusions that can be extracted from the research is that no single universal tool is used by all cities or a tool that is considered significantly better than another.

The perceived benefit of these digital tools is generally positive, with project managers agreeing that implementing them makes communication with citizens easier and increases transparency and accessibility to the services. Opinions need to be clarified on whether or not these tools increase accountability and trust in the administration since trust-building with the community is a lot more difficult than just completing one successful project. Project managers also responded on the aspect of cost reduction; for some, costs increased with the new digital tools, they decreased, and for some, it stayed the same since they were always present; the same can be applied to the reduction of workload through digital tools. Cybersecurity gave some interesting insights, with all cities reporting having some cybersecurity measures, yet one of the researched cities suffered a cyber-attack in the past. Others had cases of data manipulation on the platform, presenting opportunities to implement solutions like two-factor authentication for users, which again has to be balanced with the accessibility of the service.

One of the most widely adopted digital tools in PB projects is websites or online platforms, enhancing participation in the project. They can make the dissemination of information easier, facilitate communication between administration and citizens, and facilitate the organization of events (De Vries et al. 2022). These tools can be applied to every stage of the projects from informing to registration, submission, commenting, and liking proposals. Even the voting, result calculation, and announcement can be made online, providing enormous value for a PB project. However, balancing accessibility and data security is a challenge, as increased accessibility can lead to data manipulation (Democratic society for the Scottish government 2016). In the collected data the user experience and engagement vary across cities; while project managers acknowledge that online platforms increase participation, primarily through the comment feature, they are also aware that online platforms are more beneficial to certain parts of the population, and that is why the mix between offline and online discussion methods is still the best approach to reach most of the population.

Cities report that their participatory budgeting platforms are user-friendly, with educational content available for guidance. Users can submit proposals, interact with others, and vote. The ease of use and nudges are primary incentives for platform use, though the understanding of nudging varies. Analytics handling differs across cities, but common data points include new users, active users, submitted proposals, comments, and votes.

A very useful tool that can be attached to online platforms is data visualization dashboards; they are particularly helpful when it comes to displaying financial and budgetary data and can facilitate access and comprehension of a city's complex budgetary data. In the research cities, a mixed approach was taken, with some cities using interactive dashboards. In contrast, others use a more traditional approach of publishing long PDF files with relevant information, some more user-friendly than others. To insure that interested citizens truly engage with this tool, resources should be provided that help use these dashboards; these could be in the form of online videos or webinars that citizens could attend or stream (Zawadzka-Pąk 2022).

Social media is another prominent tool that can be used to increase participation and engagement with PB projects. Projects and submitted ideas can be promoted, updates on the project and the submissions can be communicated through these channels, and overall, they can serve as both one and two-way communication methods that city administrators can use to communicate with the citizens (Gordon et al. 2017). Most cities except Trier promote their project through social media, indicating a positive view on social media for

the promotion and communication of the project. This is usually done via Facebook, Instagram, and Twitter.

Suppose cities decide to fully adopt this as a permanent tool. In that case, it is recommended that they develop a coherent social media strategy and that the staff that manages these accounts receive the proper training needed to use this tool effectively (Gordon et al. 2017) because some project managers believe that it has had a positive effect on their projects while others disagree, meaning that other factors have to be considered. One of this tool's main challenges is to evaluate their real impact on the project because a successful social media campaign doesn't necessarily translate into more participation and engagement for the PB project.

Artificial intelligence tools count among the newest tools that can be used with PB projects; they can aid the processes of data analysis, categorization of submitted ideas, security and privacy, and communication (Davies et al. 2021). In Germany, none of the researched cities has used such a tool yet, nor is it in the plans to be implemented, providing a unique opportunity for innovation and experimentation with new digital tools; a small pilot project can be conducted to test the first regulatory hurdles and gather some user feedback, a first estimation could be undertaken to determine what kind of resources would be needed to implement such a tool and to see if it is applicable in the local context or not.

To conclude, based on the data gathered, it is safe to say that German cities follow and implement many of the best practices identified in the literature; they also use most of the digital tools commonly used to enhance and improve participatory budgeting projects. The researched cities share the theoretical foundations that are present whenever a local government commits to a PB project; they also prove their commitment to their project through the methods and tools that are used for it. Other institutions can use the results of this research to employ similar design techniques and management strategies in their PB projects. It is important to note that these results do not aim at providing a universal blueprint for PB projects but serve more as a compilation of suggestions and best practices that practitioners can evaluate and use depending on their context, as we could see from the literature review it is impossible to provide a universal guideline for PB projects because each project is tied to the national, and local context where it is developed and the project needs to adapt to the current needs and resources of the municipality making universal statements very challenging. Individual cities need to plan still how they will design, execute, implement, and monitor the project, and using this research can nudge them in the right direction.

The results of this research can serve as a comprehensive overview of best practices for PB projects and how the current landscape and the way they are implemented in German cities. This could guide other German cities or cities outside of Germany looking to implement or improve their own PB projects. This research also displays how different digital tools are perceived and used in German cities, contributing to the knowledge about the intersection between democratic processes and technology.

It also provided an interesting bridge between literature in practice in which a substantial part of the relevant academic literature on the topic could be validated by collecting empirical data in an inductive manner. However, only some dimensions from the literature matched with the observed data. This also helps to identify areas that could be improved.

One example for this is the use of a customer journey during the design of a PB project (the way Mohnheim does it), allowing citizens to vote on or change the rules of the project, changing the legislation in such a way that it gives more direct decision power to citizens similar to the PB projects in Jena or Eberswalde. Citizens could also be allowed to appeal city decisions that could be of interest in cities like Leipzig or Darmstadt, in which the main PB project focuses on broad topics of public interest or political topics. Involving citizens in the implementation can be a more complicated topic, especially in larger cities, meaning that this is a best practice heavily dependent on the context. Something that could be implemented in all cities is a two-factor authentication for the users; this should increase data security and help verify the authenticity of the users to avoid possible data manipulation.

While comprehensive, the research methodology used in this paper has certain limitations, including potential sampling bias due to the focus on active PB projects and response bias where project managers may present their work more positively. To counter these, the study included cities of various sizes across Germany, and ensured anonymity and unbiased questioning. Potential measurement errors and biases in the questions were addressed by consulting academic experts during the development of survey and interview questions. The study was also constrained by time and resources, conducted by a single individual over four months, and faced challenges in reaching respondents due to the summer holiday period in Germany.

The areas for future research could encompass the use of AI in PB projects, an empirical study on the effects of social media campaigns on PB projects and the real-life performance and adoption of PB dashboards in a certain city.

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Appendix

A Excel Datasheet

[City questionnaires](#)

B Transcripts of interviews

Interview with Stuttgart:

P1: #00:00:52-3# Okay. You're welcome. Yes. Exactly how the interview would go. It's relatively short questions in three categories. The first one would be project management and some organizational details that I couldn't find on the internet now. And there my first question would be how many people on average participate in participatory budgeting. Well, I saw that the highest point was in 2016 with 52,000 and then it decreased a little bit. But maybe you can give me a rough number there. Or maybe a trend?

P2: #00:01:32-3# It's a little bit different every year. So as you say, 2016 it was 50,000. 2019 it was circa 40,000. Last year it was circa 18,000 or 17 or 18,000 or this year I mean 17,000 participants. Always changes. And there's little point in averaging it out because it's different every year. The first year we introduced it, we introduced it with a bang. There were relatively few participants. After that, it increased for a while and during Corona, yes, we changed the procedure to purely digital without signature lists. And since then, we've noticed that the number of participants has slumped somewhat.

P2: #00:02:42-2# So while Corona knew times not so exactly of course, what he has everything with effect that less participate certainly also that we were then less present in the outdoor advertising, because many were in the home office. But the trend has now continued. So we used to have over 50% participants who took part in signature lists and we have not allowed them since 2021. And since then, the number of participants has also dropped somewhat.

P1: #00:03:18-3# I see. What incentives do you think are provided to encourage participation in participatory budgeting?

P2: #00:03:32-1# (...) It's difficult to say. What incentives? In principle, the actual incentive should be to help shape one's own living environment. That is, in principle, the opportunity that one has in this participation process. In principle, that must be the main incentive. We are trying to design a procedure that is relatively simple and therefore gets people involved and doesn't scare them off. But we're not playing games or awarding prizes or anything else to create special incentives; instead, the main interest must come from the citizens themselves, who want to help shape their own living environment.

P1: #00:04:20-6# (...) And before the project starts every year, goals and concrete methods are set before the start. Such a plan, how this should look like every year, should look like.

P2: #00:04:36-6# If you look through the documents, we have a municipal council document every year with which the project is decided. There is in each case in the time sequence, these are at least rough guidelines, how the procedure is to be carried out. Then we have already and we also normally always before still another evaluation by. Together with the. Municipal Council or briefly with other stakeholders and also with the voluntary working group from the citizenry. And on the other hand, there is a lot of discussion about how this procedure should be carried out.

P1: #00:05:14-6# Is there a small project manager for the participatory budgeting project?

P2: #00:05:21-6# Yes, I am.

P1: #00:05:24-2# So in different cities there are also different departments involved the city council or the different departments, also individual divisions, so to speak, that really only take care of this project, but sometimes also third parties and cooperation partners of the city. How does it look in Stuttgart?

P2: #00:05:50-8# Of course, many people are involved in that. In the participation project, it's simply a participation project on the entire city budget. In principle, to all tasks that the city administration carries out. And that alone means that the entire city administration is involved. I am the project manager here in the city treasury. I am the project manager. I also have a colleague here who supports me in project coordination and the entire team in our budget department. So this is part of the budget department, because this is also where the entire budget process is controlled and the participatory budget is a contribution to budget planning. And here, too, the team has to support, has to check with professional assessments and

otherwise, of course, all municipal offices are involved. If you look at the procedure, the procedure provides for the administration to make statements on the 100 proposals that have been rated best and also for the district advisory councils, i.e. this advisory political body in the individual city districts, to position themselves on the ten proposals of the district that have been rated best. And that alone means that we have participants everywhere. We have the city council, which decides. We have the district advisory councils as a political body, which advise on the matter. We have the district administrations, which have to be involved here organizationally, because they are responsible for the district advisory council, building authority, municipal offices, which then have to make statements, which in case of doubt also implement the measures after the municipal council decision. Everyone is involved. That's why it's not possible to calculate the number of positions or anything like that, how many people and how many resources actually have to be involved. I understand, of course, that if we then still external, so the online platform, for example, we buy externally and the moderation services there on this online platform exactly the same.

P1: #00:08:20-9# have you also used the customer journey method this year or in past years to set up the project? so in the context of participatory budgeting Is that kind of a process of drawing. Okay, this is where the citizen starts and these are the contact points that they have with the process. And then it really describes every step and every interaction that the citizen goes through to arrive at the end and kind of successfully deliver their proposal.

P2: #00:08:59-3# Nah, we don't have it like that. So of course we have a procedure description, but not in that sense, not in that level of participation.

P1: #00:09:07-9# No problem. There are rules that citizens have to follow before they submit a proposal. Many cities also already have certain, so also very firm, guidelines that citizens have to follow before they upload a proposal to the platform.

P2: #00:09:24-1# Have on the court. Definitely rules. You can also find them on our online platform. In the imprint, we have a whole list of rules for participation and also information about what needs to be observed when submitting proposals. However, as far as the content is concerned, there is of course a limit to what ideas and suggestions citizens can submit. So we are not very limited. It must be just ideas, as the urban tasks in urban responsibility concern. They must also concern the finances. It makes no sense to submit proposals that have nothing to do with municipal financial planning.

P1: #00:10:12-0# Do citizens have the ability to change the rules of the process?

P2: #00:10:18-5# Basically not. We have, as I said earlier, evaluation discussions that we conduct. After a budget process with participation, we have in the past always involved the voluntary participatory budgeting working group that we have in Stuttgart. It consists of citizens and many citizens approach it. And of course they then feed in their opinions and their experiences with a lottery procedure. But the decision is finally made by the administration and the city council. They stand still. We make still above a survey among the participants. There they can of course also bring in their experiences. And that, of course, will also flow into the process. But it's not like we're allowed to decide anything ourselves.

P1: #00:11:11-3# (...) How often would you say Are project deadlines really met, not met?

P2: #00:11:19-4# It depends on which.

P1: #00:11:22-7# There are simply cities, also in Germany, where they say okay, every proposal that is submitted somehow should be implemented in about two years or less or something like that.

P2: #00:11:37-9# There are no specifications as far as implementation is concerned. So, of course, we have limited our deadlines and the period of the individual participation steps is fine, but not when it comes to implementation, because that is not feasible at all. Some of the ideas that are submitted are not even ready for the budget, or there are longer planning processes and review processes behind them. We don't have any deadlines.

P1: #00:12:09-0# So will citizens be involved in that implementation as the time comes?

P2: #00:12:15-6# No, we can't do that at all. Imagine we have between 20000 to 50000 zero participants who have submitted between two and 3000 participatory budgeting proposals in the past. Of these, 130 or 150, 170 proposals are implemented at least in part. And if we as the administration were to approach all the respective people and coordinate it with them, that would be a huge effort. It would be possible if the whole thing were reduced to five or ten projects or something like that, but with the mass that comes together here with our community center procedure, in the entire framework for participation in proposals, contributions, etc., we don't manage to get into direct contact.

P1: #00:13:20-5# Then what happens if the municipality can't implement a project?

P2: #00:13:32-1# (...) We have not had any problem so far, because. Well, as I said, this is a participation procedure for drawing up the budget, for financial planning. And as a rule, funds are only made available if it is realistic that something will be implemented. We have already had participatory budgeting proposals that were interesting, that were discussed politically, but were not implemented legally, could not be implemented legally. If yes that but in the apron still an examination by the administration takes place,

before there is then the decision on new financial resources provision. And within this framework, it is usually relatively clear. Open source is realistically feasible or not. And if it is not feasible, it is not decided.
 P1: #00:14:21-9# I see. Okay, then we come to the second category of digital tools and online platforms. Now that's a lot of questions, but you can answer yes or no relatively quickly. Do you think that the use of digital tools in your participatory budgeting project has made it easier to access this service?

P2: #00:14:48-3# (...) difficult to say

P1: #00:14:52-6# (...) so a par cities say that it's also only the case for a certain segment of burgers, but not for everyone.

P2: #00:15:02-5# I said earlier that up until Corona we had about 50 to 70% of participants in the citizens' out-of-town signature lists. That's actually with this kind of participation that we have here, where it's about putting proposals up for discussion and collecting supporters for that, it's a very, very easy way to stand somewhere in paper form and say Now let's sign please. And many citizens are quite annoyed that we no longer allow this, but say that the whole thing can only be done digitally via the online platform. This makes it more difficult for initiatives to participate in this process or to mobilize people in this way. And in this respect, there are definitely people who say no, I don't want it. This purely digital participation makes the whole thing much more complicated than it used to be. But from my point of view, digital participation makes the whole thing much more transparent and of higher quality, because then when people are on the platform themselves and use the offers that are offered there, they also use them from their situation and offers. Then they use the process more intensively and also understand it in a more informed way.

P1: #00:16:24-4# Do you think that by using the online platforms, it has increased the accountability of the administration? No.

P2: #00:16:35-1# No. In general, with participatory budgeting, you say the diffuse is on several pillars. One is the information of the citizenry, the participation of the citizenry and in afterwards but also the accountability in participatory budgeting. And accountability doesn't exist. So regardless of whether I conduct participatory budgeting digitally or otherwise, this accountability is simply mandatory. If the pillar is missing within this participatory process, that would be something essential. And that's why it doesn't really matter in which way I conduct the participatory process. In my opinion, it is just that through this digital platform that we have, we can make accountability much easier, as if we have to use the newspaper for this, municipal leaflets or notices on any boards and otherwise? You can only reach a very small group of people. By the way, it is not necessarily very cheap and you don't have the possibility to provide complex and extensive functions.

P1: #00:17:44-2# Do you think that using digital tools has reduced project costs?

P2: #00:18:00-0# (...) I don't know. I mean these digital offers, of course they cost money. On the other hand, you cost there in other places where you would otherwise have to advertise via paper. Or also via event formats, where you might also need a lot of staff and for that, to manage the whole thing. And I think it basically balances out that it's not more expensive and not necessarily cheaper. But I haven't calculated that.

P1: #00:18:35-3# Do you think, then, that this participatory budgeting project has increased trust in the government and the administration?

P2: #00:18:48-3# (...) That's quite difficult to say.

P2: #00:18:58-4# It's a bit of a goal, of course. One would like to create identity with it, so to speak, between the citizens and, uh and their city and also the administration and the politics. But it is a bit difficult. Some people take up such a participation process and find it good to be involved and to get information. And for them it is then in fact somehow so that they have the impression, Yes, they are taken seriously, but others see themselves rather so We have here in token participation projects, we do everything anyway just what they want and they are not actually interested in what we citizens want. For this then rather counterproductive. So we simply have both voices that we hear from the citizenry now. And for some it is probably more a trust that is created and for others a confirmation that just something is not going on and are not taken seriously. It is simply the case that not everything can be implemented. That's a fact of life in a participation process like this, in which more than 3,000 proposals are received.

P1: #00:20:11-0# And do you think that the use of these tools, which have now also been there since the beginning, has increased the workload for the staff?

P2: #00:20:28-1# I don't think so. I think that this ability to do that digitally definitely saves us work in some respects. I was talking about a signature list, for example. Can you imagine if you get signature lists with 35,000 signatures or something like that? And do they have to list them all in the administration, record them all and bring them in? That costs an unspeakable amount of time, for example. If the citizens do it directly on the platform

P1: #00:21:06-8# Was there training for staff to use these platforms or digital tools?

P2: #00:21:13-9# Actually, no. Um, we here in the city treasury, so we're in charge of coordination and responsible for this platform. We're helping to set it up. That means, we don't need any training, because

we help to create it ourselves. And for the other people involved, who only have to work in very specific small areas. We simply have written instructions in which the few steps that they have to carry out themselves are basically explained to them. We don't have any specific training offers, but as I said, there are increasingly working instructions. Always target group-specific, so to speak.

P1: #00:22:05-2# Are cyber security measures being used to secure the data that is on the platform, to manage everything DSGVO compliant and also to just ensure the whole thing.

P2: #00:22:18-5# What exactly do you understand? So of course, we are in the public service. Of course, we have the requirement for us to offer our online platform at the point DSGVO compliant. We already check that. And we also regularly delete data from users. Those who are no longer active ask for stories like this and anonymize the data, of course. Of course, they are used in a very anonymous way. That's logical, of course. And overall, within the framework of participation, we have a moderator and an external person who also makes sure internally that no, no legal violations happen here, so to speak, even in the contributions that the participants then submit there.

P1: #00:23:13-7# (...) No, again to the last question you'll be surprised, but there are a few cities in Germany that are doing such a project that have been hacked before and then of course there was a problem. That's why the question arises.

P2: #00:23:27-1# So we haven't noticed that so far.

P1: #00:23:31-1# No, fortunately. But it can always happen. there were just such massive security holes in the system and the problems were then guaranteed.

P2: #00:23:46-4# Okay, so we've had it reviewed by our data protection people.

P1: #00:23:50-1# How is the platform monitored in terms of engagement and analytics? What kind of numbers do you pay attention to there?

P2: #00:24:05-2# (...) They pay less attention to numbers. In principle, we can look at our registration screen and see what data we ask for. We already query a certain kind of personal data. We simply want to know a little bit about the region from which districts people are participating. We want to know the age and gender of the participants. Personal data, that's what we collect, of course, but also the number of participants. That is logical, what we know. But then it actually already stops.

P1: #00:24:47-4# (...) The city of Stuttgart also uses a lot of social media for all its projects, including participatory budgeting. Or do you think that the use of social media will increase participation in participatory budgeting?

P2: #00:25:05-1# (...) I can't say. So we started early, of course. To use social media. However, we didn't do the maximum that you could do in that area for many years. We just got into it this year and now we've been using social media, significantly more social media, more than we did in the past. So also more advertising, for example on Facebook and so on. However, we have not yet been able to evaluate this to any great extent. I have to be honest and say to what extent it has led to greater participation. Of course, we have to note that this year we had fewer participants than ever before. Actually, with the exception of the first year. **The effect, we cannot exactly fathom**, what is the reason for that? We don't know exactly. And if you take that together with the fact that we did a lot of social media advertising, we can of course say that it's counterproductive, but I can't really draw that conclusion.

P1: #00:26:12-6# You were talking about, yes, there was this list-serve. So were there any other kind of offline activities or events that the city hosted to engage citizens in the process?

P2: #00:26:35-8# We didn't have events where you could really make proposals and evaluate them. But for many years we had information events in the run-up. We tried it once in the run-up with the central information event in the city hall. It didn't work very well, almost no people came. Then we held decentralized information events in the many city districts, as Stuttgart has done. Simply, yes, decentralized, where people live. That worked quite well for quite a while. There was still a lot of need for information. A relatively large number of people came. But in the last few years, it has really become less. There were events where there were only two people, so we discontinued them. They no longer exist. And we have also made an attempt in between to hold a discussion event, that is, before it actually went off for evaluating proposals up to the district and then there have been discussion events with additional information, where people could exchange a bit, what is actually really important for their districts on the ground, has not worked at all. No people really came at all. And the format, it didn't work that way. That's why we actually went here in the meantime and said, we actually carry out the procedure in principle only digitally. Of course, people who don't have access to the Internet, older people who are still not really good at using the Internet, they can still participate by filling out paper forms. But the focus is on online participation. We do a bit of advertising on the Open House Day, of course, in order to appeal to people with a longer history. It takes place every two years, and we also try to promote this project a bit. But there are no more actual participation events.

P1: #00:28:46-6# Do I then understand my last question, so right now that we have the topic of AI booming also in the administration and not necessarily in Germany. But abroad that was already used for a participatory budgeting project in the sense of so a smart assistant that helped citizens to submit their proposals better or that simply categorizes proposals automatically. Or it shows citizens if there are already similar proposals to the one they want to submit. Does the city of Stuttgart already have something like this in the planning or what does the future of the project look like?

P2: #00:29:31-8# We don't have any plans at the moment. I have to be honest. We don't really have much in the field there yet either. We have such a similarity. Search at the moment already thought about, but that that actually you cannot know. That is in principle actually so a kind of keyword search. It is keyworded like the texts and if corresponding keywords occur there frequently, then corresponding suggestions are then displayed with the request to look whether that is not perhaps a suggestion that corresponds to what one would like to do. But otherwise we don't use anything in connection with grad noch nicht. I imagine that is also relatively cost-intensive at the moment for this type of participation. There will not clarify to see. For it take it then nevertheless very few people so to speak in claim. And I don't immediately understand the benefits and the amount of work that probably goes into implementing really useful AI applications. We say there are others who do this, but not in the area of participatory budgeting.

P1: #00:30:48-5# Not yet in Germany. Okay.

P2: #00:30:54-5# In which countries?

P1: #00:30:55-9# Spain has that for Madrid and Reykavik? Those were like the two cases.

P2: #00:31:09-4# Okay, and in what context did they occur along the way?

P1: #00:31:13-2# Yes, and as I described earlier, so either so as a smart assistant that helps citizens submit your proposals, if there are certain rules, better. Also so a little bit in the backend where it just categorizes a lot of similar proposals either directly or bundles them together.

Interview with Potsdam

P1: So my first question is who actually? So in this participatory budgeting, there are always different parts of the city involved. There are also a few cities that have their own team of it. A lot of it goes, it also goes through the city council. But how is it in Potsdam? What are the departments there that are mainly involved with participatory budgeting? #00:00:24-2#

P2: (...) We have mapped the topic of participatory budgeting in the treasury, i.e. in the city finances. There is an office that supports the treasurer and the mayor in strategic and content-related questions of financial planning. And there was actually in 2008 or nine the perspective that one would like to introduce the participatory budget or the order from the town meeting. And then in 2009, a position was created here to take over public relations and project organization. That's the person you're talking to right now. Came into the house here in 2009. There's still a project manager, so put the business office manager on my team. At the end of the day, it kind of has 0.5%, so a small percentage or 5% in their job description. Actually also organization, participatory budgeting, presentation of the process. So we have one comma there. Not 1.5, but 1.05 positions. And when we introduced the participatory budgets, that was in 2020 21, another 75% position was added. So a lady who takes care of an issue actually allocation and spending of financial resources. In Potsdam, there is a two-tier model, or a two-stage model: first, there is the citywide procedure, where the city's finances and the entire budget are discussed. And then, alternating with that, we have the citizens' budgets. This is a procedure that is used more frequently in Potsdam and Brandenburg, in which a certain financial pot is actually made available and proposals can then be implemented from this financial pot. As a rule, however, there is also a limit, a maximum amount per proposal. From therefore that is not so correctly a citizen budget procedure and/or that would be the question withdraw, which procedures you examine in such a way, whether it with you around budget procedures goes or evenly around procedures, which inquire first times rather, are a little softer. One in the result actually transforming. #00:02:34-0#

P1: So part of the theory of my work is also the part of democratic innovation. And that is very different in Germany. There are cities that really only have this fixed participatory budget, where proposals are presented. These then go to the city council, are agreed upon, approved or not, and then they really end up in the fixed participatory budget or the sorry municipal budget. And then there is also, I think Trier or Jena has a similar model, where they also have a separate pot for smaller projects. And yes, both are subjects of investigation within the project. Before the whole thing starts, are internal milestones and deadlines set and how often are they met? #00:03:23-1#

P2: So there are these 1.8 jobs that I was just talking about. Because of the bifurcation, it has sort of evolved a little bit. It's become a little bit more. In addition to these permanent staff, we still have volunteers who

are active with. We have a project group in which citizens who are randomly drawn and who have said they are up for it. They are also involved. We have city politicians who are involved in the process to a certain extent, or who follow the process throughout the entire process. And we have colleagues from the administration who then come from the departments, not from each individual department. But there are business areas, five headings, which the city supports, so to speak, where there are also department heads. There is also at least one colleague, it has to be said. To the personnel topic again say, So there are evenly these three with higher or less percentages, which so to speak the working time concerns. Colleagues, who deal with the citizen or explicitly procure and then just some from the administration and from the citizenship out, which accompany the procedure. There is actually still a project group, which one must perhaps still push behind with the first question. And in this project group, when you have met for the first time, as it were, when it has constituted itself and the people have gotten to know each other a bit, who come together in the group. Is there a time schedule in the time planning? Are milestones perhaps not necessarily fixed, but corresponding phases in which certain surveys take place, when the corresponding collection of ideas is completed and when the 20 list, that is our result. 20 most important proposals are always handed over, when the actually stand and should be handed over to the city policy. But if you understand this as a milestone exactly it is defined at the beginning of the procedure in such a kind of project group. And in the last procedures since 2008, we have always realized this in this form. We did not deviate from these time targets once they were set and we followed them, so to speak. #00:05:12-4#

P1: Great. In all of this project planning, the customer journey method is also used. So really outlining where citizens start in the process, what touchpoints they have and how they go through in terms of active participation. So really mapping so every step and interaction with the project. #00:05:33-7#

P2: No. So in the project group as such. We don't have an explicit procedure. It's a classic project management. I don't know. The heading that you just described didn't say anything to me. And so I would say no because of that. From the perspective, we just go in the classical project management that we regularly then come together again about the respective phases and report corresponding results that there were in each case for that. But I think. #00:05:58-6#

P1: That is something different from what you have standing right now. No problem. Then, do the citizens also have the opportunities to change the rules or procedures of the project, through suggestions or any kind of feedback option that is available? #00:06:13-8#

P2: Exactly. There is this project group that actually looks at the end of the process to see what happened, what we did, what went well, what didn't go so well. But it's not really about conceptual issues, i.e. for the fundamental reorganization of the process. There it is then about when we just say, we went to the election for the first time this year, at the beginning of 22, so the last time we did it, Corona was still active or was, so to speak, at least still a topic. Then we decided that we actually in in the year 22 only work digitally. Then Corona became again a little bit, so to speak, not so important anymore in quotes or declining. That was actually a few information booths have made and also an exhibition. But there were just no clients and already no closing event, which was always the topic in previous years. They then addressed this and said that it would be important for us not only to do this digitally next year, but also to continue to offer such formats. This is the kind of content that comes from the project group. There is another committee that accompanies us, this is a steering group, and it consists of the treasury, i.e. the financial alderman, the city and the city councilors or the parliamentary groups of the city councilors. And topics can be addressed there that are of a conceptual nature. There we have also just two proposals. Once a group demands that the budget that the participatory budget can also get in the overall city perspective a budget, so that at the end, when the discussion about the 20 proposals takes place, the city councils then have accordingly also a pot, from which they can help themselves, in order to fulfill the citizens wishes. There you can paraphrase that perhaps in general, that of course it does not really qualify, but so from the perspective to make so a bit clear what it is about. There is then the list of 20 there and city ordinance is partly difficult, how they can now fulfill the corresponding wishes, even if they set priorities there, even if they want that and wish now or at least one group wishes that there are correspondingly also funds for be kept free, with which then projects can be realized. And there is another group that has just demanded that the citizens' budget process be optimized. In other words, focus exclusively on digitization. To work with fewer staff. It's not quite clear to us yet what that means with one and a half people on staff - it's actually hard to cut anything. Perhaps we're talking more about the project group or the extensive meetings of the very citizens' group that exist there. So there are different procedures and the main contact person is not the citizens' group, but a steering group, which consists of the city caucuses and the treasury, because they are, let's say, not even the clients of the procedure. #00:08:39-7#

P1: Which the city council. So normally they get involved in the sense that they evaluate the proposals and discuss them again and then vote whether it goes into the budget or not. For the city of Potsdam, maybe there are other tasks where the city council gets involved. #00:09:00-7#

P2: The city council is always the city building assembly. Once is active in the steering committee, fails, then it is also in the project group. So when it comes to the process and preparing the process. And I had already mentioned the citizens' budgets. As a city, we are looking for cooperation partners with whom we can carry out these citizens' budgets. It's a little bit more complicated when you first explain it. Have you seen that on the website as well? We have six cooperation partners that do this with us every year. They come from certain districts, I'll call them social areas, but they come from districts and then they carry out a kind of mini participatory budget there, that is, the participatory budget for their district. And this happens through an award procedure, which means that we have 120,000 euros ready with the budget planning confirmed, distribute them over six areas and in the grant procedure, you have to find appropriate matrix appropriate selection reasons. Why these grants were given to this association, for example? This is prepared by the project group. But the final decision is made by the steering group. And these are then again the city councils. So they say after recommendations from the project group that certain cooperation partners should work together with the city for the citizen budgets. So these are the three topics of projects, organization, support, conceptual development and the selection of cooperation partners for the citizens' budgets. The fourth point is of course the decision on the most important proposals. But this is not a task that comes explicitly from the participatory budget, but the classic task of the city assembly is to give orders or make decisions accordingly. #00:11:03-5#

P1: I see. Can citizens also appeal a decision if some proposal is not accepted now for various reasons Is there somehow an appeal process or can you just try to do the whole thing again next year? #00:11:23-4#

P2: Exactly, We do not have an appeal process. You can participate in the technical discussions there is yes the 20 er list that is handed over, handed over to creator and assembly. That is then referred to technical committees. So this is not discussed in the big round or at least not in the first step, but it is discussed in technical committees. The people who came up with the ideas can join them and defend their proposal or justify it accordingly. And if there are questions there or if there are somehow perspectives that this could perhaps be rejected in perspective, you can hear that out from a certain point of the discussion. Then the city, the citizens can try again to counteract. But they cannot change the decision of the city council. They can submit every year again the same proposal and hope that it comes again into the 20 er list or ensure that it comes again into 20 class. But they still can't change the fact that the choices next year will probably still be the same as the year before. #00:12:15-1#

P1: Understand what happens, so when it comes to the point? When if the city government can't implement a project that they've actually already approved. #00:12:25-7#

P2: Then it is reported on. Then it's more a form of communication in the follow-up. Perhaps we have an example for this year. If you go to the website again, you will find as the top message that the participatory budget has been adopted. And there it is actually the case that we have, I think, eleven proposals that have been accepted, or one of them has also been decided as already being implemented. There are five proposals that have been rejected. This means that the procedure as such has basically come to an end for us. We don't have to follow up again to see whether something might happen again in two or three years; the decision has simply been made before the meeting. Of course, we can't afford or don't want to say that for a certain reason. And there are some test orders, which are still with it, whether we are in this year the first time not so completely clear. What happens now with it to be? There I should then before all meetings or had I given there before a meeting an order to the administration to look again further, which costs are actually necessary for it, which time frame is to be considered? And about it then finally the city administration reports to the pre-assembly, namely half a year later, thus to the end of this year it will take place then and then can result from it that evenly with the topic What would be then, what was then there a test order? Support volunteer fire departments, what that would really cost, whether that is possible and in what framework this financing can then happen, so where the money for it should come from. And either the decision is so positive, so to speak, that it will then also be made. Or it follows again another from order out of the city farmer meeting, which then says. After result of the examinations we would like that we do as administration this and that. So the procedure. Usually at the end of the budget year with the financial statements we report on the implementation of the proposals. So the last budget procedure. Penultimate procedure was for 2020 and 21, so that's when we expect to submit the financial statements at the end of this year, and that's for 2021. So the second of our two reference years. And then we will actually approach the departments again with the annual financial statements, so to speak, and say Here, take a look at the ten proposals from last year that were accepted or that were to be reviewed, What has become of them now? What financial resources have been used for this, or has it been realized or is it still in the pipeline? And this is always reported with the annual financial statements. In recent years, this has always been 1 to 2 or almost a little more than two years after the conclusion of the procedure. In the meantime, it is the administration's turn to present the results of the previous years, i.e. the annual financial statements, a little

faster, so that we can also proceed with the participatory budget and then report more quickly on what has become of it. But it makes sense to wait until the end of the budget year or until the end of the procedure, because then we know whether funds have actually been used or not. #00:15:18-7#

P1: Understand now when we come to the topic of digital tools and platforms First of all, do you think that the use of digital tool in the participatory budgeting project can lead to better communication between citizens and the administration?.. #00:15:34-1#

P2: It's at least nice for easier communication. Whether it is better, I cannot really judge. As a rule, direct exchange is better, that. If we talk to each other digitally here, that is a form of digitalization. But we don't do that in the form of participatory budgeting; it's more a case of being able to look at an event afterwards. So there's not a big communication factor between the digital participant and the one who's there on site, so to speak, that's a bit of one way and the other is actually that the people who submit proposals online have an easier opportunity and I'll just call it clicking on submit, other proposals to come, comment and also vote. But that's equally good. That's more how I would describe it, like in the analog space, so whether we do an event or an exhibition where people can vote and give their opinion on the proposals or whether they do it digitally digitally is equal. That's good, write now! So I wouldn't put too much focus on digital now, so to speak. It improves communication because it expands the circle in relation to an event. But in terms of quality, it is. #00:16:53-7#

P1: Similarly, and you just touched on it briefly. But would you also say that these digital tools also make it more accessible? #00:17:05-3#

P2: (...) For certain groups of people. Exactly. Not for everyone. For people who are familiar with or have experience with the digital world, it's definitely a relief because they just don't have to come to an event or an exhibition. On the other hand, you have to register if you want to vote. So you also have a certain hurdle in there... In principle, this is definitely an improvement in the accessibility of the format. Participatory budgeting is right. #00:17:35-9#

P1: Would you say that these digital tools can also lead to more transparency? #00:17:41-4#

P2: The same principle. Whether I provide information digitally, in the sense of publishing articles on the website about the budget situation, or whether I create an information brochure and distribute it, the result is the same. So you can click through the brochure digitally, if you like, as well as just flip through the brochure digitally. That's where we come back to access, access enhancement, so to speak. With the digital version, in the best case, I achieve more and cheaper than with a production, a brochure or with information booklets. And that's why it's an improvement, but not necessarily an improvement in terms of content, which is more of a supplementary format. You can now see the digital part as the main point and say the brochure or the information booklet as a supplement. But we are actually relatively balanced in this respect. As far as the number of clicks is concerned, we are actually significantly higher in the digital part and therefore your thesis can actually be confirmed. #00:18:43-5#

P1: Thank you. Would you say that the use of these tools increases trust in the government and the administration? #00:18:52-8#

P2: (...) That also has nothing to do with the digital format. It works there. I would actually relate it more to the participatory budgeting format. The larger the city, the more sensible the participatory budget format is to bring city politics and citizens and administration together to some extent. It can succeed in the digital space, but in my opinion, this digital space does not have to exist for this task or for this goal of participatory budgeting. In the meantime, there's no getting around it. It would be silly to say that we only do this on site, so to speak, or only with brochures. There one would be completely past the time and that would be then also naturally a loss of confidence, because one would be surprised then, so I would perhaps go that was, which is for strange procedure, which takes place so to speak only locally, because it does not concern with the participatory budget yes basically around an explicit place, thus around a certain description or a development of a certain city district. That's where an on-site format would perhaps make more sense, but rather the further development of the city. And digitization is a point here, so to speak, but it's more a part of such a format under the current circumstances. You can't ignore that. Whether or not trust actually grows. So the idea that this is being pursued can definitely be confirmed for Potsdam as well. Whether or not it succeeds depends a bit on what actually comes out in the end. So if more than half of the proposals were rejected, we would actually have to think about that. Or if the number of people who participate drops sharply, we would also have to think about it. But that has actually not happened in the last few years. We slipped down a bit last year, but not dramatically. That the participation rate is concerned, we were in 2019 at 17,000 people who participated and in 2022, in the last active procedure one was at 14/2 even and that was again the level of before 2020 21, so before the 2019. A procedure. So that's where we are. In fact, we had a peak up there once about the very describe and now we've ended up back at a normal level, which we knew from previous years. That's a bit of the point. Do you have to pay a little bit of attention to whether that actually leads to a dramatic change, because then you can actually already see that that might then lead

to a loss, rather to the opposite, what you would achieve with that. Unfortunately, we cannot establish a correlation between participation in local elections and participatory budgeting, where one could perhaps measure something like that. There is actually for us. Somehow, I would have no idea now how to actually pay or in numbers to prove their thesis quasi in numbers. That is difficult.

P1: Do you think the use of digital tools in this community center project has increased the workload for staff? Since it was introduced.

P2: #00:00:-154# No. For us it is, because as project organizers we naturally have to use several channels. But for the colleagues, it's classic task of the process, and that's just as well. For that, maybe we do a bit. For example, in 2022 we did less in the live area. There were no events, but we were then able to make up for this in the digital area and use it accordingly. The period for those who have to write technical assessments of certain proposals in the departments makes no difference whether the proposal is received digitally or by mail or at an event. From therefore an increased maximum the sum of the ideas that we have to work on. And that can happen via digital queries, of course. So there is, I think, say we only digital. If we add digitally, of course, the number of ideas that have been submitted and therefore the workload increases. But in such a way that the process is well organized and we don't have to manually transfer anything again, but rather export it from digital and import it into our further processing software, so to speak. Is that, so to speak, a form of two clicks or maybe an hour's work and that is manageable?

P1: #00:01:283# -Okay, am. As soon as these tools or platforms were introduced, then there was also the corresponding training for the employees who operated this platform.

P2: #00:01:323# -Yes, we got.

P1: #00:01:-333# That's great. Are there cyber security measures that you use with this platform and other digital tools?

P2: #00:02:-013# Exactly that is actually to be provided with a yes and to say We are attached to Potsdam.de, the first to the main page, which the city operates, so to speak. And there we have corresponding both data protection and data processing content and corresponding security mechanisms. Whereby we actually in the digital. As far as the website is concerned, we query significantly more than the EH program does, because they actually do not have any registration of groups of people or users. On the main page of Potsdam the. Therefore, of course, this is also given by the server. Um, cybercrime. Well, we have also had the problem that we had a description of the procedure or a change request of the procedure in it, that simply people have voted for someone else. But that doesn't mean cybercrime. That's why we've taken a slightly different approach and introduced mechanisms that, in the final analysis, firstly, put a stop to this and, secondly, make it a little more difficult for cybercriminals to get involved or to somehow squeeze their way into the process and destroy our forms of participation, because they're just as unlikely as someone who wants to cheat to bring information about certain people with them.

P2: #00:03:-163# But we don't have, for example, something like four plus four equals eight, so that you actually have to get ahead, but there are also captures or things like that for -such things. We don't have that anymore, because we actually don't hinder the hurdle for people who just want to participate quickly to vote for a project.

P1: #00:03:366# -(...) You had also briefly mentioned that earlier. But how is the engagement on the platform or on the websites monitored and evaluated? Do you have different analytics tools or reporting in place? Is it monitored and evaluated at all? That's the process.

P2: #00:03:578# -Is, is evaluated, if one, which concerns the participation ratios, accordingly of course the access numbers evaluates. Of course, we also put into relation what was used in terms of digital formats, what was commented on, what proposals were submitted digitally, and what is actually -correspondingly on the online platform, in terms of participation in voting, or otherwise. But that is actually the access figures that I have already mentioned, which is not yet evaluated with. Beyond that, there are no explicit formats that are used for this.

P1: #00:04:-329# Is there any kind of moderation on the platform between all the discourse? There's some there, it's automated on some platforms, so there's keyboards that get banned directly or something. On some you have to report the whole thing. How does that work on the Potsdam platform?

P2: #00:04:518# -There is a moderation, but it refers at most or currently at most to the commenting. So the moderation is not really visible as such to the outside. The ideas that are submitted have to be approved by moderation, so they have to be published. That is the first step. And the second step is that when comments are submitted or evaluated, I don't think they are immediately visible, but have to be released first. So first of all, not the content, but, so to speak, if there is any personal data that has been published, that is then taken out or blacked out accordingly. Otherwise, there is actually only the perspective of the control, so to speak, before publication and there is at the end, but that is not necessarily moderation, so to speak, do what you understand as such perhaps actually the comparison of the participants. There is in

Potsdam even by the specification that I may participate only Potsdamer starting from 14, which have here also a main and a secondary residence, once. And they are not allowed to vote more than once. This is done manually afterwards. This can be understood as a kind of moderation, because it can also lead to the fact that someone has made false statements and then in the moderation or by the moderation in the follow-up in his rights, which has so to speak as a user, is cut a bit, So accordingly the voting opportunity, which he has first of all, if he enters all the data correctly, what so to speak the system automatically checks, zip codes and age groups, so, then we do not have to check, it makes, the system already makes. If that is not correct, that is, in the civil register as such cannot be confirmed, then the moderation takes such content out again. So not suggestions, anyone can do that. But in the case of votes, we have a default that leads to a sorting process taking place. But that is only in the broadest sense of moderation. There you have, you have actually described something else in the question.

P1: #00:06:357# -Thank you. Two more small questions, since we are now also running out of time a little bit in terms of social media. Do you think then that the use of social media, has increased engagement or interest in general in participatory budgeting?

P2: #00:06:534# -Yes, yes, but we use it more as an information channel, so we often on social media there is no collection of ideas as such and also no voting. So that's more like a like another communication channel that we use, which has the advantage that we can also answer directly in case of follow-up questions. But there is not the kind of interaction that we have here in the video call.

P1: #00:07:-141# And so a follow-up question do you think that also this advertising of the whole process or informing more often on bigger social media channels like the one from the city really leads to maybe more people participating?

P2: #00:07:-305# Yes, well, the more different participation channels or information channels you use, the larger the target group, so to speak, the amount of people you reach. And even if that's perhaps not the largest part that we reach via social media, so to speak, it's already a part that has led to a growth, so to speak, in the participation rate.

P1: #00:07:-510# Okay. And then we come to my last question. At the moment, yes, the whole topic of AI -is booming and there are also already a few participatory budgets and platforms that deal with the topic. Often it is used to categorize proposals more easily or if someone wants to make a certain proposal, to show that. There are also other proposals or similar proposals. But there is also already talk for using AI from that to just have voting right before that to really check. Okay, this proposal, which is made now, can directly quasi continue to the processing or there are a few points that actually do not that the whole thing ensures that this does not progress. Has the city of Potsdam already thought about this? Is that something that is in the planning or is it not yet on the screen?

P2: #00:08:456# -We are facing a change as far as the website is concerned.- There will actually just have to do a security update of our website as well. And since that is actually not just a click, but actually a move to a new system, we are sort of facing that, so to speak, Potsdam in front of us as well. This is the keyword AI or corresponding improvement of the search. If you start at this point, so to speak, at what point does it work at all? Or should that take effect at all? Is the issue With the change that we made now this year, I don't think we have that in mind yet. But we have received frequent feedback in recent years that it is precisely this duplication issue that is a difficult one. That is with us actually first, it is first of all all proposals received and then a manual, so to speak categorization is made, but then in the best case a summary that this is a problem and that we also actually have the problem that people can partly not necessarily assign, why also, What the city really does, what the state does and what the federal government does or what still completely different institutions do. That is then a bit of a question of responsibility. And that's also a perspective that through KI complementary to what you're just saying, so in terms of duplication or so proposals for certain content. For us, an important point would be the one there that you would like to think about or would have to think about. But we are not active there yet. So we are also updating the website, we plan to do that accordingly, and that would be a perspective that would be addressed again and again independently of AI, because I think that to say that such a system can -perhaps already do that itself- to a certain extent. To recognize duplications via corresponding hashtags or corresponding word groupings, that is to say, could then also point out that this might exist. Or if someone addresses a foundation, so to speak, that exists in the city, that the system then automatically recognizes via this keyword that someone is perhaps writing something that the city itself does not have to process, but that this foundation would then have to process. This does not necessarily mean that no one is needed, but it would of course be a perspective that would not pass us by in the further development of the two of us. However, I do not believe that we are the city's innovators for this procedure, but rather that we are a procedure that can be used or that perhaps also runs as a first test or uses this, so to speak, when there is good experience.

Interview with Norderstedt

P1: Now. OK. Yes. So the first cluster of inquiries goes in the direction of project management and a few organizational things that I couldn't necessarily find on the website now. yes, um And the first thing would actually be whether they might know how many people are involved in the household on average. So I've seen that it's somewhere around 1% of the population of Norderstedt. But is that a constant average now? Is there perhaps a trend that is increasing or decreasing? #00:00:36-0#

P2: Yes, there is. I have to look out for a bit. I can also provide you with the data. We also distributed them publicly at a committee meeting. That means they are not secret either. Now I have to take a quick look. Well, I can send that to you by e-mail. We have done 1,2,3,4,5,6 participatory budgets so far. In total. We a double household for our people. That means we do it every two years. The last was in 2021. Actually, it would be this year. But we probably won't do one this year, but only next year because we want to change the system. And now I have a list of how many suggestions, how many comments, ratings, newly registered and active members we have. Of course I can read it to you now. I don't know if that will do much, so I would just email you the list. #00:01:52-2#

P1: That would be better. #00:01:59-5#

P2: Um, because once said we had. In the last participatory budget, we had around 800 active participants and 278 suggestions. 79,800 reviews. So that's a pretty high number. #00:02:20-2#

P1: Yes, that was also one of my subsequent questions. Because, of course, citizens can upload ideas to the platform and also comment on them. #00:02:32-2#

P2: Exactly. #00:02:33-6#

P1: But you can also rate several projects or how many votes do you have on the platform? #00:02:39-9#

P2: So it's set up like a kind of dating app. All the suggestions that were inside were then stored in one app, so to speak, and then you could evaluate each suggestion via the second. So you could actually rate every suggestion. If you don't want to rate someone, just keep writing. Note there is an option to rate everyone and there is also an option to leave a comment under each one. Which probably not everyone does. Whereby this rating with this asterisk is quite fast if you read the headline like that. I think new traffic lights there are good or bad. So that was the reason behind it. #00:03:23-8#

P1: Behind this, the scope was defined before the project started, as well as various goals and methods that could now somehow be on the plan for every participatory budget. #00:03:38-9#

P2: No, actually not at all. We've always promoted it well through the press department and with press conferences, but we didn't say from the outset what our goal was. We simply gave the citizens the opportunity to express their opinion and what they would like to spend money on. Or more or less. #00:04:04-8#

P1: Is there a person in the city who is actually responsible for this project? I assume that's you? #00:04:21-0#

P2: That is correct. I'm the one who sort of plans participatory budgeting, helps organize it and sort of oversees the process. That means I collect all suggestions together with our provider. Well, we have one, that's what we do on a side of citizen knowledge. This is now a provider who operates our homepage for this purpose. They also do a large editorial part. So they also check the suggestions. And if there's anything in it now, what now? I'll say now, to put it silly, somehow child pornography or something like that, if there are any things in there, then it will be deleted immediately. That is then taken over by the external company and I look after it in-house, pass it on to the specialist offices, where the opinions are then evaluated in the top 50, etc. So I'm the one who takes care of everything. #00:05:26-0#

P1: And then there really is only one position occupied for this position or for this procedure. Internally also in the household? #00:05:36-5#

P2: Yes. So it's not an extra job for participatory budgeting, it's just a project that's affiliated with me. #00:05:43-9#

P1: Okay, in designing the project you worked with the customer journey method and now just as a short definition a customer journey in the context of participatory budgeting really refers to the process that every citizen has to go through in order to to actively participate. They start somewhere here and then have the various touchpoints of the whole process and in the end they come out happy because they participated. #00:06:14-2#

P2: No, actually not. #00:06:16-6#

P1: Don't worry

P1: (...) Is. Do citizens have the opportunity to change the rules of the procedure or project. #00:06:33-6#

P2: How to change rules? #00:06:38-3#

P1: Let's say there's some sort of petition that you can't join until you're 16. That age and minimum or maximum age or maybe the whole thing is divided into districts instead of the whole city, something like that? #00:06:58-5#

P2: Yes, it's always difficult. Actually, participatory budgeting is there for the people in the city to be able to say what money should be spent on and what perhaps less should be spent on. Of course, this platform is also used, simply as a means of communication, which is not really what it is intended for. And if there is a suggestion that we actually wish for more rubbish bins in this and that park, then we will take it up. But they delete him from the participatory budget because he actually has nothing to do with it. Because it's not a question of cost now. And this is just a normal request and it will still be processed. But it doesn't really belong there. #00:07:45-2#

P1: Okay, there was now one of the most voted suggestions on the platform that actually dealt with this topic. The citizens want the administration to take a stronger position than "is not checked". If I can remember correctly, the question went along these lines, okay, will it then be rated? And then what are the steps if something comes up that really relates to the project? #00:08:17-3#

P2: So it can also be the case that it is evaluated. Yes, we'll take that in too. Yes and then? Then we also take a stand on it and work on it. But as I said, the meaning behind it is actually something else. #00:08:34-0#

P1: There are already certain deadlines for the project, when people can submit the proposals because they can discuss the whole thing, until when the city administration accepts a statement. Are there also deadlines for the implementation of the measures? And if so, how often are they complied with? #00:09:28-1#

P2: Well, there are actually no deadlines for the measures at the moment. That's very difficult. If the citizens now write in that we want a roundabout here and there and we will accept this suggestion because it was rated well, then it will be checked in the normal administrative work and then, for my sake, if, if it is said, okay, the roundabout gets there, then it takes its normal administrative process, so we can't set any deadlines. This differs from individual case to individual case. The only deadlines that we set is how long you can submit suggestions, how long you can comment and evaluate, so that we can then give them to the specialist committees and everything that happens after that is the normal administrative process, that's what we have no longer influence it and there it goes, one goes faster. Well man, we can put ten rubbish bins somewhere faster than changing a B plan or building in a roundabout. #00:10:25-7#

P1: I see. The suggestions are also evaluated by others, including the specialist departments, of course. I'll take the City Council's too. But some cities also work with cooperation partners who would also evaluate the whole thing and then implement it accordingly. #00:10:49-2#

P2: No, that's actually only done by us. Okay, so no, the town hall and all the departments of the town hall. #00:10:59-3#

P1: If suggestions are then implemented, the citizens are also involved in this implementation process. #00:11:07-9#

P2: Because you are registered and have submitted the proposal, the statement will then also be published on the homepage and they will receive a message and then they will also know when the topic will be discussed in which committee. And any citizen can go to the committee. This is a public session and I can then say again. By the way, that was my suggestion too. And then you are part of the process. You can also continue to actively participate, but you don't have to. #00:11:39-6#

P1: What happens if the city administration cannot implement a project that they have already checked and approved? #00:11:50-1#

P2: That doesn't exist. So a project that we review and approve will be implemented. But if we can't implement it, then we would never approve it. #00:12:01-6#

P1: There were a few cities where that happened because of various crises etc. But I'm glad it's not like that in the city. #00:12:17-1#

P2: That hasn't happened here yet. So we also have a lot of suggestions, for example where there is more police for security, we have nothing to do with that. That's the district of Segeberg that does it for us. And the police is the country, we are not authorized to act there and we simply forward it to the police and then that's the end of it for us. So where we can't do anything, we don't do anything, we can only pass it on. #00:12:48-1#

P1: (...) Great, then we'll get to the second part with regard to the digital tools and also a lot about the platform. But these are also questions of attitude. For example, do you think that the use of this digital platform has made it easier for citizens to access this procedure? #00:13:12-8#

P2: Yes, you can see that in the numbers, because in 2011 we mainly worked on paper and continued to work our way digitally. And you can always see from the ratings alone that there have been more, as well as from the active members, so to speak. Definitely digital. #00:13:33-1#

P1: Do you think that using these tools has led to more transparency between administration and citizens? #00:13:43-5#

P2: Yes, I think so. And I also think that the understanding became a little bit more as a result. #00:13:50-1#

P1: Do you think that the use of these tools has increased administrative accountability? #00:14:04-5#

P2: (...) I don't necessarily think so. No. #00:14:12-2#

P1: Do you think that not only through the use of these digital tools, but also through the participatory budgeting project, trust in the administration and the government has increased? #00:14:28-0#

P2: That's difficult to say in Norderstedt. Because we basically have several such platforms and because participatory budgeting is actually just an additional module, I think it's pretty much the same all the time. In fact, because of the many ways in which citizens can also get in touch with each other digitally. #00:14:51-7#

P1: Do you think that using this digital platform has reduced the cost of the participatory budgeting project? #00:15:05-4#

P2: Yes, definitely. In other words, less printing costs, less administrative work as a result of postal management, but simply everything digitally on the screen. Definitive. #00:15:18-5#

P1: yes, I heard that from a few other cities too. If the employees deal with this platform, they have also been trained accordingly. #00:15:34-2#

P2: Well, since it's really just me working with the platform. I was trained through our operator who is on the platform. In the end, the rest of the employees only received the suggestions and were supposed to write a statement on them. And then you don't really need to go to great lengths to train. It's just kind of give an answer. But yes, I was well trained and also well looked after by the operator, so that if something happened, help was given immediately. #00:16:11-7#

P1: I see. Then can you say that using this online platform has generally increased your workload, or has it decreased? #00:16:25-7#

P2: And that's hard to say. How am I supposed to put that in a nice way? So my job takes care of projects. And of course every project is always like this because the project is running. It's always a bit more work at the moment. And when the project is finished, that's okay again. And then comes the next project. Due to this. It's always a little extra work at the moment, but it's definitely manageable. #00:16:58-4#

P1: Is there on the platform. Cyber security measures to ensure that the data does not get lost or that there is no manipulation. I know, for example, for registration there is not only capture, but also a question to confirm that you are not a bot. Yes. #00:17:22-4#

P2: Well, there is exactly how content, I don't know exactly that. That runs over over the external offerer. But yes there is. In terms of content, however, I can, if I say so. #00:17:36-6#

P1: I actually spoke to cities that have been hacked before. And then there was a big crisis because the system was totally full of loopholes. #00:17:50-0#

P2: We also had that checked, which showed us once. But to be honest, I have to admit that I don't quite understand it. So much from. But we're pretty sure. #00:18:03-2#

P1: (...) How would you describe the incentives why citizens should take part in the budget for the first time and also use the platform? #00:18:17-7#

P2: (...) Well, basically it's actually a nice module to simply communicate the will of the citizens. People always complain, oh, you spend money on that, you also spend money on that and on the other hand you don't. So it's a nice way to just say what you actually want or where do you think it's necessary to spend more money? And yes, that's also a kind of co-determination for the citizens and I think they like it when they can have a bit of an influence on things. (...) One can. You can complain a lot at once, but if you don't. If you don't act or don't get involved in any way, then that doesn't prevent that much either. #00:19:10-8#

P1: Which data is monitored and evaluated when it comes to making numbers from the online platform evaluable, such as ratings, suggestions that have been submitted, comments. But are there other numbers that are evaluated? I don't know. Click counts or web traffic per se new registration counts something like that? #00:19:37-5#

P2: Exactly. So we actively advertise, we always have the numbers. So I always get delivered how many suggestions, how many comments, how many ratings, how many newly registered and how many active users there are. I don't have the traffic page or information right now, I could definitely get that from our operator, but I don't have it. So for me it's just the five areas that I always get. Can. And I always get an evaluation of which suggestions were rated the best and which the worst. And that once in a complete list from top to bottom. #00:20:20-7#

P1: Okay, then to the third category, communication and engagement. What do you think the phenomenon of the digital divide influences the project? And when I say the gap, I don't necessarily mean it everywhere in Norderstedt. There is the same access or access to infrastructure such as the Internet, but also hardware

such as DSL connections, laptops, smartphones and this makes it one. The discrepancy can come?
#00:20:58-1#

P2: No, I don't think so. We have it. We do that too, that we not only work online, but we still give the opportunity to submit it in writing. We also communicate this in the public media, i.e. newspapers, television, etc., that you can either write us an email or a letter or a postcard or whatever. And we would then edit them here as submitted in writing and they would then also end up in the evaluation. #00:21:29-0#

P1: Ok. There is also the phenomenon of digital skills. Do you think that's something that influences this project? That part of the population can simply move much better in this online space than others?
#00:22:09-7#

P2: Yes, I think so. Plays a role. Yes. um So even if we offer it with written variants, there are not that many that have been submitted in writing. Yes, I do believe that something is involved. #00:22:26-4#

P1: But what kind of offline activities? Apart from now by post or email, do you still offer to involve the citizens in the project? Are there any information events or a larger discussion group? #00:22:46-5#

P2: Well, at the very beginning, we made a card or a flyer available to all households. That was in 2011, we don't have that anymore. In fact, we now only do this via press releases and announce it in the newspaper. At that time we also had an opening event. Yes, where everyone could come. But we don't do that anymore either, because it's actually a well-known member now and everyone knows that when the topic of participatory budgeting comes up, you can submit something. So after the sixth year we just believe what is in our heads and don't do any great management around it. #00:23:33-3#

P1: Then we actually come to my last question. Of course, the topic of AI is booming at the moment, also in terms of a few participatory budgets. So there's a couple of cities that use that to set up a smart assistant that helps citizens submit their suggestions more easily, there's an AI that guides the suggestions all into their respective categories. As suggestions. For example, an I want to play a game in the place now and then it is suggested, the suggestion already exists and you don't want to comment. Is there something like that in the plan? What would you say are the future values for the project? #00:24:33-3#

P2: Well I think we're there. Out with the AI. We won't do anything about that. We will continue this on the tour with our provider. And I'm not really worried that the AI will somehow overtake us. Because such a trained eye does a little bit more than an AI. (...) Well, I can't see at all anymore.

P1: Okay, then it was actually just a follow-up question, because you had said that the project would be canceled this year because the system was being rebuilt again. So what are the future plans for the new participatory budget? #00:26:27-1#

P2: Yes, the system may have been mispronounced unintentionally. The problem is always We have always carried out participatory budgeting when the budget has actually already been fixed for two years. What we actually want to do now is that we also do participatory budgeting with the new double budget, so that the proposals can be incorporated again and that it won't just be over in a year or a year and a half. #00:26:51-5#

P1: Okay, but in terms of system and history, the whole thing stays the same. #00:26:59-3#

P2: That will probably stay the same for the most part. But then I have to talk to my provider again. He will certainly have some innovations at the start and then we'll just have a look. #00:27:10-7#

Interview with Darmstadt:

00:00 - 00:34 - *Introduction and set up of interview.*

00:35 - 01:35 - *Question: Are other city staff responsible for the project's tasks?*

Answer: Yes, other city staff members are involved in different parts of the project, course there is. There are the. Relevant departments for each project that must evaluate. The proposal and see if it's feasible and how it would be implemented, but also the district councils are involved and if it directly involves their district and their area of expertise and lastly the magistrates of the city also help the City Council and the District Council implement the proposals once approved and added to the final city budget.

01:36 - 02:36 - *Question: Were the project's internal deadlines met?*

Answer: Yes, all the project's internal deadlines were met. We set achievable targets have gathered a lot of expertise during the years and these type of projects so The administration Knows how to properly assess these ideas and suggestions and keep the deadlines that we set for the project.

02:37 - 03:37 - *Question: Does the project include the development and application of a "Customer Journey"?*

Answer: I mean. Not like that. That's term. I don't recognize. But before we start. We think about what we want our achieve with the project and how we can best reach our citizens and encourage their participation. And we also take feedback from the previous years that we have gathered in case we have to readjust some procedures. This all happens in one big committee, where different parts of the administration and City Council and sometimes even the financial mayor take part in order for us to discuss the project before we start it again.

03:38 - 04:38 - *Question: Do citizens have the opportunity to change the rules or procedures of the project?*

Answer: They can't directly change the rules. Of course, they are always welcome to give us feedback. Through the various channels. And like mentioned before we start another project, we look at some of the feedback that is provided by the citizens.

04:39 - 05:39 - *Question: Please describe in two sentences the City Council's involvement in the project. Are there any other tasks that the city council takes on?*

Answer: The City Council is. The part of the administration that, at the end of the day, decides whether a submission is accepted into the budget or not. They get. An assessment for. The green lit proposals from the different departments of the administration. And they vote. Weather. It is included into the budget or not. Some of them also participate in our different discussion rounds. And work with the magistrates. To ensure the implementation of the different proposals.

05:40 - 06:40 - *Question: If the city council is involved in the project, in which steps of the project do they participate?*

Answer: City Council mainly discusses the proposals and takes the final decision whether an idea gets approved into the budget or not. They take a second look at the assessment that the different departments did. Check what how feasible. The proposal is and if it fits into the budget that the city has at its disposal and if everything is Is clear and it gets approved. Then the idea Is put into our biannual budget plan.

06:41 - 07:41 - *Question: Who evaluates the submitted proposals? Only the council and the administration? Also third parties?*

Answer: since the citizens can make proposals that cover the entire city but also their individual districts, the idea? Is submitted to the relevant department that has the authority over these issues, whether it be transit or Finance Or health There it gets evaluated and there are sometimes projects that also need the assessment of a third party, such as external contractors that the city works with and. They would also take a look at this proposal before the departments finished their assessment that they would then submit to the City Council for voting.

07:42 - 08:42 - *Question: Can citizens appeal against a decision of the administration regarding a participatory budget?*

Answer: they can't. They can submit their proposals again next year if they think it should be reevaluated and they can give us feedback through the different channels that we offer. But they cannot formally appeal the rejection of their submission by the City Council.

08:43 - 09:43 - *Question: Are citizens involved in the implementation process?*

Answer: there are some projects where citizens are involved. Especially the ones that have to do with the local district submissions are First off, they are informed that their proposal has been voted in favor of and that it was approved and will be added to the city budget. And sometimes they are on site consultations. Like for example if a playground is built then there would be a small onsite consultation on the different. Parts of the playground that they would wish to see there.

09:44 - 10:44 - *Question: What happens if the municipality cannot implement a project?*

Answer: is approved, then it will also be implemented. But if there were the extraordinary conditions in which we could not deliver on an approved proposal, we would communicate it transparently through the relevant means and bring out a statement on why it is that we could not fulfill this proposal. And also suggest possible alternatives to what could be done to still try to Fulfill. This part of the budget.

10:45 - 11:45 - *Question: How can the citizens discuss the different proposals? Were there also other online methods maybe during corona where the face-to-face contact was difficult?*

Answer: the pandemic, we had different initiatives and. Which citizens could meet face to face and discuss their project and their ideas? We had town hall meetings, webinars. We had information stands at different city events. But. With the COVID pandemic, we had to move everything online, so the primary form of communication became online communication through social media. We also started offering webinars and online town hall meetings as well as virtual workshops. To ensure the continuous engagement in the project and keep citizens informed. Are trying to go back to more face to face interactions because the numbers during the COVID pandemic were not as. Good as we had hoped, there were sometimes events where only two people would sign up. However, we would still. Upload whatever content it was so that people could rewatch it when wherever they see fit. But I think the best. Way of truly reaching the citizens is through face to face interactions and answering their questions right there on the spot and for that. Offline is just the better alternative. So now that the COVID pandemic is pretty much over, I would say. That we will try to be more present offline again .

11:46 - 12:46 - *Question: Do you think that the use of digital tools in your participatory budgeting project allows better communication between citizens and their representatives?*

Answer: Yes, the use of digital tools in our participatory budgeting project has improved communication between citizens and their representatives. The online platform provides an open and accessible space for dialogue and feedback.

12:47 - 13:47 - *Question: Do you think that the use of digital tools in your participatory budgeting project facilitates access to services?*

Answer: very much digital tools have facilitated. The access that citizens have to the service. They. Have given us more channels in which citizens can participate through. And have. Made communication and the discussion of ideas easier through our online platform. As well as. Made the whole project more convenient because people are not bound to one event or one certain time. They can read the ideas and submissions whenever they want to, as well as vote and comment them whenever it is convenient for them. So I would really say it has increased the access to the broader audience.

13:48 - 14:48 - *Question: Do you think that the use of digital tools in your participatory budgeting project leads to more transparency?*

Answer: Yes, I would say so because with this project we tried to be really transparent and. Communicate every step of the process as well As every decision taken to the public and at the end of the project, we published reports with all the data About the project and about the platform. To again increase transparency. With our citizens.

14:49 - 15:49 - *Question: Do you believe that the use of digital tools in your participatory budgeting project increases accountability?*

Answer: Yes, our city has been very successfully in implementing a lot of the ideas that citizens have submitted over time, and I think that. Improves the accountability that we have here in the administration. However, we are working on improving it more Because accountability is not just about. The participatory

budget process, but it goes across every project that the city has and we really try To be transparent and accountable so that we can convince the citizen that participating is worth it and that they should take an active part in the shaping of their city and their environment.

15:50 - 16:50 - *Question: Do you believe that the use of digital tools in your participatory budget increases trust in government?*

Answer: is difficult to say because. Normally when people think about trust in the government, they think about the central government. And that reflects the trust that they have on their local government. And again, the trust in the local government can be a very political thing. So I don't really know if this project in particular increases the trust that people have in the government or the administration.

16:51 - 17:51 - *Question: Do you believe that using digital tools in your participatory budgeting project reduces the cost of the project?*

Answer: We always tried since the very beginning to include the Jedi Tools, so they have been constantly present. Yes, there are some areas in which. Using digital tools reduces costs such as printing and advertisement, but on the other hand there are other areas where cost increases like the maintenance of the website and the different functions and. Features that we have to request when we try to improve the project, but however, I think it has also reduced the administrative load and the work And bureaucracy that is needed to fulfill the project. So I would say that yes, it does reduce most of the costs that are associated with the participatory budgeting here in the city.

17:52 - 18:52 - *Question: Do you believe that the use of digital tools in your participatory budgeting project increases the workload for the staff assigned to the project?*

Answer: since we really tried to use digital tools since the beginning of this project, I would say that the workload on the employees has stayed pretty much the same they. Stop doing some tasks that they had before that were analog and started doing other tasks now in a digital manner. So yes, I think it's stayed the same overall.

18:53 - 19:53 - *Question: Have the staff responsible for these platforms been trained on how to manage and operate the platform?*

Answer: Yes, we received training by the provider of the website and work with them continuously to improve our website and deliver a better experience to the user.

19:54 - 20:54 - *Question: Are there cybersecurity measures in place to ensure that there is no privacy breach or data manipulation on the platform?*

Answer: Yes, the website provider takes care of those, and we have had our internal data security officer also audit the website to ensure that everything is according to the law.

20:55 - 21:55 - *Question: Do you feel that using an online platform has increased participation rates in your participatory budgeting projects?*

Answer: Yes, you look into our reports that we have published on our website, you can see that there has been a positive trend in the participation over the years. The numbers have decreased slightly since the covid pandemic, but they are still above the numbers of the early years of the project.

21:56 - 22:56 - *Question: Do you believe that the platform used is intuitive for the user?*
Answer: Yes, we really try to make it as intuitive as possible, we try to answer all the questions that an user

might have and guide them through the process so that once they log onto the platform they can easily participate however they see fit.

22:57 - 23:57 - *Question: Do you think that the use of an online platform has improved the discussions and deliberations around the participatory budgeting project?*

Answer: Yes, since implementing the online platform it has become easier to read through the different submissions and comment on them, however the better discussion happens in the offline spaces where people can talk more easily and discuss their ideas at length because a lot of the comments that we get are very short and don't have that much potential for discussion.

23:58 - 24:58 - *Question: How do administrators monitor and evaluate engagement on the platform?*

Answer: We look at the new users, the active users, the number of submission comments, votes but the Web provider presents us with insights like the most visited submissions or pages at the end of the project. Administrators monitor and evaluate engagement on the platform through data analytics provided by the platform.

27:02 - 28:02 - *Question: Does the city use artificial intelligence for its participatory budgeting projects?*

Answer: No and that is also not something that is planned soon.

28:03 - 29:03 - *Question: Is there any kind of moderation during the discussion process?*

Answer: Yes, we have active moderators for the comments and auto moderators that flag certain words programmed by the web provider.

29:04 - 30:04 - *Question: Do you think the "digital divide" phenomenon affects voter turnout in your city?*

Answer: I don't think so

30:05 - 31:05 - *Question: Do you think the "digital literacy" phenomenon affects voter turnout in your city?*

Answer: I wouldn't say so and if so the effect is so minuscule that we couldn't really measure it

31:06 - 32:06 - *Question: How are the updates about the different projects communicated?*

Answer: A lot of the time statements are published by the city's public relations department, but we also update the website regularly and we update the submissions with. The findings and assessments done by the relevant parts of the administration. And their results are ready. We work with the local press. To inform the citizens about the results of the project. We also post on social media. We have plenty of channels through which we can communicate updates with our citizens.

32:07 - 33:07 - *Question: Who is responsible for informing citizens about the status of the participatory budgeting project?*

Answer: For the press releases the PR department, for the updates on the website we have someone who gathers the finished assessments by the other colleagues and posts the answer online on the platform

33:08 - 34:08 - *Question: Do you think the use of this social media increases citizen engagement with the participatory budgeting project?*

Answer: I think it helps advertise the project and remind citizens of the different deadlines but I cannot confirm that it increases participation.

34:09 - 35:09 - *Question: Is there a person or team in charge of social media communications?*

Answer: Yes, that is part of the tasks of the PR department, we inform them of something that we would like to release to the public and then they just ask us for some of the details and handle it themselves I think they do a very good job,, the campaigns have gathered positive feedback the last couple of years so we trust them to deliver the message in a way that it will appeal to most citizens.

35:10 - 36:10 - *Question: Has the staff received appropriate training for these tasks?*

Answer: I don't really know

Question: What incentives do you think are offered to encourage participation in participatory budgeting?

Answer: Not only can citizens submit ideas for something that they would like to see in their neighbourhood and that affects their most immediate surroundings they can also submit ideas that cover political topics and help us understand their needs better and I think that through our previous successes we have been able to motivate citizens to participate because they see that the process works and we always try to make it as easy as possible to participate so that also should help encourage participation.

B.a Written Interviews:

Questions participatory budget Trier

Answers to participatory budgeting in Trier

1. Project Management and Execution: This category deals with the organizational and logistical aspects of the Participatory Budgeting (PB) project. It includes questions about project scope, project management, the role of the city council, citizen participation in decision-making and implementation, and project ownership. The rationale behind this category is that it provides insight into the process and management of the participatory budgeting project.

Questions:

How many people took part in the last participatory budgeting project? The city has often reported a high participation rate in the past, but how many people participated last time?

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Are other city officials responsible for the tasks of the project? Which are the exact departments dealing with the project?

The 30 best-rated suggestions are given a statement by the relevant specialist office. The employees from the relevant specialist offices provide support here.

Were project deadlines set and met?

Yes

Does the project include the development and application of a "customer journey"?

/

Can citizens change the rules or procedures of the project?

Afterwards, citizens can make suggestions for improvement or contact us with criticism

Please describe in two sentences the City Council's involvement in the project. Proposals are evaluated by the administration, then discussed again by the city council and it is voted on whether the proposal goes into the budget. Are there other tasks that the City Council takes on?

The 30 best-rated suggestions are given a statement by the relevant specialist office. In the budget deliberations of the city council, a vote is taken on which proposals are to be included in the city budget. The proposals will then be presented to the City Council. Participatory budgeting is accompanied by the Advisory Board for Participatory Budgeting, which consists of members of the city council factions. The city council does not take on any other tasks.

Who evaluates the submitted proposals? Only the city council and the administration ? Also third parties?

The submitted proposals will be evaluated by the registered citizens on our online participation portal. The 30 suggestions with the best ratings are given a statement by the administration and submitted to the city council for a decision. Other parties/groups are not involved.

Is there an upper limit for participatory budgeting projects that citizens can decide on?

The citizens do not decide on the implementation of the projects, they can only propose and evaluate projects. The final decision lies with the city council, so there is no upper limit for the proposals of the citizens.

Are citizens involved in the implementation process?

Citizens are informed about the implementation process. If, in the course of implementing a proposal, there is further public participation, for example in the form of a site visit, a public design etc should arise, the citizens will of course be involved.

What happens if the city administration cannot implement a project?

Then the citizens are informed that the implementation of the proposal is not possible.

Who is responsible for informing citizens about the status of budget projects?

The project manager for participatory budgeting.

2. Digital tools and online platforms: This category addresses the role and perceived impact of digital tools and online platforms in participatory budgeting. It covers areas such as the digital divide, digital literacy, cybersecurity and the use of AI. The reason for this category is that it focuses on the technological aspects of the participatory budgeting project.

Questions:

Do you think that using digital tools in your participatory budgeting project will make services easier to access?

No information can be given about this.

Do you think that the use of digital tools in your participatory budgeting will lead to more transparency?

We always strive for transparency in our citizen participation processes - both digital and analogue. We can only speculate whether the use of digital tools will lead to more transparency.

Do you think using digital tools in your participatory budgeting increases accountability?

As soon as citizen participation is carried out, there is also accountability - regardless of the tools chosen.

Do you think using digital tools in your participatory budgeting increases trust in government?

With our various citizen participation procedures, we always strive for transparency for the citizens. Through the transparent procedure, we also hope to gain trust in/for our work.

Do you think that using digital tools in your participatory budgeting project reduces the costs of the project?

No information can be given on this, as online participation in participatory budgeting has been carried out since 2008 and therefore no comparative values are available.

Do you think that the use of digital tools in your participatory budgeting project increases the workload for the employees involved?	No information can be given on this, as online participation in participatory budgeting has been carried out since 2008 and therefore no comparative values are available.
Have the staff responsible for these platforms been trained on how to administer and operate the platform?	Yes
Are there cyber security measures in place to ensure there is no breach of privacy or data tampering on the platform?	Yes
Do you think that using an online platform has increased participation in your participatory budgeting projects?	Participation in participatory budgeting has been taking place online since 2008, so no assessment can be made here.
How would you describe the incentives used by the platform to drive engagement?	No information can be given about this.
How do admins monitor and evaluate engagement on the platform? What kind of analytics are evaluated?	No information can be given about this.
Does the city use artificial intelligence for its participatory budgeting projects? Is it something that's in the planning ?	No information can be given about this at the moment.

3. Communication and Engagement : This category is about how the participatory budgeting project communicates with and engages with citizens. It includes questions on communication channels, incentives for voting, use of social media and the impact of digital tools on citizen engagement. The reason for this category is that it examines the methods and effectiveness of involving citizens in the participatory budgeting project.

Questions:

Do you think that the phenomenon of the "digital divide" affects voter turnout in your city?	No information can be given about this.
Do you think that the phenomenon of "digital skills" affects voter turnout in your city?	No information can be given about this.
What offline activities or events are organized to inform and engage citizens about the project ?	In the early days, there were numerous offline events and activities to publicize participatory budgeting. Participatory budgeting in Trier has been well established for many years, so there are currently no offline activities.

Questions Mohnheim**Answer Monheim**

1. Project Management and Execution: This category deals with the organizational and logistical aspects of the Participatory Budgeting (PB) project. It includes questions about project scope, project management, the role of the city council, citizen participation in decision-making and implementation, and project ownership. The rationale behind this category is that it provides insight into the process and management of the participatory budgeting project.

Questions:

In your opinion, what incentives are offered to promote participation in participatory budgeting?	The fact that ideas have been implemented in the past was incentive enough - our free tickets for cultural events were not used by the winners.
Was the scope of the project (Public Budget for 2023) as well as goals and methods defined before the start?	Yes
Is there a clearly named project manager for the participatory budgeting project in your city?	Yes, the coordinators of the Public Relations and Civic Participation department.
Are other city employees responsible for the tasks of the project? Or which teams, committees or groups are still involved in the project?	Yes, anyone who needs to submit a comment on an idea on behalf of their division. All areas of administration can be involved.
Does the project include the development and application of a "customer journey"?	Yes
Can citizens change the rules or procedures of the project?	This is the task of the citizen participation team, not that of the citizens.
Were project deadlines set and met?	Yes
Who evaluates the submitted proposals? Only the city council and the administration? Also third parties?	The citizens evaluate the proposals in phase 1. Only then do the administration and council evaluate
Are citizens involved in the implementation process?	project dependent. If the wish is expressed for a playground to be renovated, there is a separate on-site participation on specific wishes.
What happens if the city administration cannot implement a project?	Every suggestion that cannot be implemented is accompanied by a statement that remains publicly available.
Who is responsible for informing citizens about the status of budget projects?	question unclear. All planned projects for a financial year are discussed in the City Council, this is broadcast live on Council TV and then made available - including subtitles. In addition, we provide information via our hands-on portal on the "Current Projects" platform, which is continuously updated .
Please describe in two sentences the City Council's involvement in the project. (Open question)	In the last meeting of the year, the Council decides on the implementation of the ideas that are considered feasible.

2. Digital tools and online platforms: This category addresses the role and perceived impact of digital tools and online platforms in participatory budgeting. It covers areas such as the digital divide, digital literacy, cybersecurity and the use of AI. The reason for this category is that it focuses on the technological aspects of the participatory budgeting project.

Questions:

Do you think that using digital tools in your participatory budgeting project will make services easier to access?	Yes
Do you think that the use of digital tools in your participatory budgeting will lead to more transparency?	Yes
Do you think using digital tools in your participatory budgeting increases accountability?	Yes
Do you think using digital tools in your participatory budgeting increases trust in government?	unanswerable - our budget is not associated with the federal government
Do you think that using digital tools in your participatory budgeting project reduces the costs of the project?	no
Do you think that the use of digital tools in your participatory budgeting project increases the workload for the employees involved?	no
Have the staff responsible for these platforms been trained on how to administer and operate the platform?	Yes
Are there cyber security measures in place to ensure there is no breach of privacy or data tampering on the platform?	Yes
Do you think that using an online platform has increased participation in your participatory budgeting projects?	No, the participation has always been carried out online.
How would you describe the incentives used by the platform to drive engagement?	Intuitive usability
How do admins monitor and evaluate engagement on the platform? What kind of analytics are evaluated?	We read along and comment if necessary - very simple. Only the number of ideas and the operating system used are evaluated .
Does the city use artificial intelligence for its participatory budgeting projects? Is it something that's in the planning ?	No

3. Communication and Engagement : This category is about how the participatory budgeting project communicates with and engages with citizens. It includes questions on communication channels, incentives for voting, use of social media and the impact of digital tools on citizen engagement. The reason for this category is that it examines the methods and effectiveness of involving citizens in the participatory budgeting project.

Questions:

Do you think that using these social media will increase citizens' engagement in the participatory budgeting project?	Yes
Do you think that the phenomenon of the "digital divide" affects voter turnout in your city?	Yes

Do you think that the phenomenon of "digital skills" affects voter turnout in your city?

Partially

What offline activities or events are organized to inform and engage citizens about the project ?

information stands e.g. B. at city events, flyers with QR code

Questions participatory budget Freiburg

Answers to participatory budgeting in Freiburg

1. Project Management and Execution: This category deals with the organizational and logistical aspects of the Participatory Budgeting (PB) project. It includes questions about project scope, project management, the role of the city council, citizen participation in decision-making and implementation, and project ownership. The rationale behind this category is that it provides insight into the process and management of the participatory budgeting project.

Questions:

How many people took part in the last participatory budgeting project? The city has reported a high participation rate on several occasions in the past , but how many people would you say participate on average?

165 users made suggestions, 850 users commented, a total of almost 2,500

Was the scope of the project (Public Budget for 2023) as well as goals and methods defined before the start?

active users on mitmachen.freiburg.de

Is there a clearly named project manager for the participatory budgeting project in your city?

Yes

yes (currently not occupied)

Are other city employees responsible for the tasks of the project? Or which teams, committees or groups are still involved in the project? Does the project include the development and application of a "customer journey"?

Participation budget staff unit in Department III (Culture - Integration - Social Affairs)
Online editing in the press department Office for citizen service and city treasury also work in the participation budget working group with specialist offices for queries

no

Can citizens change the rules or procedures of the project?

can make suggestions

Were project deadlines set and met?

Yes

Who evaluates the submitted proposals? Only the city council and the administration ? Also third parties?

Rating online by users on mitmachen.freiburg.de, analog rating by citizens at so-called dialogue meetings

Are citizens involved in the implementation process?

yes, see dialogue meeting

Projects that cannot be implemented are usually not approved by the parliamentary groups

What happens if the city administration cannot implement a project?

accept their amendments or do not receive a majority in the budget deliberations.

Who is responsible for informing citizens about the status of budget projects? Communication takes place via the press department and staff unit investment budget

2. Digital tools and online platforms: This category addresses the role and perceived impact of digital tools and online platforms in participatory budgeting. It covers areas such as the digital divide, digital literacy, cybersecurity and the use of AI. The reason for this category is that it focuses on the technological aspects of the participatory budgeting project.

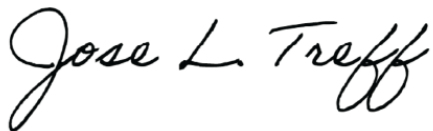
Questions:

Do you think that using digital tools in your participatory budgeting project will make services easier to access?	yes, basic
Do you think that the use of digital tools in your participatory budgeting will lead to more transparency?	Yes
Do you think using digital tools in your participatory budgeting increases accountability?	understand question
Do you think using digital tools in your participatory budgeting increases trust in government?	Government = administration/local council? If yes yes
Do you think that using digital tools in your participatory budgeting project reduces the costs of the project?	the project is inconceivable without digital tools
Do you think that the use of digital tools in your participatory budgeting project increases the workload for the employees involved?	see above
Have the staff responsible for these platforms been trained on how to administer and operate the platform?	Yes
Are there cyber security measures in place to ensure there is no breach of privacy or data tampering on the platform?	Yes
Do you think that using an online platform has increased participation in your participatory budgeting projects?	Yes
How would you describe the incentives used by the platform to drive engagement?	low-threshold participation possible
How do admins monitor and evaluate engagement on the platform? What kind of analytics are evaluated?	No analytics, only suggestions, comments and ratings are counted
Does the city use artificial intelligence for its participatory budgeting projects? Is it something that's in the planning ?	no
3. Communication and Engagement : This category is about how the participatory budgeting project communicates with and engages with citizens. It includes questions on communication channels, incentives for voting, use of social media and the impact of digital tools on citizen engagement. The reason for this category is that it examines the methods and effectiveness of involving citizens in the participatory budgeting project.	
Questions:	
Do you think that the phenomenon of the "digital divide" affects voter turnout in your city?	If citizen participation / participatory budget, not voter participation, is meant, then: "yes"
Do you think that the phenomenon of "digital skills" affects voter turnout in your city?	If citizen participation / participatory budget, not voter participation, is meant, then: "yes"
What offline activities or events are organized to inform and engage citizens about the project ?	Information evening at the VHS, dialogue meetings, flyers and posters

C Declaration of Authorship

I hereby declare that, to the best of my knowledge and belief, this Master Thesis titled “Participatory Budgeting in the Digital Era: A Comparative Case Study of German Cities” is my own work. I confirm that each significant contribution to and quotation in this thesis that originates from the work or works of others is indicated by proper use of citation and references.

Münster, 04 August 2023

A handwritten signature in black ink that reads "Jose L. Treff". The signature is written in a cursive style with a large initial 'J' and a distinct 'L'.

Firstname Middlename Lastname