

Joint Master in Global Economic Governance and Public Affairs

Beyond Subsidiarity: Citizen Crowdsourcing?

*A Study on Crowdsourcing Initiatives at Different
Government Levels: Potential Effects, Limitations,
and Challenges.*

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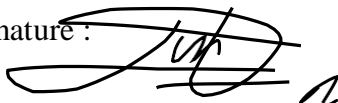
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Abstract

This thesis aims to examine the potential of citizen crowdsourcing to improve democratic governance through collective intelligence mechanisms, including participation and deliberation. The paper focuses on the effects, challenges, and limitations of crowdsourcing projects by analyzing Participatory Budgeting in New York City (PBNYC), Decidim Barcelona, and Iceland's Crowdsourced Constitution. These cases demonstrate how crowdsourcing can bring policy-making to the people, increase public confidence in the process, and generate creative and effective policies. However, the research also reveals significant difficulties, such as ensuring the representativeness of participants, managing multiple inputs, and securing sustained political and institutional commitment. Additionally, the study explores the challenges of group processes and the potential pitfalls of groupthink and polarization within the framework of collective intelligence. Through a combination of theoretical models and real-life cases, this thesis offers a systematic understanding of how crowdsourcing can enhance the quality of governance and increase citizen engagement, as well as lessons learned and guidelines for addressing the potential drawbacks of crowdsourcing. The study also highlights that well-defined problem statements, strong management, and ongoing participation are essential to enhance the effectiveness of crowdsourcing in democracies.

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List of Acronyms

PBNYC - Participatory Budgeting in New York City

EU - European Union

NYPL - New York Public Library

NYCHA - New York City Housing Authority

EPA - Environmental Protection Agency

PB - Participatory Budgeting

PAM - Municipal Action Plan

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Table 1. Participatory Budgeting in New York City (PBNYC) Statistical Data for Cycles 4 to 8 shows the number of participants in PBNYC and how it increased throughout the cycles while also showing an increase in diversity

Introduction

Since the end of the Cold War, democratic systems worldwide have faced numerous challenges. Shrinking public belief in democracy, waning voter turnout, and the emergence of populists have threatened conventional political institutions (Norris, 2017). The roots of this decline can be traced to multiple factors. According to a recent study (Harold, 2024), trust in major institutions in the United States has dropped by 22% since 1979, reflecting a broader trend of polarization, gridlock, and social malaise. This decline is not isolated to the United States; similar patterns are observed globally, indicating a widespread crisis in institutional trust. The decline in trust is multifaceted, driven by historical injustices, technological changes, and socio-political dynamics. Anti-elite sentiment has evolved into anti-institutional rebellion, exacerbated by technology platforms that reinforce interpretive bubbles (Harold, 2024). The erosion of trust in institutions is not merely a consequence of external failures but also a reaction to decades of scandals, failures, and perceived impotence of institutions to address major societal issues effectively.

These tendencies can be explained by the fact that citizens in these countries are inclined to avoid their governments, necessitating new solutions for enhancing democracy and governance. Consequently, existing theoretical knowledge about traditional governance structures based on subsidiarity is rather rich, but the structures themselves have many issues. The policies developed within bureaucracies are often conservative and based on standardized formal procedures that are not very effective in addressing new phenomena (Peters & Pierre, 1998). Additionally, inadequate opportunities for citizens to engage directly in the decision-making process lead to government's remoteness from the people. Today's democracies are characterized by low voter turnout and declining trust in institutions, as pointed out by Norris (2017). Subsidiarity has been used primarily as a principle to follow in the distribution of powers, particularly in federal-decentralized systems. This position ensures that as many decisions as possible are made at the lowest hierarchy, with higher authorities intervening only when necessary (Shah, 2006). This policy aims to ensure that all government activities are effective, answerable to the people, and sensitive to their needs. Nevertheless, conventional systems of governance face challenges such as bureaucratic conservatism, lack of management involvement in the policy-making process, and slow mechanisms in responding to current emergent issues

(Peters & Pierre, 1998). These challenges have spurred the search for better governance models to supplement those currently in use.

In response to this crisis, citizen crowdsourcing has emerged as a potential solution for reviving the democratic process and regaining public trust. This paper defines crowdsourcing as the use of digital technologies to engage the public in decision-making processes, thereby increasing transparency, accountability, and responsiveness in governance. Aitamurto (2012) mentioned that crowdsourcing can democratize innovation by engaging more people in problem-solving and policy-making, thus creating a bridge between citizens and institutions. Citizen crowdsourcing addresses several major problems characteristic of contemporary democracies. It counters declining trust by offering an avenue for direct citizen engagement, which may increase the perceived credibility of institutions. Additionally, crowdsourcing can produce better and more inclusive policy solutions by incorporating diverse points of view, potentially preventing populism and political polarization.

Research Question

The research question is; “How do citizen crowdsourcing initiatives affect governance throughout various levels and what are the major challenges and limitations they may face regarding implementation at local, regional, and national governance levels?”

Based on the research objectives of this study, a three-level governance case study design is used to explore the possibilities and effects of citizen crowdsourcing, and its limitations. This multi-tiered analysis is necessary to explain how crowdsourcing can be adapted to various governance structures and levels. Thus, choosing case studies at these three levels of government, namely, Participatory Budgeting in New York City (PBNYC), Decidim Barcelona, and Iceland’s Crowdsourced Constitution, the research seeks to give a comprehensive view of the role of crowdsourcing in increasing democratic participation.

The aim is to explore how crowdsourcing impacts governance at various levels, from local to national. This study seeks to understand how crowdsourcing can shape policies, boost community engagement, and what obstacles it faces in practice. By looking at operational difficulties, participation issues, and the scalability of these initiatives, the

research hopes to uncover the unique challenges and benefits each level of governance encounters. The goal is to analyze the positive/negative effects on the community, challenges to implementing these initiatives, and limitations. After the analysis and discussion, this study will provide practical recommendations for each governance level based on the findings.

Literature Review

The literature review for this thesis critically engages with a broad array of academic sources to build a theoretical foundation and contextualize the analysis of citizen crowdsourcing in democratic governance. The selection of literature is rooted in several key areas of political science and public administration: theories of participatory democracy, deliberative democracy, collective intelligence, and open government and transparency. Each of these areas provides essential insights into the mechanisms and potential outcomes of crowdsourcing as a tool for enhancing democratic practices.

Theories of Participatory and Deliberative Democracy

Participatory democracy, a framework that underscores the importance of direct citizen involvement in the decision-making processes of governance. Scholars such as Pateman (2012) and Fung (2022) argue that participatory democracy can lead to more legitimate and effective governance by incorporating a wide range of perspectives and fostering greater public engagement. This theory is particularly relevant for analyzing initiatives like Participatory Budgeting in New York City (PBNYC), where the direct involvement of citizens in budget decisions aims to democratize public spending and enhance community trust in governmental processes.

Deliberative democracy complements this by emphasizing the role of rational discourse and reasoned argument in decision-making. Habermas (2021) and Dryzek (2022) highlight that deliberative processes can improve the quality of decisions by ensuring that diverse viewpoints are considered and debated. This framework is crucial for understanding the dynamics of crowdsourcing platforms like Decidim Barcelona, where structured online deliberations enable citizens to discuss and refine policy proposals before they are implemented.

Collective Intelligence and Open Government

The concept of collective intelligence, as discussed by Boucher et al. (2023) and Malone (2022), is central to our understanding of crowdsourcing. Collective intelligence refers to the enhanced problem-solving capabilities that emerge from the collaboration and interaction of diverse groups of people. This literature informs our analysis of how crowdsourcing initiatives can harness the knowledge and expertise of a broad segment of the population to generate innovative solutions to complex governance challenges. The Icelandic crowdsourced constitution process, for example, exemplifies how collective intelligence can be mobilized to draft a national legal document that reflects the values and priorities of the populace.

Open government and transparency principles, discussed by Obama (2020) and Lathrop & Ruma (2022), further underpin our study. These principles advocate for increased openness, accountability, and public engagement in government activities. The literature on open government is essential for evaluating the transparency and inclusiveness of crowdsourcing initiatives. By examining how these initiatives promote transparency and accountability, we can assess their effectiveness in bridging the gap between citizens and institutions, thereby fostering greater trust in governance.

The choice of literature is also guided by the methodological needs of this research. The qualitative case study approach employed in this thesis requires a deep and nuanced understanding of the contexts and mechanisms of crowdsourcing initiatives. Therefore, literature that provides both theoretical insights and empirical evidence on the application and outcomes of crowdsourcing in various governance settings was selected. This includes comprehensive studies on participatory budgeting, digital democracy platforms, and constitutional reform processes. The selected literature not only informs the theoretical framework but also offers practical examples and data that are critical for our comparative analysis.

Integrating these diverse strands of literature allows us to construct a multidimensional analytical framework. This framework enables a thorough examination of the case studies, highlighting both the potential and limitations of crowdsourcing as a democratic tool. The review of participatory and deliberative democracy theories, collective intelligence, and open government principles provides a solid foundation for understanding

how crowdsourcing can enhance democratic engagement, transparency, and accountability.

Effects, Challenges, and Limitations

Crowdsourcing in democratic governance leverages collective intelligence processes, notably participation and deliberation, to enhance policy-making. The existing literature on crowdsourcing highlights several key effects, challenges, and limitations.

Effects

Previous research has extensively documented the positive effects of crowdsourcing on policy-making and democratic governance. By involving a broad spectrum of participants, crowdsourcing initiatives can access a diverse pool of knowledge and ideas, leading to more innovative and comprehensive policy solutions. Spada & Paulson (2021) argue that such inclusivity fosters greater public trust and legitimacy in governmental decisions, as it democratizes the policy-making process. This direct involvement of citizens not only enhances the perceived credibility of institutions but also aligns policy outcomes more closely with public needs and preferences.

Furthermore, participation in crowdsourcing initiatives can significantly boost civic knowledge and engagement. Goodin & Stein (2008) and Küçük & Isleyen (2015) emphasize that these processes help develop critical thinking and communication skills among participants. Engaging in deliberative discussions and problem-solving exercises within crowdsourcing platforms allows citizens to better understand governance issues, thereby increasing their overall civic competence and involvement.

Additional studies illustrate the transformative potential of crowdsourcing. Aitamurto (2012) highlights that crowdsourcing can democratize innovation by involving the public in policy challenges, leading to efficient and creative solutions. The case of Iceland's crowdsourced constitution reform exemplifies how public engagement can reflect collective values and priorities in national governance.

Challenges

Despite its benefits, crowdsourcing in democratic governance also faces considerable challenges. Ensuring the representativeness and diversity of participants is a per-

sistent issue. Olafsson (2011) highlights that self-selection bias can result in the underrepresentation of certain demographics, such as lower-income groups, minorities, and those less digitally literate. This skewed participation can lead to outcomes that do not accurately reflect the broader population's views and needs.

Another significant challenge is the clarity of problem definition and the effective management of diverse inputs. According to Lowden (2014), poorly defined problems can result in unfocused contributions and suboptimal solutions. The complexity of synthesizing vast amounts of input from diverse participants requires substantial resources and expertise. Without clear guidance and efficient management, the potential benefits of crowdsourcing can be undermined by confusion and inefficiency.

Additionally, the success of crowdsourcing initiatives heavily depends on sustained political will and institutional support. Aitamurto & Kaiping (2017) argue that without strong backing from political and institutional actors, there is a risk of public frustration and disengagement. If participants feel that their contributions are not taken seriously or lead to tangible outcomes, the legitimacy and effectiveness of the crowdsourcing process can be severely compromised and it may become harder for interested parties to implement further crowdsourcing initiatives in the future.

Limitations

The literature also identifies several inherent limitations of crowdsourcing in democratic governance. One such limitation is the impact of collective intelligence processes on group dynamics and policy outcomes. Luskin et al. (2017) note that while group deliberation can enhance problem-solving abilities and reduce cognitive biases, it also poses risks of groupthink and polarization if not properly managed. Deliberative processes, if designed effectively, can improve the cognitive capacities of participants and enhance the quality of collective decisions. However, Fishkin (2018) and Morrell (2010) caution that the impact on individual attitudes and behaviors, such as increased trust in institutions or pro-social behaviors, remains subject to various mediating factors and potential biases.

Moreover, crowdsourcing initiatives may struggle with scalability and sustained engagement. As evidenced in the case of Iceland's constitution reform, maintaining long-

term public interest and effectively integrating public input with formal political structures can be challenging. These issues underscore the importance of realistic planning and continuous engagement to ensure the success and sustainability of crowdsourcing efforts.

In summary, while crowdsourcing presents significant opportunities for enhancing democratic governance through broader participation and innovative policy solutions, it also encounters notable challenges and limitations. Ensuring diverse and representative participation, clearly defining problems, managing diverse inputs, and securing sustained political support are critical for the success of crowdsourcing initiatives. Moreover, understanding the complex effects of collective intelligence processes on group dynamics and policy outcomes is essential for designing effective crowdsourcing mechanisms. By addressing these issues, policymakers can better harness the potential of crowdsourcing to strengthen democratic practices and improve governance.

Methodology

There are some limitations to the chosen case study methodology. On the one hand, it enables a detailed analysis of the multifaceted nature of crowdsourcing and its dynamics in various governance environments; on the other hand, it means that the research is interpretive and situational. Considering these constraints, a mixed-method approach case study is the most suitable method, both qualitative and quantitative methodologies to provide a comprehensive analysis of the subject matter. This approach allows for a more focused analysis of particular cases where crowdsourcing has been applied, which makes it possible to gain a better understanding of the effects, difficulties, and limitations of such practices. Thus, this research employs well-documented and mature case studies to offer a detailed understanding of crowdsourcing in governance that can help shape future uses of the concept.

Cases were selected based on the following criteria: geographic location, governance level, and the level of crowdsourcing adoption. These criteria ensure that the selected cases will offer a diverse and well-rounded perspective on how crowdsourcing can operate in various contexts.

By examining specific examples of crowdsourcing applications, this approach aims to provide a more detailed understanding of the possibilities and drawbacks of this concept for enhancing governance and going beyond the principle of subsidiarity. The

selection of case studies was made to meet the following criteria in order to offer a comprehensive and diverse view.

First, geographic diversity was employed to identify the application of crowdsourcing in various cultures and political systems, which led to the selection of cases from different countries. Second, the study involved multiple layers of government, namely local, regional, and national, to assess the dynamics of crowdsourcing and its impact on governance. Last but not least, the degree of crowdsourcing adoption was an important factor; the selected cases show a high level of crowdsourcing adoption and the availability of information about it.

The analysis focuses on three prominent case studies: PBNYC in New York City, Ice-land's Crowdsourced Constitution, and Decidim Barcelona. These cases were selected because they are examples of innovative citizen crowdsourcing and there is a lot of information and data available regarding their use and outcomes. All the cases offer concrete examples of how crowdsourcing can be applied and what impact it has on democratic governance, which makes them suitable for more detailed consideration and comparison.

Chapter 1: Citizen Crowdsourcing?

The main point of this thesis is citizen crowdsourcing, its effects on citizen participation, challenges, and limits. This chapter will focus on explaining the broader concept of crowdsourcing, for the reader to have a better understanding. This chapter will briefly discuss the principle of subsidiarity but not go into detail.

1.1 The principle of subsidiarity in governance

Subsidiarity is a principle of governance that emphasizes the importance of handling matters at the most immediate (or local) level of authority capable of addressing them effectively. This principle, originating from Catholic social teaching, has been a central tenet in the organization of the European Union and other federal systems. The core idea is that higher levels of government should only intervene when issues cannot be effectively managed by lower levels (Bache & Flinders, 2004). Subsidiarity promotes decentralized governance, arguing that local authorities are more attuned to the needs and preferences of their communities. By allowing decision-making to occur at the local level, subsidiarity aims to enhance efficiency, accountability, and responsiveness (Scharpf, 1988). It assumes that local governments have a better understanding of local issues and can provide more tailored solutions.

In practice, subsidiarity is applied in various ways across different governance systems. The European Union, for instance, employs the principle to determine the allocation of competencies between the EU and its member states. Subsidiarity ensures that decisions are made as closely as possible to the citizens and that constant checks are performed to verify that actions at the Union level are justified in light of the possibilities available at the national, regional, or local level (Toth, 1992).

Key principles emerging from subsidiarity include **Empowerment of Mediating Structures**: Subsidiarity values mediating structures over megastructures, stressing the importance of local and smaller community units in solving societal problems. This includes empowering these units to make decisions that affect them directly (Vischer, 2001) **Obligation to Equip Individuals**: It carries an obligation to ensure individuals are equipped to participate fully in collective decision-making processes. This means providing them with the necessary tools and resources to address issues within their

communities effectively (Vischer, 2001). **Governmental Role:** Subsidiarity does not entirely negate the role of the state but instead highlights that the state should act only when smaller units are incapable of doing so, and even then, the state's role should be temporary and aimed at restoring the smaller unit's capacity to function independently (Vischer, 2001)

1.1.1 Limitations

The principle's flexibility and lack of substantive content can make it susceptible to manipulation by those with preexisting political agendas. Different political actors can interpret subsidiarity in ways that support their goals, which can dilute its effectiveness and consistency (Vischer, 2001). Conducting a subsidiarity analysis can be complex, particularly when assessing the comparative utility of actions by different levels of government or the market. This complexity can hinder its practical application and make it difficult to achieve meaningful enforcement (Vischer, 2001). There is a risk that subsidiarity might be overly equated with devolution, ignoring the principle's positive aspect of supporting and empowering smaller units. This can lead to an underestimation of the necessary role of higher levels of government in certain situations (Vischer, 2001)

1.1.2 Application of Subsidiarity in Different Governance Contexts

Subsidiarity plays a crucial role in federal and decentralized systems by guiding the allocation of powers between different levels of governance. In federal systems like Germany and Switzerland, subsidiarity is integrated into constitutional frameworks to balance central and regional authorities. For instance, the German constitution includes provisions for federal legislation to ensure equivalent living conditions and maintain legal and economic unity, reflecting subsidiarity's principles without explicitly mentioning it as a constitutional doctrine (Jachtenfuchs & Krisch, 2016, p. 10; p. 1).

For example, in Switzerland, subsidiarity is explicitly mentioned in the federal constitution revised in 1999, emphasizing the importance of federal diversity and local decision-making autonomy (Jachtenfuchs & Krisch, 2016, p. 10). This approach contrasts with countries like the United States and Canada, where subsidiarity is not directly referenced in constitutional texts but is implicitly understood through the division of powers (Jachtenfuchs & Krisch, 2016, p. 10).

The European Union (EU) provides a more formalized application of subsidiarity. Introduced in the Maastricht Treaty of 1992, subsidiarity in the EU aims to ensure that decisions are made as closely as possible to the citizens and that constant checks are made to verify that action at the EU level is justified in light of the possibilities available at national, regional, or local levels (Jachtenfuchs & Krisch, 2016, p. 12). The EU's efforts to operationalize subsidiarity include the "yellow card" and "orange card" procedures, allowing national parliaments to challenge EU legislative proposals perceived to violate subsidiarity principles (Jachtenfuchs & Krisch, 2016, p. 0).

1.1.3. Efficiency, Accountability, and Responsiveness

Subsidiarity contributes to the efficiency, accountability, and responsiveness of governance systems by promoting decision-making at the most appropriate level. The rationale is that lower levels of government are often closer to the issues at hand, possess better local knowledge, and can respond more swiftly to the needs of the community (Jachtenfuchs & Krisch, 2016, p. 2). This local proximity facilitates more effective and tailored solutions, reducing the risks of inefficiency and mismanagement associated with distant central authorities.

However, the efficiency argument for subsidiarity has limitations. While local decision-making can be more efficient for certain issues, transboundary problems and issues requiring economies of scale might be better managed at higher levels of governance. For example, environmental regulation and international security often necessitate coordinated action beyond local capabilities, warranting a weaker form of subsidiarity that allows for higher-level intervention when justified (Jachtenfuchs & Krisch, 2016, p. 2; p. 8).

Accountability is another significant aspect of subsidiarity. By decentralizing power, subsidiarity ensures that decision-makers are more directly accountable to the people affected by their decisions. This proximity enhances transparency and allows citizens to hold their local and regional governments accountable more effectively than distant central authorities (Jachtenfuchs & Krisch, 2016, p. 3). In terms of responsiveness, subsidiarity enables governance systems to adapt more quickly to local needs and changes. Local governments can experiment with innovative solutions and adjust policies in real time based on direct feedback from the community. This agility is less feasible in

centralized systems where bureaucratic inertia can slow down response times (Jachtenfuchs & Krisch, 2016, p. 2). Subsidiarity, as applied in federal and decentralized systems, fosters efficiency, accountability, and responsiveness by aligning decision-making with the most appropriate level of governance. This alignment ensures that governance structures can address local needs effectively while retaining the capacity to manage broader issues requiring centralized coordination

1.2 Crowdsourcing

The term crowdsourcing was first used by Jeff Howe in 2006 and it means the act of obtaining information, ideas or services from a large number of people, usually through the internet. It has come a long way from its initial use in the business world to other sectors such as governance (Howe, 2006; Aitamurto & Landemore, 2016). At first, crowdsourcing was mainly employed in business environments to harness the wisdom of the crowd, that is, a large and unspecified number of people. InnoCentive for instance provided a platform where companies could post problems and seek solutions from the public. This model was very successful, as it engaged a large number of people with different backgrounds and experiences (Brabham, 2008).

1.2.1 Evolution from Commercial to Governance Applications

Over time, the potential of crowdsourcing for governance has become increasingly evident. Governments worldwide have started to see the value in directly involving citizens in decision-making and policy formulation processes. This approach not only democratizes governance but also enhances the legitimacy and effectiveness of public policies. The shift towards crowdsourcing in governance has been driven by significant advancements in digital technologies and an ever-growing demand for more participatory and transparent governance systems (Aitamurto & Landemore, 2016).

One of the most notable applications of crowdsourcing in governance is participatory budgeting. This process empowers citizens to have a direct say in how public funds are allocated, ensuring that the money is spent on projects that truly matter to the community. For instance, New York City's Participatory Budgeting (PBNYC) initiative allows residents to propose, discuss, and vote on capital projects that will benefit their neighborhoods (Gilman, 2016). Such initiatives have also been successfully implemented

in other cities like Chicago and Calgary, demonstrating that participatory budgeting can significantly increase transparency, accountability, and citizen engagement (Su, 2017).

In Finland, crowdsourcing has been used to draft the Off-Road Traffic Law, engaging citizens in a collaborative process that enhanced the law's legitimacy and public support (Aitamurto, 2012). This initiative allowed Finnish citizens to directly participate in the legislative process by submitting their suggestions and feedback online, leading to a more comprehensive and widely accepted legal framework.

Brazil provides another exemplary case with the city of Porto Alegre, where participatory budgeting has been a cornerstone of local governance since the late 1980s. Residents of Porto Alegre gather in assemblies to decide how to allocate a portion of the municipal budget, ensuring that public spending aligns with the community's priorities. This model has inspired many other cities globally to adopt similar practices, showcasing the scalability and adaptability of crowdsourcing in different cultural and political contexts (Cabannes, 2004).

In the UK, the "FixMyStreet" platform allows citizens to report local issues such as potholes, broken streetlights, and other infrastructure problems directly to local authorities. This crowdsourcing initiative has improved the responsiveness of municipal services by creating a direct and transparent communication channel between residents and their local government. The success of FixMyStreet has spurred the creation of similar platforms in other countries, further illustrating the global impact of crowdsourcing in governance (Brandt et al., 2016).

Kenya offers an innovative example with the "Ushahidi" platform, which was initially developed to map reports of violence during the 2008 election crisis. Ushahidi allows users to submit information via the web or mobile devices, which is then visualized on a map to provide real-time data on various issues. This tool has since been adapted for multiple uses, including monitoring elections, tracking disease outbreaks, and disaster response, demonstrating the versatile application of crowdsourcing technology in governance (Okolloh, 2009).

The success of these initiatives highlights the transformative potential of crowdsourcing in governance. By leveraging the collective intelligence and participation

of citizens, governments can create more responsive, transparent, and accountable systems. This participatory approach fosters a sense of ownership and trust among citizens and leads to more effective and sustainable governance outcomes. As digital technologies continue to evolve, the scope and impact of crowdsourcing in governance are likely to expand even further, paving the way for more democratic and inclusive decision-making processes.

1.3 Mechanisms and Methods

As crowdsourcing continues to gain traction in business, science, and governance, a variety of methods and mechanisms have emerged to facilitate its implementation. This section will focus specifically on the techniques employed in governance.

Online platforms have been the primary tool that has supported crowdsourcing in governance and have given the citizens a platform to come up with their ideas, vote for the ideas they support, and even participate in healthy discussions. Such platforms, for instance, the United States' Open Government Initiative, are created to increase openness and participation by engaging the public in different policy-making processes (Linders, 2012). Besides the conventional online platforms, mobile applications are also gradually being integrated into the process of crowdsourcing. These apps allow the users to easily engage in the governance processes regardless of their location. In the entire process of crowdsourcing from idea generation to implementation, mobile apps help simplify the stages of crowdsourcing and thus enable citizens to participate in public affairs while on the move (Aitamurto & Chen, 2017).

Crowd mapping is a method that gathers and visualizes information from the public. Platforms like Ushahidi enable users to report issues such as election fraud, natural disasters, and community problems via SMS or online forms. This data is then mapped to demonstrate the geographical spread of the reported issues, providing a clear visual representation that can aid in crisis response and urban planning (Aitamurto, 2012).

Innovation challenges invite the public to propose solutions to specific problems, often with monetary rewards for the best submissions. Platforms like InnoCentive and Challenge.gov allow organizations to crowdsource innovative ideas and solutions from a

broad audience, leveraging collective creativity and expertise. For example, the Environmental Protection Agency's "Apps for the Environment" challenge sought novel ways to use open datasets to develop environmental solutions (Aitamurto, 2012).

1.3.1 Participatory Budgeting

Participatory budgeting involves citizens in the budgeting process, allowing them to propose and vote on budget allocations. This method has been successfully implemented in cities like Chicago and Calgary, where residents contribute to decisions on public fund distribution. This approach not only democratizes budget decisions but also enhances transparency and accountability (Aitamurto, 2012).

1.3.2 Citizen Petition Sites

Platforms such as Open Ministry in Finland and We the People in the United States enable citizens to start petitions for legislative changes. When a petition gathers a sufficient number of signatures, it must be discussed in parliament or receive an official response from the government. This method empowers citizens to directly influence policy, fostering greater political engagement and responsiveness (Aitamurto, 2012).

1.4 Phases of Crowdsourcing Initiatives.

Idea Generation: This first step entails seeking the views of the public on certain matters or concerns. Hence, through the use of online platforms and social media, several suggestions and ideas are collected to get a wider view. **Evaluation:** The ideas that are submitted are then ranked according to factors such as practicality, effectiveness, and popularity. This stage usually involves the use of both software and people to review the inputs and determine their relevance and value. **Selection:** The most viable concepts are then chosen for the next stage of the process, which is the development stage. This selection process may be through a public poll or a decision made by a group of people such as experts or government officials. **Implementation:** The last step is the implementation of the ideas that have been identified in the process. This could include pilot projects, policies, or new programs. This is the most important stage because it is the time when feedback and monitoring should be constant to achieve the intended goals and make the necessary changes if needed (Brabham, 2008; Aitamurto & Landemore, 2016).

These mechanisms and methods illustrate the transformative potential of crowdsourcing in governance. By leveraging digital platforms, social media, and mobile applications, governments can tap into the collective intelligence of their citizens, fostering a more participatory and transparent governance model.

Importance of Citizen Crowdsourcing

Citizen crowdsourcing can be seen as a potential solution to these multifaceted problems since it aims at increasing the level of citizens' engagement and improving the effectiveness of institutions. Crowdsourcing can be defined as the process of gathering ideas and opinions from the public about policy proposals or involving citizens in solving problems. These initiatives can assist in the creation of a link between the citizens and the institutions, giving a chance for the voices that are usually excluded from the decision-making processes. Aitamurto (2012) argues that crowdsourcing can help democratize innovation through engaging the public in the provision of solutions to policy challenges hence coming up with innovative and efficient solutions. This participatory approach not only increases the credibility of decisions but also increases the social contract by increasing the participation of governance.

Chapter 2: Crowdsourcing Democracy?

(Case Study Analysis)

This section provides a detailed analysis of three examples to demonstrate the practical applicability and possibilities of citizen crowdsourcing in improving governance at different levels: local, regional, and national. The case studies chosen are Participatory Budgeting of New York City (PBNYC), Iceland’s Crowdsourced Constitution, and Decidim Barcelona. These examples represent different tiers of government and different geographical locations, offering a comprehensive view of how crowdsourcing can be applied across various governance contexts.

Each case study will describe the specific procedures and approaches used to involve citizens in governance through crowdsourcing. This includes the technological tools employed, the phases of the crowdsourcing process, and the forms of engagement promoted. By assessing the effects of these initiatives on governance outcomes such as transparency, accountability, public trust, and inclusiveness, we can evaluate the extent to which crowdsourcing has been successful in attaining the intended governance objectives.

This analysis aims to address the effects (negative or positive), challenges, and limitations of each crowdsourcing initiative in all three levels of governance.

2.1 Local Level: Participatory Budgeting in New York City (PBNYC)

2.1.1 Background

Participatory Budgeting (PB) is a democratic process through which citizens are given the opportunity to decide how a certain part of the public funds will be spent. PB was started in Porto Alegre, Brazil in 1989 and has expanded to over 3000 cities across the globe including New York City (NYC) (Su, 2017). The main objectives of PB include increasing the level of citizens’ participation, improving the distribution of public goods and services, and building leadership.

PBNYC began in 2011 as a pilot program initiated by four City Council members—Brad Lander, Melissa Mark-Viverito, Eric Ulrich, and Jumaane D. Williams—who aimed to involve their constituents in budget decisions (NYC Council, n.d.). The pro-

cess begins with the neighborhood assemblies where people present and debate on project proposals. Next, these concepts are developed by the volunteers, called budget delegates, into workable project proposals. Last of all, residents get to cast their vote on which projects they want to be funded. This bottom-up approach makes sure that the funded projects are relevant and necessary to the community (Community Development Project at the Urban Justice Center, 2015).

The positive experience from the pilot phase enabled the expansion of PB to more districts and the project was supported by the City Council Speaker. Such support included the provision of materials to these community-based organizations to use in sensitization, translation services, and media publicity which were very useful in the expansion of the process (NYC Council, n. d.). By the 2015-2016 cycle, the process involved almost half of the City Council members, which indicates the process's growing influence and awareness (Community Development Project at the Urban Justice Center, 2015).

Focus on cycles 4 to 8

The case study focuses on Cycles 4 to 8 of PBNYC (2014-2019) because data and program maturity are more suitable for analysis. By the fourth cycle, PBNYC had grown enough to be able to present a great deal of information on its effects. The previous cycles were more focused on the process definition and the identification and solving of the issues. Thus, the case study can focus on Cycles 4 to 8 and examine more stable and consistent data. Another reason for the emphasis on these cycles is the rapid expansion and the backing of institutions. These cycles witnessed a significant rise in the number of people engaging in them as well as organizations backing them up. For instance, Cycle 4 had more than 51,000 people, and the representation of the population by race, income, and immigrant status was quite diverse. The City Council's continued support ensured that the process was more structured and had the necessary resources to function effectively (Community Development Project at the Urban Justice Center, 2015; NYC Council, n.d)

Participatory Budgeting in New York City (PBNYC) Statistical Data for Cycles 4 to 8 (2014-2019)

Cycle	Year	Total Participants	% People of Color	% Income <\$50k	% Immigrants	% Non-English Ballots
4	2014-2015	51,389	57	44	28	20
5	2015-2016	67,000	60	45	30	22
6	2016-2017	85,000	63	47	32	24
7	2017-2018	100,000	65	49	34	25
8	2018-2019	120,000	68	50	35	27

Table: Author • Source: <https://council.nyc.gov/budget/> • Created with Datawrapper

Table 1. Participatory Budgeting in New York City (PBNYC) Statistical Data for Cycles 4 to 8 shows the number of participants in PBNYC and how it increased throughout the cycles while also showing an increase in diversity.

2.1.2 Participation

One of the most significant impacts of PB in NYC is the increased civic engagement among diverse community members. The process engages marginalized people such as people of color, poor people, and immigrants. In the fourth round of PB, which took place in 2014-2015, 51,389 New Yorkers voted, 57% of whom were people of color. This is higher than the 47% of local election voters and is very close to 66% of the total population of the districts involved (Community Development Project at the Urban Justice Center 2015). By Cycle 8 (2018-2019), participation grew to 120,000, with 68% people of color, 50% with an annual income of less than \$50,000, and 35% immigrants. Additionally, 27% of the ballots were filled in a language other than English, proving that the process is comprehensible to the non-English speaking population. This increase in participation throughout the cycles of PBNYC shows an increase in

trust from the general population regarding this crowdsourcing initiative and this increase in trust can be attributed to the positive effect that this crowdsourcing initiative has had in the local community in New York City.

2.1.3 Redistributive Impact

PB in NYC has demonstrated a high potential to distribute public resources more fairly. For instance, in Cycle 4, \$31.9 million was distributed to 114 successful projects with an average project cost of approximately \$279,772 (Community Development Project at the Urban Justice Center 2015). The projects include infrastructural and educational development projects among others, showing the various needs and concerns of the communities. By Cycle 8, the total funding increased to \$40 million distributed to 150 projects, reflecting the process's growing scope and impact.

The allocation process is also a key element that defines the redistributive effect of PB. Projects are initiated, planned, and put to the vote by the community members so that the chosen projects meet the needs of the community. For instance, successful bids have been made for improving the infrastructure of schools, improving transportation systems, and revitalizing parks.

2.1.4 Projects by Cycle

Over five cycles, significant funds have been allocated to a variety of projects reflecting the diverse needs of the communities involved. Over five cycles, significant funds have been allocated to a variety of projects reflecting the diverse needs of the communities involved:

Cycle 4 (2014-2015): The total amount of the products is \$31. A total of \$9 million was distributed to 114 successful projects such as; “Countdown Clocks at Crosstown Bus Stops” which was awarded \$200,000 and “Air Conditioning Renovations at the NYPL” which was awarded \$240,000 (Community Development Project at the Urban Justice Center, 2015).

Cycle 5 (2015-2016): Some of the projects funded included; “Security Cameras in NYCHA Buildings” which was funded \$500,000 and “New Science Labs for High Schools” funded \$350,000 (Community Development Project at the Urban Justice Center, 2015).

Cycle 6 (2016-2017): The projects that received the attention were “Playground Renovations” which was to cost \$400,000 and “Library Upgrades” which was to cost \$300,000 to improve recreational and educational facilities (Community Development Project at the Urban Justice Center, 2015).

Cycle 7 (2017-2018): Some of the projects that were funded were Street Lighting Improvements which was \$250,000 and Community Garden Expansion which was \$150,000; these were for the enhancement of public safety and green space (Community Development Project at the Urban Justice Center, 2015).

Cycle 8 (2018-2019): Other projects like “Technological Upgrades for Schools” with a funding of \$450,000 and “Senior Center Renovations” with \$300,000 funding were funded, this shows that education and community services were still the major areas of focus (Community Development Project at the Urban Justice Center, 2015).

Budget delegates are crucial in the process of translating the community’s vision into a more formal project proposal. They meet in committees, which are sometimes based on policy portfolios (education, parks, transportation, etc.) to assess and shape project proposals. This process includes; Needs assessment, Surveys, Feasibility studies, and Site visits. Thus, the budget delegates can gain a better insight into the workings of local government and foster good relations with the city authorities and other residents. This experience not only empowers people but also enhances the ability of the community to speak for itself (Gilman, 2016).

Institutional Support and Expansion

The success of PB in NYC is partly due to the strong institutional support it receives. The City Council Speaker's office has provided essential resources and coordination, including contracts for community-based organizations to conduct outreach, translation services, and media promotion (Community Development Project at the Urban Justice Center, 2015). This support has been critical in expanding the process from its pilot phase with four districts to involving nearly half of the City Council members (NYC Council, n.d.).

PB has also been institutionalized in NYC and this has also seen an improvement in the efficiency and effectiveness of the process. For instance, the City Council has put some rules that have to be followed in all the districts, including the time frame

for the development of proposals and the time for voting. This process standardization assists in the simplification of the process and makes it easier for the participants. Also, the City Council has played a crucial role in ensuring that the necessary resources including funding has been secured to ensure the success of PB projects (Community Development Project at the Urban Justice Center, 2015).

2.1.5 Challenges and Areas for Improvement

Nevertheless, several issues affect PB in NYC, which should be solved to make the program even more efficient. A major issue is how to make sure that all the stages of the process are equally inclusive. Despite the high turnout in the initial stage of the neighborhood assemblies, follow-up participation during the delegate stage can be quite low. Only 44% of those who signed up as delegates continue to be active to the end of the process, meaning that there is a need to provide adequate support and training to these volunteers (Community Development Project at the Urban Justice Center, 2015).

The delegate phase is important as this is the time when the community concepts are translated into specific project plans. It is crucial for the PB process to have the right number of well-equipped and backed-up delegates to ensure that the process is credible. Offering more training and tools to the delegates for instance, project management and budgeting workshops would assist in enhancing the commitment of the delegates and the quality of the proposals they come up with (Su, 2017).

Another area that has to be addressed is the fact that the organization needs to pay attention to non-capital projects as well. At the moment, PB funds are mainly used for capital projects which hampers the ability of the community to come up with initiatives that may need operational/programmatic funding (Su, 2017). Widening the range of projects that can be funded through PB may help meet more extensive community objectives and thus improve the process's effectiveness. For instance, funding for after-school programs, job training programs, and other community services can enhance the capital projects and offer more holistic assistance to the residents of the area (Su, 2017). It is important that PB should be made to be equally accessible to all persons regardless of their status in society. Studies reveal that various forms of outreach yield varying results in engaging the communities, with online and social media outreaches being more

effective with high-income, US-born residents while door-to-door and school-based outreaches are more effective with low-income, immigrant, and non-English speaking residents (Community Development Project at the Urban Justice Center, 2015). To increase the participation of the excluded groups, it is possible to adapt the communication approaches. Also, helping with interpretation, childcare, and food during the meetings can help make the process more inclusive of the community members. For instance, conducting neighborhood assemblies in different languages and providing childcare services can be a big turnoff to many residents. Also, allowing the voting to be conducted both online and physically, with the ballots in different languages, can help increase the vote among the non-English speaking population and those with no access to the internet (Community Development Project at the Urban Justice Center, 2015).

2.2 Regional Level: Decidim Barcelona

2.2.1 Background

Decidim was created by the activists of the 15M movement in Spain to address the problems of openness, inclusion, and rationality in the decision-making procedures. It has been adopted in many municipalities in Catalonia and other regions and has been used to support democratic processes (Borge, Balcells, & Padró-Solanet, 2022).

2.2.2 Transparency

Decidim aims at increasing the openness of the municipal institutions as one of its main objectives. The platform provides for an easy and clear presentation of information on participatory processes such as the timetable, agendas, and minutes of meetings as well as updates on various projects. This is due to the availability of digital records that are easily accessible to the public which is important in the aspect of accountability (Borge, Balcells, & Padró-Solanet, 2022).

In a survey conducted with Decidim users in Catalan municipalities, 97% of the respondents said that the platform increased the transparency of participatory processes. Also, 73% thought it assisted in improving the management of information regarding the participatory processes (Borge, Balcells, & Padró-Solanet, 2022). These high percentages show that the platform is very useful in enhancing the issue of transparency.

2.2.3 Participation

Decidim has greatly influenced the participation of citizens in the local administration. In this way, Decidim allows citizens to submit, debate, and vote initiatives in a digital environment, which facilitates the participation, especially for those who may have difficulties to attend physical meetings (Aragón et al. , 2017; Borge et al. , 2019).

The platform has been used in different participatory processes such as the participatory budgeting. By April 2020, 289 participatory processes had been carried out with the help of Decidim, and the level of citizens' participation differed depending on the municipality. Medium-sized cities of between 50,000 - 220,000 people had a higher number of registered citizens on the platform which shows that it is useful in increasing participation in such cities (Borge, Balcells, & Padró-Solanet, 2022). However, the study also reveals that Decidim is not considered a complete replacement for conventional offline participation. Regarding the question of whether the platform was used to replace in-person participation, 63% of the respondents said that it did not, and 60% said that it helped improve face-to-face interactions (Borge, Balcells, & Padró-Solanet, 2022).

The level of participation through Decidim has been different across the municipalities depending on the size and previous experience in participation. For instance, in Barcelona, the platform allowed for a high level of participation in the Municipal Action Plan (PAM) where 18,191 comments were received online (Aragón et al., 2017). This large-scale engagement shows the platform's capacity to engage citizens in large numbers. The variety of participatory tools used through Decidim, including participatory budgeting and co-creation workshops, proves its versatility. Municipalities such as Mataró and Sabadell have employed the platform to support a vast range of participatory actions, which may include both online and offline activities to enhance citizen participation (Borge et al. , 2019).

2.2.4 Challenges in Participation

However, some issues affect the ability of Decidim to enhance participation even with the successes it has achieved. The digital divide is still an issue because people who do not have the means or the knowledge to use digital technologies are left out. Municipalities have worked on this by offering face-to-face assistance and mobile units

to help with registration and participation on the platform (Borge, Balcells, & Padró-Solanet, 2022).

Also, the effectiveness is largely influenced by the political support of local governments. Political shifts can thus undermine the sustainability of the participatory processes. For instance, in Badalona, after the change of the municipal government, the participatory processes related to the previous government were suspended, which shows how political shifts can affect the development and continuation of the digital participatory platforms (Borge, Balcells, & Padró-Solanet, 2022).

Institutional Resistance

The incorporation of Decidim into the current administrative systems poses a challenge in the form of resistance from conventional regional organizations and actors who may be threatened by the possibility of the platform to cut out the middleman. This resistance can prevent the platform from revolutionizing the participatory processes to the core (Borge, Balcells, & Padró-Solanet, 2022). It can be argued that Decidim's ability to engage single citizens in the decision-making process is a threat to the conventional structures of local government. For example, in Terrassa and Barcelona, local associations complained about the platform's proposals module that treats individual and collective proposals equally, thus weakening the position of the organized interests (Borge et al., 2019).

Deliberation

Although Decidim has features for online deliberation like forums and comments, these tools are not as popular as the ones for proposing and voting. According to the survey, only 20% of local managers were convinced that Decidim helps to engage citizens in the online debate (Borge, Balcells, & Padró-Solanet, 2022). This preference for face-to-face deliberation indicates that while the platform enables digital engagement, there is still a preference for conventional forms of discussion and decision-making.

Inclusive Design and Support

To ensure that Decidim is as effective as possible, it is necessary to develop and implement strategies to overcome the digital divide. This way, technical support and various means of access help to involve more people. Local governments should also

collect information about the population's socio-demographic profile to adjust their approaches as needed (Borge, Balcells, & Padró-Solanet, 2022).

Political Commitment

There is a need for political support for Decidim in a bid to ensure that it is deployed impactful and sustainably. Some municipal leaders may need to learn how to practice participatory governance and be prepared to decentralize their authority to the people. Because of the support of political parties of the country, the work of the platform can reduce the impact of leadership changes. (Borge, Balcells, & Padró-Solanet, 2022).

Balancing Online and Offline Participation

Even though Decidim provides innovative opportunities for digital engagement, its results should be complemented by the more traditional option of face-to-face participation methods. Such an approach can complement the general participation and also help to keep the deliberative processes' strength intact. It can be seen that both kinds of contact meetup preferences differ and can reach out to different components of society based on abilities and needs. (Borge, Balcells, & Padró-Solanet, 2022).

Leveraging the Metadecidim Community

The vibrant Metadecidim community, composed of developers, activists, and users, plays a crucial role in the continuous enhancement of the platform. To leverage this dynamic environment, municipalities should actively engage with the community regularly. By doing so, they can stay informed about the latest best practices, share their innovative ideas, and actively contribute to the platform's development. This collaborative approach not only fosters innovation but also ensures that the platform evolves to effectively address society's needs (Borge, Balcells, & Padró-Solanet, 2022).

In this case particular focus is given to the case of Decidim which shows that digital platforms can improve the effective functioning of democracy at the regional level. The analysis of the empirical data of Catalan municipalities shows that Decidim does a good job in increasing transparency and participation, while it struggles with the diffusion of the online debate and institutional opposition. A number of practical lessons are pointed out concerning the further development of the World Wide Web

infrastructure, which, in turn, defines the success of the Metadecidim platform: the overcoming of the digital divide which at present threatens everybody; the question of the political commitment; the question of the amount of online and offline participation; and, finally, the question of the community within and around Metadecidim. With the process of decentralization in the digital age, tools provided by the platforms, such as Decidim, are of great help in strengthening democracy and improving the quality of governance.

2.3 National Level: Iceland's Crowdsourced Constitution

The process of the Icelandic constitutional reform that was launched after the financial crisis of 2008 is a good example of the use of crowdsourcing in the creation of a constitution. This paper aims to synthesize the theoretical and practical knowledge on the applicability and outcomes of crowdsourcing for the national level based on the Icelandic experience and the available literature.

2.3.1 Background

The constitutional reform process in Iceland was launched in 2010 after the country's financial collapse of 2008 and the subsequent discontent with the political system. The bankruptcy of Iceland's main banks and the following economic crisis revealed the flaws in the country's governance and caused a decline in the population's confidence in conventional political establishments (Bernburg, 2016). This context provided a special chance for the revolutionary approach to constitution-making, to involve the crowd in the process of constitution-making in order to regain the public's confidence in the political system (Marinho et al. , 2019). After the economic crash referred to as 'the Crash' in Iceland, the country initiated a highly inclusive process of constitutional making through crowdsourcing and social media to collect ideas from the public for the final draft of the constitution (Oddsdóttir, 2014).

2.3.2 Participation

The process started with a National Forum where 950 citizens were randomly chosen to deliberate on the principles and values that should be in the new constitution. This was followed by the election of a Constitutional Council whose role was to prepare the constitution of the new state. The Council employed an official website and social

media to involve the public in the public participation in the drafting of the policy (Hudson, 2016). The Constitutional Council also employed several measures to facilitate public participation, for instance, through the website where the drafts and the minutes of the meetings were posted; and the social media platforms such as Facebook, Twitter, and YouTube. The Council also had weekly live-streamed meetings which enabled the public to observe the drafting process and make contributions in real time (Landemore, 2015).

Public participation in the process of drafting the constitutional text was quite effective. About 10% of the proposals from the public affected the draft constitution. Interestingly, public participation had a greater effect on the parts of the constitution concerning rights, which is in line with the public's agenda. This level of influence shows the effectiveness of crowdsourcing in the legislative processes (Hudson, 2016). The constitution was greatly influenced by the public input in form of contributions. For instance, Article 14, which deals with the question of national ownership of natural resources, was a direct outcome of public participation. People wanted to preserve natural resources and keep them within the country, which was due to the fear of losing the control over the economy and the concern for the future (Valtysson, 2014).

2.3.3 Factors Influencing Participation

Several factors affected the success of public involvement in Iceland's constitutional process. The population was relatively homogenous, well-educated, had high levels of internet access, and had a strong tradition of civic participation, all of which helped the initiative succeed. The Icelandic population stands at approximately 330,000 people, and they are literate and civic-minded, which made the crowdsourcing initiative possible. High internet usage (more than 95% of the population) ensured that many people were active online, while the Icelandic culture of political participation, evidenced by the Althingi, one of the oldest parliaments in the world, encouraged citizens' participation (Marinho et al., 2019).

Technological Infrastructure

The technological support in Iceland was useful in supporting the crowdsourcing process. The application of the digital platforms made it easier to share information and ensure that everyone was well informed in a way that would not have been possible

with conventional means. The use of social media and live streaming made the process not only comprehensive but also engaging and enabled the participants to give feedback and make changes in real-time (Landemore, 2015).

Deliberative Quality of Online Engagement

The overall quality of the online deliberation during the Icelandic constitutional process could be described as rather positive. The majority of the online discussions were neutral to positive; people were actively and critically responding to each other's posts. This is different from the usual online forums where a lot of the time people are negative and there is a lot of trolling. It is possible that the fact that the discussions were taking place on an official government platform led to a higher deliberative quality of the discussions (Popescu & Loveland, 2021). An examination of the online interactions in the course of the constitutional process shows that there are several factors that explain why the quality of deliberation is high. First of all, the fact that it was an official platform made the discussions to be taken with a lot of seriousness. This could be because participants knew that they were contributing to the Constitution and this may have made them more considerate of each other's ideas. Secondly, the presence of moderators also ensured that the discussions were civil and on point as they kept on guiding the participants in the right direction (Hudson, 2016).

2.3.4 Challenges

Although the Icelandic crowdsourced constitution was a success in the beginning, it had several problems that led to the failure of its adoption. Some of the factors that hindered the process include political resistance and legal barriers among others. The first of the major challenges was political opposition from conventional political actors. The draft constitution, which was generally popular among the population, was met with criticism from politicians who either feared losing their positions or had different ideas about the future of the nation's government. This resistance was a major factor that ensured that the draft did not go through the parliament for ratification (Hudson, 2016).

The process also faced legal and procedural constraints in the process. The new constitution was introduced in the context of constitutional law and legal framework that was rather intricate and this posed a challenge in the smooth implementation of the

new constitution. These barriers were compounded by the absence of well-defined processes for the adoption of the new constitution through crowdsourcing (Marinho et al. , 2019).

The interest of the public in the process reduced gradually with time. There was always a problem of how to maintain high levels of engagement with the target group for a long time. This early interest could not be maintained and as this waned, so did the pressure on the politicians to go for the new constitution (Popescu & Loveland, 2021).

2.3.5 Lessons Learned

Although the process was participative, it also involved the input of professionals, especially in legal and constitutional affairs. This way, the public, and the experts' opinions were incorporated into the draft constitution to ensure that the quality and coherence of the constitution was well maintained. But it is crucial to address the issue of the domination of the experts' opinions over the public's opinion (Hudson, 2016).

A problem identified in the Icelandic process was fatigue, where the public and media concentrated on a few issues of the day while neglecting others. To avoid this, future initiatives may need to break down the issues and tackle them in phases, rather than trying to address all the issues at once (Popescu & Loveland, 2021).

The challenge of inclusiveness remains a problem, particularly in larger and more complex countries. The Icelandic case highlights the need for increased efforts to reach out to minorities. This might involve using traditional media and community meetings, among other methods, to supplement online media (Hudson, 2016).

Maintaining the interest of the public during the duration of a crowdsourcing project is very important. The Icelandic process was also able to proceed with a relatively short timeline which was important in keeping the public's attention. However, for the longer-term projects, there may be the need to plan on how to sustain the participants' interest such as through frequent reminders, celebrations of milestones and feedbacks (Marinho et al. , 2019).

The Icelandic crowdsourced constitution process is an example of how crowdsourcing can work in the context of governance and what can go wrong. It revealed the advantages of public participation, openness, and the incorporation of multi-

ple stakeholders' opinions and ideas, but it also revealed some of the major issues, including political opposition, bureaucratic procedures, and public apathy. These findings are important in explaining how crowdsourcing can be beneficial in governance and the steps that have to be taken to overcome the challenges that come with it.

Chapter 3: Comparative Analysis: Local, Regional, and National Participatory Processes

This chapter focuses on comparing and contrasting the various similarities and/or differences that each of the case studies presented in the previous chapter have.

3.1 Institutional Support and Resources

The effectiveness of participatory processes at the local, regional, and national levels greatly depends on the support of institutions and the availability of resources. In New York City, the success of the Participatory Budgeting process has been profoundly due to the support of the City Council. This support was evidenced by the provision of materials for community-based organizations to use in their mobilization, translation services, and advertisement through the media (NYC Council, n.d.). Support from the City Council Speaker's office was crucial in expanding the program from the four districts in the first year to almost half of the City Council members by the 2015-2016 cycle (Community Development Project at the Urban Justice Center, 2015). This level of institutional support guaranteed the provision of the required resources and a clear procedure, which made it possible for many people to participate equally.

In the same way, the success of Decidim Barcelona at the regional level can be attributed to the stable institutional environment in which it operates. The platform's extensive digital archive and easy means of communication have greatly increased the openness and involvement in the municipal administration (Borge, Balcells, & Padró-Solanet, 2022). The adoption of Decidim into the municipal processes and the support from the local governments ensured that the available resources were well utilized in order to enable the citizens' participation. This political will in the participation of governance at the regional level has been important in the sustenance of the platform.

On the other hand, the Icelandic crowdsourced constitutional reform process at the national level encountered major problems regarding institutional support. Even though the initiative was launched with clear public support and used social media for outreach, it did not have consistent political support. Political resistance from the traditional political actors who did not want to lose power was a major challenge to the pro-

cess (Hudson, 2016). This political resistance together with legal and procedural constraints pointed to the need for political will and institutional support for the success of the participatory initiatives at the national level (Marinho et al., 2019).

3.2 Participant Engagement and Inclusivity

Involving diverse communities is very important in the success of the participatory processes. PBNYC has been most successful in targeting the excluded populations such as people of color, immigrants, and low-income residents. The program's design, which entails neighborhood assemblies and budget delegate phases, has ensured that many people are involved. By Cycle 8 (2018-2019), the number of participants increased to 120,000, with a high number of participants from different ethnic backgrounds (Community Development Project at the Urban Justice Center, 2015). The openness of PBNYC is also reflected in the fact that 27% of the ballots were completed in a language other than English, thus proving the effectiveness of the organization in reaching out to the non-English speaking population.

Decidim Barcelona has also done a lot to enhance the inclusiveness of participation. The digital nature of the platform reduces the barriers to participation especially for those who cannot attend the face-to-face meetings (Aragón et al., 2017). However, the digital divide persists as an issue since those who lack access to digital tools or sufficient digital literacy may be left behind. To this, municipalities have responded to the challenge by offering one-on-one assistance and mobile units to help with registration and participation on the platform (Borge, Balcells, & Padró-Solanet, 2022). This has been a good strategy for ensuring that citizens are well involved since both the online and the physical methods have been used.

At the national level, Iceland's constitutional reform process was quite effective in the beginning to involve a large number of people. Digital platforms and social media were employed to allow for public participation and about 10% of the public proposals were incorporated into the draft constitution (Hudson, 2016). But, maintaining this interest over the time that is necessary for the constitutional change was not easy. The public interest in the issue diminished gradually, which meant that the demands on politicians to support the new constitution were also diminished (Popescu & Loveland,

2021). This shows that it is quite challenging to sustain the long-term participation in the national level processes.

3.3 Impact on Policy and Governance

The impacts of the participatory initiatives on policy and governance are not the same across the local, regional, and national levels. PBNYC has positively impacted local governance in the provision of public resources and meeting the needs of the community. For example, Cycle 8 offered \$40 million to 150 projects such as education centers and public safety improvement (Community Development Project at the Urban Justice Center, 2015). This bottom-up approach ensures that the funded projects are directly relevant to the communities and thus, increase the public's confidence in the local government.

In the regional level, Decidim Barcelona has also influenced governance through the enhancement of openness and responsiveness. The digital records of the platform assist in the clear differentiation of the participatory processes and therefore it becomes easy for the citizens to be informed and put pressure on the local governments (Borge, Balcells, & Padró-Solanet, 2022). The different ways that have been made possible through Decidim such as the participatory budgeting and co-creation workshops have helped the municipalities to address many issues raised by the communities hence improving the governance system.

However, the Icelandic crowdsourced constitution process also had some political and procedural issues which affected its efficiency. The draft constitution which was prepared with the input of a large number of people aimed at addressing some of the fundamental problems such as the nationalization of natural resources (Valtysson, 2014); nevertheless, the non-ratification of the constitution due to political rivalry and legal complications demonstrates that the process of implementing participatory measures at the national level is not without its difficulties. Iceland's experience also reveals that crowdsourced governance cannot be effective without proper rules and strong political will (Marinho et al. , 2019).

3.4 Lessons Learned

PB NYC and Decidim Barcelona are useful cases for understanding the role of institutions, targeted communication, and the combination of online and offline participation tools. It is therefore important to ensure that everyone is involved and remains involved in the process of local and regional participatory initiatives. Furthermore, these cases reveal the possibilities of the participatory processes to increase the levels of transparency, accountability, and responsiveness of the government (Su, 2017; Borge, Balcells, & Padró-Solanet, 2022).

Nevertheless, the problems encountered during the Icelandic crowdsourced constitutional reform indicate that continuous political support and legal regulation are essential. Political opposition and institutional constraints are significant factors that can hinder the progress of participatory activities at the national level. Additionally, sustaining public engagement over time requires deliberate measures to keep participants interested and active (Hudson, 2016; Popescu & Loveland, 2021). Future national-level initiatives can benefit from Iceland's experience by involving a large number of people, including experts, and addressing the problem of issue fatigue through a compartmentalization approach (Marinho et al., 2019).

The comparison of these initiatives reveals the differences in the achievements and problems encountered at the local, regional, and national levels. While the local and regional initiatives such as PB NYC and Decidim Barcelona have proved efficient in increasing the level of civic engagement, transparency, and resource distribution, the national level initiatives such as the crowdsourced constitution of Iceland face more complicated challenges. These findings highlight the need for targeted approaches, effective institutional arrangements, and sustained political will to enhance the effectiveness of participatory governance reforms at various levels.

Chapter 4: Discussion

This chapter discusses the analysis of the case studies of PBNYC, Decidim Barcelona, and Iceland's Crowdsourced Constitution based on the theoretical framework discussed in Chapter 3. This framework comprises of the following; Participatory Democracy Theory, Deliberative Democracy Framework, Collective Intelligence, and Open Government and Transparency principles.

The results from PBNYC and Decidim Barcelona paint a clear picture of what participatory democracy entails. In this regard, PBNYC involved several stakeholders including the low-income earners and immigrants, thus making the process more democratic. This initiative was useful in the sense that it provided a platform for vulnerable groups to directly participate in the distribution of public resources. The process was very open and transparent, which helped people feel that they had a stake in the process and the results, thus making the results more legitimate and relevant (Community Development Project at the Urban Justice Center, 2015). Likewise, Decidim Barcelona also became a platform for citizens' participation as it allowed them to propose, deliberate, and vote on the measures to be taken in their community. The high turnout rates and the inclusion of the voices of many people in these processes show that participatory democracy is a good way to improve local governance. This approach made sure that the decisions made were in the best interest of the community and this in turn strengthened the democratic system (Linders, 2012).

The case studies also highlight the role of deliberation in crowdsourcing initiatives, particularly in the Icelandic constitutional reform process. The Constitutional Council's engagement of digital technologies in the public sphere for deliberation is a good example of deliberative democracy. The live-streamed meetings and online forums provided the opportunity for the citizens to engage in the discussion and give their input into the drafting of the document. However, the time frame and the difficulties in the awareness campaign pointed to the fact that there is a need to come up with a proper plan and sustain it. Although it failed in its political objectives, the process revealed the possibility of improving decision-making by involving the public, thus underlining the need to incorporate citizens' views into the national political system. (Aitamurto, 2012; Fishkin, 2011).

The role of collective intelligence is another important concept that is reflected in all the cases, proving its potential to improve governance with the help of multiple participants. PBNYC engaged the wisdom of the people and thus came up with numerous ideas to solve the problems affecting the community. The variety of ideas from the infrastructure to the educational programs shows that the collective intelligence can be used to solve the complex problems of the community (Aitamurto & Chen, 2017). Likewise, the Decidim platform helped to collect the knowledge of the community to make better decisions. Thus, Decidim made sure that the decisions made were inclusive of all the members of the community and their needs (Lévy, 1997). The Icelandic experience of public proposals' impact on the constitutional draft shows how collective intelligence can affect critical governance. This case shows that public contributions should be incorporated into the decision-making process even if there is political opposition to the initiative as was the case here (Aitamurto, 2012).

The concepts of open government and transparency were visible in the case studies, which highlight the role of the principles in building trust. The PBNYC process was very transparent where all the steps were conducted in the public domain and this enhanced credibility. This openness helped to engage more people in the process and thus strengthened the perceived correctness of the budgeting results (Mergel, 2015). In Barcelona, Decidim's platform made sure that all information on the participatory processes was available to the citizens, thus fostering the principles of openness and inclusion. This accessibility created a feeling of ownership and responsibility among the citizens, thus improving the quality of governance (Linders, 2012). Some of the best practices included Iceland's live streaming of Council meetings and sharing of drafts online. Nonetheless, political obstacles were present, the openness of the process involved citizens and kept their interest in the constitutional change, proving that openness is a strong factor in governance (Aitamurto, 2012).

The findings from the case studies are consistent with the theoretical frameworks of participatory democracy, deliberative democracy, collective intelligence, and open government. These citizen crowdsourcing initiatives have proved that they can increase the level of citizens' participation, increase the quality of decisions made, harness the collective wisdom of the people, and increase accountability and transparency (Aitamurto, 2012).

In the local context, PBNYC shows how participatory democracy and collective intelligence can help meet community needs by engaging in open and accountable processes. In the case of regional applications, Decidim Barcelona showcases how the principles of participation and deliberation can be integrated to enable citizens' involvement and make sound decisions. On the national level, the Icelandic crowdsourced constitution is a good example of how the concept of collective intelligence and deliberative democracy can be incorporated into the political system and what difficulties may arise in this process. The Icelandic experience shows that it is necessary to have a more realistic time frame, continuous political commitment, and better integration of public participation with the political system.

Thus, the results of this study indicate that citizen crowdsourcing can help overcome democratic deficits like institutional mistrust and low levels of civic participation. Through engaging citizens in the governance processes, crowdsourcing initiatives can help revitalize democracy and make governance more participatory, accountable, and thus more legitimate (Fishkin, 2011). Thus, the integration of citizen crowdsourcing with the theoretical frameworks analyzed in this paper offers a comprehensive model for improving democratic governance. The lessons learned from the case studies are useful for future crowdsourcing initiatives, emphasizing the need for context-based approaches, political backing, and the combination of online and offline engagement to enhance participation and deliberation. These findings can be useful for the ongoing discussion on the renewal of democracy and the role of citizen crowdsourcing in the modern world. (Aitamurto & Chen, 2017).

Chapter 5: Policy Recommendations

5.1 Local Level: Participatory Budgeting in New York City (PBNYC)

To continue the positive outcomes of Participatory Budgeting in New York City (PBNYC), it is crucial to guarantee the long-term support of institutions. Local governments should assign specific personnel, offer recurrent training for the budget delegates, and guarantee political and administrative support. Creating permanent offices or departments for the participatory processes will help to institutionalize the initiative within the local government structures.

Applying participatory budgeting to operational and programmatic funding, in addition to capital, can meet other community needs. Support for after-school activities, job training, and health services can also be provided to enhance the development of infrastructures. Furthermore, specific measures should be taken to ensure that all targeted population groups are reached. Some ways to increase inclusiveness include using bilingual documents, providing childcare services during meetings, and conducting meetings and assemblies in different languages. This will help close the digital divide and enable all community members to be fully engaged. It is also important to establish methods for giving and receiving feedback and to assess the situation periodically. A yearly survey, focus groups, and public forums help evaluate the participatory budgeting process and identifying the need for changes. Therefore, local governments should focus on these areas to develop a more open and effective participatory budgeting process that better accommodates the needs of society.

5.2 Regional Level: Decidim Barcelona

At the regional level, Decidim Barcelona has proved that the use of digital platforms is a promising way to increase the level of openness and responsiveness of the authorities. To make the most of the given approach, it is necessary to combine the digital participation with the traditional, offline methods. This approach is beneficial for citizens with different levels of digital accessibility and literacy since it combines the two methods. Closing the digital divide is important. Some of the measures that can be put in place to ensure that the platform is accessible to all include; offering free internet services in public places, offering digital literacy programs, and ensuring that there are mobile units and face-to-face assistance. Political will is also a key factor that Decidim cannot do

without to achieve its objectives. The municipal executives have to embrace the culture of participatory governance and be ready to share power with the people. Getting the support of many politicians for the platform will also reduce the effects of leadership changes.

Also, the Metadecidim community of developers, activists, and users should be engaged. This community is very active in the enhancement of the platform regularly. Municipalities should participate in this community to get the latest information on the practices, exchange experiences, and help in the development of the platform. In this way, local governments can guarantee that the platform can meet the requirements of the users and develop positively.

5.3 National Level: Iceland's Crowdsourced Constitution

National Level: The Icelandic Constitution: A Constitution for the People by the People. The Icelandic crowdsourced constitution shows that crowdsourcing can be used at the national level, even with its encountered problems. There is a need to provide legal frameworks and procedures that can be followed in the adoption of crowdsourced initiatives. Thus, the provision of legal frameworks and procedures to incorporate public input into the legal decision-making processes will provide a legal way of implementing the crowdsourced outputs.

It is also important to have the support of broad political consensus and public right from the start. Involving the political leadership and other key players at the onset of the process can help avoid opposition and guarantee their support during the entire project. The engagement of as many people as possible is important therefore targeted efforts must be made to achieve this. To address the diverse population segments, it is recommended to use several communication channels including conventional mass media, face-to-face communication, and social media.

For maintaining the public interest in the long-term processes often required for national-level interventions, it is crucial to develop tactics like regular updates, milestones, and feedback mechanisms. Another important factor is the integration of the public and the experts' opinion. Although the public needs the input of experts in mat-

ters of the state, the voice of the public should not be completely drowned out. To balance the two, advisory committees that comprise of citizens and experts should be put in place.

It is recommended that before launching such a massive crowdsourcing campaign, one should start with the pilot projects to see how it works and what improvements should be made. Such methods that are flexible and can be adjusted based on the feedback and experience of the pilot phases are quite useful. Thus, by following these recommendations, national governments can use crowdsourcing to build more effective and democratic institutions.

Conclusion

Citizen crowdsourcing represents a transformative shift in how governance is conceptualized and executed in the 21st century. This innovative approach leverages digital technologies to democratize decision-making processes, enhance transparency, and foster civic engagement. The implications of citizen crowdsourcing for the future of governance are profound and multifaceted.

The analysis of Participatory Budgeting in New York City (PBNYC), Decidim Barcelona, and Iceland's Crowdsourced Constitution reveals both the potential and challenges of citizen crowdsourcing across different governance levels. Each case study highlights the strengths and limitations of digital engagement in enhancing democratic participation, transparency, and accountability. The variations in success and the obstacles faced underscore the importance of contextualizing crowdsourcing efforts within local, regional, and national frameworks.

Firstly, the success of PBNYC can be largely attributed to robust institutional support, comprehensive community outreach, and an inclusive process that engages a diverse demographic. The initiative democratizes budget decisions, ensuring that public funds are allocated in ways that reflect the community's needs. This bottom-up approach enhances public trust and satisfaction with local governance, providing a model for other cities aiming to increase civic engagement (Community Development Project at the Urban Justice Center, 2015).

To build on the successes of PBNYC, it is essential to continue expanding outreach efforts. Targeting marginalized groups and providing resources such as translation services, childcare, and transportation can remove barriers to participation. Additionally, investing in training and capacity-building programs for budget delegates and community leaders can enhance their skills in project management and public speaking, ensuring they are well-prepared to contribute effectively. While capital projects have been the primary focus, allocating a portion of PB funds to non-capital projects can address broader community needs and provide more comprehensive support (Gilman, 2016).

Transitioning to the regional level, Decidim Barcelona has demonstrated significant advancements in transparency and participation. The platform's digital nature lowers barriers to engagement and allows for extensive public involvement. However, the digital divide and institutional resistance present notable challenges. Addressing these issues is crucial for maximizing the platform's effectiveness (Borge, Balcells, & Padró-Solanet, 2022). Some solutions to close the digital divide include offering one-on-one assistance, mobile services, and community training workshops. Another crucial factor for Decidim is political backing. Municipal leaders must embrace participatory governance to ensure stability even during leadership changes. Additionally, using both online and offline participation methods can address the needs and limitations of community members and increase participation levels (Aragón et al., 2017).

At the national level, Iceland's crowdsourced constitution process can be considered one of the most successful and simultaneously problematic examples of crowdsourcing. Although the initiative initially mobilized a large part of the population, it encountered challenges such as political opposition, legal constraints, and sustaining public interest. These challenges illustrate the complexities of crowdsourcing initiatives at the national level, where the principle of subsidiarity is tested by the need to balance local input with national cohesion (Landemore, 2015).

To achieve success at the national level, it is important to define legal and procedural measures to avoid complications. These frameworks can assist in simplifying constitutional law and guaranteeing the practicality of the process. The draft constitution should be a product of public opinion while also being constructed by experts who can

offer useful suggestions and ensure that legal and technical issues are properly addressed. Additionally, maintaining high levels of public engagement over the long term is crucial. Strategies such as frequent updates, achievement milestones, and feedback loops can encourage participants to remain engaged (Hudson, 2016).

In conclusion, citizen crowdsourcing has the potential to improve democratic governance by increasing openness, responsiveness, and participation. However, it has its strengths and weaknesses, and its success will depend on several factors such as strong institutional support, proper outreach and engagement strategies, and the ability to overcome political and legal hurdles. The cases of PBNYC, Decidim Barcelona, and Iceland's crowdsourced constitution offer useful lessons and recommendations for future initiatives seeking crowdsourcing in deepening democracy. By considering these factors and recommendations mentioned above, governments at all levels can use crowdsourcing to enhance existing governance systems and make them more inclusive, efficient, and responsive to citizens' needs.

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