Participatory budgeting case studies throughout the ages: a longitudinal, thematic, systematic literature study

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Abstract

Participatory Budgeting (PB) is often utilized to initiate citizen involvement in governmental processes and familiarize them with public spending. It can help to increase transparency, communication between citizens and government and improve quality of life of the communities. Other times, it can increase costs with little returns. Overall, we have limited knowledge about PB development trajectories, practices, state of art, and future research possibilities. Hence, we have conducted a systematic, longitudinal, thematic literature review, that has examined 92 case studies of PB, and reveals that interest in PB research has been reflective of global movements e.g., the Arab Spring, Occupy Wall Street, and the like. The field, however, is also growing in maturity and needs specialized research on PB tools, sustainability, inclusion, amongst other topics.

Keywords: participatory budgeting, public spending, e-participation, citizen-participation, e-governance.

1. Introduction

Budget management is an integral component of governance. It determines what receives funding, what doesn't, and the general outcomes of governance. It shapes communities, to say the least. Hence, it is also important for communities to shape public budgeting practices and their potential outcomes (Irene Buele, 2020) (Sylvia Iasulaitis, 2019). Participatory budgeting (or PB in short) is seen as a way through which such public involvement in budgeting can be facilitated.

Through PB, at least in theory, ordinary citizens can decide how the budgets of their country, municipality, city, or town is allocated, and how they would like their community to develop (Arnold Bernaciak, 2019) (Amizan Omar, 2018). Hence, PB falls under the umbrella of e-participation, a term that has gained in popularity in the second millennia (John Gastil, 2020), referring to the use of ICT tools to facilitate citizen involvement in governmental processes (Anders Røsten Mærøe, 2020) (Paganelli Federica, 2010).

PB can be implemented in various ways and through different means. For example: citizens can participate in the budgetary planning of their hometown, determining the spending of their local government, providing citizen consultations or vote on the educational spending of their town (Peter Demediuk, 2011) (Marulanda, 2005) (Solli Rolf, 2011) This can be implemented through a variety of technological tools such as , games, gamification or even VR tools (Olga Sergeyeva, 2019) by submerging the tools to simple surveys, town hall meetings, deliberations (John Gastil, 2020) (Demediuk Peter, 2011).

When implemented effectively, PB initiatives can become cost effective tools that legitimizes public decision-making, improves said decision-making and improves the quality of lives of communities (Smith Robert, 2015) (Bocatto Evandro, 2020). When mismanaged, similar to perhaps any e-participation tool, PB can lead to the opposite result, citizen apathy, waste of resources, and could even go on to taint the image of a government and its initiatives as tokenish, or ineffective (Irene Buele, 2020).

It is, hence, imperative to understand participatory budgeting so as to implemented in an appropriate manner. While PB is seen in practice in several countries and initiatives around the world (Matteo Bassoli, 2011) (Titiana-Petra Ertiö, 2019), it is important to understand what the focus of these initiatives has been, what has been researched about PB in practice, and what is in need of further research.

Accordingly, we conducted a systematic, longitudinal, thematic literature review, focused on case studies of participatory budgeting throughout the years, as case studies were thought to provide potentially high details on actual implementations of PB. The literature review investigated:

1. What themes were studied in published case studies of participatory budgeting?

2. How have these themes changed over time?

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2. Methodology

The literature review in this paper focuses on identifying what has been investigated in the field of participatory budgeting, the general development of the fields, and some of the key issues around the topic as it is important to acquire sufficient knowledge of any research area (Hart, 2018), especially one where the findings have been mixed (Aimee L.Franklin, 2020). Understanding of the participatory budgeting concept and relevant literature will help to describe the research area, build theory, and to analyze the research area in a more critical way for gaps.

Initially, exploratory searches were conducted to determine the possible keywords to be used in this literature study. Initial observations were discussed amongst the authors, two of whom have prior experience of conducting literature reviews, one specifically in areas of e-participation. These discussions and exploratory searches also examined which databases should be used in the search to cover as wide of a literature scope within reasonable limits.

We conducted literature searches on Scopus and Web of Science, leading to the identification of 92 case studies of participatory budgeting, which are synthesized and reflected upon in this paper. The literature search started in February 2022. The databases used were Scopus and Web of Science with search words such as: (TITLE-ABS-KEY (Parti*) AND TITLE-ABS-KEY (budg*) AND TITLE-ABS-KEY (case study). The keywords parti* includes all the forms of words related to participation. Keywords budg* and case study was used to include the literature related to case studies done in governmental budgeting processes. All the identified papers have case study as their research methodology. Focusing on the case study method helps to answer the identified research questions in an explanatory, descriptive way and also helps to construct validity and reliability which works as a medium to build theories and ideas (Riege, 2003) (Rowley, 2002). Case studies were also thought to provide a holistic reflection on actual implementations of PB. This allows not only an understanding of some of the key theoretical perspectives in the literature, but also a practical understanding of PB implementations.

The results from the keyword search were considered (screened) and selected for further analysis only if the keywords were present in the metadata that is, in the title, abstract or keywords. No other limitation in terms of publication, journal type, or type of paper was imposed in the literature search.

The result of the keyword search of the review process is shown in Figure 1 from both databases. Initially, a total of 406 papers were identified, from which 261 papers were excluded as they were not related to the topic. 33 papers were identified as duplicates and excluded. 15 papers were not in English language so, they were excluded. And 5 papers were inaccessible through the library and database, so these were excluded from the literature search as well. The papers which were related to participatory budgeting and close to the topic were narrowed down to 92 papers which were thoroughly reviewed in the literature study.
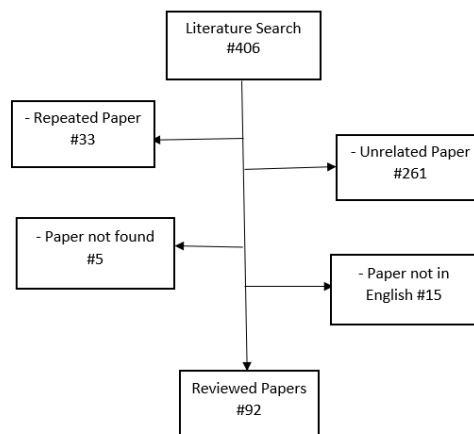

Figure 1. Literature search process and outcome

The identified papers were structured and reviewed using the centric analysis method (Jane Webster, 2002). The themes in the literature were identified and coded accordingly. First, the papers were organized and reviewed as per the general concept/theme presented in a paper. After going through the full papers and to synthesize the concepts, the identified concepts were examined, and collapsed together to create larger themes, which are presented and discussed in the results section of this paper. Additionally, we systematically tracked key variables from the literature, such as research objectives, findings, location, year, etc., to make sense of the identified themes.

Therefore, the process followed in this literature search is: 1. Literature search on relevant keyword, 2. Systematic literature search (on database Scopus and web of science), 3. Inclusion and Exclusion of papers based on relevance, 4. Concept-centric review of the literature, 5. Presenting the results and findings.

3. Results

3.1. General Trends

The identified 92 papers are focused on participatory budgeting and its implementation in local government. All the papers focused on the PB implementation cases of different municipalities and cities, with usurpingly none focused on participation in national-level budgetary processes. The participatory budgeting research scene however looks very scattered with focuses on multiple areas like sustainability, inclusion, smart city, decision making, institutional design (Anthony M.Levenda, 2020) (No Won, 2020) (Jekabsone, 2019) (Postigo, 2010) to name a few identified research areas.

most common themes around the study of PB are Interactivity, Inclusion, Governance discourse, PB design, PB implementation, sustainability, e-PB. These themes are discussed in more detail in the next subsection.

As seen in the table, the first identified case study of PB emerged around 2004. However, case studies then were very scarce with slow initial growth. Since then, the number of papers being published has been steadily increasing, despite a period of relative decline between 2012 and 2013. Amongst all the themes ´Inclusion´ and ´PB Implementation´ were the most common keywords around the study of PB implementation. The studies, overall, focused on success or failure factors of citizens involvement and PB implementation in

Table 1. PB themes over few years

Keywords	2004-2006	2007-2009	2010-2012	2013-2015	2016-2018	2019-2021
Interactive			2 (Carlos Jesús Fernández Rodríguez, 2010) (Rodriguez Garcia, 2011)			4 (Sylvia Lasulaitis, 2019) (Francesca Manes-Rossi, 2021) (Diogo Pereira, 2021) (Sylvia Lasulaitis, 2019)
Inclusion		1 (Avritzer, 2009)	11 (Doralyn Rossmann E. A., 2012) (Maria-Jesus Rodríguez-Garcia, 2011) (Dong Xiao-hui, 2010) (Carlos Jesús Fernández Rodríguez, 2010) (Federica Paganelli, 2009) (Montecinos Egon, 2011) (Rolf Solli, 2011) (Antonio Postigo, 2011) (Lígia Helena Hahn Luchmann, 2012) (Montecinos Egon, 2011) (Bassoli, 2012)	3 (Soojin Kim, 2013) (Stephanie L. McNulty, 2015) (Jyldyz T. Kasymova, 2014)	9 (Andres Noriega, 2016) (Nicolas Aguerre, 2016) (Leonid Smorgunov, 2018) (Nicolas Aguerre, 2016) (Montecinos Egon, 2011) (Samuel Anderson Rocha Barros, 2017) (Andres Noriega, 2016) (Vicente Barragan Robles, 2016) (Ursula Dias Peres, 2017) (Sampaio, 2016)	14 (Madeleine Pape, 2019) (Won No L. H., 2020) (Gladys Ann R. Maravilla, 2020) (Kibui Edwin Rwigi, 2020) (Muhua Lin, 2020) (Egon Montecinos P. C., 2020) (Sylvia Lasulaitis, 2019) (Sandra Švaljek, 2019) (Titiana-Petra Ertiö, 2019) (Inga Jekabsone, 2019) (Dorota Bednarska-Olejniczak J. O., 2019) (Robert Weymouth, 2020) (Mączka Krzysztof, 2021) (Dorota Bednarska-Olejniczak J. O., 2021)
Governance Discourse		1 (Egon Montecinos, 2009)	1 (Doralyn Rossmann, 2012)	2 (Robert Smith, 2015) (Cunha, 2014)	1 (Rodrigo Carmona, 2016)	5 (Inga Jekabsone, 2019) (Evandro Bocatto, 2020) (Kelum Jayasinghe, 2020) (Diogo Pereira A. R., 2021) (Janette Hartz-Karp, 2021)
PB design			5 (Antonio Postigo, 2011) (Maria-Jesus Rodriguez-Garcia, 2011) (Ibrahim, 2011) (Antonio Postigo, 2011) (A.A.A.M. Ibrahim, 2011)	1 (Maria Alexandra Viegas Cortez Da Cunha, 2014)	1 (Rodrigo Carmona C. R., 2016)	7 (Luca Bartocci, 2019) (Montambeault, 2019) (Kibui Edwin Rwigi, 2020) (Roberto Falanga, 2020) (Won No L. H., 2020) (Roberto Falanga, 2020) (Andrea Gatto, 2021)
PB implementation	1 (Marulanda, 2004)			7 (Joseph Yu-shek Cheng, 2015) (Soojin Kim, 2013) (Montecinos Egon M. , 2014) (Styliani Zafeiropoulou, 2015) (Stefano Stortone F. D., 2015) (Matthew Cohen, 2015) (Manuel Salgado, 2015)	9 (Nicolas Aguerre, 2016) (Shuvra Chowdhury, 2017) (Egon Montecinos E. , 2018) (Rodrigo Carmona C. R., 2016) (Ursula Dias Peres B. B., 2017; Jasmina Džinic, 2016) (Sampaio, 2016) (Gary Bland, 2017) (Omar Amizan, 2018)	11 (Muhua Lin, 2020) (Jaroslaw Kempa, 2020) (Luca Bartocci, 2019) (Aimee L. Franklin, 2020) (Roberto Falanga, 2020) (Titiana-Petra Ertiö, 2019) (Arnold BernaciakAnna Bernaciak, 2019) (Montambeault, 2019) (Małgorzata Madej, 2019) (E. Velinov, 2020)
sustainability			3 (Carlos Jesús Fernández Rodríguez, 2010) (Rolf Solli, 2011) (Peter Demediuk, 2011)	1 (Stefano Stortone, 2015)		7 (Drobiazgiewicz, 2019) (Anthony M. Levenda N. K., 2020) (Arnold BernaciakAnna Bernaciak, 2019) (Dorota Bednarska-Olejniczak, 2019) (Andrea Gatto E. R.-Z., 2021) (Robert Weymouth, 2020) (Dorota Bednarska-Olejniczak J. O., 2021)
e-PB				1 (Alice Katharina Pieper, 2015)	2 (Alex Karner, 2019) (Samuel Anderson Rocha Barros, 2017)	1 (Anders Røsten Mærøe, 2020)

No date limits were placed on the searches, nonetheless, the reviewed literature publication dates ranged from 2004 to 2021, focusing on various aspects of PB. As mentioned, the emerging and studied topics in PB were quite scattered, hence, the papers were grouped based on common themes and are presented in Table 1 in 3-year intervals. At first the reviewed papers were grouped based on keywords identified by the authors and the focus of the studied field of the papers. Based on the keywords, the most common and repetitive themes were identified in all the papers and later the reviewed literature was grouped on the basis of identified common themes. Based on the review the

local government e.g. (Anders Røsten Mærøe, 2020) (Lin, 2020), (Sylvia Iasulaitis, 2019), again, with little to no focus on national budgetary levels.

The analysis of the theme trends throughout the years helps us to see the pattern in the and growth and development of the topic throughout the years. Figure 2 shows a visualized timeline of the identified themes based on the information in Table 1. We can see a general growth of the topics from the timeline, although, the themes relating to PB seem to fluctuate, where during the interval of 2010-2012 research on the topic decreased and surged again around 2013-2015. Likewise, research on PB seems accelerated between 2016-2018 as well as 2019-

2021. The themes ´e-PB´, ´PB implementation´ and ´Sustainability´ are especially increasing in popularity in recent initial starting research in the years 2010-2012 were focused on introducing the concept of participatory budgeting, and the use of ICTs in local government at large (Ricardo Matheus, 2010) (Dong Xiao.hui, 2010), decentralization (Ibrahim, 2011) (Paganelli Federica, 2010), achieving good governance and enacting democratic values, especially representative democracy, through PB (Rossmann Doralyn, 2012) (Postigo, 2010) (Adalmir Marquetti, 2012). On the other hand, the more recent papers between 2019-2021 seem to have mostly matured and are focused on the topic of

3.2 Themes in the literature

As mentioned, and shown in Figure 2, the themes identified in the reviewed literature were: Interactivity, Inclusion, Governance discourse, PB design, PB implementation, Sustainability, e-PB.

Papers under the *interactivity* theme discuss the importance of communication with and representation of citizens in the local government where participatory budgeting works as a tool to achieve that. Research topics within the theme focused on examining the representation of citizens in existing PB tools (Pape Madeleine, 2019), gender analysis in "current" interaction with local
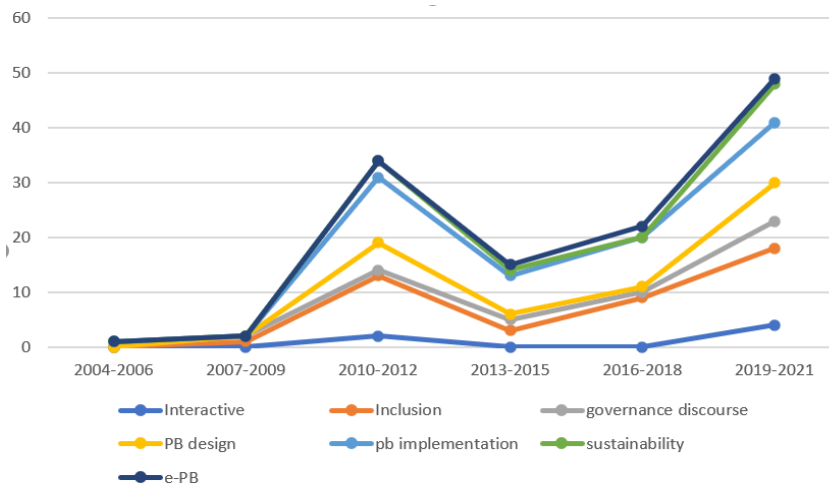

Figure 2. Participatory Budgeting research themes development over the years

PB tools, models of PB, sustainability, e-democracy, institutional design, etc. (Jonathan Davies, 2021) (Karner Alex, 2019) (Gatto Andrea, 2021) (Anders Røsten Mærøe, 2020) (Bartocci Luca, 2019) (Titiana-Petra Ertiö, 2019). In the two-time peak periods in 2010-2012 and 2019-2021, all the major PB research themes appear to receive similar attention.

This trajectory in Figure 2, shows the shift of interest in the topic of PB. In the early years, when the topic was new, research was mostly focused on the foundation of governance, and representative democracy which is essential to create the space for citizen participation and the introduction of PB (Rossmann Doralyn, 2012). With the foundation of the research relatively established, the research in recent years moved to focus on achieving sustainability through PB, rationality in decision-making, and inclusive PB implementation. PB seems to be established and seen as a tool to implement and enhance design, practice, and awareness regarding various governmental processes (Françoise Montambeault, 2019).

government (McNulty, 2015), communication between citizens and local government (Francesca Manes-Rossi, 2021) and tools used for interaction with the citizens (Sylvia Iasulaitis, 2019). Some of the key findings were primarily around the identification and investigation of new tools for interactivity, and needed changes in public policy and decision-making initiatives to improve the efficiency of communication (Jyldyz T.Kasymova, 2014) (Pape Madeleine, 2019).

Papers under the *inclusion* theme examined public participation where participatory budgeting can be used as an informal (relaxed) sphere to practice participation within the formal sphere of democratic process. PB is seen to help exercise formal and informal inclusion, address equal gender participation along with its cultural impact. Research topics within the theme focused on active gender inclusion work, formal and informal process of inclusion (Maravilla Gladys Ann R., 2019), "good" governance (Joanna Drobiazgiewicz, 2019), public participation (Solli Rolf, 2011), and cultural impact of participation (Rwigi Kibui Edwin, 2020). Some of the key findings were the identification of PB structures to access administrative discretion, implementation of idea received from the citizens through PB, and accessing democratic outcomes to

enhance citizen participation and PB implementation (No Won, 2020) (Solli Rolf, 2011) (Matteo Bassoli, 2011).

Papers under the *Governance Discourse* theme examined topics related to accountability (Pereira Diogo, 2020), decision making (Smith Robert, 2015), democratic value (Alice K.Pieper, 2015), and political framework (Rossmann Doralyn, 2012). The Governance Discourse theme focuses on highlighting the democratic responsibilities of public representatives, defines the participatory process structurally and identifies the democratic values for decision making and efficient citizen participation. Some of the key findings show the application of PB to enhance citizen participation, connect PB with knowledge acquisition and meaning making so that citizen participation can be viewed from a different perspective (Smith Robert, 2015) (Bocatto Evandro, 2020).

Papers under the *PB design* theme examined the topics related to institutional design (Postigo, 2010), institutional logic (Bartocci Luca, 2019), PB dynamics (Gatto Andrea, 2021), and Socio-political design (Falanga Roberto, 2020). PB design theme highlight the need of PB to enhance trust between stakeholders and public administration. PB can be a tool for evaluating institutional design, create a new framework which might lead to transparency over public services. Some of the key findings are related to developing PB design and mobilizing it through various networks so that its democratic potential can be realized. Research also observed that participation in PB can be tied to increased activism, efficiency, and transparency in the local institution (Evgenii Aleksandrov, 2018) (Postigo, 2010).

Papers under *PB Implementation* theme generally examined the implementation process of PB (Aimee L.Franklin, 2020), smart city implementation (Stortone Stefano, 2015), citizen awareness (Amizan Omar, 2018), and use of ICT in local government (Velinov E., 2019). The theme provides various examples of success and failure stories, ongoing processes of PB implementation in many countries, which helps to realize the scope of PB, and current findings. Some of the key findings focus on the web platforms utilized to implement PB, and analyze the mechanism of implementation, and institutionalization of PB logic (Demediuk Peter, 2011) (Bland, 2017) (Zafeiropoulou Styliani, 2014). These implementation examples and research papers have provided detailed understanding of the PB process which makes the topic of PB more accessible and easier to implement.

Papers under *Sustainability* theme mostly discuss the use of participatory budgeting to maintain sustainability (Peter Demediuk, 2011), especially in smart cities (Dorota Bednarska.Olejniczak, 2019). These papers highlight where PB can be used as an effective tool for creating sustainability through public participation and good governance. Some of the key findings were the identification and development of developmental strategies, direct involvement of citizens in city planning, idea implementation (Joanna Drobiazgiewicz, 2019) (Dorota Bednarska.Olejniczak, 2019), amongst other topics.

Papers under *e-PB* theme examined the digital aspects which might help providing easier and efficient access to participatory budgeting, focusing on e-democracy and models to implement it (Rafael Cardoso Sampaio, 2016) (Anders Røsten Mærøe, 2020) (Jasmina Džinić, 2016). Topics included a study of supporting advanced infrastructure to ease access to information, platforms for participating in general, and informed decision making. Some of the key findings emphasized the importance of design models of participatory budgeting and ICT in municipalities in increasing the participation of the citizens, and its importance for informed decision-making (Krzysztof Mączka, 2021) (Paganelli Federica, 2010).

4. Discussion

As our findings indicate, research on participatory budgeting initially peaked in the early 2010s, only to dip somewhat towards the middle of the decade but to make an even stronger return as the decade approached its end. This warrants the question, why is this so? Our understanding of the core process that has been happening here is one of conceptual shifts. The first wave of research on participatory budgeting was a rather normative movement, where participatory budgeting, as something novel, was seen as something intrinsically desirable and the function of research was mostly focused on how to bring about the accomplishment of participatory budgeting. What then ensued was a slight dearth in research, possibly because the first wave of actual, empirical participatory budgeting was taking place then, only for research to strengthen as results of the first wave began to be available.

What we witness now is a field more mature, but also more reflexive about the role and scope of participatory budgeting in bringing about e.g., participatory democracy. This in and of itself is nothing unique, and we can track similar trajectories both regarding similar technologies as well as similar emergent social practices and research fields, comparable to this. Often initial research tends more towards a "proof of concept" formulation, giving way to more sophisticated and mature foci.

The main technological similarity that comes to our mind relates to that of the so-called Web 2.0. With its emergence in the early 2000s, there was substantive normative hype about how the ability to self-generate and participate on the web would create a democratic breakthrough in society at large, perhaps exemplified best by the social media

enthusiasm around the Arab Spring in 2010-2014 (Hany Abdelghaffar L. S., 2013), Arab Spring events in the middle east (Hany Abdelghaffar L. H., 2016) and similar global events such as the election of the American President Barack Obama through a grass-roots campaign, and countless demonstrations and movements in the UK and Europe at large relating to immigration, later on leading to Brexit (Miklós Somai, 2016).

It is notable that the interactivity and inclusion themes identified in the literature, strongly emerged around the same time, 2010-2012, when topics of e-government and e-participation where generally gaining in popularity. Similar to the boom in research of Web 2.0. during these times, we also in the e-participation fields, especially noted the possible use of emergent ICT tools, e.g., social networks and social media, to facilitate participation (interactivity). Relatively older tools for participation through e.g., forums and chat rooms, gave way to Twitter, Facebook, and other emergent tools, hence the natural popularity in researching these tools and others during that time interval. The topic of a digital divide in participation (inclusion) was also highly pronounced then, where we saw questions raised as to who current participatory segments were, how much they reflect the larger society, and how we can ensure the representativeness of participation. It is hence unsurprising to see topics pertaining to the theme of citizen interactivity and inclusion emerge, intertwine, and flourish during these times.

What was not foreseen potentially at all was the more problematic dimension of the new web 2.0, social network, social media technologies and the like; something that we are now confronting with surveillance capitalism, loss of privacy and the algorithmic exercise of power in society (Anna Maaranen, 2022). Participatory budgeting doesn't have to relate directly to any of these problems, but it cannot be assumed to be automatically immune to them either. It is notable that this dark side of e-participation, its tools, and of participatory budgeting in specific are rarely, if at all, reflected upon in the reviewed literature. These themes are relatively less reflected upon in other e-participation fields, although their presence is noted (Lobna Hassan, 2020)

We see participatory budgeting as having a clear link with the turn towards open forms of organizing, many of which gained preponderance around the same time of the 2010s: open source, open innovation and open strategy to name but a few (Chesbrough, 2006) (Richard Whittington, 2011).Yet as we have come to see, the core features of transparency and inclusion which form the cornerstones of open organizing are in themselves potentially insufficient for accomplishing the normative promise built into the ideology of the 'open'. Where there is transparency, there is often

something hidden; and formal inclusion itself does not guarantee substantive ability to participate (Laura Dobusch, 2019).

Papers under Sustainability theme mostly discus the use of participatory budgeting to maintain sustainability (Peter Demediuk, 2011) (Dorota Bednarska.Olejniczak, 2019), however we see relatively less research examining the sustainability of PB itself, i.e., how to maintain citizen engagement and participation over time. This is surprising, given the importance of sustaining long term citizen engagement. In most fields of participatory research, whether in or outside of interaction with the government, we especially see an increase in the research of long-term engagement, especially through e.g., game-based methods, games, gamification, AR, VR, or blockchain (Devis Bianchini, 2016). More recent PB research seems to scarcely examine the use of these tools in PB. Perhaps we failed to identify said research due to the focus of this literature review on case studies, however, this means the lack of case studies of these tools in PB, although such case studies are present in other fields of e-participation (Lobna Hassan, 2020).

Overall, the reviewed papers and identified themes discuss participatory budgeting with different perspective but in general focus on citizen participation and communication between local government and citizens. We can see that the case studies especially failed to reflect on the empirical process in detail, compare between different municipalities, examine national participation levels, the use of emerging participation tools utilized in other participation fields, and overall, lacked a level of standardization in the report of outcomes that can allow of developing an overall understanding of PB outcomes. Implementation processes, and design model mentioned in the case studies were rarely fully developed (Maravilla Gladys Ann R., 2019) (Sylvia Iasulaitis, 2019). Future researchers are especially encouraged to address these gaps to accelerate the development of the PB field.

5. Research Limitation

The conducted literature review on Participatory Budgeting (PB) research throughout the years shows the research interest, maturity, and future direction of the field. The paper uses case study as a research methodology to review the academic literature in the topic of PB. The use of case study did allow to explain the PB cases in an explanatory manner to construct validity which helped to understand the PB implementation cases in detail (Riege, 2003) (Rowley, 2002). However, the selection of only case studies in the research does creates a setback in fully accumulating PB trends and current situation as the use of other research methodology and use cases were completely

excluded from the literature review. There are more rigorous research methods for collecting and analyzing data and case study might not be able to justify and answer the research question in all the cases (Meyer, 2001).

The research and review of the literature was done in two databases Scopus and Web of Science. Some of the papers were found in both the databases which needed to be excluded from the list manually. So, due to the human error there might be chances of review of same papers from the data bases due to the repetition of the papers.

The literature search and review has been conducted carefully under the guidance of experienced researcher. However, it is possible that some of the relevant publication might have been missed due to the specific query words used, reviewing literature that was not indexed in the database or failed to identify the publication due to human error. Hence, the results and literature review has been described in detail which allows the reader to use and replicate the literature study and evaluate the field of PB in detail.

6. Conclusion

The field of Participatory Budgeting (PB) has matured over the years. The findings of this literature review show a growing sophistication in the topics covered in PB case studies. While the initial focus was on the democratic values and outcomes that can justify PB implementations, research seems to have now linked PB with general activism and citizen interest in improving their communities. Research is more focused on the finer topics of inclusion, representativeness, and PB's contribution to sustainability, especially in the local government level. This, overall, suggests a clear need for research on larger scale PB implementations and its potential outcomes, as well as the examination of emerging technologies in PB. The sustainability, accessibility, usability, of said emerging tools need extensive examination to develop the toolbox of PB.

7. Acknowledgments

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