



What Got Us Here, Won't Get Us There

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Participatory Design and Democracy: A systematic review

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Abstract: Recently, the role of Design in relation to Democracy has been discussed in literature, and Participatory Design has proven to be a very adherent term to this relationship. The aim of this work is to discuss Participatory Design as an instrument for the elaboration of transformative remedies, contributing to the maximization of rationality and effectiveness in the design of public policies. For this, the Meta-Analytic Focus Theory was used to analyse the most relevant elements, such as publications, authors, and keywords from literature. The data collection included articles published between 2012 and 2022 and the Bibliometrix and Tagcloud software were used for the investigation. The findings identified that Computer Science and Social Sciences stand out and are the most representative areas, politics, computation, community, innovation, and governance are the most relevant topics related to the subject, and decolonial agenda and contemporary feminist utopia have an important correlation also.

Keywords: Participatory Design, Co-design, Democracy and Public Policy.

1. Introduction

Democracy is in crisis in contemporary times. According to Martínez-Osorio et al. (2017) it is recently unlikely to talk about contemporaneity without a context of crisis. The current time is unstable and volatile but presents itself as an opportunity for the creation of different readings of Design.

The concept of Design itself has changed over time. With a multidisciplinary scope of work, this field of knowledge demonstrates a profound ability to solve problems and transform the future through the development of new alternatives. According to Bonsiepe (2020), the theme has become popular, but the author states that nowadays it is possible to verify a distance from the goal of solving problems intelligently and an approach of a formal aesthetic game that evidences an intense relationship with ephemeral artifacts and products that have rapid obsolescence. This emphasises the need to rescue the concept of Design for social transformation.

In this sense, Gaudio et al. (2015) point to the transformative potential of designers' contributions to intelligent solutions for social problems and to the construction of alternatives capable of improving

the lives and welfare of the population. Corroborating with this intention, Manzini (2015) envisions a scenario in which the designer role supports individual and collective projects in the promotion of significant social changes, understanding that all participants in their daily life do design. Therefore, it is evident the need for designers to present a critical sense to design in order to confront the deep power inequalities between those who hold it and those who are subjected to it.

Evidence of the current democratic crisis can be seen in the Brazilian Decree No. 9.759/2019, which, according to Possolo and Neto (2019), targeted participatory institutions that were built through democratic practice. The authors also point out that the decree was intended to destroy councils and collegiate bodies. That form of democratic collapse can also be observed in other countries.

In this perspective, Bonsiepe (2020) cautions against the use of the term Democracy. He claims that in the global context there is a disguise of the term because bombings, torture, colonial invasions, massacres, genocides, ethnic cleansing, and breaches of international coexistence laws are committed almost with impunity in the name of Democracy. In contrast, the author emphasizes the need to recover and develop a parameter of Democracy not dominated by the neoliberal conception of market predominance in order to confer it credibility.

Decolonial studies provide a critique of modernity that highlights the persistence of coloniality in the social organization of countries that have undergone decolonization. This critique points to a hegemonic Eurocentric narrative for world history that promotes injustice. It also presents the need for situated knowledge production that does not generalize political topics and consider the scenario, culture, trajectory of exploitation, etc. For Mbembe (2021), authentic restitution policies are indissoluble from a capacity for truth, displaying the need for recognition of the gravity of the damage caused and the mistakes made.

Agreeing with Fraser (2020), two remedies are necessary to combat economic and cultural injustices: Redistribution and recognition. According to Gohn (2019), the participation theme has been fundamental to explain social inclusion processes by the recognition of rights arising from struggles, movements, campaigns, protests, and other initiatives. This demonstrates the importance of creating project mechanisms to address these issues that prioritize co-creative processes, which encourage community participation in the fight against social inequalities. The imbalance of power between citizens can be noted by the difficulty of democracies to form coalitions capable of designing public policies that can drive economic development and promote the social inclusion of a large part of the population, especially in recent democracies in Latin America (Souza, 2006).

Bødker et al. (2022) suggest that one of the main commitments of Participatory Design is to Democracy. This Design approach works through various paths, allowing people to represent their peers and their ideas locally or to reach a larger part of the community with the designed alternatives. Thus, participation in the design process is also participation in a political process characterized by different resources and values, which allows the exercise of empowerment and democratic protagonism. In this sense, Bonsiepe (2020) interprets Democracy as the possibility of creating a space of self-determination for the subjugated to present their own project for their own Design.

In her study, Blomkamp (2018) also presents the potential of co-design in optimizing the development and implementation of public policies. Some of the benefits are: (a) The engagement of citizens and stakeholders to find innovative solutions to complex problems; (b) to achieve economic efficiency for responsiveness; (c) and to revitalize trust between the population and public agents, presenting significant effects of well-being for participants. However, there is a limitation in the evidence of the impact of co-design on the development and implementation of public policies, emphasizing a gap regarding the subject.

To understand if Participatory Design can be an instrument for developing Fraser's transformative remedies, contributing to the maximization of rationality in the design of public policies, this research aims to perform a systematic review on Participatory Design and Democracy, allowing a holistic view of the topic and offering different perspectives to schematize useful sources of information (Mariano & Santos, 2017).

2. Literature Review

2.1 Design and Participation

Participatory Design is a term that has various synonyms and associated terminologies. It is considered engaging, mobilizing and inclusive for the people who will use the result of the design process. Bødker et al. (2022) point out that Participatory Design has several related terms such as "User-centered Design, People Centered Design, User-oriented Design, Contextual Design, Co-Design, Cooperative Design, Experience Design or just simply Interaction Design". It also presents four main commitments: (a) The first is the commitment to Democracy; (b) the second to the empowerment of people in the design process; (c) the third to the focus on emancipatory practices of mutual learning between designers and participants; (d) and lastly the understanding of people as skillful and with the necessary resources to project the future through the construction and exploration of possibilities.

Spinuzzi (2005) presents another view with a greater focus on the methodological aspect, stating that Participatory Design is research. It has a dual intentionality, as it deals with design through the production of artifacts, systems, work organizations, and knowledge; it also acts as research, as it is based on several other research methods such as ethnographic observations, interviews, artifact analysis, and protocol analysis. It must be always a collaboration between the designer-researchers and participants who will benefit from the Design.

There is also the approach of Social Innovation and Design by Manzini (2015). For the author, social innovation is currently at the core of public discussions, positioning itself centrally on the agenda of different governments. He also suggests a design concept that incorporates co-design as one of its elements, as a culture and practice related to how things should be in open processes that all involved actors participate in different ways (Manzini, 2017).

Another perspective that also integrates social participation on the design process is elaborated by Escobar (2018) which presents the concept of Design for Transitions. The author also presents his perspective through the terms Autonomous Design and the Politics of Relationality and the Communal. It delves into the relationships between autonomy, design, and social action. The author presents five principles for this delimitation: (a) The community must practice self-design: its organizations, relationships, practices and its relationship with the environment; (b) the design activity must start from the premise that people are practitioners of their own knowledge and understand their reality; (c) what the community designs, in the first instance, is a query or learning system about itself, thus playing the role of designers co-researchers; (d) the design process should encompass problem statement and imagination of possibilities that allow the group to generate consensus on objectives and deliberate between action alternatives, resulting in various scenarios and paths for transformation or the creation of new practices; (e) this exercise can take the form of constructing a model of the system that generates the community interest problem, making the autonomous design project seek to answer what can be done about this problem.

These approaches incorporate the notions of emancipation, research, autonomy, and social impact to promote the collaboration of people and design experts to develop projects that transform economic and cultural injustices.

2.2 Democracy, Participation, and Public Policies

The public choice theory offers a sceptical view regarding the ability of governments to formulate public policies due to situations such as conflict of interests, incomplete information, limited rationality, and capture of government agencies by particular interests. Furthermore, according to Souza (2006), there is difficulty in designing public policies that can drive economic development and promote social inclusion for a large part of the population. This demonstrates a weakness in tackling injustices.

For Fraser (2001), as discussed earlier, economic injustice appears in the guise of class-like inequalities, rooted in the economic structure of society; as for cultural injustice appears in the guise of status subordination, rooted in institutionalized hierarchies of cultural value. This scenario of struggle for social change demands two remedies: Redistribution and recognition, respectively. Fraser states that the former relates to encompass not only income transfers, but also reorganizing the division of labour, transforming the structure of property ownership, and democratizing the procedures by which investment decisions are made. The latter encompasses not only reforms aimed at upwardly re-valuing disrespected identities and the cultural products of maligned groups, but also efforts to recognize and valorise diversity as to transform the symbolic order, deconstructing the terms that underlie existing status differentiations (Fraser, 2001).

According to Dahl (2001), Democracy provides opportunities for effective participation, in which all members can express their opinions on which alternative should be adopted for that policy. In formulating the policy, everyone should have the right to vote, and all votes should have the same value, guaranteeing its equality. Democracy also aims to promote enlightened understanding so that everyone can learn about the policies. Another factor is the control of the planning program, where participants should be able to include the topics they consider relevant in the planning agenda, giving a cyclical feature to the democratic process. Lastly, all adults, or at least the majority of them, can exercise their democratic power.

New democracies, new perspectives of the role of government, and the adoption of restrictive spending policies have contributed to greater visibility of the topic of public policies. It can be summarized as the field of knowledge that seeks to put the government into action, analyse its actions and propose changes to them. Democratic governments use the formulation of public policies to reveal their purposes and electoral agendas in significant transformations to the world (Souza, 2006).

From a decolonial perspective, Brand (2016) points out the capitalist state as patriarchal, racist, imperial, and post-colonial, and that its main function is to consolidate the dominant social relations and give them a certain continuity. On the other hand, it should contribute, in a controlled way, so that they move towards new convenient arrangements. In this way, socio-economic, cultural, and political reproduction works by taking advantage of conflicts and crises, transforming them into opportunities.

Teixeira (2020) presents that politics and the inclusion of more people in the decision-making process is the best way to get out of a political crisis, since its mirror is the inefficiency in the inclusion of the various social interests in the decision-making process, especially of the most vulnerable. This is corroborated by the attempt of several countries to implement public policies that are participatory (Souza, 2006).

3. Methodology

The study adopts the Consolidated Meta-Analytic Focus Theory, known as TEMAC, by Mariano and Santos (2017), a technique based on three steps to identify the literature and perform an analysis according to the laws of bibliometrics. The method was chosen because it maps the literature with qualitative, integrative, and systematic review approaches, using meta-analyses for a deeper result. It can conceive a limited or wide scope considering samples of qualitative and quantitative research, presenting a narrative and statistical analysis. TEMAC is divided into 3 stages: (a) Preparation of the research; (b) presentation and interrelation of the data; (c) detailing, integrative model, and validation by evidence.

The defined search command was:

([participatory AND design] OR co-design) AND (democracy OR [public AND policies])

This research covers full articles published in journals and conference proceedings published between January 1, 2012, and December 12, 2022, covering a 10-year time span. The chosen databases were Web of Science (WoS) and Scopus, considering their relevance for the research universe.

In the second step, were performed analyses such as: (a) Journals that published the most about the topic; (b) countries with the highest number of participations; (c) most cited documents; (d) frequency of keywords. The third step brings bibliometric indices, such as co-citation and relevance and relationship between keywords, identifying relationships between authors and the strength of connection between keywords (Mariano & Santos, 2017). For the formation of the networks, the software Bibliometrix was used to process the data from the indicated databases. The analysis was made on February 4, 2023.

The sample of the bibliometric data integration stage consists of 236 papers generated from the search command from WoS (91) and Scopus (145) databases with documents written mostly in English. After that, the duplicates and summary-less articles were removed, resulting in 174 papers.

4. Results

The earliest record in the Scopus database about the topic is Robertson's (1998) study on workplace relationships and participatory practices in small design firms in Australia. In the WoS platform, four documents from 1998 are presented, all published in the 5th Biennial Participatory Design Conference. Ranerup (1998) stands out with a study of the internet's ability to enhance Democracy in local governments through discussion forums for deliberative Democracy and the involvement of user representatives in the Design definition. However, the study found that the forums' engagement was low, except for one district. From the bibliometric review, it is observed that in the last ten years the topic has produced a total of 174 works published according to WoS and Scopus bases, each with 91 and 145 documents respectively, with 62 works being duplicated or without abstract.

The author who published the most on the topic during the period was Iversen with four papers, being the highest number of publications by an author. He applies Scandinavian Participatory Design to topics such as children's interaction with computers, teenage digital natives, and education. One of his main ideas deals with the values attributed to Participatory Design and the utopia of the project such as: Democracy, emancipation, quality of work and skilfulness. In the most cited work, with 199 citations, Nabatchi (2012) presents a pluralistic view of public management relating to Participatory Design by presenting eight elements and proposing nine potentials offered by the methodology for public administration, concluding that public participation can help administrators

understand and form perspectives for creating public values. The second most cited work is from Björgvinsson et al. (2012) with 151 citations, where they present the concept of public confrontation spaces related to innovation, Democracy and how to create alternatives for the future. Table 1 presents the list of the 10 most cited works, their authors, journal, and year of publication.

Table 1. Top 10 most cited works

Author	Year	Journal	Title	Citations
Nabatchi	2012	PUBLIC ADMINISTRATION REVIEW	Putting the “Public” Back in Public Values Research: Designing Participation to Identify and Respond to Values	199
Björgvinsson et al.	2012	CODESIGN	Agonistic participatory design: Working with marginalized social movements	151
Binder et al.	2015	CODESIGN	Democratic design experiments: between parliament and laboratory	56
Moraine et al.	2017	ECOLOGICAL INDICATORS	A participatory method for the design and integrated assessment of crop-livestock systems in farmers’ groups	42
Moraine et al.	2016	AGRICULTURAL SYSTEMS	Co-design and assessment of cropping systems for developing	42
Karlsson et al.	2012	GOVERNMENT INFOR MATION QUARTERLY	Exploring user participation approaches in public e-service development	42
Lennon et al.	2019	ENERGY SUSTAINABILITY AND SOCIETY	Community acceptability and the energy transition: a citizens' perspective	41
Bardzel	2018	ACM TRANSACTIONS ON COMPUTER HUMAN INTERACTION	Utopias of Participation: Feminism, Design, and the Futures	41
Zhang et al.	2019	MEDICAL CARE	Role of Health Information Technology in Addressing Health Disparities	28
Storni	2015	CODESIGN	Notes on ANT for designers: ontological, methodological and	24

Three of the top ten most cited works were published in 2012, and 10 of the works were published in that year. After that period, there was a significant decrease in the number of works until 2016,

where the mark of 2012 was surpassed. 2018 was the year with the highest number of publications in the series with 31 works, with an increase of 181% compared to the previous year. Since then, a sharp decline has been observed in the topic until 2021. In 2022 the number of publications started to rise again.

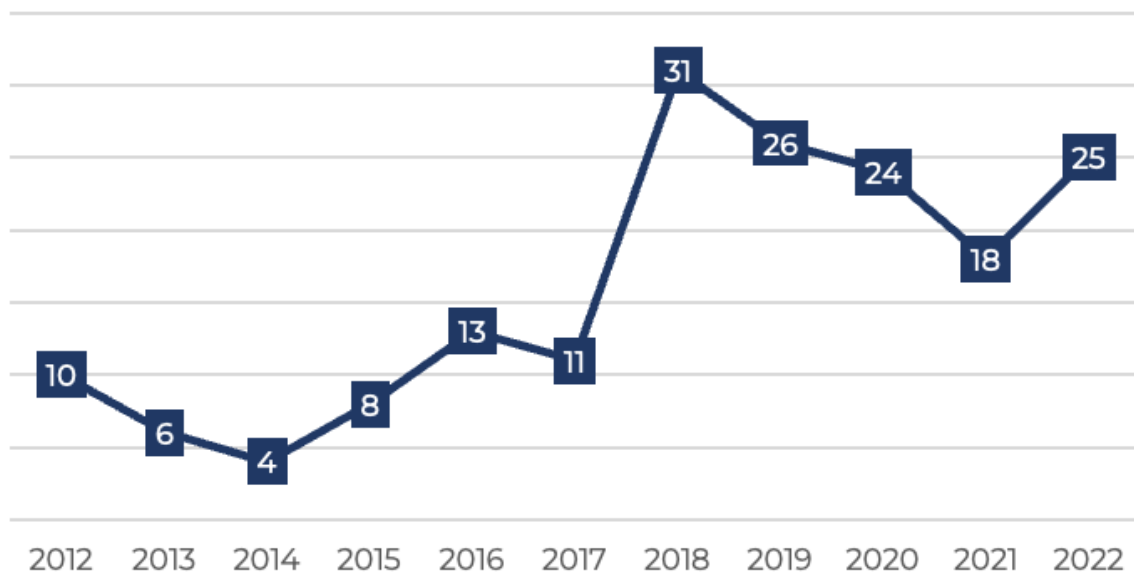


Figure 1. Number of publications by year. Own authors' elaboration.

Figures 2 and 3 show the areas with the highest scientific production in the Scopus and WoS databases considering all articles published up to 2022. In both databases, the areas of Computer Science and Social Sciences stand out and are the most representative. Other areas such as Art, Engineering, Environmental Sciences and Business are also present in the publications.

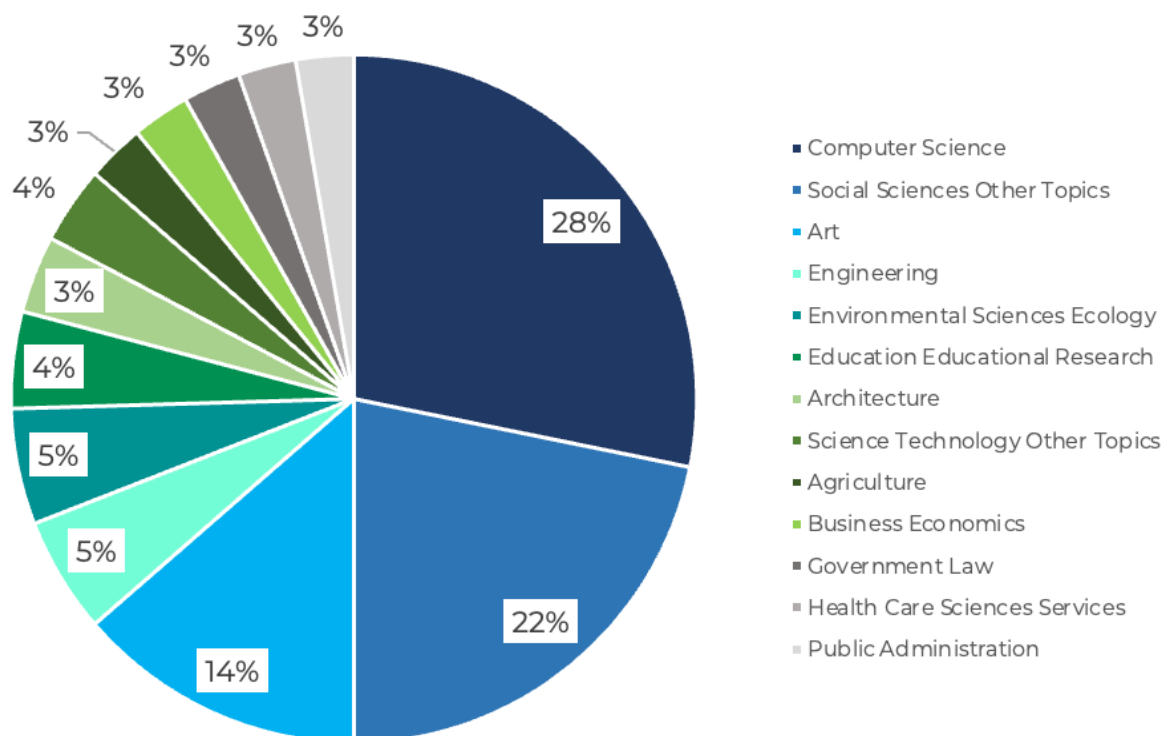


Figure 2. Scopus database Research Areas. Own authors' elaboration.

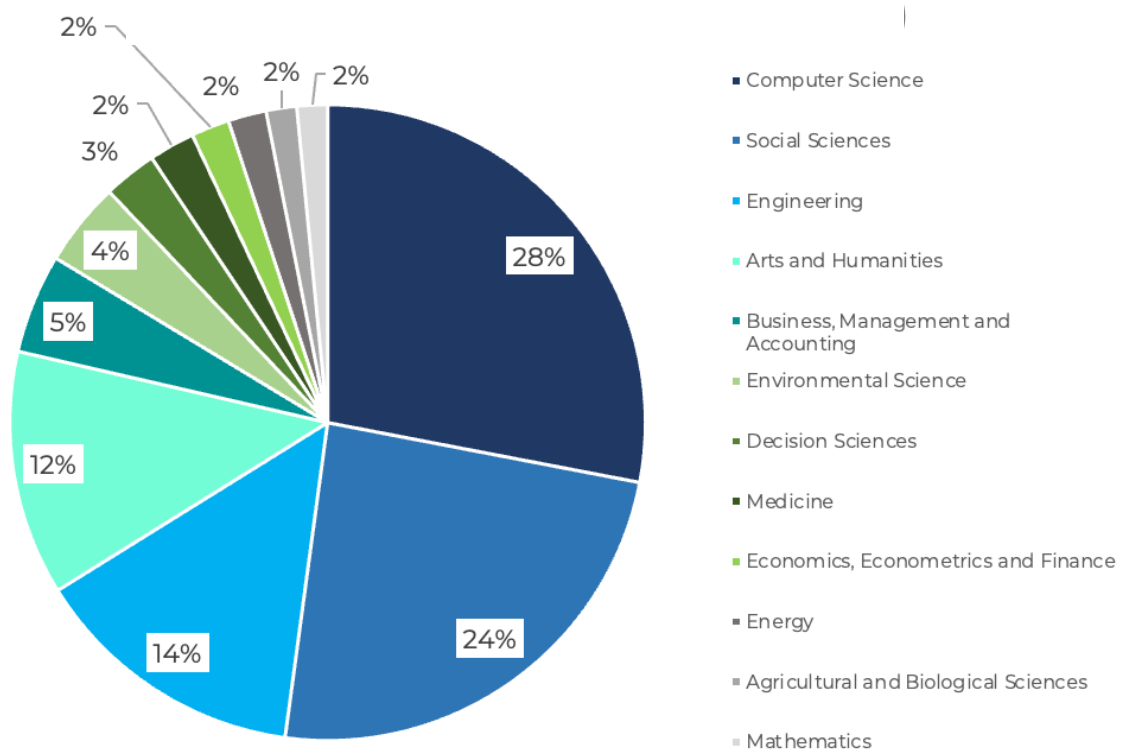


Figure 3. WoS database Research Areas. Own authors' elaboration.

The United States was identified as the country with the highest number of publications at 36 publications, reaching a frequency higher than 13% of the sample. The United Kingdom and Australia are in second place with about 9% of the publications each. France, Denmark, and Switzerland each published about 7% of the sample. There is a great variation of publications between countries, since the country with the highest number of publications does not exceed 15% of the works published. Figure 4 shows the world map with the countries that published the most about the topic.

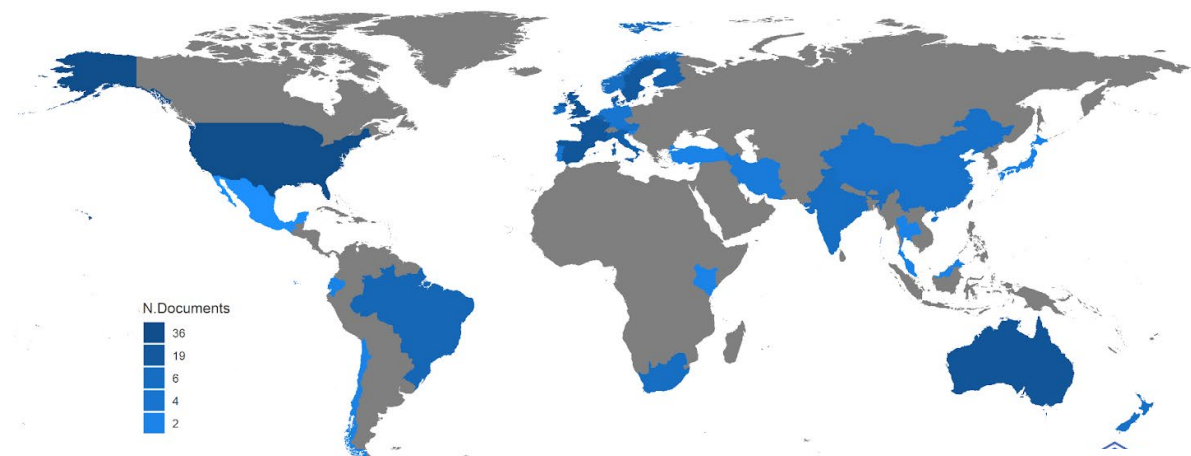


Figure 4. Country scientific production. Own authors' elaboration with Bibliometrix software.

Co-citation analysis enables for a deeper examination, it allows to observe works that are continually cited together. This kind of analysis looks at the most used approaches to the theme, as it presents the connection between two cited publications. Figure 5 presents the co-citation network between the authors. It is possible to observe a joint citation of the articles of Björgvinsson et al. (2010), Björgvinsson et al. (2012) and DiSalvo (2012). In their studies they address the relationship between Participatory Design and Democracy.

The keywords point to the nature of each work, allowing to group and classify them (Mariano & Santos, 2017). To demonstrate their frequency visually, a word cloud was made, represented in Figures 6 and 7. It was created using the online software TagCrowd, which performs content analysis, considering the count from the words individually. The software created a scheme that represents the fifty most recurring keywords, and the font size scale relates to their recurrence, allowing an outline of the main research topics.



Figure 6. Scopus Key-words Frequency. Own authors' elaboration with TagCloud software.

Figure 6 presents the fifty most cited keywords in the Scopus database excluding the search terms 'participatory design', 'co-design', 'democracy' and 'public policies'. It shows that the main research topic is related to politics, indicated by the presence of the term 'policy'. The second most frequent term is 'urban', associated with the theme of urban planning. It is also possible to observe a strong relationship with technology, which can be seen by the keywords: 'systems', 'computer' and 'technology' which together appear 113 times.



Figure 7. WoS Key-words Frequency. Own authors' elaboration with TagCloud software.

Figure 7 displays the frequency of keywords in WoS publications, where 'policy' is the most frequent term. However, the term 'urban' appears with low frequency. The second most frequent word is 'community' followed by 'innovation' and 'governance' tied. From this, the themes of community, innovation and governance are also included in the framework of this study.

By compiling the search terms of both databases and relating the joint occurrence of the keywords (Figure 8), it is possible to verify three cores of relation. The first and most relevant core deals with Participatory Design and Democracy. Also, a strong link with politics and computing is present. Other terms also connect with this approach such as: philosophical aspects, public sector, user-centered design, and ecosystems.

A second core concentrated on the theme of public policies presents an intense connection with Participatory Design despite being found in another semantic core. In this concentration, the link with issues such as: urban planning, participatory approach, decision making, sustainable development, biodiversity and human-computer interaction is verified.

It is still possible to verify a third less relevant conglomerate, but which also presents a strong connection with Participatory Design, with a focus on social issues such as climate change, environmental protection, gender, and other human issues.

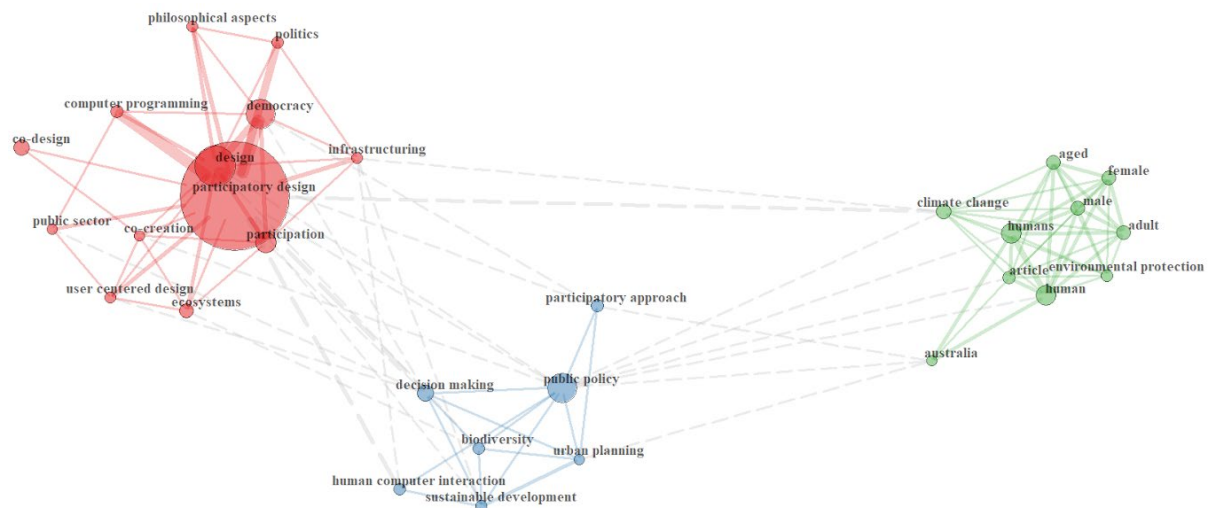


Figure 8. WoS Key-words Frequency. Own authors' elaboration with TagCloud software.

5. Discussion

Analysing the findings, it is possible to observe a strong relationship between the terms 'Participatory Design' and 'Democracy' as suggested by Bødker et al. (2022) and Bonsiepe (2020) in pointing out the importance of Design's commitment to Democracy. The study of Bour et al. (2019) presents Participatory Design as a method for democratic empowerment in information systems.

This democratic innovation aims to move away from the dominant technocratic and market-oriented perspective, thus legitimizing people in vulnerable situations (Björgvinsdottir et al., 2012). It also highlights the commitments of Participatory Design to social justice, reflective practice, and a focus on giving prominence to the marginalized voices. This approach has a strong correlation with the issues of contemporary feminist utopia, with an agenda that presents complementary forces between the two themes (Bardzell, 2018), thus enabling the confrontation of the capitalist state in its colonialist configuration (Brand et al., 2011).

These questions relate to the pluralistic and decolonial values of the field of Design. This can be seen when comparing the studies of Nabatchi (2012) and Escobar (2018), both of which present values such as: Community interests as a way to engage in the resolution of political issues; collaborative deliberation to create alternatives for the future; and community as the practitioner of knowledge and the specialist designer as a facilitator.

Limited rationality is a critical issue that restricts the effectiveness of public policies; however, scientific approaches have the potential to reduce this limitation (Souza, 2006). In agreement, Ranerup (1998) concludes that the participation of user representatives in decision-making contributes to deliberative Democracy. Another study that corroborates this narrative is Blomkamp's (2018), which presents the promises of co-design for public policies. She states that the method allows for the involvement of citizens and stakeholders to solve complex problems, generating innovative ideas that meet their needs, promoting cooperation and trust. We highlight her perspective on how to optimize economic efficiency and improve the responsiveness of public policy, maximizing the rationality of the process by the method.

It can be considered that elements such as focusing on vulnerable populations, creating alternatives to reduce social inequalities and injustices, and including community representatives in the deliberation to avoid stigmatizing citizen groups align with Fraser's (2020) transformative remedies proposal.

6. Conclusion

This work presented an overview of the relationship between Participatory Design and Democracy, describing the main concepts, authors and related publications through a systematic review based on the TEMAC. It was found that Participatory Design has a strong correlation with Democracy and potential to create transformative remedies that reduce social and economic injustices through the maximization of the rationality of public policies. In addition, there is an alignment with the decolonial agenda, and the objects of confrontation proposed by contemporary feminist utopia.

This is a complex, multidisciplinary and urgent topic. Creating alternatives for the future, giving voice to people in vulnerable situations, and applying the logic of ‘design that builds with’ instead of ‘design that builds for’ are the path to democratic social innovation that leads towards emancipation, empowerment, and community protagonism in solving the problems that affect us all. Nevertheless, there are still theoretical and empirical gaps to be overcome, such as studies related to Africa and Latin America. Thus, it can be concluded that there is room for exploration in various under-researched topics such as education, health, gender, environmental protection, sustainability, and climate change.

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