cogitatio

URBAN PLANNING

Volume 9

2024

Citizen Participation, Digital Agency, and Urban Development

Open Access Journal

ISSN: 2183-7635

Edited by Simone Tappert, Asma Mehan, Pekka Tuominen, and Zsuzsanna Varga

Urban Planning, 2024, Volume 9
Citizen Participation, Digital Agency, and Urban Development

Published by Cogitatio Press
Rua Fialho de Almeida 14, 2º Esq.,
1070–129 Lisbon
Portugal

Design by Typografia®
http://www.typografia.pt/en/

Cover image: © metamorworks from iStock

Available online at: www.cogitatiopress.com/urbanplanning

Table of Contents

Urban Planning
2024 • Volume 9 • Editorial 7810
https://doi.org/10.17645/up.7810

cogitatio

EDITORIAL

Open Access Journal

Citizen Participation, Digital Agency, and Urban Development

Simone Tappert [1], Asma Mehan [2], Pekka Tuominen [3], and Zsuzsanna Varga [4]

[1] Institute for Social Planning, Organisational Change and Urban Development, University of Applied Sciences Northwestern Switzerland, Switzerland
[2] Huckabee College of Architecture, Texas Tech University, USA
[3] Centre for Consumer Society Research, University of Helsinki, Finland
[4] College of Social Sciences, University of Glasgow, UK

Correspondence: Simone Tappert (simone.tappert@fhnw.ch)

Submitted: 3 November 2023 **Published:** 16 January 2024

Issue: This editorial is part of the issue "Citizen Participation, Digital Agency, and Urban Development" edited by Simone Tappert (University of Applied Sciences Northwestern Switzerland), Asma Mehan (Texas Tech University), Pekka Tuominen (University of Helsinki), and Zsuzsanna Varga (University of Glasgow), fully open access at https://doi.org/10.17645/up.i327

Abstract

Today's exponential advancement of information and communication technologies is reconfiguring participatory urban development practices. The use of digital technology implies new forms of decentralised governance, collaborative knowledge production, and social activism. The digital transformation has the potential to overcome shortcomings in citizen participation, make participatory processes more deliberative, and enable collaborative approaches for making cities. While digital tools such as digital mapping, e-participation platforms, location-based games, and social media offer new opportunities for the various actors and may act as a catalyst for renegotiating urban space and collective goods, digitalisation can also perpetuate or even attenuate existing inequalities and exclusion. This editorial introduces the thematic issue "Citizen Participation, Digital Agency, and Urban Development" which focuses on the trajectories and (dis)continuities of citizen participation through digitalisation and elaborates this with examples from Europe and Asia on how the digital transformation impacts, challenges, or reproduces hegemonic power relations in urban development.

Keywords

activism; citizen participation; digitalisation; multi-stakeholder; urban development

1. Introduction

Since the communicative turn in the 1990s, citizen participation has become a cornerstone of planning and developing urban spaces (Fischer & Forester, 1993; Harris, 2019). In its critical dimension, citizen

participation is defined as a pluralist, multi-stakeholder approach that recognises the political nature of planning and the competing interests between stakeholders and stresses the importance of local knowledge production (Blue et al., 2019). The aims of participatory urban development approaches are multifaceted, from establishing trust to fostering community building and identification, resolving conflicts, promoting deliberation, and empowering citizens (Pokharel et al., 2022).

The digital transformation and the advancement of information and communication technologies have reconfigured participatory practices of planning and developing urban spaces. Digital technologies are a crucial building block for enhancing deliberation and enabling a more communicative action-oriented process of planning and city creation (Houghton et al., 2015). The use of digital interfaces, digital tools, online platforms, or social media channels creates different engagement channels that enhance processes of local networking, exchange, discussion, community learning, and action and thereby allow for a citizen-centric approach with the potential of democratising public decision-making processes (Fredericks et al., 2018; Hovik & Giannoumis, 2022). Social movements and citizen-led initiatives use new technologies to renegotiate urban space and public goods, and to generate counter-spaces and resistance, leading to new paradigms such as radical openness, networked intelligence, and crowdsourced deliberation.

However, the expectation that digitalisation will overcome historical patterns of shortcomings in citizen participation in urban development, such as the inclusion of marginalised groups or allowing citizens to impact policy decisions, has yet to be achieved. "Digital participation is often subject to the weaknesses or challenges of conventional participation" (Hovik & Giannoumis, 2022, p. 3), and a lack of access to digital technology, skills, and resources may reinforce the marginalisation of already disadvantaged groups and socio-spatial inequalities within cities or produce new mechanisms of exclusion.

2. Thematic Overview of the Issue

With the exception of two articles, this thematic issue is part of the European Cooperation in Science and Technology (COST) Action CA18204 which is entitled "Dynamics of Placemaking and Digitization in Europe´s Cities." The issue includes ten articles with examples from Europe and Asia, bringing together a wide range of research exploring digital tools, practices, and programs fostering citizen participation and activist initiatives in different contexts. Overall, the articles comprise three thematic clusters: the first four articles focus on the development of digital tools and the digital enhancement of participatory approaches, dealing with citizen-centred perspectives and stakeholder cooperation. The second group discusses how digital tools such as platforms, public participation GIS, and social media are appropriated by activist initiatives and movements to challenge hegemonic urban planning and governance practices and, in the case of Iran, political regimes. The third group delves into the more technical aspects of digital participation, exploring the role of data analytics, user experience, and human-computer interaction in shaping participatory processes. These articles highlight the ways in which technological interfaces can be optimised for greater user engagement, feedback, and collaborative problem-solving.

2.1. Development of Tools for Participatory Approaches

Spoormans, de Jonge, Czischke, and Pereira Roders focus on an understudied phenomenon: the significant attributes of residential neighbourhoods from 1965–1985, assessed by various stakeholders with a digital

tool. The research is based on case studies in Amsterdam and Almere, the Netherlands. The results shed light on architecture that includes over 30% of the residential stock in the Netherlands but for which there is no consensus on its cultural significance. The article evaluates the benefits of the digital tool and provides recommendations for its improvements.

García-Esparza and Nikšič discuss the participatory assessment of living environments from the perspective of residents, analysing Slovenian and Spanish cases using a digitally embedded photovoice approach. The cases show how the use of digital tools broadens participation, promotes dialogue between communities and stakeholders, and improves community-centred urban planning processes. The approach proves valuable in understanding residents' attachment to their environment, values, and perspectives and can be adapted to different urban and rural settings, highlighting the importance of valuing local knowledge for future sustainable and culturally rich projects.

Kırdar and Çağdaş explore digital participation in urban planning, leveraging computational systems to amplify expert involvement. Their study hones a Bayesian decision support model for urban vibrancy, focusing especially on the likeability of streetscapes, with the Eminönü Central Business District in Istanbul, Turkey as the focal point. They use a Bayesian belief network (BBN)-based decision support system to find places where urban intervention is needed and "what-if" BBN scenarios to figure out what might happen. They argue that despite the promise of this approach, there are challenges in user interaction with spatial BBN tools. Their research integrates conditional and spatial considerations, marking a notable stride in digital participation in urban decision-making.

The article by Palmese, Carles Arribas, and Antolín delves into placemaking and soundscapes in Madrid's Puerta del Sol Square, Spain. Sound, as an influential factor in interpreting human-environment interactions, is examined through aesthetic and phenomenological listening. The complexity of these relationships goes beyond traditional definitions of subject and context. By employing the soundwalk method, the research investigates the in-situ soundscape's influence on urban living. The article concludes by proposing a comprehensive map that melds experiences with citizen insights, presenting an enriched view of a place's auditory environment.

2.2. Activism

Suter, Kaiser, Dušek, Hasler, and Tappert approach the Decidim platform, widely used in citizen participation initiatives, from the perspective of digital rights to the city. They study the institutional adoption of the platform and its impacts on local practices and negotiations for governing urban space. The argument situates Lefebvre's influential theorisation of "right to the city" in the context of the Swiss cities of Zurich and Lucerne. The aim of the article is to articulate how digital tools like Decidim can be introduced successfully, acknowledging the citizens' needs and what the limitations of their use are.

Harsia and Nummi study the use of public participation GIS tools to improve citizen participation in the renewal process of a marginalised urban area. The case study is situated in a notorious open-air shopping centre in Helsinki, Finland, and concentrates especially on how to increase the polyphony of urban planning. They argue for planning activism and a bottom-up approach to collect participatory data and to improve

the questionnaires used in the participatory work. The article provides a timely critique for understanding the questions of inclusion and diversity in a more dynamic and accurate manner.

Mehan uses the example of the recent feminist movement in Iran to explore how social media and digital art are being used to challenge social norms and reclaim space. She highlights symbolic acts of resistance and using digital spaces for activism. While digital platforms offer opportunities for communication and advocacy, they also come with limitations such as surveillance and misinformation. The Woman, Life, Freedom movement in Iran is an important example of digital feminist activism that has challenged gender norms and pushed for equality.

2.3. Interaction and Analytics in Digital Participation

Mavrič and Čebron Lipovec focus on the negotiations of contested spaces and dissonant heritage in Koper/Kapodistria in Slovenia. Their aim is to explore specifically how the type of communication (in this case Facebook groups) affects and reflects the processes shaping the urban environment. In Koper, eventful and often tense historical narratives have re-emerged in interesting ways in the digital realm in recent years. The authors approach these historical layers by building a detailed analysis of the complex relationship between social media tools and specific historical locations.

The article by Polko and Kimic delves into the National Map of Security Threats in Poland, a GIS-based tool introduced in 2016. It enables the digital mapping of crime and threats, utilising citizen-contributed volunteered geographic information. The map identifies 26 threat categories, but a study conducted in 2022 emphasises traffic, alcohol, drugs, and, surprisingly, greenery as the main concerns. This rise in greenery-related concerns underscores its importance in future urban safety planning.

The article by Smaniotto Costa, García-Esparza, and Kimic examines three participatory budgeting projects in Lisbon (Portugal), Warsaw (Poland), and Valencia (Spain). The projects showcase diverse participatory practices united by a common goal of creating a more responsive, environmentally friendly urban environment. The authors show that information and communication technologies, including social media, play a key role in supporting stakeholder engagement and online voting. The examples show that digital citizen participation in urban planning goes beyond the choice of tools and should focus on providing channels for dialogue and knowledge sharing.

3. Conclusion

This rich set of articles underscores the potential of digital technologies in creating liveable, sustainable, and resilient cities through participatory approaches, with citizens playing a central role in actively shaping urban futures. The thematic issue shows how important it is to employ both analogue and digital participatory approaches to address and include the diverse voices and needs and how local knowledge production can be harnessed through digital tools to enrich urban development processes.

The emphasis on activism, particularly in the digital realm, is noteworthy. Digital tools have equipped activists with powerful means to contest the prevailing power structures, as showcased in the discussions on counter-hegemonic spaces and practices. In particular, social media stands out as a potent tool for

mobilisation, awareness, and resistance. Its decentralised nature allows for the emergence of grassroots movements that can challenge and, at times, subvert established norms and power dynamics. Yet, the role of social media also warrants critical scrutiny, given its potential both to amplify and to suppress voices, depending on the algorithms and policies that govern these platforms.

One of the more important outcomes of this thematic issue is that technology is not a panacea. Although it provides innovative solutions and unheard-of opportunities for citizen engagement, the current power structures and decision-making processes ultimately mediate its impact. Digital tools, no matter how advanced, can be rendered ineffective if they are deployed within rigid, top-down governance structures resistant to genuine public participation. In such contexts, the very tools meant to democratise and diversify can inadvertently perpetuate existing hierarchies and exclusions.

Acknowledgments

We would like to thank all the authors, peer-reviewers, and the journal's staff and editor for making this thematic issue possible. This thematic issue is based upon work from COST Action DOPMADE, CA18204, supported by COST (European Cooperation in Science and Technology).

Conflict of Interests

The authors declare no conflict of interests.

References

Blue, G., Rosol, M., & Fast, V. (2019). Justice as parity of participation. Enhancing Arnstein's ladder through Fraser's justice framework. *Journal of the American Planning Association*, *85*(3), 363–376.

Fischer, F., & Forester, J. (1993). *Argumentative turn in policy analysis and planning*. Duke University Press.

Fredericks, J., Hespanhol, L., Parker, C., Zhou, D., & Tomitsch, M. (2018). Blending pop-up urbanism and participatory technologies: Challenges and opportunities for inclusive city making. *City, Culture and Society*, *12*(1), 44–53.

Harris, M. (2019). *A future for planning: Taking responsibility for twenty-first century challenges*. Routledge.

Houghton, K., Foth, M., & Miller, E. (2015). Urban acupuncture: Hybrid social and technological practices for hyperlocal placemaking. *Journal of Urban Technology*, *22*(3), 3–19.

Hovik, S., & Giannoumis, A. (2022). Linkages between citizen participation, digital technology, and urban development. In S. Hovik, G. A. Giannoumis, K. Reichborn-Kjennerud, J. M. Ruano, I. McShane, & S. Legard (Eds.), *Citizen participation in the information society: Comparing participatory channels in urban development* (pp. 1–24). Springer.

Pokharel, A., Milz, D., & Gervich, C. D. (2022). Planning for dissent. *Journal of the American Planning Association*, *88*(1), 127–134.

About the Authors

Simone Tappert is an urban anthropologist and senior researcher at the School of Social Work, University of Applied Sciences Northwestern Switzerland. Her research, teaching, and consultancy activities focus on urban social sustainability, co-creation, transformative neighbourhoods, community work, and digitalisation in European cities.

Asma Mehan (PhD) is a researcher, educator, and architect working at the intersection of architectural humanities and critical urban studies. She is currently an assistant professor at the Texas Tech University College of Architecture. She is the author of the books *Tehran: From Sacred to Radical* (Routledge, 2022) and *Kuala Lumpur: Community, Infrastructure, and Urban Inclusivity* (Routledge, 2020). She has authored over 50 articles and essays in scholarly books and professional journals in multiple languages, such as English, Persian, and Italian, on critical urban studies, architecture, urban planning, housing, and heritage studies.

Pekka Tuominen is a social and cultural anthropologist specialising in urban transformation, the sociocultural qualities of space, and the moral dimensions of urbanity. He is currently senior research fellow at the University of Helsinki for the Nordforsk-funded COLDIGIT research consortium. His current research concentrates on urban transformation, segregation, and citizen participation in Helsinki.

Zsuzsanna Varga is a cultural historian specialising in Central European history and literature. She works as senior lecturer at the University of Glasgow in the Department of Central and East European studies. Her past research focused on East European travel writing, while recent work covered film history (*Popular Cinema in East Central Europe*, 2017) and urban literary history (*Bilingual Authors, Multilingual Printing Presses and 'Informal Capital': Pest-Buda in the Early Nineteenth Century*, 2022). Her current work focuses on studies in urban literary heritage.

Urban Planning
2024 • Volume 9 • Article 6998
https://doi.org/10.17645/up.6998

cogitatio

ARTICLE

Open Access Journal

Discovering the Significance of Housing Neighbourhoods by Assessing Their Attributes With a Digital Tool

Lidwine Spoormans [1], Wessel de Jonge [1], Darinka Czischke [2], and Ana Pereira Roders [1]

[1] Department of Architectural Engineering + Technology, Delft University of Technology, The Netherlands
[2] Department of Management in the Built Environment, Delft University of Technology, The Netherlands

Correspondence: Lidwine Spoormans (l.g.k.spoormans@tudelft.nl)

Submitted: 12 April 2023 **Accepted:** 14 August 2023 **Published:** 16 January 2024

Issue: This article is part of the issue "Citizen Participation, Digital Agency, and Urban Development" edited by Simone Tappert (University of Applied Sciences Northwestern Switzerland), Asma Mehan (Texas Tech University), Pekka Tuominen (University of Helsinki), and Zsuzsanna Varga (University of Glasgow), fully open access at https://doi.org/10.17645/up.i327

Abstract

Much of the building stock subjected to the upcoming European Renovation Wave is neither listed as heritage nor considered valuable architecture. This also applies to Dutch housing built between 1965 and 1985, more than 30% of the Dutch housing stock, for which there is no consensus on their cultural significance. Their successful renovation process requires broad support. What attributes do citizens consider significant in their neighbourhood? How do we include a multitude of stakeholders? And can digital methods help collect and process responses? This article reveals significant attributes of residential neighbourhoods from 1965 to 1985, assessed by various stakeholders with a digital tool based on case studies in Amsterdam and Almere. A mobile application allowed individuals to identify significant attributes at various scales while visiting the neighbourhood. By qualitative data analysis of survey and interview results, groups of tangible and intangible attributes were deduced. Results show that identifying attributes by current stakeholders broadens existing expert-led assessments on 1965–1985 neighbourhoods by including, for example, generic attributes not originally intended by the designers. Asking open-ended questions is considered essential to identify undiscovered attributes by alternative stakeholders, although dealing with large numbers of responses is recognised as a challenge to cluster and classify. Lastly, the mobile application appears to be a useful digital tool, but integrating scientific consistency and usability is recommended for further development. Engaging multiple stakeholders with such mobile applications allows for collecting opinions, anticipating conflicts, or shared interests between stakeholders and integration into renovation designs. It can empower citizens to preserve the neighbourhood attributes that are most significant to them.

Keywords
cultural significance; heritage attributes; housing neighbourhoods; participation; post-Second World War architecture

1. Introduction

The European Green Deal announced a Renovation Wave for 35 million residential and non-residential buildings by 2030 to foster deep energy renovations (European Commission, 2020, p. 3). "Respect for aesthetics and architectural quality" (European Commission, 2020, p. 4) is stated as one of the key building principles for this massive renovation operation, next to energy efficiency and affordability. It refers to the Davos Declaration that promotes the concept of a high-quality *Baukultur* in Europe, stressing the preservation of the quality of the built environment and the value of cultural heritage (Federal Office of Culture, 2018), hereinafter referred to as cultural significance. Making these high-quality renovations possible quickly and on a large scale requires broad support from both decision-makers and citizens. Support is necessary not only for legal and organisational reasons but also to create living environments that meet citizens' needs and preferences. Policies at the national and European level call for stakeholder participation and promote digital technology to encourage citizens' initiatives and the sharing of information (Council of Europe, 2005; Ministry of the Interior and Kingdom Relations, 2021).

A large part of the building stock to be renovated is not listed as heritage or considered valuable architecture by experts. In the Netherlands, almost a third of the residential stock dates from 1965 to 1985 (CBS, 2020). These buildings do not meet contemporary demands and are seldom listed as heritage properties. In recent years, academic and societal interest in younger buildings has increased, with national heritage institutes taking steps to assess their cultural significance. In particular, the Cultural Heritage Agency of the Netherlands (2019, pp. 6, 16) has defined 1965–1990 as the "Post 65" period and identifies it as a target for urgent research regarding the upcoming energy transition and demographic changes. Earlier research on the Dutch residential neighbourhoods built from 1965 to 1985 mainly addresses the intentions of original planners and architects and how these translated into urban and architectural attributes. Publications are available describing societal developments and design ideologies, including documented conferences and interviews from that time (De Haan & Haagsma, 1981; Leupen et al., 1990; Roegholt, 1984) as well as contemporary survey works of, for example, design themes (de Vletter, 2004), architects' retrospect (Scipio & Franke, 2007), urban typologies (Ubbink & van der Steeg, 2011, p. 11), and new towns (Reijndorp et al., 2012).

However, few scientific studies have researched the cultural significance of housing neighbourhoods from the 1965–1985 period from the perspective of residents and other non-expert stakeholders. Moreover, the evaluation of 1965–1985 architecture is often based on historic intentions (Abrahamse, 2019; Blom et al., 2021; de Vletter, 2004; Somer, 2020) but rarely on its current heritage significance (Provoost & Rots, 2023). This research reveals the significance of neighbourhood attributes, assessed by the stakeholders using a digital tool. By integrating significance assessment and digital participation methods, this research explores the potential and limitations of digital participation to engage a large group of stakeholders in identifying and assessing neighbourhood attributes on their cultural significance. It is qualitative research, taking neighbourhoods in Amsterdam and Almere as case studies. Stakeholders from different groups participated

by identifying significant attributes at different scales using a mobile application. Although previous research shows important differences between the assessments of various stakeholder groups (Spoormans et al., 2023), participant profiles and how they influence their assessment are not the focus of this article.

This article uses heritage theories and methods to study residential areas not listed as heritage. It adopts Fairclough's (2009) definition of "new heritage," which states that unlike the traditional definition of heritage based on the selection of buildings and areas, new heritage is "whatever people value in a wide range of ways." Heritage is not special but ordinary and includes everything we have inherited (Fairclough, 2009, pp. 30, 35, 41). Professional and civic engagement in heritage and renovation processes can improve mutual understanding, accelerate development processes, and increase civic engagement and empowerment.

The theoretical framework in Section 2 introduces the main concepts: attribute assessment and digital participation methods. The case studies and their history are illustrated in Section 3. Section 4 explains the methods used for the (digital) data collection and analysis, after which Section 5 presents the results. Section 6 discusses some challenges in identifying attributes through participation by digital methods, after which Section 7 presents the study's conclusions.

2. Theoretical Framework

The theoretical framework distinguishes two dimensions: first, attribute assessment through participation, and second, the use of digital participatory methods. In this research, a digital tool is employed to promote participation. Participation is deployed to identify significant attributes. By first unravelling purpose and means and then subsequently exploring their mutual influence we can explore whether digital participation engages a wider range of stakeholders in neighbourhood heritage assessment processes and how it influences the resulting attributes.

2.1. Attribute Assessment Through Participation

In heritage discourses, the term "attribute" is gaining ground and provoking debate. The distinction between values and attributes in relation to heritage was introduced in international documents by the Recommendation on the Historic Urban Landscape (UNESCO, 2011). In heritage studies, attributes were defined as *what* we value and values as the reason(s) *why* (Pereira Roders, 2007; Tarrafa Silva & Pereira Roders, 2012; Veldpaus, 2015). The publication *Attributes—A way of understanding OUV* contextualises the term attribute to a "world heritage site broken down into smaller parts" to operationalise the abstract concept of outstanding universal value (OUV) for managers, local populations, and various stakeholders (Kazuhiko et al., 2021, p. 10). In this publication, Cotte (2021, pp. 32–35) defines an attribute as a part of a whole, and reciprocally, a property consists of a set of attributes that form a coherent whole and carry specific meanings. Attributes exist in two complementary dimensions: as tangible features that physically describe the property or as bearers of associated intangible features. He sees no rigid boundary between tangible and intangible attributes, but intangible meanings complement tangible attributes. Similarly, van der Hoeven (2020, pp. 136–137) makes no distinction between tangible and intangible attributes because, for example, cultural activities always take place in a building or public place and are, therefore, inseparable. However, different approaches to attribute terminology are observed. Some regard attributes neutrally as all the attributes of a property, while others use the term evaluatively for only those attributes that contribute

to the outstanding universal value (Wataru, 2021, p. 106). Contrary to van der Hoeven's approach, Skounti (2021, p. 135) proposes further distinguishing the definition of the attribute, as something intangible (e.g., typology of elements), and the indicator as a tangible embodiment of the intangible definition (e.g., number of tangible accessories). One attribute can have several indicators. In the earlier article "Captain, Where Can We Find the Attributes," a similar distinction was explained (Sobhani Sanjbod et al., 2016, pp. 5–6). Aiming to identify and locate attributes of the Amsterdam Canal Zone (a World Heritage property in the centre of Amsterdam), they distinguish (a) attributes, (b) sub-attributes, (c) architectural indicators, and (d) values. "Attribute" is explained as an (in)tangible general theme (e.g., port city), "sub-attribute" to a specific embodiment of the main attribute (e.g., warehouses), "indicator" to a recognisable element of sub-attributes (e.g., spout gable), and "value" to categories of meaning (e.g., aesthetic, economic, or historical values).

The identification of attributes and other heritage processes should involve everyone in society, as advocated by the European Faro Convention (Council of Europe, 2005, p. 5). The development of legal, financial, and professional frameworks to enable joint action by stakeholders is stated as a public responsibility of national governments. It is recognised that including individuals and communities from various stakeholder groups enlarges the concept of cultural heritage. Besides the variety and multiplicity of people involved in development practices, non-experts' participation can change the definitions of heritage. The essential factor is the recognition, representation, and identification of heritage by a group of people and their wish to conserve it for future generations (Howard, 2003, p. 6). In "New Heritage Frontiers," Fairclough (2009, pp. 30–40) proposes a "new heritage" approach promoted by the Faro Convention. This includes adding new categories of objects, for example, recent buildings, and developing new practices based on recognising the importance of the local and the ordinary and embedding heritage values into social attitudes. By taking heritage out of its sectorial isolation and making it a part of the wider debate, the approach not only becomes more democratic but also more forward-looking, including present-day stakeholders in spatial developments for the future. In this all-encompassing concept of heritage, things that so far have been considered marginal, such as the neglected ordinary things, could become central.

In this article, the term "attribute" is used for the intangible quality or meaning, and "sub-attribute" is used for its multiple tangible embodiments or intangible manifestations. The definition and application of these terms evolved from Sobhani Sanjbod et al. (2016) and others. Attributes and sub-attributes can be all the things that participants mention for various reasons and can be positive or negative. In doing so, the article applies the broad "new heritage" approach adopted by Fairclough (2009, pp. 30, 35, 41), both in heritage as an object (recent, not listed stock) and in democratic methods. It includes the participation of both professionals from different fields related to heritage and renovation practices as well as non-expert stakeholders. Their assessment is open to all attributes.

2.2. Digital Participatory Methods

Although most participatory heritage practices use conventional methods such as meetings, interviews, and workshops, digital and automated methods for data collection are becoming more common (Foroughi et al., 2023, p. 5). Foroughi et al.'s (2023) literature review of articles from 1985 to 2019 shows that of the studies applying qualitative methods, 23% use digital methods and 7% use a mix of digital and analogue methods. Digital methods like collaborative online platforms or digital surveys are assumed to have advantages such as being easily accessible regardless of time and place (Shen et al., 2012, p. 202) and less time-consuming and

costly (Foroughi et al., 2023, p. 6). However, difficulties have also been seen, such as the lower response rate for digital surveys (Brown & Weber, 2012, p. 320), the inability to communicate directly and in person, and the need to possess and be able to use a computer (Shen et al., 2012, p. 202). Moreover, as discussed by Finka et al. (2017), general challenges for participatory processes also apply to digital methods, like declining public interest over time and the effect that people are more (or only) interested when personally confronted with a change or decision, the so-called NIMBY effect. The known problem of low trust in organising institutions and the participation process can be compounded by distrust in digital methods. Misunderstanding or different interpretations of terminology can also be particularly problematic with digital methods, as there is no direct interaction to clarify ambiguities (Finka et al., 2017, pp. 2, 6–7).

Besides practical reasons, digital methods are emerging to enhance citizens' experience or connection with heritage. Lewi et al. (2016, pp. 16–18) have distinguished three categories of digital tools that collect user-generated data (UGD) in relation to a specific place. The tools are mostly used by smartphones to guide exploration of a (historic) site. In "curated sites," an expert institution offers authoritative information, and the participant has the role of a visitor. In "content hosting sites," the citizen is a contributor. These tools are built to document and interpret heritage and offer a more open framework for contributions and exchange. The "social network sites" are fora for discussion on a particular place, for example, Facebook groups, and are usually not curated. Also, emerging studies on architecture built after 1965 in the Netherlands use digital participation to map unexplored architectures and opinions (e.g., the Post 65 photo competition by the Dutch Cultural Heritage Agency, the online public inventory of architecture 1965–1990 by the Rotterdam Municipality, and the online platform Love 80's architecture). In general, these digital methods, such as social media, polls, and surveys, are suggested by the Dutch government as contemporary methods to collect opinions (Cultural Heritage Agency of the Netherlands, 2019, pp. 22–23, 30). However, while these tools are widely used, integrating the the collected data in formal heritage processes is a challenge (Lewi et al., 2016, p. 22). However, automated processing of UGD is gaining importance and may provide solutions. Social media networks, including non-specific heritage initiatives, can be used to map attributes by collecting images, texts, and geographical locations referred to by online citizens (Alviz-Meza et al., 2022, p. 11). Moreover, UGD can also be combined into multi-modal datasets, revealing temporal, spatial, and social relationships. However, although working with well-trained machine learning and deep learning models, it is stated that for applications where more accurate conclusions are needed, human evaluations of the models' validity, reliability, and coherence are still needed (Bai et al., 2022, pp. 3, 24). The study by Sobhani Sanjbod et al. (2016, p. 9), conducted by researchers on a selected sample of attributes, also addressed the need for digital methods to support automated data collection to scale up the application of attribute identification for urban landscapes. For tangible attributes, the authors suggest using GIS data, other existing databases, or laser scanning may be feasible. However, how to find the meaning or intangible attributes in automated ways is an unresolved issue. Moreover, very precise descriptions of the attributes, including their relationships, which are intangible attributes, would be needed to establish a network of attributes that fully describes an urban landscape. To specify attributes in significance statements on a larger scale (e.g., for a district), in order to include them in management frameworks, automation of both data collection and data analysis seems to be required.

In the research discussed in this article, digital methods are applied for data collection, including visual and textual input, by a sample of invited participants. Although small scale, it has the character of "content hosting sites" relating to the categories by Lewi et al. (2016, pp. 16–18). The analysis of UGD is human work in this

research, but ideas on automated processing of UGD are discussed in this article as potential applications in future research.

3. Context and Case Studies

Housing in the Netherlands built after 1965 is known to have turned away from the urban planning and architecture of the post-Second World War reconstruction period. Modernist repetitive schemes were replaced by varied compositions of housing types, forms of streets, squares, and building blocks (Spoormans et al., 2021). The housing shortage had become less acute, and rising prosperity allowed for more attention to quality rather than quantity. In 1968, the Secretary of Housing and Spatial Planning set up an experimental housing programme to promote innovations that would contribute to a better quality of life through a highly varied range of housing and living environments. This development was sparked by a broad dissatisfaction with the monotony and uniformity of housing construction in the reconstruction period (Barzilay et al., 2018, pp. 9, 19). The pursuit of a better quality of life and identification has a variety of material and visual manifestations. During the 1980s, the rich variety was toned down when the economic crisis led to a more "no-nonsense" approach, lower budgets, and the emergence of market-oriented developments. Although low-rise is dominant (69%), midrise residential typologies embody an essential change in the ideology of the time. In 1976, an article was published describing the revival of midrise typology in alternative forms. Its title, "Stacked Low-Rise Buildings: Multi-Family Houses, but Cosy," expressed the idealisation of low-rise and the resistance to high-rises. The development of innovative midrise models is explained by a re-valuation of traditional urban and natural environments. However, new objectives are increased density, including commercial and community facilities and public transport, a mix of living and working, and opportunities for social contact (Steemers & Klaren, 1976, pp. 5, 9).

Goedewerf in the suburban new town Almere Haven (Section 3.1) and Bijlmerplein as the urban centre of Amsterdam Zuidoost (Section 3.2) are considered examples representing residential areas from the 1965–1985 period in the Dutch context (Spoormans et al., 2022). In the same period, the ideal model of garden cities was tested around European metropolises, such as the New Towns in the United Kingdom and the Villes Nouvelles in France (Gaborit, 2010, p. 24). Although there are important differences in planning policy, culture, and scale of the towns, these residential areas developed as a reaction to evolve from the large-scale developments of the earlier years. In his comparative study of Almere, Cergy-Pontoise, and Milton Keynes, Nio (2016) has described their characteristics as "suburban urbanity." In the European context, academic interest in the heritage significance of architecture from the 1960s onwards is emerging, for example by some German-speaking countries, discussing the characteristics and challenges of the "postmodern legacy" (Bauhaus-Universität Weimar, 2022) or the heritage value of the Brussels housing stock 1975–2000 by Parein in the project ArchBXL (VUB Architectural Engineering, 2021). Lastly, the citizen engagement in significance assessments of younger residential areas is studied in other European countries, for example, by Swiderski regarding the 1970s Polish town Ursynów (Ducci & Swiderski, 2022) or the iconic 1970s Byker Wall in Newcastle upon Tyne, United Kingdom (Pendlebury et al., 2009; Yarker, 2014).

3.1. Goedewerf, Almere Haven

De Werven was the first neighbourhood built in the new town of Almere, and in 1979, the first inhabitants, mainly from Amsterdam, arrived (TH Delft, 1977, p. 1). Almere Haven was designed as a suburban area with

mostly low-rise neighbourhoods. The urban plan for its centre refers to the traditional Dutch city with urban attributes like canals, canal houses, and narrow street profiles. The Goedewerf residential complex was designed by the architectural firm INBO and dates from the 1970s. It has a *woonerf* character, which involves traffic-free courtyards, clustered parking, private garages, a collective green area, and a playground in its centre (see Figure 1). The aim was to create an enclosed semi-public courtyard geared for use only by local residents. The architects aimed to avoid a smooth facade wall but envisaged human-scale dimensions and a diversity of balconies, loggias, stairwells, and galleries (Rijksdienst voor de IJsselmeerpolders, 1976, p. 1). The residential complex consists of diverse dwelling typologies and sizes, combining single-family houses and flats. The facades are in red brickwork complemented with various materials and colours, including wooden window frames, balcony railings, various panelling, exposed concrete lintels, and gravel concrete elements. Due to the organic shape of the block and the sloping roofs, the roof shape is complex. The houses in Goedewerf are partly owned by private homeowners and partly by social housing corporations.

Figure 1. Residential yard (*woonerf*) in Goedewerf (left) and surrounding area of Goedewerf (right).

3.2. Bijlmerplein, Amsterdam Zuidoost

The Bijlmerplein district in Amsterdam was built in the mid-1980s and consists of seven clusters designed by five architectural firms under the supervision of the architectural firm Van den Broek en Bakema. It is planned as a "city within a city," integrating a large number of functions, such as commercial and social facilities, housing, and offices (Stedenbouw, 1988, p. 13). As a counter-movement to the CIAM model for the Bijlmermeer as a whole, the public space was designed as a sequence of enclosed, intimate spaces, such as city squares of different proportions enclosed by perimeter blocks, narrow streets and stairs leading up to elevated decks with collective and private outdoor spaces (see Figure 2). The designers' aim to achieve urban vitality was inspired by traditional urban concepts (P. de Bruijn, interview, October 14, 2020). However, the infrastructural ideology of CIAM is still part of the mixture, separating slow and fast traffic at different levels, and separate parking zones in garages or courtyards. The elevated highways give access to elevated decks where the entrances to the housing units are located (ter Horst et al., 1991, p. 113). Housing types range from units for singles or couples to large family flats aimed at a diverse mix of households. The five-storey blocks on a retail plinth have flat roofs and feature white brick facades with white-yellow patterns in specific places. A strong relief characterised the facades due to canopies, balconies, and alcoves of different shapes.

Figure 2. Residential deck (*woondek*) in Bijlmerplein (left) and public square in Bijlmerplein (right).

4. Method

The study was conducted in the context of the Delft University of Technology project Respectful Renovation. As part of the research project, a smartphone application, Search for Values, was developed, and a varied group of stakeholders was invited to participate. The survey and focus group interviews took place between April and September 2021. A survey and focus group interview with residents of Bijlmerplein took place in March 2023. The entire process was considered a pilot project.

4.1. Participants

Various groups of stakeholders participated in the survey by app and follow-up interviews. All professionals involved work in housing renovation in their work: architects, sustainability consultants, staff of municipal government employees specialising in heritage or sustainability, representatives of a housing corporation, a housing union, and an owners' association (see Table 1). Heritage experts (municipal/national advisors, deciding on heritage listing and policies) are included in the governments group. Also, a group of architecture students from an MSc course in Heritage and Design participated. The research team saw an opportunity to involve these students, as an informed and critical group, in testing the digital tool while learning about heritage participation processes. Lastly, an invited group of residents participated. For the residents group, the app was improved, based on comments from the professionals and students, by adjusting the language and avoiding jargon and complexity, which are less familiar to other professional and non-professional

Table 1. Number of participants per stakeholder group.

	Case: Bijlmerplein	Case: Goedewerf	Focus group interview
Architects and advisors	4	5	3
Governments	4	4	3
Owners	2	2	2
Students	3	5	5
Residents	5	1	7

participants. All participants were informed about the goals and methods of the research. Moreover, the concepts of attribute, value, tangible, and intangible were explained and illustrated by a tangible (facade or balcony) and an intangible (atmosphere) example. The explanation emphasised the importance of voicing someone's individual contribution.

4.2. App and Focus Group Interviews

The survey was developed using Qualtrics software, to create a smartphone app (see Figure 3), which allowed participants to complete the survey on location while walking, watching, and experiencing. The Covid-19 restrictions prompted the development of this app, as group meetings were not allowed. The app-based survey contained the following questions and information:

1. Introduction, explaining the project and case studies, asking for the name (optional), stakeholder group, and consent;
2. Attribute assessment (asked for each case, on several scale levels):
    - *What* do you think is valuable?
    - *Why* do you think it is valuable?
    - Is there anything you would like to change?
    - Possibility to upload a photo (optional);
3. One open question about the general experience of the survey and comments

After completing the individual on-site survey, focus group interviews were conducted in a meeting (in most cases online). With each stakeholder group individually, their responses were discussed, and further clarification was sought by the researchers. These focus group interviews were recorded and transcribed using Amberscript transcription software.

Figure 3. Illustration of the digital tool Search for Values (app on smartphone).

4.3. Coding and Analysis

The results of both the survey by app and the follow-up focus group interviews were coded using Atlas.ti software. Attributes (what) and values (why) were deduced from the full dataset. Classifications from theory (Kamari et al., 2017; Pereira Roders, 2007) were used for coding, but "in vivo" codes were also developed, meaning that the content of the quotation was deduced and classified as a code. The latter category led to specified attribute codes, tangible and intangible, which are the focus of this article. An initial analysis was based on the frequency of occurrence, leading to ranked attributes. The co-occurrence of attributes was also studied, i.e., how often an attribute was mentioned in relation to another attribute. Attributes were also controlled for positive or negative sentiments, association with one or both case studies and distribution by stakeholder group. From these analyses, groups of related attributes were identified.

5. Research Results

The research results are divided into the outcome of attributes that emerged from the survey responses and their classification, followed by the functioning of participation with the app.

5.1. From Responses to Attributes

The participants' responses were clustered in groups relating to architectural and urban concepts. Seemingly very different sub-attributes at various scales were considered part of the same overarching attribute. For instance, private home entrances (dwelling level), open accessibility via stairs and gates (ensemble level), the residential yard or deck (ensemble level), and separation of infrastructure (neighbourhood level) are all a consequence (or a facilitator) of the intangible attribute of "semi-public residential atmosphere."

Several such groups of sub-attributes were identified and a selection is presented in Table 2. The names for the sub-attributes were derived from the data and indicate what the participants found valuable, although responses may have sometimes referred to them using different words or terms. The expressions "attic-like atmosphere," "all those angled corners and shapes," "organic," "sheltered," and "you can look to all directions" all refer to the attribute "45-degree design." Many attributes apply to both case studies, but some are specific, highlighting their differences, for example, a mixed-use program in the urban context of Bijlmerplein and only residential function in suburban Goedewerf.

Various intended attributes of 1965–1985 neighbourhoods, known from the literature, are recognised and valued by respondents. They mention, for example, "The small scale, the winding of the street and those little corners. That's so cosy," which was exactly the design ambition. However, responses often mention the sub-attributes, for example, midrise blocks, the mix of shops and homes, balconies, or the private home-entrances from yards and decks, but they rarely mention the overarching intangible attribute such as "traditional city" or "semi-public residential atmosphere."

Table 2. Selected attributes categorised and illustrated by quotations from the data.

Classification	Attribute	Sub-attributes tangible (t) or intangible (i)	Scale	Case study
Specific attributes, tradition-inspired	Traditional city	Mixed use program (i)	Neighbourhood	Bijlmerplein
		Midrise blocks (t)	Neighbourhood	Goedewerf + Bijlmerplein
		Formal architectural coherence (i)	Ensemble	Goedewerf + Bijlmerplein
	Traditional use of material	Masonry facades (t)	Component	Goedewerf + Bijlmerplein
		Brick applications and ornaments (t)	Component	Goedewerf + Bijlmerplein
Specific attributes, innovation-driven	Differentiation	Housing typologies (i)	Ensemble	Goedewerf
		Ownership structure (i)	Ensemble	Goedewerf
		Balconies and bay windows (t)	Building	Bijlmerplein
		Recesses, corners, and gates (t)	Building	Goedewerf + Bijlmerplein
		Mix of materials (t)	Component	Goedewerf
	Semi-public residential atmosphere	Separated infrastructure (i)	Neighbourhood	Goedewerf + Bijlmerplein
		Stairs and gates (t)	Ensemble	Bijlmerplein
		Residential yard/deck (t)	Ensemble	Goedewerf + Bijlmerplein
		Private home entrance (t)	Dwelling	Goedewerf + Bijlmerplein
	45-degree design	Complex roof shapes (t)	Building	Goedewerf
		Kinked shapes and spaces (t)	Building	Goedewerf
		Multi-sided orientation (i)	Dwelling	Goedewerf
Generic attributes	Pleasant public space	Benches on squares (t)	Neighbourhood	Bijlmerplein
		Trees, planters (t)	Neighbourhood	Goedewerf + Bijlmerplein
		Green areas (t)	Neighbourhood	Goedewerf + Bijlmerplein
	Quality housing	Good quality social housing (i)	Dwelling	Goedewerf + Bijlmerplein
		Open kitchen (t)	Dwelling	Goedewerf + Bijlmerplein

5.2. Attribute Classification

The attributes were further classified, relating them to spatial or societal concepts, which often have their basis in the original planning ambitions of the 1965–1985 housing neighbourhoods. The attributes "traditional city" and "traditional use of material" are categorised as specific to that time, representing the reintroduction of traditional architectural ideas. Other attributes are also specific for the time but instead represent the

innovation and experiment of the 1965–1985 architecture. These are "differentiation," "semi-public residential atmosphere," and "45-degree design."

Within the specific attributes, those that are tradition-inspired are predominantly viewed as positive, while the innovation-oriented attributes are more contested. For example, the assessment of the attribute "semi-public residential atmosphere," the innovative concept of "stacked low-rise buildings" (Steemers & Klaren, 1976) intended as a safe haven, is ambiguous. It is assessed as both safe and unsafe, sheltered and labyrinthine, cosy but also unwelcoming. Respondents state, for example: "It is open, but it feels private" or "The yard feeling is nice for children and the elderly because it is car-free. But for visitors, it is a maze." The use of brick as an example of tradition-inspired attributes is assessed positively because of its recognisable Dutch identity, craftsmanship, physical properties, low maintenance, and good condition. Addressing the masonry facades, a respondent stated: "Bricks are heavy, so it has a delaying effect when it is very hot outside. So that provides comfort." About brick applications and ornaments, it was said: "Those masonry facades have a kind of richness. It's reminiscent of the monumentality of the Amsterdam School," which is an interbellum architectural style.

Respondents also mentioned generic attributes not specific to 1965–1985 neighbourhoods, such as "pleasant public space" in the form of greenery and seating in squares that facilitate meetings. Residents say, for example: "The green areas make it pleasant to live in. And it makes it possible to walk in the greenery." At the dwelling scale, "quality housing" with various sub-attributes is listed as valuable, with one respondent stating: "Nowadays, they only build identical houses with all the same floor plans. So, I would definitely cherish the differentiation of this kind of housing." Attributes not originally aspired to but developed later, such as "mixed ownership" in Goedewerf, are also identified as significant. Respondents think that: "The mix of buyers and tenants ensures a healthy balance of social classes in the complex." The generic attributes were mentioned by all stakeholder groups, but particularly often by residents.

Assessments are broadly similar across stakeholder groups, as they largely mention the same attributes and do not show opposing views. Sub-attributes belonging to, for example, differentiation of traditional material are frequently mentioned by all professional stakeholder groups. Differences were found according to their disciplinary areas: Governments focused more on public space, whereas architects and consultants referred more to aesthetic and spatial attributes. Residents referred more to neighbourhood activities, culture, and social structures and much less to buildings.

5.3. Digital Participation Process

In response to the final open-ended question of the survey, participants formulated their feedback on the use of the app. The repeated wording of the questions ("What do you find valuable about …") was perceived as boring. This fatigue is also observed in formulating answers. Later, questions are answered more concisely or state "see above." Another observation mentioned by all groups is that the survey asks for "value," while participants sometimes did not see anything of value. However, many participants still mentioned negative assessments in their responses. Participants said they liked that the survey included the wider environment but regretted not being able to enter buildings and dwellings (which was impossible due to Covid-19 restrictions).

Completing the on-site survey using the app had both positive and negative aspects. It was an opportunity for professional stakeholders to explore the neighbourhood, confirming the result of unexpected findings.

Some residents, however, did not see the added value of walking around because they already knew their neighbourhood. Residents had more difficulty using the app than other groups. Some were excluded from participating because they did not have a smartphone or could not get the app to work; they did, however, participate in the focus group interview. Residents were also more likely to quit the survey early without completing it. Comparing the results of the app and the follow-up interview per stakeholder group, participants in the focus group interview were influenced by their peers, while the app functioned to collect individual responses and obtain more independent opinions, as participants were asked to go alone.

6. Discussion

In the research, digital participation is employed to identify significant neighbourhood attributes. This section discusses how digital methods can promote large-scale participation in attribute assessment and how digital participation affects the resulting attributes.

6.1. The Challenge of Identifying Attributes From a Multitude of Varied Responses

Open questions allowing participants to explain their choices are important when using digital methods, as it is the underlying motivation that enables understanding. Moreover, open-ended questions allow participants to indicate the places, events, practices, stories, and people they find meaningful as already concluded (Madgin, 2021, pp. 87, 90). This is essential in participation processes and was reflected in our participants' feedback. But how do we identify attributes from a multitude of varied responses?

While digital methods are generally believed to offer a solution to time-consuming and costly participation processes (Foroughi et al., 2023, p. 6), their broader adoption necessitates the processing of a greater volume of responses. Additionally, using open-ended questions can also lead to more diverse responses. In this research, the data collection used digital methods, but the data analysis process was mainly human work and, therefore, time-consuming and dependent on researchers' interpretation, knowledge, and skills. One way to avoid this challenge would be to standardise data collection, for example, through multiple-choice questions or classification, which simplifies the processing of answers but would not permit unexpected answers. Another direction would be to avoid human involvement in the data analysis by using artificial intelligence (AI) to identify attributes. Moreover, using UGD technologies in data collection and processing could provide a much wider audience and already available free data. Referring to Bai et al. (2022), AI and the combination of UGD in multi-modal datasets would even be able to identify attributes, relate them, and find their meaning. However, some attributes are likely to be more easily detectable than others, as for some attributes the terminology is more consistent. For instance, the codes for "masonry facades" could be programmed as masonry, brick, stone, traditional material, tiles, detailing, craftsmanship, etc. However, new patterns are harder to identify because AI is trained with existing digital data, which is so far incomplete because it does not cover, for example, all time periods, cultures, languages, or perspectives. Finka et al. (2017) already addressed the confusion between professionals and citizens, but also between different professional disciplines in the use of terminology as a risk in participation processes. But beyond that general risk, digital analysis of terms is an additional challenge (Finka et al., 2017, p. 7). Other research is already working to resolve terminology issues, for example, by training a "semantic word embedding model" to learn terminology in several languages (even as a way to discriminate stakeholder groups) for the instaBarcelona project (Gomez et al., 2019, pp. 530–544).

6.2. Known and Unknown Attributes

Besides terminology, the complexity of concepts also plays a role in automated data analysis. The question is whether AI can detect complex patterns, such as the attribute "semi-public residential atmosphere" with all its varied sub-attributes, if not specifically trained. Knowing the societal and design ideologies and wider context, a researcher can recognise its elements and how they are sub-attributes of the same concept. This can be considered the opposite direction of identifying attributes and sub-attributes by Sobhani Sanjbod et al. (2016). In their study, they search for sub-attributes (gables in merchants' houses) of an attribute (port city) known from historical research and statements of significance. The historical attribute is the starting point, and sub-attributes can be programmed and found relatively easily. However, a current assessment, including non-professional stakeholders, can reveal attributes that were not intended nor described in historical research and literature. As highlighted by van der Hoeven (2020, pp. 136–137), studying participatory heritage websites, citizens tend to mention attributes that involve social, economic, and cultural activities. This corresponds to our results showing that residents refer more to neighbourhood activities, cultures, and social structures and less to buildings and tangible attributes in general. In analysing possible relations known concepts from the literature and these new, hitherto unknown, attributes, one should be able to connect a variety of sub-attributes to a main overarching attribute. Identifying intangible attributes and their relations is difficult to automate and, as Bai et al. (2022) pointed out, still requires an educated, informed understanding of the concept. In this respect, the study by Clemetsen and van Laar (2000) offers a potential direction. Their research assessing landscape quality through a standardised checklist distinguishes subjective and objective appreciation. The questions assessing subjective appreciation relate to sensorial and personal perceptions, while the objective valuation relates to professional knowledge and functionality (Clemetsen & van Laar, 2000, pp. 135–138). While their study acknowledges the difficulty of separating the subjective from the objective, combining attribute theories with stakeholder surveys could be a two-way process where professional knowledge and current assessment complement each other.

7. Conclusion

This article discusses how the assessment of the cultural significance of attributes results from (a) a broad definition of "new heritage"; (b) assessments of current significance; and (c) a participatory process, (d) conduced by a broad group of stakeholders, (e) using a digital tool, (f) analysed by skilled researchers.

7.1. The Added Value of Current Attribute Assessment

Results show how the identification of significant attributes by current stakeholders differs from the assessment by (heritage) experts in the literature on the 1965–1985 neighbourhoods. Firstly, it reveals mainly sub-attributes, whereas the present literature mainly describes overarching original principles and concepts. This confirms that extracting attributes and sub-attributes as a "site broken down into smaller parts," indeed serves to operationalise the abstract concept of value for local populations and various stakeholders (Kazuhiko et al., 2021). Secondly, the current assessment also includes tradition-inspired attributes or attributes that emerged later and were not originally intended. The present literature mainly focuses on specific and innovation-driven ambitions, such as, for example, the evaluation of government promotion of experiments (Barzilay et al., 2018). The reintroduction of traditional concepts and materials is

less described in the literature, although reverting to tradition and neo-styles can be observed in many Dutch 1965–1985 projects (Spoormans et al., 2022). This confirms that by including current stakeholders from different groups, the concept of heritage is enlarged, as was acknowledged by the Faro Convention (Council of Europe, 2005). This research shows, as also concluded by van der Hoeven (2020, pp. 133, 141), that using digital participatory methods is a way to include citizen opinions "on their own terms" leading to a greater variety of attributes. Lastly, it shows a shift from specific and authentic to generic but relevant, illustrating that in the "new heritage" definition by Fairclough (2009, p. 35), "things that can be considered marginal, such as the neglected ordinary things we have inherited, become central." The current assessment of attributes, as carried out in this research, is therefore considered complementary to the existing expert assessment.

7.2. Potential and Limitations of the App

The app proves to be a promising tool for collecting authentic answers while engaging a wide audience in identifying unexplored (heritage) attributes. Digital tools, such as "content hosting sites," in which the citizen is a contributor (Lewi et al., 2016), can combine individual responses into collective responses and reflect the combination of voices on dealing with and recognising values in the built environment (Madgin & Lesh, 2021, pp. 11, 98). To achieve this, as the research shows, open-ended questions are needed to enable understanding and an open mind toward undiscovered attributes and alternative stakeholders. However, dealing with large numbers of free responses is acknowledged as a challenge. With the introduction of ChatGPT, the software Atlas.ti (used in this research) has also recently launched its Open AI GPT model, which promises higher coding speed. However, although using AI could offer possibilities, the fact that such systems are trained with existing digital knowledge is a limitation in finding unknown attributes and complex relationships.

Lastly, the app appears to be a useful digital tool that can be applied to any neighbourhood in which the involvement of a wide range of stakeholders in exploring neighbourhood attributes is desired, whether the neighbourhood or its buildings are protected as monuments or not. However, its format should be developed. The scientific consistency demanded by the researchers appeared to conflict with its usefulness for participants. This was evident from participants' feedback in which the succession of the same questions, albeit at different scales, was thought boring and even counterproductive to their participation. This feedback provides insight into possible reasons for lower response rates on digital surveys, as Brown and Weber (2012, pp. 320, 323) described. Both the advantages of digital methods, such as being able to access the survey unrestricted by place and time, and the disadvantages, such as some people's difficulty operating the app, as described by Shen et al. (2012, p. 202), were confirmed in this research. Developing a user-friendly and attractive digital tool that also provides accurate data for scientific research is a challenge for further development and crucial for disseminating it to a wide audience of non-professional users. Moreover, extensive testing on other case studies, national and international, and with larger numbers of participants, possibly with automated data processing, is recommended in future research. At a local level, this can provide input for upcoming renovations or area developments and increase support for interventions. For academic research, it would contribute to knowledge development in the field of heritage participation processes.

Although actual impact is not guaranteed with such a digital tool because it depends on subsequent decision-making processes, the app Search for Values is promising for stakeholder engagement and preparing neighbourhood renewal processes based on cultural significance and broad support.

Acknowledgments

Participants whose responses are included in the research have consented to participate in the research project and for recording the focus group interviews. The data and quotes in this article have been anonymised and do not contain any retrievable personal information. The authors are grateful to the respondents for their contribution, willing to give their time and share their views. This survey was part of the project Renoveren met Respect (Respectful Renovation), the results of which can be visited at https://www.tudelft.nl/bk/onderzoek/projecten/renoveren-met-respect

Funding

The research described in this article is part of the project Renoveren met Respect (Respectful Renovation), which is funded by the Dutch Cultural Heritage Agency, within the research programme Erfgoed en Duurzaamheid (Heritage and Sustainability). The project duration is September 2020 to February 2024, under Case No. 155849.

Conflict of Interests

The authors declare no conflict of interests.

References

Abrahamse, J. E. (2019). *Opkomst en ontwikkeling van de bloemkoolwijk. Het ontwerp van woonwijken in Nederland en de zoektocht naar identiteit*. Rijksdienst voor het Cultureel Erfgoed.

Alviz-Meza, A., Vásquez-Coronado, M. H., Delgado-Caramutti, J. G., & Blanco-Victorio, D. J. (2022). Bibliometric analysis of fourth industrial revolution applied to heritage studies based on web of science and scopus databases from 2016 to 2021. *Heritage Science*, *10*, Article 189. https://doi.org/10.1186/s40494-022-00821-3

Bai, N., Nourian, P., Luo, R., & Roders, A. P. (2022). Heri-graphs: A dataset creation framework for multi-modal machine learning on graphs of heritage values and attributes with social media. *ISPRS International Journal of Geo-Information*, *11*(9), 469–469. https://doi.org/10.3390/ijgi11090469

Barzilay, M., Ferwerda, R., & Blom, A. (2018). *Predicaat experimentele woningbouw 1968–1980*. Rijksdienst voor het Cultureel Erfgoed.

Bauhaus-Universität Weimar. (2022). *Conference on the postmodern legacy in architecture and urbanism*. https://www.uni-weimar.de/en/university/news/bauhausjournal-online/titel/conference-on-the-postmodern-legacy-in-architecture-and-urbanism

Blom, A., Snijders, A., van der Peet, C., Koper-Mosterd, D., Alkemade, F., Burgers, I., Somer, K., van Thoor, M. T., & Lammers, S. (2021). *Post 65: Inspirerende bouwkunst, ons wereldbeeld in de architectuur van na 1965*. Atelier Rijksbouwmeester.

Brown, G., & Weber, D. (2012). Measuring change in place values using public participation GIS (PPGIS). *Applied Geography*, *34*, 316–324.

CBS. (2020). *StatLine*. https://opendata.cbs.nl/statline#/CBS/nl

Clemetsen, M., & van Laar, J. (2000). The contribution of organic agriculture to landscape quality in the Sogn og Fjordane region of Western Norway. *Agriculture, Ecosystems and Environment*, *77*, 125–141.

Cotte, M. (2021). The concept of attribute: A basis for the definition, evaluation and management of cultural world heritage properties. In N. Kazuhiko, S. Asuka, & F. Ayano (Eds.), *Attributes—A way of understanding OUV* (pp. 32–41). Tokyo National Research Institute for Cultural Properties.

Council of Europe. (2005). *Council of Europe framework convention on the value of cultural heritage for society*.

Cultural Heritage Agency of the Netherlands. (2019). *Verkenning Post 65*. https://www.cultureelerfgoed.nl/onderwerpen/monumenten-aanwijzen-en-afvoeren/verkennen-nieuwe-thema-s/verkenning-post-65

De Haan, H., & Haagsma, I. (1981). *Wie is er bang voor nieuwbouw. Confrontatie met nederlandse architecten*. Intermediair Bibliotheek.

de Vletter, M. (2004). *De kritiese jaren zeventig: Architectuur En Stedenbouw in Nederland 1968–1982*. nai010 uitgevers.

Ducci, M., & Swiderski, M. J. (2022). Uncovering the invisible layers of locals' values with map-based questionnaires. In V. Vlachokyriakos, J. Yee, C. Frauenberger, M. Duque Hurtado, N. Hansen, A. Strohmayer, I. Van Zyl, A. Dearden, R. Talhouk, C. Gatehouse, D. Leishman, S. Agid, M. Sciannamblo, J. Taylor, A. Botero, C. Del Gaudio, Y. Akama, R. Clarke, & J. Vines (Eds.), *PDC '22: Proceedings of the Participatory Design Conference 2022* (pp. 124–130). Association for Computing Machinery.

European Commission. (2020). *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A renovation wave for Europe—Greening our buildings, creating jobs, improving lives*. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020DC0662

Fairclough, G. (2009). New heritage frontiers. In D. Therond & A. Trigona (Eds.), *Heritage and beyond* (pp. 29–41). Council of Europe Publishing.

Federal Office of Culture. (2018). *Davos Declaration: Towards a high-quality Baukultur for Europe*. https://baukultur--production--storage.s3.amazonaws.com/baukultur/2022-06-09-081317--davos-declaration.pdf

Finka, M., Ondrejička, V., Jamečný, Ľ., & Husár, M. (2017). Public participation procedure in integrated transport and green infrastructure planning. *IOP Conference Series: Materials Science and Engineering*, *245*, Article 052054. https://doi.org/10.1088/1757-899x/245/5/052054

Foroughi, M., de Andrade, B., Roders, A. P., & Wang, T. (2023). Public participation and consensus-building in urban planning from the lens of heritage planning: A systematic literature review. *Cities*, *135*, Article 104235. https://doi.org/10.1016/j.cities.2023.104235

Gaborit, P. (2010). *European new towns, image, identities and future perspectives*. Peter Lang.

Gomez, R., Gomez, L., Gibert, J., & Karatzas, D. (2019). Learning from #Barcelona Instagram data what locals and tourists post about its neighbourhoods. In L. Leal-Taixé & S. Roth (Eds.), *Computer Vision—ECCV 2018 Workshops: Munich, Germany, September 8–14, 2018, proceedings, part VI* (pp. 530–544). Springer. https://doi.org/10.1007/978-3-030-11024-6_41

Howard, P. (2003). *Heritage—Management, interpretation, identity*. Continuum.

Kamari, A., Corrao, R., & Kirkegaard, P. H. (2017). Sustainability focused decision-making in building renovation. *International Journal of Sustainable Built Environment*, *6*(2), 330–350.

Kazuhiko, N., Asuka, S., & Ayano, F. (2021). *Attributes—A way of understanding OUV*. Tokyo National Research Institute for Cultural Properties.

Leupen, B., Deen, W., & Grafe, C. (1990). *Hoe modern is de Nederlandse architectuur?* Uitgeverij 010.

Lewi, H., Smith, W., Murray, A., & Cooke, S. (2016). Visitor, contributor and conversationalist: Multiple digital identities of the heritage citizen. *Historic Environment*, *28*(2), 12–24.

Madgin, R. (2021). Emoji as method—Accessing emotional responses to changing historic spaces. In R. Madgin & J. Lesh (Eds.), *People-centred methodologies for heritage conservation: Exploring emotional attachments to historic urban places* (pp. 80–96). Routledge.

Madgin, R., & Lesh, J. (2021). Exploring emotional attachments to historic places—Bridging concept, practice and method. In R. Madgin & J. Lesh (Eds.), *People-centred methodologies for heritage conservation: Exploring emotional attachments to historic urban places* (pp. 1–15). Routledge.

Ministry of the Interior and Kingdom Relations. (2021). *Informatieblad Participatie in de Omgevingswet—Wat regelt de wet?* https://aandeslagmetdeomgevingswet.nl/ondersteuning/publicaties-omgevingswet-bzk/overzicht-downloads-informatiebladen-books/informatieblad-participatie-omgevingswet-regelt

Nio, I. H. L. (2016). *Moderniteit en suburbaniteit in de nieuwe stad: Almere, Cergy-Pontoise, Milton Keynes* [Unpublished doctoral dissertation]. University of Amsterdam. https://pure.uva.nl/ws/files/2773721/177508_Nio_thesis_complete.pdf

Pendlebury, J., Townshend, T., & Gilroy, R. (2009). Social housing as heritage: The case of Byker, Newcastle upon Tyne. In L. Gibson & J. Pendlebury (Eds.), *Valuing historic environments* (pp. 179–200). Routledge.

Pereira Roders, A. (2007). *Re-architecture: Lifespan rehabilitation of built heritage* [Unpublished doctoral dissertation]. Eindhoven University of Technology. https://pure.tue.nl/ws/portalfiles/portal/2279686/200712090.pdf

Provoost, M., & Rots, S. (Eds.). (2023). *Een onvoltooid project: 15 kansen voor onze groeikernen*. International New Town Institute.

Reijndorp, A., Bijlsma, L., & Nio, I. (2012). *Atlas Nieuwe Steden: De verstedelijking van de groeikernen*. Trancity.

Rijksdienst voor de IJsselmeerpolders. (1976). *Verslag woongebied 1.B.4 te Almere-Haven*.

Roegholt, R. (1984). In de schaduw van CIAM: Tolkien contra Le Corbusier. In P. Loerakker (Ed.), *Nederlandse architectuur en stedebouw '45–'80* (pp. 10–23). Uitgeverij Bert Bakker.

Scipio, D., & Franke, S. (2007). *Bouwmeesters, Het podium aan een generatie*. nai010 uitgevers.

Shen, Z., Kawakami, M., & Kishimoto, K. (2012). Web-based multimedia and public participation for green corridor design of an urban ecological network. In Z. Shen (Ed.), *Geospatial techniques in urban planning* (pp. 185–204). Springer.

Skounti, A. (2021). Attributes of world heritage outstanding universal value. In N. Kazuhiko, S. Asuka, & F. Ayano (Eds.), *Attributes—A way of understanding OUV* (pp. 131–140). Tokyo National Research Institute for Cultural Properties.

Sobhani Sanjbod, H., Hermans, L., Reijnders, D., & Veldpaus, L. (2016). Captain, where can we find the attributes? *The Historic Environment: Policy & Practice*, *7*(2/3), 177–188. https://doi.org/10.1080/17567505.2016.1172786

Somer, K. (2020). *Groei, verandering, differentiatie. Architectuur in Nederland 1965–1990*. Cultural Heritage Agency of the Netherlands.

Spoormans, L., Czischke, D., Pereira Roders, A., & de Jonge, W. (2023). "Do I see what you see?"—Differentiation of stakeholders in assessing heritage significance of neighbourhood attributes. *Land*, *12*(3), Article 712. https://www.mdpi.com/2073-445X/12/3/712

Spoormans, L., de Jonge, W., Czischke, D., & Pereira Roders, A. (2022). Exploring visual language and typologies in Dutch midrise residential neighbourhoods. In C. Jorda Such, M. Palomares Figueres, A. Tostoes, & U. Pottgiesser (Eds.), *Modern design: Social commitment & quality of life—17th International DOCMOMO Conference* (pp. 957–965). DOCOMOMO.

Spoormans, L., Pereira Roders, A., de Jonge, W., & Reinders, L. (2021). The Groeikern legacy—Housing typologies in Dutch New Towns. In A. Tostoes & Y. Yamana (Eds.), *16th International DOCOMOMO Conference Tokyo Japan 2020 + 1 Proceedings—Inheritable Resilience* (pp. 280–285). DOCOMOMO.

Stedenbouw. (1988). De Amsterdamse Poort: Toegang tot bruisend, modern hoofdwinkelcentrum in A'dam-z.o. *Stedenbouw*, *40*, 12–14.

Steemers, T., & Klaren, M. (1976). De etagewoning in een nieuw jasje, gestapelde laagbouw: Meergezinswoningen, maar dan gezellig. *Wonen-TA/BK*, *I*, 5–9.

Tarrafa Silva, A., & Pereira Roders, A. (2012). Cultural heritage management and heritage (impact) assessments.

In K. Michell, P. Bowen, & K. Cattell (Eds.), *Proceedings of the Joint CIB W070, W092 & TG72 International Conference on Facilities Management, Procurement Systems and Public Private Partnership, 23–25 January 2012, Cape Town, South Africa* (pp. 375–382). Department of Construction Economics and Management.

ter Horst, J., Meyer, H., & de Vries, A. (1991). *Sleutelen aan de Bijlmer: Interpretaties*. Publikatieburo Bouwkunde.

TH Delft. (1977). *Woningbouw Almere-Haven te Almere. Deel 1. Dokumentatie Bouwtechniek*.

Ubbink, M., & van der Steeg, T. (2011). *Bloemkoolwijken: Analyse en perspectief*. SUN.

UNESCO. (2011). *Proposals concerning the desirability of a standard-setting instrument on historic urban landscapes* (36 C/23). https://unesdoc.unesco.org/ark:/48223/pf0000211094

van der Hoeven, A. (2020). Valuing urban heritage through participatory heritage websites: Citizen perceptions of historic urban landscapes. *Space and Culture*, *23*(2), 129–148. https://doi.org/10.1177/1206331218797038

Veldpaus, L. (2015). *Historic urban landscapes: Framing the integration of urban and heritage planning in multilevel governance* [Unpublished doctoral dissertation]. Eindhoven University of Technology. https://pure.tue.nl/ws/files/3914913/798291.pdf

VUB Architectural Engineering. (2021). *The Brussels housing stock (1975–2000): Building materials and heritage value*. https://www.vub.be/arch/project/archbxl1975

Wataru, O. (2021). What do you mean by "attributes?"—The word "attributes" as used in the operational guidelines and other world heritage-related documents. In N. Kazuhiko, S. Asuka, & F. Ayano (Eds.), *Attributes—A way of understanding OUV* (pp. 98–109). Tokyo National Research Institute for Cultural Properties.

Yarker, S. K. (2014). *Belonging in Byker: The nature of local belonging and attachment in contemporary cities* [Unpublished doctoral dissertation] Newcastle University. https://theses.ncl.ac.uk/jspui/handle/10443/2619

About the Authors

Lidwine Spoormans is a researcher and lecturer of Heritage & Design at the Delft University of Technology since 2011. After a career as a practising architect, she returned to TU Delft. Her research fields include housing renovation, building systems, intervention methods, and young heritage. She organised a series of graduation studios on the topic of housing transformation and is a Management Committee member of the COST Action European Middle-Class Mass Housing. In 2017, she launched the digital platform We Love 80's Architecture (www.love80sarchitecture.nl). Currently, she studies the gap between listed heritage and everyday residential neighbourhoods.

Wessel de Jonge is a practising architect and full professor of Heritage & Design at the Delft University of Technology. His firm WDJArchitecten specialises in the adaptive reuse and conservation of 20th-century heritage buildings, including various social housing schemes. Most noted is the rehabilitation of the 1928 Nelle Factory in Rotterdam, which has since been recognised as a UNESCO World Heritage Site in 2014. In 1988, Wessel was the founding Secretary of DOCOMOMO International. He has lectured and published internationally on the challenge of preserving recent architectural heritage.

Darinka Czischke is an associate professor in Housing and Social Sustainability at the Delft University of Technology. In 2014, she was awarded the Delft Technology Fellowship to develop her research on Collaborative Housing. She is the founder of the Co-Lab Research group at TU Delft and co-founder of the working group Collaborative Housing at the European Network for Housing Research. She has published extensively about social, affordable, and collaborative housing from an international comparative perspective. She leads Project Together!, a cross-sector initiative focused on realising the potential of collaborative housing forms in the Netherlands.

Ana Pereira Roders is a professor of Heritage & Values at the Delft University of Technology. The chair aims to further understanding of the values that define heritage, such as cultural, social, ecological, and economic, and how they impact the sustainability of cities. One of the main goals is to define, develop, and test new integrated assessment frameworks to better monitor and strengthen heritage conservation worldwide. Since 2008, Ana has cooperated closely with UNESCO and the World Heritage Centre in particular. Her work is most relevant to governance reforms in heritage and urban planning.

Urban Planning
2024 • Volume 9 • Article 7074
https://doi.org/10.17645/up.7074

cogitatio

ARTICLE

Open Access Journal

Revealing the Community's Interpretation of Place: Integrated Digital Support to Embed Photovoice Into Placemaking Processes

Juan A. García-Esparza [1] and Matej Nikšič [2,3]

[1] School of Technology and Experimental Sciences, Universitat Jaume I, Spain
[2] Urban Planning Institute of the Republic of Slovenia (UIRS), Slovenia
[3] Faculty of Architecture, University of Ljubljana, Slovenia

Correspondence: Juan A. García-Esparza (juan.garcia@uji.es)

Submitted: 27 April 2023 **Accepted:** 1 September 2023 **Published:** 16 January 2024

Issue: This article is part of the issue "Citizen Participation, Digital Agency, and Urban Development" edited by Simone Tappert (University of Applied Sciences Northwestern Switzerland), Asma Mehan (Texas Tech University), Pekka Tuominen (University of Helsinki), and Zsuzsanna Varga (University of Glasgow), fully open access at https://doi.org/10.17645/up.i327

Abstract

Rising the quality of life through improving existing living environments remains one of the critical tasks of contemporary urban design. The quality of life is, in part, a subjective matter and shall thus be approached not only through professional measures but must also include participatory inputs. The techniques for including the residents' points of view are various and greatly depend on the broader context of each case. However, using new ICT and other digitally supported tools is an ongoing trend and can be traced in various places and stages of the process. This article addresses the issue of the participatory reading of characteristics in existing living environments as they are assessed through residents' eyes. It reviews and analyses two case studies, a Slovenian and a Spanish one, that used the photovoice approach with photography and related supplementary materials to get to know residents' perceptions towards cultural and natural values that enhance their quality of life. The cases illustrate two different contexts, the urban and the rural one. In both cases, the processes were supported by a digital approach to achieve broader participation in the process, to offer residents an additional channel of expression, to analyse the input data, to disseminate the results, and to encourage a wider community and stakeholder dialogue. The case studies reflect the added value of using digital support in terms of the level of the integration of residents' voices into the placemaking process. It concludes that the photovoice supported by digital tools can importantly enhance community-oriented urban planning processes.

Keywords

collaborative planning; historic city; interpretation of place; photovoice; placemaking; suburban environments

1. Introduction

1.1. Developing Communities' Interpretation of Place

Following Zabielskis' (2008, pp. 288, 289) argument, collaborative planning offers an "inclusive, dialogic approach to shaping social space" while addressing contemporary issues such as "reduced certainties and predictabilities." Moreover, new forms of governance recognise the need for multi-stakeholder involvement and the temporary usage of specific urban settings. Still, it mainly happens in singular and differentiated spaces (as opposed to formal spaces) and is perhaps exacerbated in a context of unclear planning processes that oversee power distribution (García-Esparza & Altaba, 2022).

The complex interaction between locals and administrations and their influence on the design and redesign of spaces is evident in the iterative nature of community planning. The success of temporary uses in reshaping particular areas or neighbourhoods can be an opportunity for transition. However, this arrangement can involve dealing with the legacies of temporary activities, particularly the trendy image of a place, while coping with citizens' consent. Ethically informed processes and tools between stakeholders and their interests may make the process robust (García-Esparza, Altaba, & Huerta, 2023).

Starting with Jacobs' (1961) groundbreaking work, placemaking has evolved into a collaborative approach to urban planning and design, as highlighted by Gehl and Gemzøe (2001). Its goal is to create vibrant, inclusive public spaces that enhance community well-being and foster social interaction. Appleyard's (1981) seminal work *Livable Streets* also emphasised the importance of prioritising pedestrians and cyclists in street and neighbourhood design, showcasing how well-designed streets can improve mobility and cultivate a sense of community and belonging. Over time, the significance of placemaking has grown. De Carlo's (2013) contributions underscored the critical role of involving local communities in decision-making and design processes for their neighbourhoods, reinforcing the understanding that active participation and co-creation result in environments better suited to residents' needs, aspirations, and, thus, their quality of life. This consideration takes on heightened importance within economically marginalised communities, where the level of contentment with the residential milieu directly intertwines with the overall quality of life experienced (Ismail et al., 2015).

Placemaking is a process of ethics. The extent to which communities are subjected to direct or indirect forms of oppressive governance policies, eventually including displacement, may have systematically uprooted and dispersed communities, homes, and places of business, leisure, and worship. This issue is not only about appropriation and integration but also about the ethics of placemaking. An example of this might be the ethical concerns that arise today in the internal movements of citizens in a city for reasons that are not obvious (heritage, climate, etc.; Drake, 2003; Groth & Corijn, 2005). Building temporary strategic alliances can be recognised as a foundational step in shaping contested places, a concept extensively explored by various scholars. These alliances prompt an essential question about how territorial rules and power dynamics contribute to defining what is deemed "appropriately" placed in a given context. Hou and Rios (2003) have emphasised the significance of such alliances in bottom-up redevelopment processes, shedding light on the intricate relationship between placemaking and participation.

At its core, placemaking involves a critical examination of the intricate relationship between power, needs, and place. Fredheim and Khalaf (2016) exploring how grassroots community organisations are reshaping the design and development of public spaces have stressed the importance of understanding the ethical dimensions of placemaking by carefully considering stakeholders' demands and the dynamics of the site. Indeed, placemaking has evolved beyond its traditional focus on purely physical aspects to encompass a holistic approach that considers economic, social, cultural, spatial, and organisational outcomes. This emphasises the need for a community-driven approach that considers social mobilisation and political negotiation as essential components in the creation of public spaces, challenging the limitations of traditional participatory design models that mainly focus on designer–user interactions. Thus, placemaking entails a set of intentional practices that span different disciplines and target different needs. As it is exposed through cases, recognising all interests compels placemakers to build relationships of solidarity and promote justice with those in vulnerable positions within the place.

The concept of placemaking has been gaining traction in Slovenia, particularly in urban areas where there is a growing need for inclusive and collaborative approaches to shaping social space (Svirčić Gotovac et al., 2021). Collaborative planning processes have been seen as a way to address the challenges presented by the reduced certainties and predictabilities of contemporary urban life. In Slovenia, there has been a growing recognition of the importance of multi-stakeholder involvement in the (re)design of urban spaces. This has led to the emergence of experimentation with new forms of governance that prioritise community participation and temporary uses. However, these initiatives have been largely concentrated in singular spaces, and there is still a need for clearer planning processes that oversee power distribution. The Slovenian case presents a case from the suburban environments constructed in the socialist times and nowadays considered an important urbanistic heritage due to its comprehensive layout.

The case highlights the complex interactions between residents and the planning institutions in reshaping a particular neighbourhood with an opportunity for inclusive transition. It shows that inclusive and ethically informed processes and tools between stakeholders and their interests may make the process more robust and inclusive. It shows that placemaking can become an ethical issue, particularly considering the ways in which communities have been made active players and subjected to direct or indirect interpretations of the quality of suburban life. It shows that building temporary strategic alliances may be a fundamental step in shaping the common vision of the contested places to holistic economic, social, cultural, spatial, and organisational outcomes. Placemakers in Slovenia must recognise all interests and build relationships of solidarity to promote justice for those in vulnerable positions within the place.

The case of Spain deepens in the heritage field, where placemaking can be seen more clearly as an action rooted in the politics of space and time. The case documents the hidden expectations of heritage-makers (neighbours) and the overstretching of their capacities in their role. Historical places are actively engaged by people and reshaped by local administration through temporary or permanent material practices. Cultural events and transformations emerge through directed or collaborative ingenious adaptations that inherently rely on the time and politics they live in.

In the historical setting, collective activities can promote social inclusion but simultaneously be used as a form of social control. Yet culture and heritage are often negotiated in a one-sided way concerning the practical dimensions of urban spatial politics and the instabilities, risks, and uncertainties of cultural visibility

and promotion. Such culture-based practices are not always complicit in urban revitalisation efforts. Sometimes culture-led initiatives centred on mass-tourism displace and exclude inhabitants by the simple fact of nonattending vital necessities as a prerequisite for the promotion of cultural and economic assets (Altaba et al., 2022; García-Esparza, Pardo, et al., 2023).

In historical areas, temporary uses can be translated into fictional communal placemaking at the spatial level due to a contested political process in which power and control over space and time are unequally distributed between stakeholders. Neighbours are often less involved when the terms of placemaking are already established. Thus, the ability to stagger community participation and set the conditions for transformative place engagement is rarely shared. Instead, it is one-sided and often ruled with a bit of adjustment to the local distinctiveness and influenced by trends and needs alien to the inhabited space boundaries.

1.2. Scope of the Research

From the aforementioned precondition, the authors felt that complementary types of cultural appropriation may foster the growth of governance institutions that support the materialisation of a full range of local social values, making local actors active participants in the process. In the face of city development processes and the eventual social and urban imbalances they cause, governments could set up effective governance systems. Establishing and encouraging alternative and transversal approaches, like the ones presented here, for adequate or perhaps more ethical management of the living environments pursue new directions for planners and placemakers in contexts of governance where contemporary digital tools may help boost integration at the community level.

In recent years, placemaking has become a widely institutionalised strategy for public policies and an approach to the management of public places in many European cities (Carmona et al., 2008). In the particular cases that the authors bring forward, placemaking is not yet sufficiently recognised as a tool of urban development or cultural policy in particular. This means that not only city public spaces as such, but cultural heritage sites as an integral layer of the city landscape and identity face the challenges of being on the agenda within these discourses. In this context, the recognition of potential artistic, archaeological, conservation, and planning practices in harnessing cultural heritage for placemaking in the city becomes a crucial task for the transversal approach to the diversity of related policy areas, instruments, and stakeholders. The places under study are of cultural interest and contain an essential component of localism and identity, but still have coexistence issues in terms of getting attention in policy discourses. Under such a context, it becomes essential to understand how locals' interests are connected and identified in potential artistic, archaeological, conservation, and planning practices and yet exposed as cultural resources.

The case study in Slovenia and the one in Spain have been chosen for comparative research due to their alignment with the scope and objectives of the study. The Slovenian case, situated in a post-socialist context, offers valuable insights into the challenges of centralised planning and governance, particularly in large housing estates, where weakly developed active citizenship in urban design requires exploration of how cultural appropriation can foster local participation. Here, the concept of active citizenship in urban design remains weakly developed, underscoring the need to explore how cultural appropriation can serve as a catalyst for encouraging local participation and engagement. Understanding the dynamics at play can shed

light on the potential growth of governance institutions that embrace a full spectrum of local social values, paving the way for the active involvement of community stakeholders in shaping their living spaces.

Meanwhile, the Spanish case developed in 10 nearby villages in the Penyagolosa mountain area exemplifies rural areas unattended by regional administrations, where heritage holds significant value, represented by religious and civil landmarks like cathedrals, monasteries, hermitages, and other minor architecture (García-Esparza, 2010). In these rural settings, inhabitants have developed unique practices that contribute to liveability and heritage-making, yet they are not adequately recognised. With one of the lowest population densities in the country, the region hosts fascinating heritage assets that deserve better acknowledgement and representation. By studying both contexts, the research aims to uncover the potential of complementary cultural appropriation to empower local actors, enhance governance systems, and foster more inclusive and ethical management of living environments, while also promoting the recognition of valuable heritage practices in rural areas.

Both cases hold their distinct challenges and opportunities, yet they converge in their call for more inclusive and ethical management of living environments. By exploring the dynamics of cultural appropriation in these disparate settings, the research seeks to illuminate pathways towards effective governance systems that resonate with the diverse values of local communities. Moreover, it aims to foster a deeper understanding of the interconnectedness of heritage, identity, and placemaking, transcending the boundaries of urban and rural landscapes. It also aspires to sketch a comprehensive framework that policymakers and planners can embrace, encompassing contemporary digital tools to promote integration, recognise cultural resources, and celebrate the uniqueness of diverse communities within their urban and rural contexts.

Stakeholders use digitisation, particularly maps and mapping, to comprehend spatial contexts, environmental changes, official settings of cultural interest, and other alternative forms of cultural representation. This placemaking case explores spatial and cultural features thanks to recent advances in digital participation and GIS-based support, which includes digital databases. There are not many geospatial research techniques or tools available today to analyse and portray locations, social interactions, and cultural practices. It means the use of a variety of both conventional and cutting-edge tools that have been customised for the local environment. Hence, historical geospatial mapping aids in our understanding of how the built environment is perceived according to the social, political, economic, and cultural focus (García-Esparza, 2022; García-Esparza, Altaba, & Huerta, 2023).

Following Houghton et al. (2015), ICT tools offer a great potential to share knowledge, build a more creative community, and provide better-informed spaces capable of adapting to new social, cultural, and environmental requirements. In the same line of thought, Allam (2020) stresses the relevance of ICT when helping urban dimensions to be recalibrated, so that they include dimensions of liveability and contribute to building safer, more inclusive, and sustainable living spaces.

The ICT in participatory planning practice improve harmonisation among local administration, specialists, and inhabitants occasioning a higher degree of cooperation (Henman, 2010). Essentially, the goal of digitisation was to make interactions between the government and its customers easier while also increasing service efficiency (Lindgren et al., 2019). Although certain public e-services are intended to be analogue or "traditional" in nature, there are now more digital tools available for collaborative planning and engagement. Examples

include augmented reality, virtual reality, and applications. They assist stakeholders who are not professionals in having a better understanding of the urban design or urban plan.

2. Methodology

This article presents two European case studies from Slovenia and Spain which can both be described as heritage sites. While in the Slovenian case, the heritage relates to the urbanistic approach of developing new living environments from the scratch in 1970s when the city was rapidly growing to accommodate a new working force, the Spanish case relates to a historic, organically grown environment. In both cases, photography has served as a basic means to reveal the assets of the studied places.

The Slovenian case employs an innovative, digitally supported photovoice method, redefining urban regeneration. Through a dedicated online platform, residents contribute crowdsourced photos and captions that are geo-located, authentically capturing the neighbourhood's essence. The geolocation of the crowdsourced data is important for its direct integration into GIS datasets used in regular planning procedures, thus informing the planners of the otherwise hidden residents' notions of places within the neighbourhood. This approach taps into residents' unique insights, unveiling challenges, assets, and transformation possibilities (Nikšič, 2021). The method facilitates the exploration of key urban regeneration themes, from community bonds and public spaces to local heritage, infrastructure needs, and more. Besides the images themselves, the captions attached to them within the digital platform, offer deeper insights into residents' notions on their living environments. This crowdsourced grassroots perspective enriches traditional planning, offering a holistic understanding of neighbourhood dynamics. Central to photovoice's role is fostering resident-planner collaboration through a digital platform, bridging experiential gaps. It empowers residents with visual voices, nurturing inclusive urban renewal dialogues. Moreover, photovoice uncovers latent neighbourhood potentials. Overlooked assets and growth prospects surface through resident-captured imagery and narratives, inspiring responsive regeneration tactics.

The case in Spain makes use of digital photo-elicitation, in-person and online interviews, and GIS and voice recordings. The various options to describe the historical settlements are assessed through GIS. The experimental study examines the qualities and ideals of the built environment in 10 villages to create cohesive and inclusive activities in some minor historical settings. The first-stage photo-elicitation workshop provided images of locations representative of the values of the area to highlight their importance (García-Esparza & Altaba, 2018). Through it, researchers understood the ties people had with their everyday environment. Photo-elicitation inspires the informants' capability to express practical experience through the attribution and association of significances. Through a later interview, participants provide specific information to explain their perceptions of specific places, elements and the values they attribute to them. Afterwards, historical settings were catalogued to create thematic maps and routes with the assistance of participants' voice recordings. This integrated digital support is accessible through QR codes in panels located at the beginning of the routes. The codes are linked to the project website (https://caminsdepenyagolosa.dipcas.es/es/caminos.html).

Particularities of the methodology utilised in each case are placed in the next section to explain the results.

3. Cases

In the Slovenian case, the interpretation of urbanistic heritage in suburban neighbourhoods is approached by revealing the shared values of the residents. The assets of planned socialist neighbourhoods are viewed from different perspectives and through the eyes of the residents. The relevance of the built (architectural) environment, the natural elements, as well as amenities and activities in shaping the suburban neighbourhood's identity is evident. The residents' embracement of alternative elements of the built environments that would usually not be made part of the professional considerations to express their sense of belonging and identity is clearly visible. As these elements may not be officially recognised by planning policies and measures, highlighting the need for critical review and accommodation of untold interpretations of the past and contemporary architectural and anthropological informalities is a key element of this case.

Spain's project approach highlights the relevance of the idealistic historical rural scenarios. The study processes data about cultural placemaking practices, particularly, about the cultural appropriation of informal or alternative elements that compose the built environment. In doing so, it critically reviews how historical values can accommodate different practices, perhaps untold pasts and contemporary architectural and anthropological informalities that provide identity and a sense of belonging but are not officially recognised by cultural policy.

3.1. First Case: Russian Tsar Neighbourhood in Ljubljana, Slovenia

3.1.1. Presentation

The suburban living environments are a common phenomenon of the Slovenian urban centres which grew rapidly after the Second World War as part of the wider industrialisation process. Ljubljana's development plan aimed to elevate the quality of life by incorporating regulated green spaces and accessible amenities such as stores, kindergartens, and schools (Ljubljana Urban Planning Institute, 1965). Public transport connected such units with the city centre. The plan succeeded in providing equitable access to services and green areas. However, these environments are aged up and in need of comprehensive regeneration. They are also high-density areas that, coupled with rising motorised mobility since the 1990s (MOL, 2017), exert significant pressure on open public spaces. Furthermore, the emergence of big motorway ring road malls led to the shutdown of small local shops and services throughout the neighbourhoods. These circumstances generate increased interest in the urban design profession and generate the development of new, inclusive approaches to urban regeneration (Ehrlich, 2012; Nikšič et al., 2018).

In this particular setting, our intention was to develop new methodologies for placemaking that would help develop the co-created regeneration strategies following the concept of citizen knowledge production. The pilot area was the neighbourhood of the Russian Tsar (Figure 1) that was constructed in the 1970s. About 3,500 inhabitants live in the neighbourhood which is mainly set up by the long rows of up to 15-storey blocks of flats (Figure 2).

The approach was built along the understanding that the residents are the local experts with the best insights into the spatial-functional dynamics and assets as well as problems of the neighbourhood.

Figure 1. The peripheral location of the Russian Tsar neighbourhood outside the northern section of Ljubljana Ring Road. The city centre is about 4 km away. Source: Urbinfo.

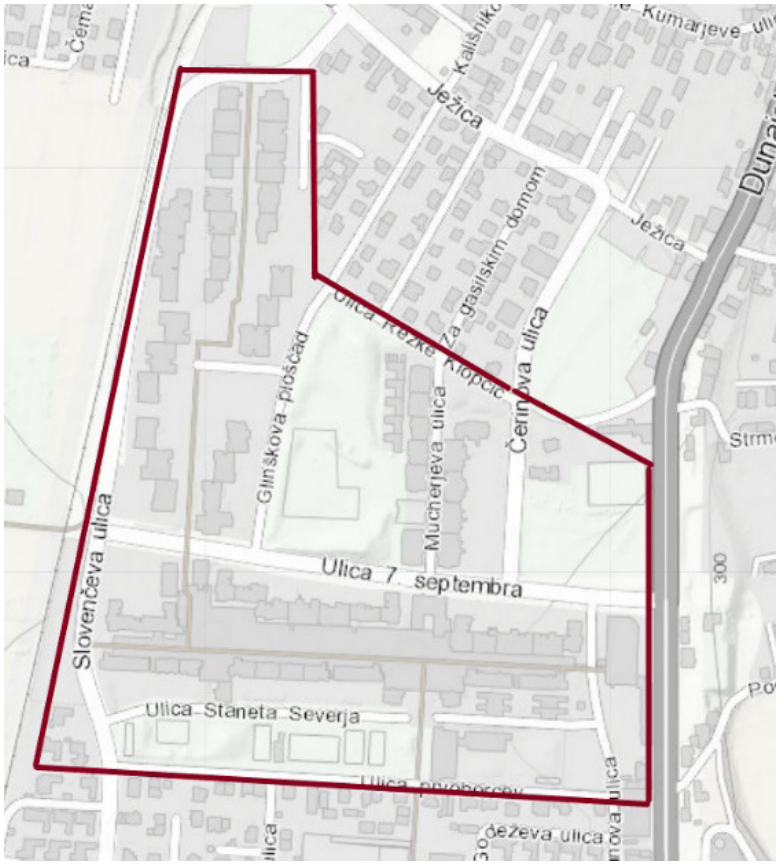

Figure 2. Neighbourhood layout extends from Dunajska city road in the east to Kamnik rails in the west, bordered by open rural landscapes to the west. The central public space, Bratovševa Ploščad, lies along the southern east–west axis. Source: Urbinfo.

3.1.2. Placemaking

The placemaking activities were carried out in two phases. In phase one, in-person activities took place to develop residents' common visions for the improved public space. These activities were concentrated in the central open public space—a long, street-like linear square of Bratovševa Ploščad (Figure 3). The process started with warming-up tools, such as resident-led neighbourhood walks and round tables, which attracted a limited number of engaged citizens. Later on, more sociable events were organised, such as a neighbours' picnic and street workshops. The aim was to get the residents involved in the regeneration processes. However, as the process unfolded, a pattern emerged: The same individuals consistently participated in these in-person gatherings. Consequently, a strategic choice was made to create a supplementary digitally supported tool which would cater to residents who preferred not to attend physical events, ensuring broader engagement.

Figure 3. The central open space of Bratovševa ploščad where participatory experiments took place. Source: Courtesy of Blaž Jamšek (Urban Planning Institute of the Republic of Slovenia, 2016).

Thus, in the second phase, the urban design team decided to develop a temporarily installed digital tool, Photostory of Our Neighborhood (PON), a web-based platform easily reached via computer or mobile phone allowing residents to upload photos paired with concise captions (from two to three sentences). It was promoted through the neighbourhood's Facebook group, municipal e-newsletters, and emailing lists of local NGOs. By disseminating information across these platforms, a wider cross-section of residents was reached, enhancing inclusivity.

The content was thoughtfully divided into five themes (Figure 4), strategically structured to stimulate residents to envision the neighbourhood's assets and opportunities, steering the focus away from issues and inadequacies. This intentional approach is aimed at cultivating a positive perspective and fostering community pride and engagement. By centring on strengths, it encouraged residents to actively contribute to uplifting their surroundings.

Figure 4. The five themes of the digital placemaking PON tool.

However, for enhanced urban regeneration support, the design team aimed to grasp shared resident notions more deeply. Past instances revealed the limited utility of a synthetic interpretation of submitted materials (Nikšič et al., 2018). To gain richer insights, residents were prompted to attach predefined tags representing shared values alongside their PON submissions. These values, originating from designers' prior participatory experiences, held equal significance to the image captions. They could potentially underpin future scenario development for the neighbourhood (see Table 1).

3.1.3. Results and Added Value

The introduction of PON significantly expanded participation. Its digital nature attracted those who were reluctant to attend live events, thereby diversifying the sample. This digital avenue allowed a broader spectrum of residents to contribute insights, perspectives, and feedback for the urban regeneration and placemaking efforts in the Russian Tsar neighborhood, enriching the sample with varied perspectives and insights. A total of over 170 photos were collected (Urban Planning Institute of the Republic of Slovenia, 2016), with 162 entries having all attributes submitted, making them suitable for further exploration. These photos revealed fresh insights into neighbourhood vitality, dynamics, and relationships (Figure 5).

The PON database was geo-referenced via GIS and it enabled urban designers to gain insight into specific locations and their characteristics that were important to local residents. The combination of visual material and accompanying short descriptions as well as attached values was useful in understanding what respondents were trying to convey in their photographs. The first step in the analysis process involved organising the images into thematic categories and qualitatively interpreting them based on the physical infrastructures, activities, and users they depicted. Captions were used to clarify the intended meaning

Table 1. PON's shared values with definitions.

Shared value	Definition
Well-being (60)	A state of feeling healthy and happy. It is a contribution to society through knowledge, culture, design, music, ecology, healthy food, or the renovation of public spaces. The main goal of well-being is to improve living conditions so that people can achieve better physical and mental health.
Leisure (48)	Free time, to be away from the demands of work and duty, when one can rest, take it easy and enjoy hobbies or sports.
Aesthetics (44)	A visual attribute aimed at beauty, creativity, and innovation, which provides an identity to a place.
Conviviality (43)	Living together and sharing ideas, activities, discussions, etc., to create a common spirit, a sense of belonging around which people can gather and that they find meaningful.
Imagination (42)	The ability of the mind to be creative with new images, ideas, concepts, etc. Imagination is the main source of images and dreams of new solutions to our daily problems.
Empathy (36)	The ability to understand and share the feelings of others, despite different backgrounds and life experiences. Empathy creates a bond between individuals that ends up becoming part of their shared identity.
Intimacy (33)	The possibility of feeling a sense of closeness with people, objects, or places.
Sensoriality (33)	The mobilisation of a person's senses, whether hearing, seeing, tasting, smelling, or touching.
Sustainability (32)	Sustainability is concerned with meeting the needs of the current population without compromising those of future generations. It includes environmental, social, and economic aspects.
Respect (30)	Respect is showing due regard to people's lives, opinions, wishes, and rights. It implies that there are no barriers or stereotypes that come between us.
Accessibility (25)	Being open to everyone and easily reachable. It has both a geographic and social meaning.
Mobility (20)	The capacity of citizens to leave their private spaces and move into public ones.
Solidarity (10)	Solidarity is a unity of people sharing the same interests in order to help each other.

Note: The numbers in parentheses indicate the number of recalls by PON participants.

Figure 5. Example of participants' entries in the category "Borders of My Neighbourhood." Source: Courtesy of Helena Lapanje (Urban Planning Institute of the Republic of Slovenia, 2016).

behind each photograph. The tagged shared values helped in understanding the underlying sentiments and priorities within the community's perspective. This multifaceted digitally facilitated approach revealed an understanding of the residents' viewpoints and the potential directions for the neighborhood's development.

3.2. Second Case: Rural Villages in Valencia Region, Spain

3.2.1. Presentation

The historical centres and the cultural landscape have historically been two potentially alluring heritage resources for tourism in rural areas such as the one under investigation. With some small exceptions that have significant sociocultural significance, the historical centres have a tourist demand based on their picturesque qualities and their landmark architecture, mainly religious and defensive structures of the past. In the second instance, the natural landscape was a significant tourist attraction drawn around the turn of the 20th century because of its ecological beauty; hikers, botanists, biologists, and geologists were all interested in it. Today, scientific analyses are more focused on ethnography, anthropology, and architecture. In parallel, new leisure and sports activities have arisen as a key tourism vector: hiking, climbing, or cycling.

This context is an example of the contemporary rural environment in many countries worldwide. In Spain, the case under analysis is paradigmatic of mountainous areas, particularly those characterised by processes of progressive socio-economic changes that have affected small rural communities since the mid-20th century for reasons of constant depopulation. The area under assessment is located on the east side of the Sistema Ibérico mountain range near the Mediterranean Sea in the Comunitat Valenciana and Aragón regions. The livability in these municipalities around Penyagolosa Mountain has been affected by migration to major nuclei and the contemporary scarcity of basic services. Today these villages rely on punctual agriculture and livestock systems, very few family industries, and mainly on secondary and tertiary sectors conditioned by regional tourism coming from major cities.

3.2.2. Placemaking

Bringing together specialists and neighbours was one of the research's preliminary objectives. Despite some conflict resulting from different perceptions of the same cultural objective in the partnerships between locals and academics, it still seems to be the best method of context appraisal. And this is not a common practice in this rural area due to the local's sense of appropriation. The opening issues were therefore jointly studied to develop shared points of departure for the notions of rural landscape-heritage relevance and protection. Even when there are differences of opinion among stakeholders, the fact that participation is culture-based fosters inclusive transversal interactions between experts and residents. This is made possible by the conscious recognition and evaluation of the local context between social, economic, and environmental factors that shape the character of the place (Dalglish & Leslie, 2016).

The project on rural heritage valuation positions local inhabitants as the main representatives of their community's heritage. The project fosters the theoretical understanding of the region and the desire to use historic centres to further inclusive and cohesive inhabitance together with touristic dynamisation strategies. The research starts with the premise that when locally experienced, that is, through getting to know and understand the local character alongside locals, unusual, and non-monumental heritage also has an inherent

interest for both, locals and visitors. This placemaking practice returns local collaboration, social cohesion, and a sense of community.

To comprehend the historical environment through a pre-established "approved" classification by experts, for the study, it was relevant to start focusing on the tangible and intangible aspects of both landmarks and visitors' unattended places. The analysis suggested by Speed et al. (2012), which contrasts and analyses the differences in the integration and assessment of heterogeneous values, was taken into account. The analysis presented here goes into detail, observes differences when assessed separately, and combines elements of the cultural past and the contemporary forms of expression that perform the built environment (Figures 6 and 7).

Figure 6. Images of elements of cultural significance for stakeholders. Source: García-Esparza (2020, pp. 36–52.

3.2.3. Results and Added Value

Meetings and interviews were organised to find out how locals valued the surroundings. To achieve this, a photo-elicitation series in different villages exposed symbolic pictures of different settings of the built environment for participants to emphasise their significance and for researchers to examine the connections

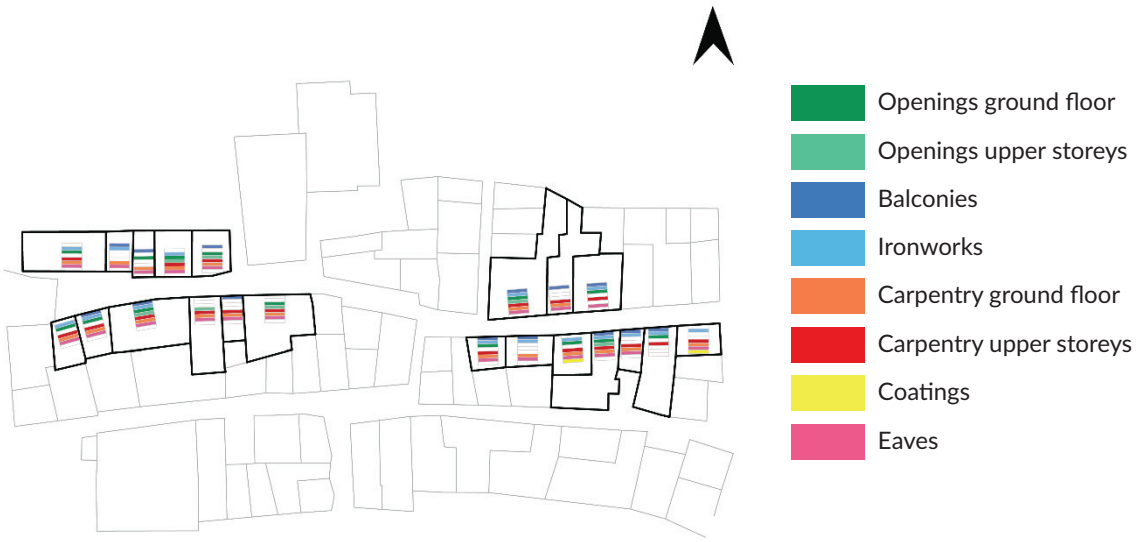

Figure 7. Example of a digitised map with some of the physical elements in the urban fabric. Source: García-Esparza (2020, p. 57).

individuals had with the place. These workshop series of photo-elicitation were implemented by traditional interview-based research, they were conducted to individuals who freely chose to do so. The interview added validity and depth to the analysis and helped open up new perspectives based on experiences and practices that were even previously unexplored by experts. The sequence of phases for the methodology is as follows:

- First Phase: Assemble a team of researchers and locals who are familiar with the relevant historic place and define the inspection site.
- Second Phase: Semi-structured interviews on sets of five images per cultural value (architectural, historical, and natural).
- Third Phase: Site assessment and street view analysis strolling around the streets and registering tangible and intangible elements of value.
- Fourth Phase: Manual classification and registration on-site using cadastral maps.

The method did not work equally in the 10 villages, nor was it always compelling or rewarding. Nonetheless, despite photo-elicitation taking up a lot of time for both researchers and interviewees, it was used indistinctively; it provided a significant advance for the research when comparing results between settings. Furthermore, the photo-elicitation technique encouraged the informants to use identification and correlation of meanings to describe their practice-based knowledge. In such sessions, the respondents were asked to express their impressions of particular occurrences and the values they ascribe to them, in addition to providing further information in oral and written interviews.

The goal was to discover the residents' criterion for the settlement authenticity based in turn on other enactment activities, such as place visits that assisted in widening the range of awareness of the surroundings and expanding the number of people polled (400 persons). Responses to the questions posed when answering the photo-elicitation workshop were split into three categories: (a) The urban landscape

contains and preserves the historical anthropic usage, (b) the urban landscape contains the use but certain anthropic components are no longer evident owing to abandonment, and (c) the urban landscape has entirely lost all evidence of prior usage (Figure 8).

Figure 8. Photograph of the workshop with stakeholders in Llucena. Live audible walkings complement photo-elicitation activities.

Although the findings for choices (a) and (b) are nearly identical, it is worth highlighting the impression of the urban landscape in Towns 2 and 6. In the two villages, 75% to 85% of the neighbours respectively responded that they perceived the original anthropic use in its surroundings. The fact that the original features of the urban landscape were perceived by more than 40% of those polled in all cases except one is a positive and meaningful exercise in collective memory for the research. In a second instance, for choice (b), the results were about 50% of the total of the poll, albeit it should be noted that the results were above average in two of these towns, indicating that they were aware of the state of emergency of the historical environment. Finally, option (c) was not picked in five of the eight localities surveyed, and was below 10% in two municipalities, barely reaching 18% in one of them.

Comparing the findings of both polls reveals two distinct opposing patterns. On the one hand, abandonment is seen negatively, whereas the urban landscape is valued positively. On the other hand, two elements should be considered: the perceived scale and the previously indicated connection and identification. The first aspect evaluated was a small-scale building with which people of the village recognised as traditional ways of living could be linked back to this sort of settlement, potentially representing relationships of familiarity, belonging, or attachment. In retrospect, this might lead to a negative perspective of development, with historical, cultural, and ethnographic values becoming relics of a bygone era (Figure 9).

Figure 9. Image of the photo-elicitation activities in Llucena: Describing elements and values.

4. Discussion on Outcomes

The case studies presented in this article showcase two distinct placemaking approaches aimed at improving the quality of life in suburban neighbourhoods in Slovenia and preserving cultural heritage while promoting tourism in rural villages in Spain. Despite their differences in focus and context, both projects employ participatory approaches, involving residents in the planning and decision-making processes.

In the Slovenian case of the Russian Tsar neighbourhood in Ljubljana, the placemaking activities were carried out in two phases, with in-person and hands-on engagement methods. Neighbourhood walking tours, round table discussions, picnics, and workshops were used to initiate a broader discussion within the community about the neighbourhood's future. However, the initial in-person activities did not engage all groups of residents, necessitating the development of an online digital tool, PON. This innovative tool enabled residents to upload photos and provide short captions, uncovering valuable insights into their perceptions and values related to the neighbourhood's physical and social aspects. The PON database empowered urban designers to understand specific locations and characteristics that were important to local residents, ultimately shaping the participatory urban regeneration process.

In contrast, the Spanish case focused on preserving cultural heritage and promoting sustainable tourism in rural villages within the Valencia region. The historical centres and cultural landscapes of these villages hold significant tourism potential, but the challenge lies in striking a balance between catering to tourist demands and conserving local cultural identity. The placemaking approach in the Spanish case emphasised the importance of community empowerment and highlighted less obvious values or elements of heritage that might have been overlooked. Complementary activities, such as pedestrian visits to historical settlements, were organised, with locals taking the lead in showcasing their built environment and explaining its

significance to visitors. By involving the local community directly, the Spanish project sought to democratise the historical realm, ensuring that everyday objects and their cultural values were recognised and appreciated.

The comparison between the two case studies reveals distinct placemaking approaches driven by their respective cultural contexts. In the Slovenian context, the emphasis was on revitalising an ageing suburban neighbourhood with the help of digital technology. The PON tool allowed for more inclusive and widespread participation of residents, overcoming the initial challenge of limited engagement. This approach recognised the residents as the local experts and emphasised their knowledge and understanding of the neighbourhood's dynamics and challenges.

On the other hand, in the Spanish context, the focus was on preserving the cultural heritage of rural villages while promoting sustainable tourism. The placemaking approach revolved around empowering the local community to showcase their environment and cultural values to visitors. By valuing the less obvious aspects of heritage and involving residents in tourism-related decision-making, the Spanish project aimed to create a more sustainable and equitable tourism model that benefits both the local community and tourists.

4.1. Lessons Learned

Through the examination of two distinct case studies, valuable lessons emerge that shed light on effective placemaking strategies in different cultural contexts. These lessons emphasise the significance of participatory approaches, the recognition of local expertise, the delicate balance between tourism and heritage preservation, the understanding of shared values, and the need to overcome engagement challenges. Moreover, they highlight the importance of democratising inhabited spaces, incorporating multifocal perspectives, and implementing ethical data practices. These lessons serve as a guide for creating vibrant, inclusive, and sustainable environments that truly resonate with the community and benefit its inhabitants in the long term.

4.1.1. Recognising Local Expertise

Both case studies emphasise the importance of involving residents as experts in the planning and decision-making processes. Residents have valuable insights into the spatial and functional dynamics, assets, and challenges of their places, neighbourhoods and villages alike.

4.1.2. Utilising Participatory Approaches

The success of both projects is attributed to their participatory approaches, where residents were actively engaged in shaping the future of their communities. Participatory methods, such as in-person activities and digital tools, facilitated dialogue, collaboration, and a sense of ownership among residents.

4.1.3. Balancing Tourism and Cultural Heritage

In the Spanish case, balancing tourism demands with the preservation of cultural heritage and the needs of local residents proved to be a significant challenge. Placemaking efforts in such contexts must prioritise

sustainable tourism practices that respect cultural heritage while ensuring that the benefits are shared equitably among the local community.

4.1.4. Understanding Shared Values

Community interpretation of place plays a vital role in placemaking. Both case studies reveal the significance of understanding shared values and perceptions among residents. By incorporating these values into the planning process, projects can resonate better with the community and create meaningful and liked environments.

4.1.5. Incorporating Multifocal Perspectives

Both projects emphasise the significance of incorporating heterogeneous perspectives in placemaking. Understanding dualities and involving as many diverse viewpoints as possible ensures that the resulting environments cater to the varied needs and aspirations of the community.

4.1.6. Emphasising Ethical Data Implementation

The use of open data-based and place-based approaches in the comparative study of morphological and functional patterns requires ethical considerations. Digitisation challenges in collecting data should prioritise representing diverse stakeholder perspectives and avoiding biased perceptions. Following the ICT experience in Spain, as part of the project, researchers released on-site and digital panels containing both visual and sonic digital sources. Digital images, maps, transects, and voice recordings were found to be relevant sources to promote the rural area among young locals and visitors. Nonetheless, the providers of information at workshops and interviews, senior local people mainly, have no knowledge and interest in this sort of digital placemaking tools.

The Slovenian case highlights that effective use of ICT and photovoice for placemaking surpasses mere technical implementation. It demands a nuanced comprehension of the community's digital behaviours, cultural milieu, and preferences. To unveil the community's diverse place interpretation, emphasis is needed on collaborative, transparent interpretation involving both residents' and designers' viewpoints. This case also underscores the pivotal role of integrated digital support in embedding photovoice within placemaking. It underscores the worth of hybrid approaches and recognises the significance of context-specific solutions, where harmonising traditional (in-person) and digital (PON) methods is key for an inclusive and successful process.

5. Conclusion

The case studies discussed in this article emphasise the importance of involving residents in shaping the future of their communities and recognising their values and perspectives. Approaching issues of heritability and liveability by utilising fundamental notions can aid in addressing the concerns of inhabitants in the research region. The cases have demonstrated that involving the local community in their environment requires an effort to include all groups. Therefore, when protecting a setting, one viable alternative is to focus on the individuals who interact in the setting and present as many views as possible from a human perspective. It is crucial to ensure that this approach is gradually implemented and incorporated into

governance within society and that mechanisms are adjusted to accommodate novel approaches or the revival of the operational existing ones.

One of the key findings is the importance of inclusivity in the placemaking process. Both case studies emphasised the need to include all groups within the community, ensuring that diverse perspectives and values are considered. Involving the local community not only empowers them but also enriches the decision-making process with a broader range of insights and ideas. Such a participatory approach promotes social cohesion and a sense of ownership, fostering a deeper connection between residents and their environment.

The success of these methods lies in their human-centred approach. By focusing on the individuals who interact with the environment, the cases demonstrate how fundamental notions can address the concerns and worries of the locals effectively. By understanding the human perspective, planners and researchers can identify elements of cultural significance and assess the relevance and protection of heritage. Photography combined with additional information proved to be a valuable tool in this regard, providing researchers with a deeper understanding of the residents' values and attachment to their surroundings.

However, these case studies also revealed some challenges in the implementation of participatory methodologies. In the urban context of Ljubljana's Russian Tsar neighbourhood, the transition from in-person activities to digital tools faced difficulties in engaging all residents. Efforts must be made to ensure that participatory processes reach a wider audience and that diverse voices are represented. In the rural villages of the Valencia Region, while the photo-elicitation technique provided valuable insights, it was time-consuming for both researchers and interviewees, because it required visiting the settings and planning meetings at least twice per village, depending on the number of assistants and responses. Careful consideration should be given to the resources and time required for such methods, especially in large-scale projects.

The methodologies employed in these case studies offer valuable insights applicable to other contexts and regions. The photo-based technique and the human-centred approach to placemaking can be adapted and implemented in various urban and rural settings. However, careful consideration should be given to local and ICT contexts, cultural nuances, and specific challenges when applying these methodologies in different communities and participants' ages. The presented cases emphasise the importance of listening to local communities, understanding their needs, and valuing their knowledge and expertise. As societies continue to evolve, these methodologies offer valuable lessons and insights for future urban and rural development projects, fostering sustainable, community-driven, and culturally rich places.

Acknowledgments

This article is based upon work from COST Action DOPMADE, CA18204, supported by COST (European Cooperation in Science and Technology).

Funding

The case of study in Spain was supported by the Chair of Historic Centres and Cultural Routes at Universitat Jaume I and it was funded by the regional government of Castellón (Diputació de Castelló). The work on the case study in Slovenia was partly supported by the EU's Creative Europe programme Human Cities and partly by the Slovenian Research Agency (Research Core Funding No. P50100).

Conflict of Interests

The authors declare no conflict of interests.

References

Allam, Z. (2020). Digital urban networks and social media. In Z. Allam (Ed.), *Cities and the digital revolution: Aligning technology and humanity* (pp. 61–83). Palgrave Pivot. https://doi.org/10.1007/978-3-030-29800-5_3

Altaba, P., García-Esparza, J. A., & Valentín, A. (2022). Assembling cultural and natural values in vernacular landscapes: An experimental analysis. *Remote Sensing*, *14*(17), Article 4155. https://doi.org/10.3390/rs14174155

Appleyard, D. (1981). *Livable streets*. University of California Press.

Carmona, M., de Magalhães, C., & Hammond, L. (Eds.). (2008). *Public space: The management dimension*. Routledge.

Dalglish, C., & Leslie, A. (2016). A question of what matters: Landscape characterisation as a process of situated, problem-orientated public discourse. *Landscape Research*, *41*(2), 212–226. https://doi.org/10.1080/01426397.2015.1135319

De Carlo, G. (2013). Architecture's public. In P. B. Jones, D. Petrescu, & J. Till (Eds.), *Architecture and participation* (pp. 3–22). Routledge.

Drake, G. (2003). "This place gives me space": Place and creativity in the creative industries. *Geoforum*, *34*(4), 511–524. https://doi.org/10.1016/s0016-7185(03)00029-0

Ehrlich, K. (2012). Conflicting visions of urban regeneration in a new political and economic order: The example of the former bicycle factory Rog in Ljubljana, Slovenia. *Anthropological Journal of European Cultures*, *21*(2), 68–88.

Fredheim, L. H., & Khalaf, M. (2016). The significance of values: Heritage value typologies re-examined. *International Journal of Heritage Studies*, *22*(6), 466–481. https://doi.org/10.1080/13527258.2016.1171247

García-Esparza, J. A. (2010). Barracas on the Mediterranean Coast. *International Journal of Architectural Heritage*, *5*(1), 27–47. https://doi.org/10.1080/15583050903186532

García-Esparza, J. A. (2020). *Penyagolosa. El patrimonio de una comunidad. El entorno histórico y el valor social*. Castellón de la Plana.

García-Esparza, J. A. (2022). Urban scene protection and unconventional practices—Contemporary landscapes in World Heritage Cities of Spain. *Land*, *11*(3), Article 324. https://doi.org/10.3390/land11030324

García-Esparza, J. A., & Altaba, P. (2018). Time, cognition, and approach: Sustainable tourism strategies for abandoned vernacular landscapes. *Sustainability*, *10*(8), Article 2712. https://doi.org/10.3390/su10082712

García-Esparza, J. A., & Altaba, P. (2022). Identifying habitation patterns in world heritage areas through social media and open datasets. *Urban Geography*. Advance online publication. https://doi.org/10.1080/02723638.2022.2140971

García-Esparza, J. A., Altaba, P., & Huerta, J. (2023). Examining urban polarization in five Spanish historic cities through online datasets and onsite perceptions. *Habitat International*, *139*, Article 102900. https://doi.org/10.1016/j.habitatint.2023.102900

García-Esparza, J. A., Pardo, J., Altaba, P., & Alberich, M. (2023). Validity of machine learning in assessing large texts through sustainability indicators. *Social Indicators Research*, *166*(2), 323–337. https://doi.org/10.1007/s11205-023-03075-z

Gehl, J., & Gemzøe, L. (2001). *New city spaces*. Danish Architectural Press.

Groth, J., & Corijn, E. (2005). Reclaiming urbanity: Indeterminate spaces, informal actors and urban agenda setting. *Urban Studies*, *42*(3), 503–526.

Henman, P. (2010). *Governing electronically: E-government and the reconfiguration of public administration, policy and power*. Palgrave Macmillan. https://doi.org/10.1057/9780230248496

Hou, J., & Rios, M. (2003). Community-driven place making: The social practice of participatory design in the making of Union Point Park. *Journal of Architectural Education*, *57*(1), 19–27.

Houghton, K., Foth, M., & Miller, E. (2015). Urban acupuncture: Hybrid social and technological practices for hyperlocal placemaking. *Journal of Urban Technology*, *22*(3), 3–19.

Ismail, F., Jabar, I. L., Janipha, N. A. I., & Razali, R. (2015). Measuring the quality of life in low cost residential environment. *Procedia—Social and Behavioral Sciences*, *168*, 270–279. https://doi.org/10.1016/j.sbspro.2014.10.232

Jacobs, J. (1961). *The death and life of great American cities*. Random House.

Lindgren, I., Madsen, C. Ø., Hofmann, S., & Melin, U. (2019). Close encounters of the digital kind: A research agenda for the digitalization of public services. *Government Information Quarterly*, *36*(3), 427–436. https://doi.org/10.1016/j.giq.2019.03.002

Ljubljana Urban Planning Institute. (1965). *Generalni plan urbanističnega razvoja Ljubljane*.

MOL. (2017). *Celostna prometna strategija mestne občine Ljubljana*.

Nikšič, M. (2021). Together on the platform: Common action and reviving the central open public space in Ruski Car (Russian Tsar) in Ljubljana. In J. Fokdal, O. Bina, P. Chiles, & L. Ojamäe (Eds.), *Enabling the city* (1st ed., pp. 177–191). Routledge.

Nikšič, M., Tominc, B., & Goršič, N. (2018). Revealing residents' shared values through crowdsourced photography: Experimental approach in participatory urban regeneration. *Urbani Izziv*, *29*, 29–42.

Speed, J. D. M., Austrheim, G., Birks, H. J. B., Johnson, S., Kvamme, M., Nagy, L., Sjögren, P., Skar, B., Stone, D., Svensson, E., & Thompson, D. B. A. (2012). Natural and cultural heritage in mountain landscapes: Towards an integrated valuation. *International Journal of Biodiversity Science, Ecosystem Services & Management*, *8*(4), 313–320.

Svirčić Gotovac, A., Zlatar Gamberožić, J., & Nikšič, M. (2021). Public participation in post-communist cities between stagnation and progress. *Urbani Izziv*, *32*(1), 75–84.

Urban Planning Institute of the Republic of Slovenia. (2016). *Contest results: Photo-story of our neighbourhood* [PowerPoint presentation]. http://humancities.uirs.si/portals/4/NAGRAJENCI_Foto-Zgodba-natecaj.pdf

Zabielskis, P. (2008). Towards a moral ecology of the city: A new form of place-identity and social action in Penang, Malaysia. *International Development Planning Review*, *30*(3), 267–292.

About the Authors

Juan A. García-Esparza holds a PhD in cultural heritage. He is an associate professor at Universitat Jaume I (Spain), where he teaches conservation and heritage management (2012). His research interests rely on heritage science in a broad sense, from buildings and historical materials' science to the wider built environment. His current research focuses on historic towns and villages. He holds a Chair on Heritage and Sustainable Development (2015–2025), and he is an elected member of the Regional Committee for the Cultural Heritage at Valencia Region, Spain (2016). He is an expert member and an elected member of the Executive Board of the ICOMOS International Scientific Committee for Historic Towns and Villages CIVVIH (2021).

Matej Nikšič is a PhD-holding architect and urban designer, a senior scientific associate at UIRS, and an assistant professor at the Faculty of Architecture in Ljubljana. His expertise lies in spatial cognition, focusing on public open spaces, urban regeneration, and inclusive planning. He is active in AESOP's Public Spaces and Urban Cultures and coordinating Slovenia's involvement in the EU's Human Cities—Smoties Network (Creative Europe). He actively translates research into policy through contributions to Slovenia's National Spatial Order reforms.

Urban Planning
2024 • Volume 9 • Article 7165
https://doi.org/10.17645/up.7165

cogitatio

ARTICLE

Open Access Journal

Digital Participatory Model as Part of a Data-Driven Decision Support System for Urban Vibrancy

Gülce Kırdar [1] and Gülen Çağdaş [2]

[1] Department of Informatics, Istanbul Technical University, Turkey
[2] Department of Architecture, Istanbul Technical University, Turkey

Correspondence: Gülce Kırdar (kirdarg@itu.edu.tr)

Submitted: 10 May 2023 **Accepted:** 17 August 2023 **Published:** 16 January 2024

Issue: This article is part of the issue "Citizen Participation, Digital Agency, and Urban Development" edited by Simone Tappert (University of Applied Sciences Northwestern Switzerland), Asma Mehan (Texas Tech University), Pekka Tuominen (University of Helsinki), and Zsuzsanna Varga (University of Glasgow), fully open access at https://doi.org/10.17645/up.i327

Abstract

Digital participation relies on computational systems as the instruments for expert engagement, data-driven insight, and informed decision-making. This study aims to increase expert engagement with the Bayesian-based decision support model in evaluating urban vibrancy decisions. In this study, urban vibrancy parameters are defined using "economic, use, and image value" measures. This article focuses on the visual aspect of vibrancy, defined as the image value of place. The image value is evaluated through likability and likability features. The case study area is the Eminönü Central Business District in the Istanbul Historic Peninsula due to its distinctive urban dynamics derived from the duality of being a cultural and cosmopolitan city center. This research presents a method as a decision support system (DSS) model based on the Bayesian belief network (BBN) and spatial BBN for supporting urban vibrancy decisions. The spatial BBNs monitor spatial outcomes of variables' dependencies that form through the BBN relationship network. Spatial BBN tools monitors the spatial impact of decisions for informed urban interventions. The results demonstrate that urban greening, pedestrianization, and human-scaled streetscapes should be prioritized to make streets more likable. The most significant intervention areas are Tahtakale for signboard regulation, Sultanahmet and Vefa for cultural landscape improvement, and Vefa and Mahmutpaşa for planning building enclosures. The participation is achieved by evaluating urban vibrancy with what-if scenarios using BBN. The developed DSS model addresses which parameters should be prioritized, and what are their spatial consequences. The use of spatial BBN tools presents certain limitations in terms of interoperability and user interaction. Overall, this research contributes to participatory urban planning by incorporating both conditional and spatial dependencies. This unique approach not only promotes a more holistic understanding of urban vibrancy but also contributes to the advancement of digital participation in urban planning decisions.

Keywords
decision support; digital participation; expert participation; place value; spatial Bayesian belief network; spatial dynamics; urban vibrancy

1. Introduction

Participation plays a critical role as an effective decision support mechanism, fostering transparency, inclusivity, and responsiveness in the decision-making process (Skogheim & Atkinson, 2013). Empowering citizens with access to information and the ability to influence the urban environment (Sanoff, 1992; Skogheim & Atkinson, 2013) leads to dialogue, collaboration, and improved justice and democracy. Digital participation further amplifies these advantages by increasing community engagement and acceptability while promoting the democratization and dissemination of information (Kingston, 1998; Rinner & Bird, 2009). Integrating computational tools and online systems significantly enhances digital participation (Moura & Campagna, 2018). From an expert perspective, digital participation tools enhance expert engagement, collaboration, and co-design, ultimately improving decision-making in design practices (Moura & Campagna, 2018).

While participation has been recognized as a valuable element in decision-making, it is often poorly integrated into data-driven methods. Developments in smart cities and big data augment data-driven analysis and decision-making methods. Incorporating them into digital participation practices is seen as a future trajectory for informed decision-making (Hollands, 2008; Kitchin, 2013). Recognizing this, the presented study seeks to bridge this gap. This study will focus on developing a data-driven decision support model that incorporates expert participation for more informed decision-making. It utilizes Bayesian belief networks (BBNs) to evaluate urban vibrancy decisions, specifically visual attractiveness. Participation is achieved through surveys to calibrate the BBNs and utilizing scenarios via a spatial BBN platform to prioritize actions. This research explores the use of spatial BBN tools to support informed decision-making in urban vibrancy scenarios, addressing key research questions: (a) How can urban vibrancy be evaluated using BBN? (b) Which parameters should be prioritized? and (c) What will the spatial consequences be? By assessing the role of spatial BBN tools in expert participation, frequently used in environmental modeling and landscape planning decisions (Landuyt et al., 2015; Langemeyer et al., 2020; Stritih et al., 2020), this research contributes to the field of urban studies. Moreover, understanding the socio-spatial process in a city is crucial for achieving a participatory approach, as highlighted by Tekeli (2009). To address this gap, this research offers a user-interactive and spatially related BBN model to evaluate urban vibrancy decisions.

The research methodology quantifies place value measures, reveals direct and indirect relationships between them, and supports site decisions based on this relationship network using spatial BBN tools. This study aims to assist decision-makers in fostering vibrant neighborhoods through data-driven methodologies and a participatory approach, providing a useful tool to develop strategies and test actions for urban vibrancy.

The article's structure is as follows: Section 2 delves into urban vibrancy, specifically focusing on visual attractiveness defined as image value. Section 3 presents a systematic review, examining the role of BBNs and spatial BBNs in decision-making and participatory processes. Section 4 elaborates on the methodology, followed by Section 5, which applies the spatial BBN model to site decisions and presents the results.

The article concludes with a discussion of the outcomes and limitations in Section 6, followed by concluding remarks and potential avenues for further research in Section 7.

2. Urban Vibrancy and Place Value

Urban vibrancy, a vital aspect of urban life (A. Jacobs & Appleyard, 1987), has gained increasing significance in urban planning due to its positive impact on city livability (Montgomery, 1998). The concept of urban vibrancy was initially introduced by Jane Jacobs in her influential work *The Death and Life of Great American Cities*. J. Jacobs (1961) argued that urban vibrancy promotes active street activity and human interaction, thereby fostering a vibrant social life. Diversity in activities, people, and urban forms are necessary elements for vibrant neighborhoods (J. Jacobs, 1961; Talen, 2006).

Methods for evaluating urban vibrancy have been built upon J. Jacobs's (1961) six conditions for urban vitality, encompassing land use mix, density, block size, building age, accessibility, and street permeability. Montgomery (1998) further developed the principles of activity, image, and form as characteristics of urban vibrancy. The scope of quantitative measures for urban vibrancy has expanded to include urban form (Tang et al., 2018), urban functions, and user activities (Lin et al., 2017), along with quality (Zhang et al., 2019), using big data approaches, and leveraging geo-referenced datasets from locative media data (Wilken & Goggin, 2014). This diverse range of measurement approaches contributes to a comprehensive understanding of urban vibrancy and supports decision-making processes.

In this context, this study aims to gauge urban vibrancy by considering urban form, functional parameters, and user activities and perceptions, employing big urban data. Therefore, the study uses an extensive evaluation method to understand urban vibrancy from the perspectives of a place's economic, use, and image value. It benefits from the place value categorization by the Commission for Architecture and the Built Environment (CABE, 2006), which includes the economic, use, image, social, and environmental value of a place (Table 1). There is a circular relationship between place value and place quality: place quality enhances the urban environment, and place value describes place quality (Carmona, 2019). This research focuses on the economic, use, and image value of a place concerning economic prosperity, attractiveness, and visual likability. The study defines economic value through Carmona's (2019) compiled evidence. It defines use value by applying J. Jacobs' (1961) diversity generators and Montgomery's (1998) activity principles for attractiveness. Lastly, it defines image value through Nasar's (1998) likability features. Although urban vibrancy is measured through different place value concepts, this study primarily focuses on image value to evaluate urban vibrancy from aspects of visual quality and attractiveness.

This study concentrates on the image value measures based on the evaluation of the visual quality of urban scenes by the public, known as evaluative image or likability (Nasar, 1998). Image value is measured using the likability concept and likable features developed by Nasar (1998). Likability is a key indicator of the public's positive evaluative response toward an urban scene, primarily determined by the presence of likable features (Nasar, 1998). The five evaluative criteria for likability include naturalness (reflected in elements such as countryside, urban greening, and water landscapes), upkeep (related to cleanliness, maintenance, and the condition of the built environment), openness (associated with views, panoramas, and scenery), order (pertaining to the organization and clarity of the built environment), and historical significance (denoted by vernacular architecture or historical buildings; Nasar, 1998).

Table 1. Place value measures.

Place value	Description
Economic value of place (economic viability)	The focus is on the economic viability and economic productivity (Carmona, 2019), the trade value of urban environment as mentioned in CABE (2006)
Image value of place (design quality of streetscapes)	The focus is on the visual quality and attractivity of the place
Use value of place (activity)	The focus is on activities and active user density. The dimension has termed as use value (CABE, 2006), handled under social value (Carmona, 2019), or activity dimensions (Montgomery, 1998)
Cultural value of place (attractiveness of heritage)	The focus is on the cultural significant of the place within the conservation, revitalization of cultural attributes (CABE, 2006)
Social value of place (wellbeing)	The focus is on social relations of people and the psychological connection with place (CABE, 2006; Carmona, 2019)
Environmental value of place (sustainability and public health)	The focus is on environmentally aware design with minimum consumption and contribution to sustainability (CABE, 2006). Carmona (2019) includes health value that concentrates on public health such as walkability

Source: Adapted from CABE (2006).

This study employs likability attributes as evaluation criteria for assessing the image value of a place. Specific indicators within each criterion are identified, such as urban greening for naturalness, traffic density, building condition and signboards for upkeep; building enclosure rate for order; and cultural landscape for historical significance.

The study examines urban vibrancy in Eminönü Central Business District (CBD) of Istanbul's Historical Peninsula as the case study area. Eminönü CBD is characterized by having both historical importance and a cosmopolitan city atmosphere (Site Management Directorate of Istanbul Historic Peninsula, 2018). The juxtaposition of historical and cosmopolitan aspects in Eminönü CBD presents challenges and opportunities that influence urban dynamism. Therefore, this area was selected as a testbed for this study. In this study, BBN is used as a decision support tool to reveal complex relationships for knowledge discovery about relationship patterns.

3. Bayesian Methods for Decision Support and Participation

Decision support systems (DSSs) are widely used to assist experts in making decisions in the field of urban design and planning. DSS is an information system that integrates other information systems and interactive models to facilitate decision-making activities (Sprague & Carlson, 1982). Erhan (2003) identified several research concerns in the use of DSSs, including understanding how computer systems can support designers and planners in various areas, how to formalize design problems, and how computers can generate alternative solutions based on these formalizations, and assess the proposed solutions.

As stated by Loo and Tang (2019, p. 139), "decision-making becomes a data-driven process" in the data-rich environment of smart cities. Data-driven DSS utilizes computational techniques and data analysis to support informed evaluations and generate alternative solutions. This study reviews reference studies adopting a data-driven approach in DSSs to support urban planning decisions. For instance, Sohtorik (2016) uses data mining techniques to extract knowledge and rules for decision-making in urban interventions, while Çalışır

Adem and Çağdaş (2022) integrate data mining techniques and cellular automata for interventions in historical sites.

Data-driven computational techniques also increase expert engagement by promoting informed decision-making processes. In the city induction model, Duarte et al. (2012) developed a computer model for the formulation, production, and evaluation of urban plans. The model seeks to facilitate expert collaboration, informed decision-making, and the generation of high-quality urban environments that meet community needs. It incorporates a GIS and utilizes a common urban space ontology, suggesting that data-driven approaches support urban planning decisions in terms of plan generation and evaluation. Lima et al. (2022) employ a data-driven process to evaluate different urban fabric layouts through shape grammars and multi-objective evaluation methods. Generating alternative designs enables urban planners to engage and make informed decisions about the optimum urban layout with increased pedestrian accessibility and decreased infrastructure cost.

Clearly, data-driven DSS plays a significant role in supporting informed evaluations and generating alternative solutions in the context of urban planning decisions. However, decision-making in complex urban environments demands a robust framework to handle the uncertainties and intricate relationships among various factors. In the field of DSSs, different inference mechanisms serve various decision problems: rule-based, data-based, purpose-based, and probabilistic inference (Luger & Chakrabarti, 2008). BBNs offer a powerful tool to incorporate probabilistic inference into the decision-making process to handle uncertainty and complex relationships (HUGIN Expert, 2013). BBNs encode human intuition and reasoning under uncertain conditions, enabling a natural and intuitive approach to decision-making (Pearl, 1986).

BBNs are useful tools for learning causal relationships, making predictions, and discovering knowledge by making inferences from data (Heckerman, 1997). BBNs' ability to handle incomplete datasets and learn causal relationships for predictions makes them advantageous as knowledge discovery tools (Heckerman, 1997). Fusco (2008) emphasizes that BBNs outperform other statistical methods in knowledge discovery, making them an optimal choice for this study to discover knowledge from the data that can support urban planning decisions.

In urban studies, BBNs have primarily been utilized to explore indirect and direct relationships between variables and evaluate decisions based on these relationship patterns. They have been utilized to evaluate sustainable mobility performance (Fusco, 2004), traveler satisfaction (Yanık et al., 2017), and changes in spatial dynamics (Fusco, 2008). BBNs support participatory modeling with their graphical structure and probabilistic nature, facilitating a participatory approach to decision-making by evaluating alternative scenarios while considering uncertainty (McCloskey et al., 2011). Yanık et al. (2017) incorporate experts in evaluating causality in BBNs through pairwise relationship comparison and causal Bayesian network construction to calibrate BBNs.

Spatial BBNs link Bayesian networks with spatial data through raster images. The application of spatial BBNs supports experts through uncertainty mapping. Langemeyer et al. (2020) used a spatial BBN tool in multi-criteria decision-making to build a screening tool for efficient green roof usage in Barcelona. They created a BBN with HUGIN software, developed spatially explicit BBNs with the HUGIN QGIS plugin, and used expert opinions for node weighting. Similarly, Landuyt et al. (2015) designed the Probabilistic Map

Algebra Tool plugin for pixel-based application of BBN models in probabilistic mapping, using Python to monitor BBN results in QGIS. This plugin supported stakeholder involvement, expert knowledge incorporation, and uncertainty consideration in landscape planning. Stritih et al. (2020) developed a spatial BBN platform (gBay) for ecosystem service modeling and mapping, using case studies to explore relationships and future scenarios with a participatory approach. These studies emphasize spatial BBNs' potential in decision support, stakeholder involvement, and uncertainty mapping through BBN and GIS integration.

4. Methodology

This study employed a quantitative methodology, incorporating an exploratory research approach to examine urban vibrancy, considering spatial, functional, and perceptual attributes. In this exploratory research, knowledge discovery was achieved through the application of BBN to reveal complex relationships between place value measures. The exploratory analysis results were also validated through expert consultation. Expert participants evaluated the correlation and causality of the relationships between place value attributes through a survey facilitated by BBN. BBN was utilized in this study to explore the intricate relationships between vibrancy measures and understand the causality of these relationships. The BBN in this study was constructed using automated learning algorithms. Specifically, the Necessary Path Condition (NPC) learning algorithm, among constraint-based learning algorithms that measure the conditional independencies of nodes through statistical tests, was utilized (Steck & Tresp, 1999).

This study implemented a data-driven DSS through BBN and supported it with expert participation through a survey. In this study, the relationship network, calibrated with expert participation, was evaluated using a spatial BBN platform to make decisions regarding vibrancy indicators. The study methodology encompassed phases such as data collection, information retrieval, data analysis with BBN, and the use of spatial BBNs, as shown in the flowchart (Figure 1).

4.1. Data Collection and Information Retrieval Phase

For data collection, this research utilized data from both physical and online localities to address the multidimensionality of vibrancy. Web-scraping methods were applied to collect data from location-based social network (LBSN) platforms. This research employed locative media data from various sources, including Flickr, Foursquare, Google Places, and Google Street View (GSV). This study used Flickr photo-sharing to estimate heritage visitation, Foursquare check-ins to estimate user density, Google Places to obtain information about activity places, and GSV to audit streetscape elements. This research chose to apply big data analysis of locative media data obtained from LBSN platforms instead of conducting a survey for user data collection. Big data provides a rich source of information about people's activities, movements, and behaviors. There is consensus on the high level of representativeness of LBSN data in capturing the common user patterns of citizens (Martí et al., 2019). Additionally, master plans were digitized and transformed into vector attributes to collect data about urban function and urban form attributes. The research employed various quantitative methods, such as entropy-based indices, clustering algorithms, image segmentation, and surveys, to gauge measures in information retrieval. Table 2 presents the variables within the data collection and information retrieval methods for each value of place.

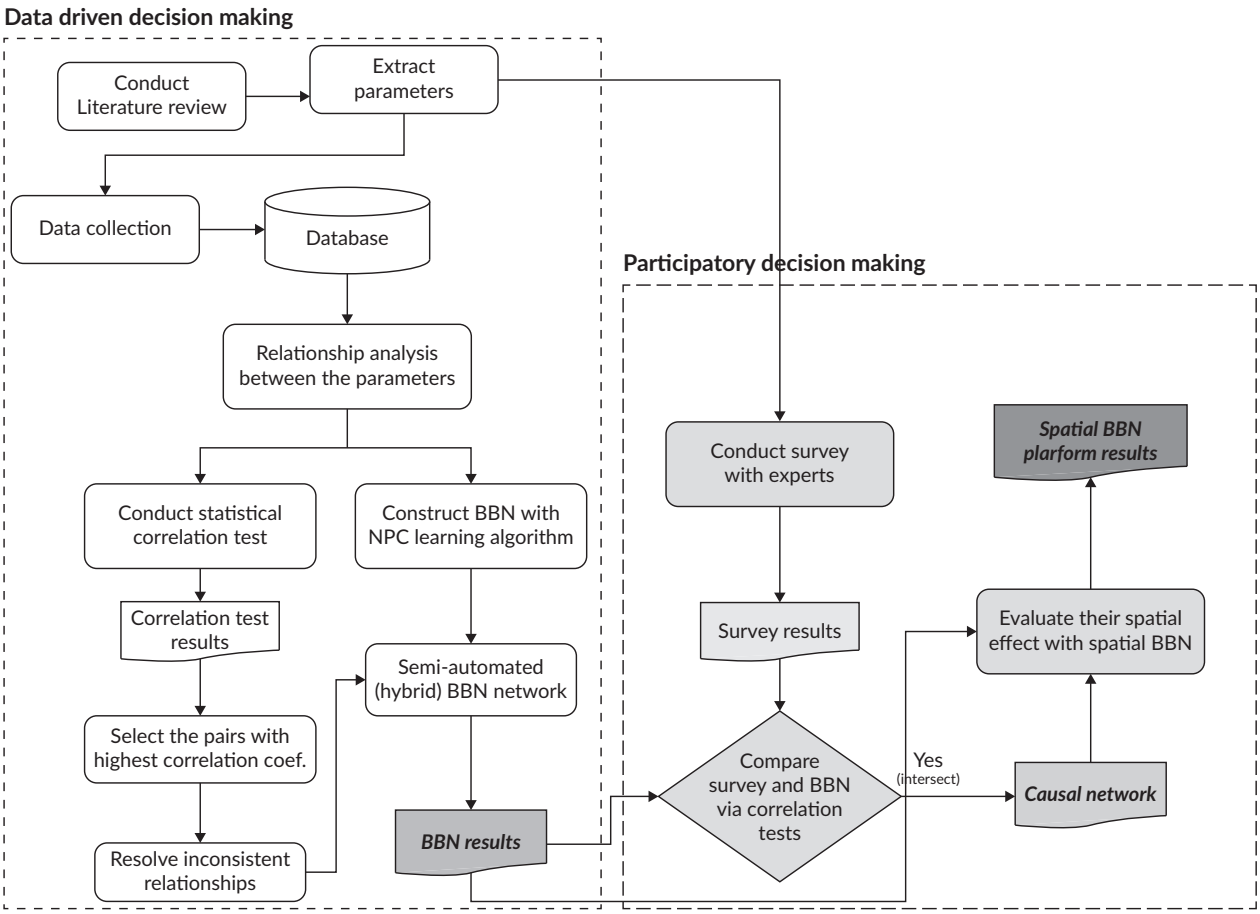

Figure 1. The flowchart of the methodology.

This study focuses on image value, measured through likability, and its dependence on factors such as urban greening, public open space, building conditions, traffic density, and cultural landscapes (Nasar, 1998). GSV images were scraped to extract streetscape attributes. A visual survey for likability was conducted with 60 participants, in which respondents evaluated the images using a Likert scale. Likability scores were obtained by calculating the mean of respondents' scores. To gauge likability features, GSV images were analyzed using image segmentation methods. The image features were extracted using the TensorFlow extension developed by Abadi et al. (2016). Semantic labels were assigned to pixels in the image, and the ratio of the labeled features was calculated.

These multiple datasets were organized and combined into a SQL database for data organization, enabling CRUD (create, read, update, delete) operations to manage the data effectively. A spatial database was created using PostgreSQL and PostGIS extensions to monitor and manipulate spatial data in a GIS environment. The NPC learning algorithm was utilized as a learning algorithm to construct the BBN. Ambiguities were resolved through the correlation test results. The BBN analysis uncovers the probabilistic relationship between place value measures based on their conditional dependence.

Table 2. The variables and methods for data collection and processing.

Aspect of urban vibrancy	Dependent variable	Independent variables	Data collection methods	Applied methods for information retrieval	Data source
Economic value of place	Land price change per square meter	Urban function features Urban form features Accessibility Socio-demographic features	Municipality databases for land price, Istanbul Metropolitan Municipality (IMM) Master Urban Maps (2011) Open Street Map	Entropy-based indices Coefficient of variation Cumulative opportunities-based accessibility	Fatih Municipality Database
Use value of place	Active people density	Activity features Time diversity Heritage attractiveness (visitation rate of heritage) Attractiveness of activities (place rating) Accessibility, public open spaces	LBSNs IMM Master Urban Maps (2011) Open Street Map	Getis-Ord Gi* Entropy-based diversity indices Cumulative opportunities-based accessibility photo-user-day	Foursquare Google Places API Flickr API
Image value of place	Likability	Urban greening Vista Building enclosure rate Signboards (physical incivilities) Traffic density Cultural landscape	GSV images Visual survey	Image segmentation methods	GSV images Visual survey data

The directed acyclic graph (DAG) is shown in Figure 2, and conditional probability table (CPT) of the image value relationship network is displayed in Table 3. Based on the DAG results, the physical elements of the built environment (including building enclosure rate, traffic, and signboards on the facade), natural elements (urban greening), and vista, directly affect the likability of the streetscapes. The DAG graphic monitors the direct and indirect relationship between likable features, while the CPT gives information about the conditional probability rate of likability based on changes in the other attributes. According to the CPT results, urban greening, vistas, and cultural landscapes contribute positively to the likability of an area, with urban greening

accounting for 8.37% of the effect, vista for 5.68%, and cultural landscape for 2.06%. The CPT illustrates that 25% of places with high levels of urban greening are associated with high level likability. Similarly, 24% of places with vistas and 20% with cultural landscapes exhibit high levels of likability. On the other hand, the building enclosure rate has a significant negative impact on likability, accounting for 12.98% of the effect, while the presence of facade signboards contributes negatively, at 10.67%. Among the places with lower building enclosure rates, 44% are highly likable, as are 26% of places without signboards on facades, and 20% of places with low traffic density. The results demonstrate that an increase in urban greening, heritage, and vista improves likability, while a rise in building enclosures and facade signboards decreases likability. Lastly, participants evaluated the causality and correlation of the relationships found in the BBN network through a survey.

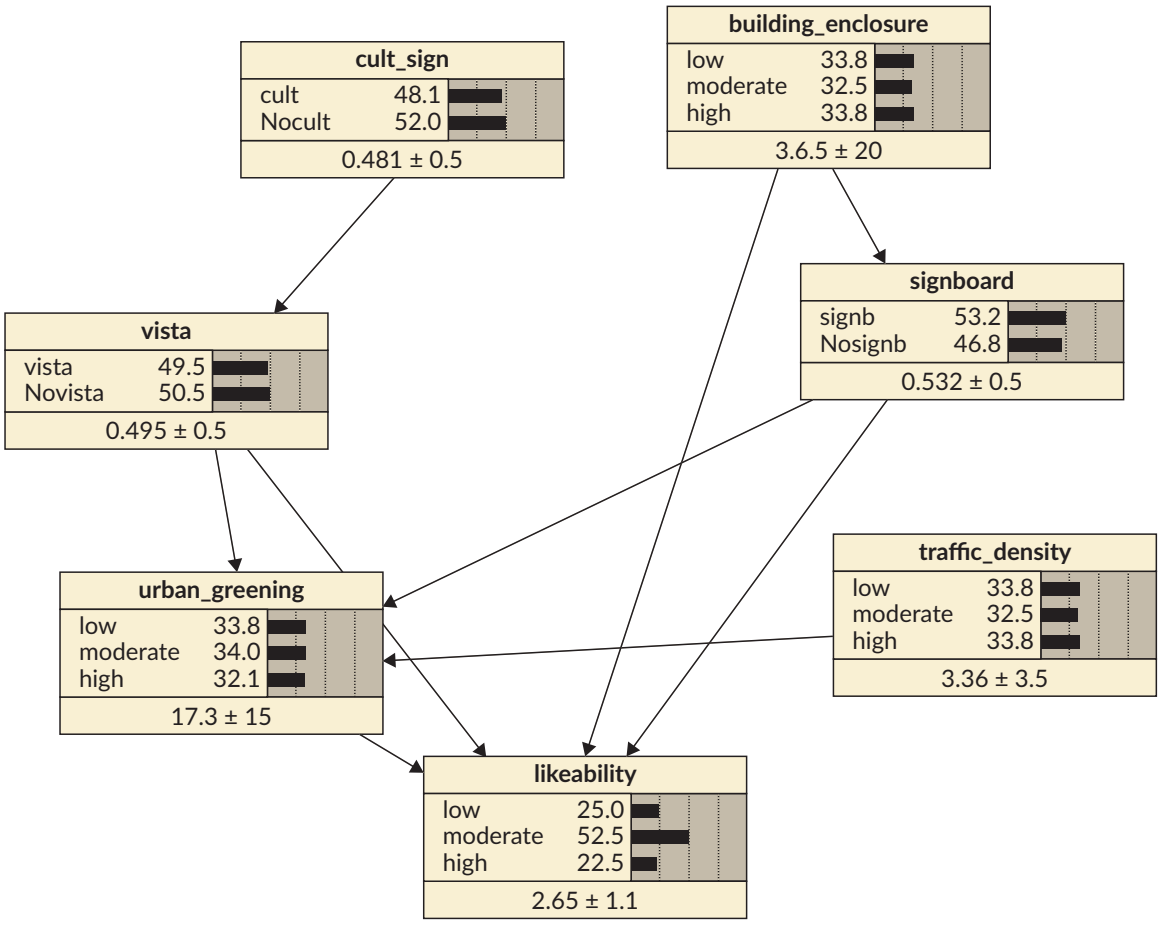

Figure 2. BBN network of image value shown with DAG.

Lastly, the data-driven decision-making process was complemented by participation in a survey. The survey involved 15 researchers, all of whom had been engaged in urban studies at the graduate or postgraduate level. In the survey, participants identified the correlation and causality of the relationships using a pairwise relationship matrix. The relationship between expert responses and BBN results was also assessed using a correlation test as a method of statistical analysis. Chi-square test results reveal significant associations for all measures, with Cramér V values indicating moderate associations for economic ($V = 0.460$) and use ($V = 0.475$) values and a high association for image value ($V = 0.522$). Overall, the analysis demonstrates a significant

correlation between BBN and survey results, supporting the use of the survey to assess BBN results. The image value relationship network was selected as a case due to its high association level. A causal map was generated based on the participants' evaluations, as shown in Figure 4a.

Table 3. BBN network of image value shown with CPT table.

			Likeability			
Rank	Variables	Updating condition	Low	Moderate	High	Change
1	Urban greening	Low	35.64	53.49	10.88	12.74
		Moderate	16.86	61.39	21.75	6.04
		High	16.58	59.17	24.25	6.32
2	Signboard density	Signboard	34.25	54.61	11.13	11.35
		No signboard	12.92	61.12	25.96	9.98
3	Traffic density	Low	23.07	56.72	20.21	1.35
		Moderate	20.87	60.13	19	2.06
		High	24.66	57.46	17.88	1.76
4	Vista	Vista	17.14	58.99	23.87	5.76
		No vista	28.50	57.18	14.32	5.60
5	Building enclosure rate	Low	2.42	52.62	44.96	25.93
		Moderate	29.45	63.2	7.25	11.78
		High	37.07	58.51	4.42	14.17
6	Cultural sign Cultural landscape	Cult	21.4	58.31	20.29	1.50
		No Cult	24.51	57.82	17.67	2.61

4.2. The Use of Spatial BBN Platforms

Among BBN programs, HUGIN and Netica have spatial BBN tools that integrate Bayesian networks with spatial data. GeoNetica and Probabilistic Map Algebra Tool are the GIS extensions of Netica that facilitate the linkage of BBNs to spatial data (Norsys Software Corporation, n.d.). GeoNetica allows Bayes nets to interact with GIS for probabilistic processing of raster data, while the Probabilistic Map Algebra Tool provides user-friendly model development and result analysis, coupling BBNs with spatial input data through Python and QGIS (Norsys Software Corporation, n.d.). As another plugin, Stritih et al. (2020) developed the gBay platform that considers spatial interactions and feedback loops, unlike other spatial BBN tools. This online platform connects BBNs with spatial data (raster or vector) and enables iterative BBN execution considering spatial interactions (Stritih et al., 2020). Lastly, the HUGIN QGIS plugin applies Bayesian network methodology to analyze raster data layers and generate a new raster layer that contains the results (Karlsen & Madsen, 2018). The Bayesian network is employed within node values, linked to the raster layers, to calculate and propagate the probabilities for each point in the raster layer (Karlsen & Madsen, 2018).

In this study, the use of spatial BBN platforms involved two phases: (a) the generation of raster layers and (b) the incorporation of BBN into spatial BBN platforms. In the first phase, variable attributes in the spatial database were divided into separate vector data layers (in the form of shapefiles). These vector data layers were then converted into raster data and standardized by resolution (100 × 100 cm), extent (Istanbul Historical Peninsula Eminönü CBD boundaries), and EPSG (European Petroleum Survey Group) projection (4326, the same as vector layer) in Geotif format, including raw data. The band ranges of the raster layers were organized

in accordance with the same interval in variables in the BBN. This procedure is essential for utilizing the spatial BBN tools as they operate with raster data. The raster images of the likability and urban greening variables are illustrated in Figure 3. Converting vector data to raster may result in information loss due to image resolution. In QGIS, the raster layer is visualized using the singleband pseudocolor settings, whose color range represents the intervals of the variables.

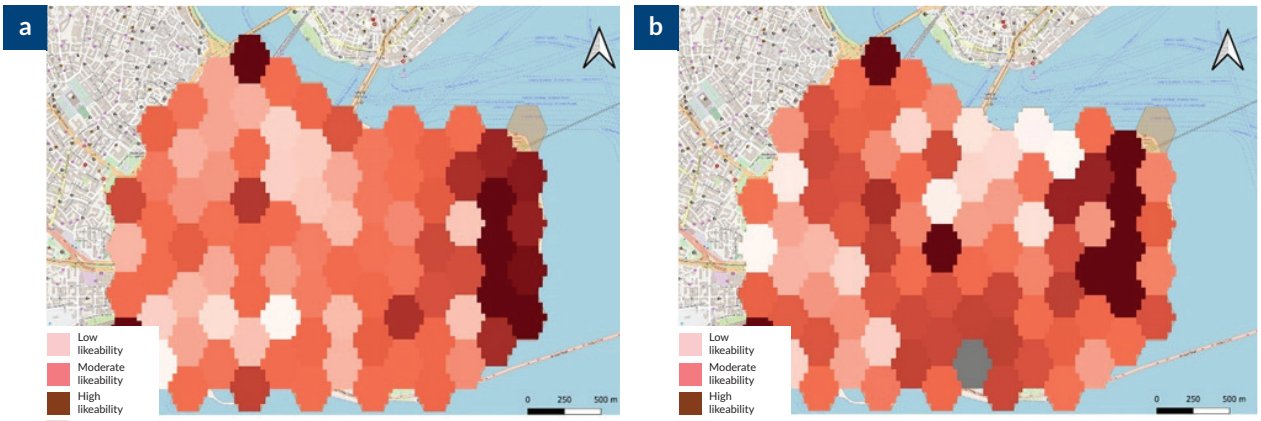

Figure 3. Raster layers of the likable features: (a) likability raster layer and (b) urban greening raster layer.

The gBay platform was employed as a spatially interactive BBN, and its interface is displayed in Figure 4. The process begins by uploading the BBN in Netica DNE format to the gBay platform. Once uploaded, the user can proceed by indicating the target node of this BBN (Figure 4a). The output will monitor the posterior probability distribution for this target node. Non-spatial evidence is set by clicking on the state of a node, and spatial inputs are uploaded into raster file format. After these configuration steps, the user can initiate the analysis by running the network. gBay utilizes spatial data to conduct inference in the BBN for each pixel or feature, producing posterior probability distribution results for the target node. Users have different options to access the results, which can be downloaded or received via email. The results are given as a command summary of BBN propagation and a raster layer, showing the posterior probability distribution of likability. The spatial statistics are calculated and represented with different raster bands for each state of the target node. The input values are hard evidence, which includes continuous nodes discretized as interval measures and discrete nodes represented as 0 and 1. In this study, Raster Band 1 signifies the entropy-based calculation (evenness index), Raster Band 2 indicates the mean-based calculation, and Raster Band 3 represents the median-based calculations for each state of likability, as seen in Figure 5.

The HUGIN QGIS plugin was also employed as another spatial BBN tool. HUGIN QGIS does not require user interaction, unlike gBay. The raster layer names are identical to the variable nodes in the HUGIN BBN. After generating the raster layers, the HUGIN Python document was reconfigured based on the model parameters. In the input section of the document, nodes were mapped to raster layers with the same node names as in the HUGIN BBN, and the raster identified a raster image file name. The output section lists the target node as max, Pmax, and avg, with the maximum probability, probability of the state with the maximum probability, and average change values of the target node calculated as an output raster layer (Figure 5b). The raster layers, HUGIN Python file, and HUGIN BBN are assigned as input layers in the HUGIN QGIS interface. The BBN is then propagated into spatial data using the raster images, with the target node being likability. Output options include maximum probability index states (Raster Band 1), the

probability of the state with maximum probability (Raster Band 2), and maximum expected utility (Raster Band 3; Karlsen & Madsen, 2018). The HUGIN QGIS results are represented using a sequential color scheme ranging from green to yellow-orange and red. Sequential color schemes are often used to represent data with an ordered range of values. Green corresponds to low level likability, yellow to moderate level likability, and orange and red to high level likability areas, as shown in Figure 5b.

5. Results

This study delves into site planning decisions and strategies related to place value measures, specifically focusing on the Istanbul Historic Peninsula Management Plan (Site Management Directorate of Istanbul Historic Peninsula, 2011, 2018). The overarching goal of this management plan is to strike a balance between preservation and transformation while safeguarding the area's historical, socioeconomic, spatial, and cultural identity (Site Management Directorate of Istanbul Historic Peninsula, 2011, 2018). Table 4 lists site decisions pertaining to image value measures.

Table 4. The site decisions regarding the image value measures.

Decisions	Parameters
Main goal: Improving the visual integrity of the site The evaluative image of the site	Likability
Decision 1: Limiting car use on the site Decreasing the vehicle density Deautomobilization	Traffic density
Decision 2: Improving the landscape quality of the site Improving the green pattern of the streetscapes	Urban greening
Decision 3: Evaluating the building silhouette Controlling the facade extensions Decreasing the building enclosure on the streets	Building enclosure rate
Decision 4: Controlling signboards and banners that affect the perception of cultural values of the site negatively Developing an urban design guide for lighting, signboards,and building facade regulations	Physical incivilities (signboards)
Decision 5: Restoration of traditional street patterns as vernacular architecture examples	Cultural landscape

Source: Site Management Directorate of Istanbul Historic Peninsula (2011, 2018).

In the existing conditions, areas with low level likability tend to cluster around the Tahtakale district, which is also a hub for commerce, particularly shopping. The low level likability in these areas can be attributed to the proliferation of dense signboards and other physical infrastructure, compounded by high traffic density. Another concentration of low level likability is observed in the Kumkapı district, known for its residential coastal setting. In this context, low level likability can be traced back to limited urban greening and high building enclosure resulting from the density of residential patterns. Moderate levels of likability are

clustered in the Mahmutpaşa, Beyazıt, and Vefa districts. Notably, these districts boast a high number of cultural landmarks. High levels of likability are concentrated in the Beyazıt and Sultanahmet districts, characterized by abundant cultural landmarks, ample urban greening, and scenic vistas that seamlessly blend cultural and natural landscapes.

Adjustments were made to the variables' states to observe their impact on likability results, aligning with decisions made by the Site Management Directorate of Istanbul Historic Peninsula (2011, 2018). Notably, traffic and signboard density, reflecting physical incivilities, were reduced to their lowest states, set at 100%, while cultural landscapes and urban greening levels were heightened, backed by 100% evidence. The gBay platform interface, illustrated in Figure 4b, highlights selected variables (in bold) and the likability target node (indicated by a target icon). Causal relationships connect variables such as building enclosure, urban greening, vistas, and signboards with likability, while vistas are linked with urban greening, as shown in Figure 4a. Figure 5 presents the results for the likability target node, with raster bands representing entropy-based calculations (band 1), mean-based calculations (band 2), and median-based calculations (band 3) of the probability distribution for likability. The entropy index was not computed, and each grid displays two posterior probabilities based on mean and median evaluations. Notably, mean-based assessments (band 2) yield higher results for each likability state (Figure 5).

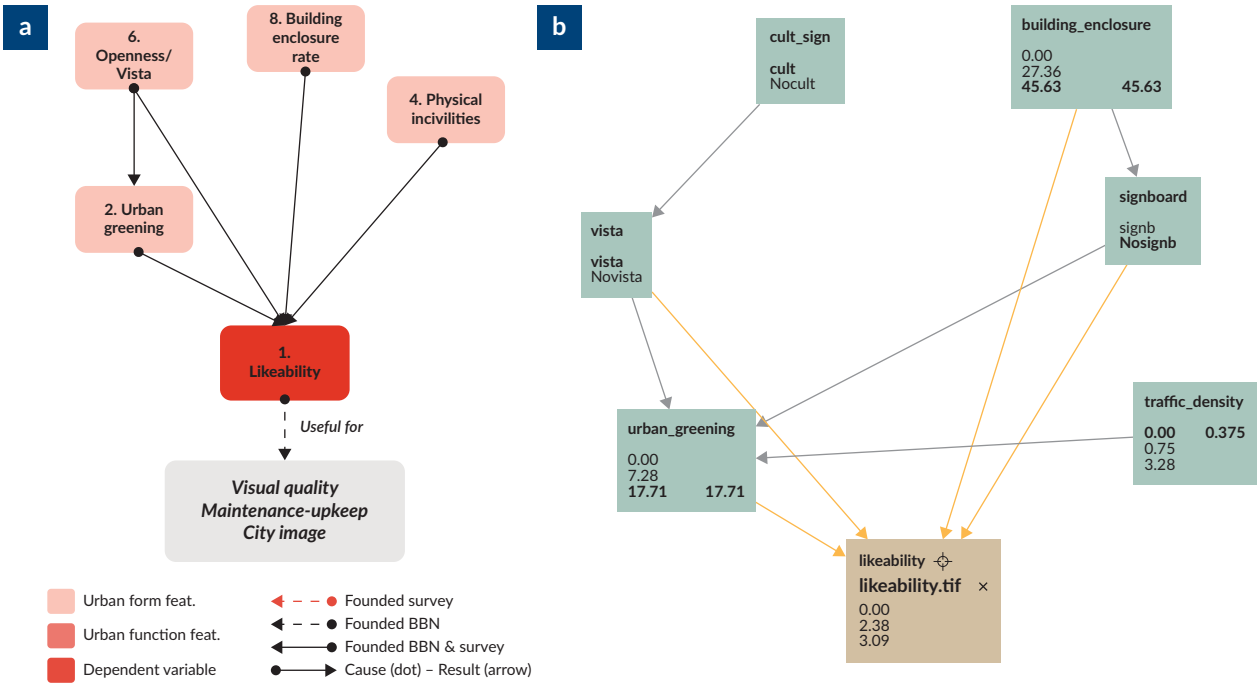

Figure 4. The Bayesian network: (a) the causal network diagram and (b) the BBN in gBay platform interface with causal linkages.

After BBN propagation, black represents low level likability, green indicates moderate level likability, and blue represents high level likability in Figure 5. Entropy based calculations are shown in raster band 1, mean-based calculations in band 2, and median-based calculations in band 3. When site decisions are applied, there is a slight change in low level likability results, with the number of grids displaying low level likability attributes shifting from 29.89% (26/87) to 27.59% (24/87), a 2.30% change. Notably, a limited part

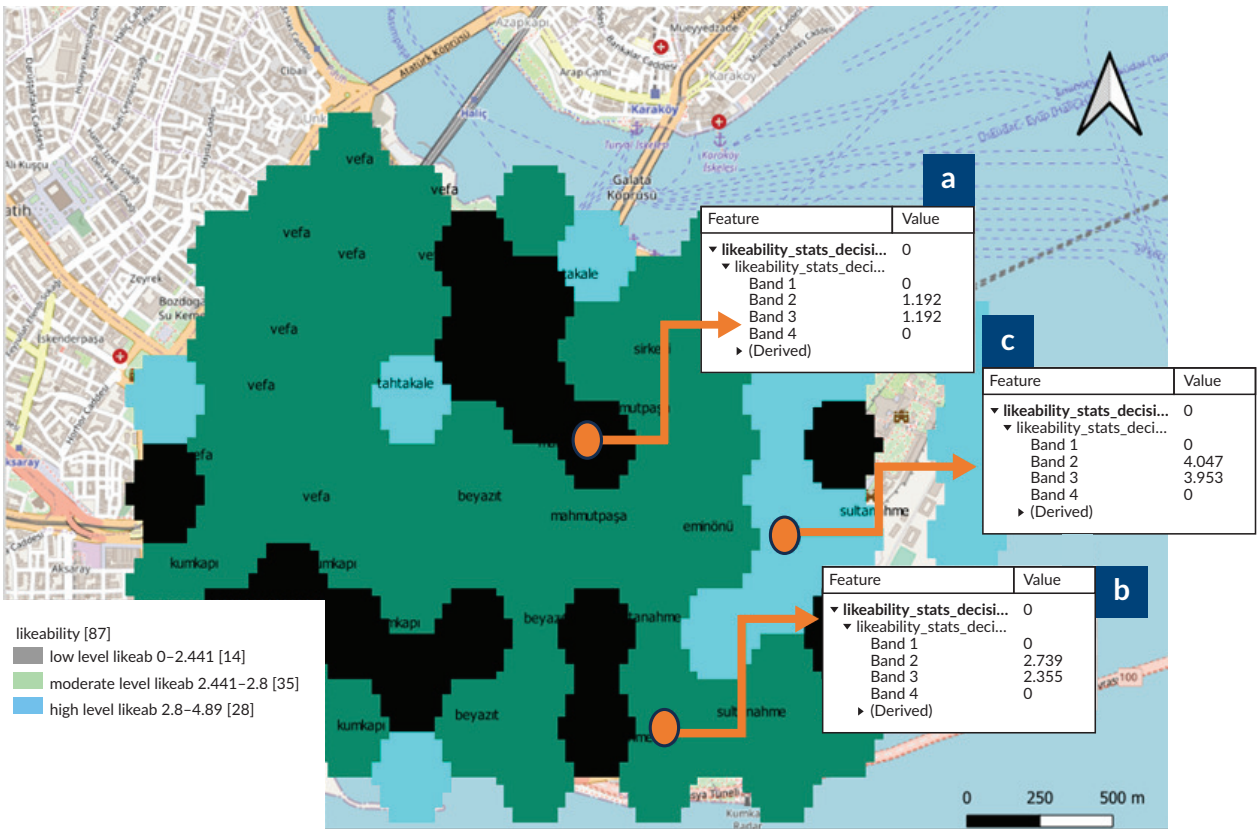

Figure 5. Different likeability states: (a) low level likability, (b) moderate level likeability, and (c) high level likeability.

of Molla Hüsrev neighborhood in the Vefa district changed from low to moderate level likability. Conversely, the number of grids with moderate level likability attributes increased from 40.23% (35/87) to 55.17% (48/87), indicating a significant 15% change, particularly in Vefa, Kumkap, Mahmutpaşa, and Beyazıt Districts. However, the number of grids with high level likability attributes decreased from 32.18% (28/87) to 19.54% (17/87), a 12.64% change. These shifts suggest clustering in moderate-level likability following BBN propagation. The HUGIN QGIS results also reveal meaningful variations in the distribution of moderate likability levels, with both low and high level likability probabilities dispersed. In general, the likability results show greater dispersion in HUGIN QGIS results compared to more clustering in gBay results. There is a decrease in both high, moderate, and low likability levels, with 37.5% in low, 20% in moderate, and 50% in high likability levels. HUGIN QGIS results also display uncomputed areas with no data, accounting for 12.64%, corresponding to 20% in gBay. These uncomputed areas are mostly low-likable zones. Considering the user interaction and result evaluation, gBay is selected for spatial decision-making. A comparison between HUGIN QGIS and gBay results is presented in Figure 6.

The decisions regarding individual variables were also subject to testing to assess their influence on the spatial distribution of likability. Consequently, optimal decisions were identified to enhance likability. The study revealed that continuous variables such as urban greening, traffic density, and building enclosure rate exhibit more noticeable alterations in likability compared to discrete variables like signboards, vistas, and cultural landmarks. The results of the statistical validity percent support this observation, as displayed in

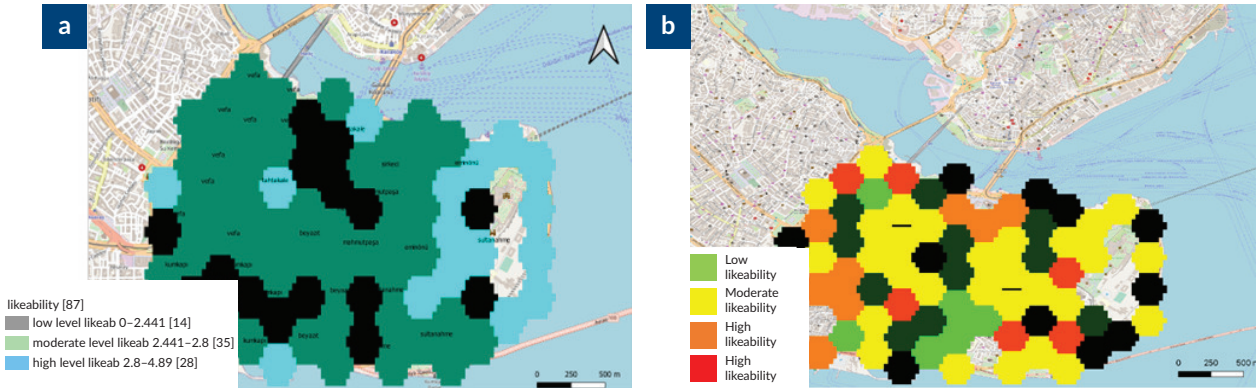

Figure 6. The comparison of the two spatial BBN outputs for likability variable: (a) HUGIN GIS results and (b) gBay results.

Table 5. The "Statistics valid percent" signifies the proportion of valid data within the bands. By comparing the percentages of valid data across various variables, it becomes apparent that building enclosure has the highest percentage at 66.31%, followed by urban greening at 56.72%, and traffic density at 51.49%, among continuous variables. In contrast, among discrete variables, cultural significance stood at 34.89%, vista at 33.22%, and signboard at 31.28%. Overall, the findings indicate that the most substantial impact on likability occurs when the building enclosure rate is reduced (Decision 3). Subsequently, increasing urban greening (Decision 2) has the second most significant effect, while decreasing traffic density (Decision 1) ranks third in terms of its impact on likability. Interestingly, the survey did not support the notion that traffic density significantly affects likability. Conversely, enhancing the presence of cultural landscapes (Decision 5) and reducing signboard density (Decision 4) has the least impact on likability. Curiously, the survey did not highlight the influence of cultural landscapes on likability either.

Table 5. The effect of variables on likability (target node).

Variable	Band	Statistics Maximum	Statistics Mean	Statistics Minimum	Statistics StdDev	Statistics Valid Percent
D2 Increasing Urban Greening	Band 1	0.99	0.87	0.83	0.06	56.72
	Band 2	2.66	2.59	2.59	0.06	
	Band 3	2.37	2.37	2.31	0.02	
D5 Enhancing Cultural landscape	Band 1	0.97	0.97	0.97	0	34.89
	Band 2	2.48	2.48	2.48	0	
	Band 3	2.29	2.29	2.29	0	
D1 Decreasing traffic density	Band 1	0.98	0.98	0.97	0.07	51.49
	Band 2	2.63	2.63	2.48	0.05	
	Band 3	2.35	2.35	2.26	0.03	
D4 Decreasing signboard density	Band 1	0.98	0.98	0.98	0	31.28
	Band 2	2.54	2.54	2.54	0	
	Band 3	2.32	2.32	2.32	0	
D3 Controlling Building enclosure rate	Band 1	0.96	0.84	0.73	0.09	66.31
	Band 2	2.88	2.43	2.04	0.34	
	Band 3	2.62	2.31	2.08	0.22	

6. Discussion

This study utilized spatial BBNs to simultaneously assess causal relationships between variables and their spatial interactions, shedding light on the spatial clustering and dispersion of likability. Spatial BBNs offer valuable insights into how decisions impact specific locations, helping decision-makers target interventions more effectively. The research revealed that areas with low level likability are concentrated in districts with dense signboards, while high level likability is associated with cultural landmarks, urban greening, and pleasant vistas. This understanding allows for more targeted interventions, prioritizing signboard regulation in the Tahtakale commercial district, cultural landmark enhancement in Sultanahmet and Vefa districts, building enclosure rate arrangement in Vefa and Mahmutpaşa districts, and increased urban greening in Eminönü and Mahmutpaşa districts.

When site decisions were implemented, the results showed an anticipated increase in likability in the Kumkapı, Vefa, and Sultanahmet districts. Reducing the building enclosure rate had the most significant impact on likability, and increasing urban greening also made a substantial contribution. Interestingly, increasing cultural landscapes and reducing signboard density had relatively less significant effects. These findings underscore the importance of prioritizing strategies that reduce building enclosures, promote urban greening, and address traffic congestion in urban planning to create more attractive and likable streetscapes. According to the results, the ideal scenario for likable streets involves green, pedestrian-friendly, human-scaled streets with appropriate building enclosures. However, this study faced limitations related to the operational principles of spatial BBN tools. These tools primarily handle raster data, and converting vector data to raster may result in information loss due to image resolution. Careful resolution settings can help mitigate this issue. Notably, the gBay platform is sensitive to changes in raster image resolution, which can significantly affect outputs. Additionally, gBay lacks the ability to process all variables' spatial data simultaneously. Moreover, HUGIN QGIS does not offer user interaction since it is a QGIS extension of HUGIN designed solely for result monitoring, unlike gBay. However, even user interaction with gBay is limited by its interface, restricting users from modifying the BBN and observing spatial results simultaneously. These platforms should work on enhancing their interoperability and interaction capabilities. Furthermore, they may pose challenges for experts lacking prior knowledge of BBN.

7. Conclusion

This study introduces a decision support model based on BBN and spatial BBN to assist in urban vibrancy decisions, significantly contributing to urban planning decision-making processes. It enhances participatory practices by evaluating urban vibrancy through "what-if" scenarios based on the conditional probabilistic relationships of variables. BBN tools allow for instant reflection of changes in conditional probabilities on the target variable, enabling what-if analyses. However, spatial impacts are often overlooked. Spatial BBNs, on the other hand, enhance what-if scenarios by considering spatial dependencies, allowing experts to assess which parameters to prioritize and their spatial implications. This study has the potential to enhance decision-making by integrating both conditional and spatial dependencies, increasing expert engagement with the BBN model.

The novelty of this research lies in adapting BBN-based evaluation and participation, commonly used in ecosystem services and landscape planning, into the urban planning decision-making process. It enhances

expert engagement and enables targeted interventions based on economic, use, and image value measures. This approach fosters a more comprehensive understanding of urban vibrancy and significantly advances digital participation in urban planning decisions. Considering the widespread use of computational systems as digital participatory tools, this study aims to boost expert engagement with the proposed model. While the current study focuses on experts, future research will emphasize citizen engagement. This research lays the groundwork for an information dissemination platform designed to inform and involve citizens in urban vibrancy decisions. The BBN-based decision model is expected to evolve into a digital participatory platform, displaying and interactively altering probabilistic relational networks and spatial maps to monitor decision outcomes. Involving citizens in the decision-making process is anticipated to empower them to create more vibrant and livable urban spaces.

Acknowledgments

This article constitutes an integral part of the thesis study titled *A Decision Support Model Based on Bayesian Belief Network to Evaluate Urban Vibrancy*. We would like to express our gratitude for the support provided by the Istanbul Technical University Scientific Research Project Coordination Unit under project number 42708. This article is based upon work from COST Action DOPMADE, CA18204, supported by COST (European Cooperation in Science and Technology).

Conflict of Interests

The authors declare no conflict of interests.

References

Abadi, M., Agarwal, A., Barham, P., Brevdo, E., Chen, Z., Citro, C., & Zheng, X. (2016). *Tensorflow: Large-scale machine learning on heterogeneous distributed systems*. Arxiv. https://arxiv.org/abs/1603.04467

Çalışır Adem, P., & Çağdaş, G. (2022). Cellular automata for infill designs in historic urban quarters. *Nexus Network Journal*, *24*(3), 567–586. https://doi.org/10.1007/s00004-022-00602-2

Carmona, M. (2019). Place value: Place quality and its impact on health, social, economic and environmental outcomes. *Journal of Urban Design*, *24*(1), 1–48. https://doi.org/10.1080/13574809.2018.1472523

Commission for Architecture and the Built Environment. (2006). *The value handbook: Getting the most from your buildings and spaces*. https://www.designcouncil.org.uk/fileadmin/uploads/dc/Documents/the-value-handbook.pdf

Duarte, J. P., Beirão, J. N., Montenegro, N., & Gil, J. (2012). City induction: A model for formulating, generating, and evaluating urban designs. In S. M. Arisona, G. Aschwanden, J. Halatsch, & P. Wonka (Eds.), *Digital urban modeling and simulation* (pp. 73–98). Springer. https://doi.org/10.1007/978-3-642-29758-8_5

Erhan, H. (2003). *Interactive computational support for modeling and generating building design requirements* [Unpublished doctoral dissertation]. Carnegie Mellon University. http://code.arc.cmu.edu/archive/upload/Dissertation_hie.0.pdf

Fusco, G. (2004). Looking for sustainable urban mobility through Bayesian networks. *European Journal of Geography*, *2004*(292). https://doi.org/10.4000/cybergeo.2777

Fusco, G. (2008). Spatial dynamics in France. In O. Pourret, P. Naim, & B. Marcot (Eds.), *Bayesian networks: A practical guide to applications* (pp. 87–112). Wiley. https://people.bath.ac.uk/man54/SAMBa/ITTs/ITT1/DNV/PourretEtAl.pdf

Heckerman, D. (1997). Bayesian networks for data mining. *Data Mining and Knowledge Discovery*, *1*, 79–119. https://doi.org/10.1023/A:1009730122752

Hollands, R. (2008). Will the real smart city please stand up? *City*, *12*(3), 303–320. https://doi.org/10.1080/13604810802479126

HUGIN Expert. (2013). *HUGIN Expert white paper*. https://hugin.com/wp-content/uploads/2016/05/HUGIN-WHITE-PAPER-NEW-AND-REVISED_2013.pdf

Jacobs, A., & Appleyard, D. (1987). Toward an urban design manifesto. *Journal of the American Planning Association*, *53*(1), 112–120. https://doi.org/10.1080/01944368708976642

Jacobs, J. (1961). *The death and life of great American cities*. Random House.

Karlsen, M., & Madsen, A. L. (2018). *HUGIN QGIS plugin: How to* [Technical report]. Unpublished manuscript. https://raw.githubusercontent.com/huginexpert/HUGIN-QGIS/master/src/QGIS_HUGIN_HOWTO.pdf

Kingston, R. (1998, October 3–7). *Accessing GIS over the web: An aid to public participation in environmental decision making* [Paper presentation]. Workshop of the International Association of Public Participation, Tempe, AZ, USA.

Kitchin, R. (2013). The real-time city? Big data and smart urbanism. *GeoJournal*, *79*, 1–14. https://doi.org/10.1007/s10708-013-9516-8

Landuyt, D., Van der Biest, K., Broekx, S., Staes, J., Meire, P., & Goethals, P. L. M. (2015). A GIS plugin for Bayesian belief networks: Towards a transparent software framework to assess and visualise uncertainties in ecosystem service mapping. *Environmental Modelling & Software*, *71*, 30–38. https://doi.org/10.1016/j.envsoft.2015.05.002

Langemeyer, J., Wedgwood, D., McPhearson, T., Baró, F., Madsen, A. L., & Barton, D. N. (2020). Creating urban green infrastructure where it is needed—A spatial ecosystem service-based decision analysis of green roofs in Barcelona. *Science of The Total Environment*, *707*, Article 135487. https://doi.org/10.1016/j.scitotenv.2019.135487

Lima, F. T., Brown, N. C., & Duarte, J. P. (2022). A grammar-based optimization approach for walkable urban fabrics considering pedestrian accessibility and infrastructure cost. *Environment and Planning B: Urban Analytics and City Science*, *49*(5), 1489–1506. https://doi.org/10.1177/23998083211048496

Lin, S., Xie, R., Xie, Q., Zhao, H., & Chen, Y. (2017). Understanding user activity patterns of the swarm app: A data-driven study. In *UbiComp '17: Proceedings of the 2017 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2017 ACM International Symposium on Wearable Computers* (pp. 125–128). Association for Computing Machinery. https://doi.org/10.1145/3123024.3123086

Loo, B. P. Y., & Tang, W. S. M. (2019). "Mapping" smart cities. *Journal of Urban Technology*, *26*(2), 129–146. https://doi.org/10.1080/10630732.2019.1576467

Luger, G., & Chakrabarti, C. (2008). Expert systems. In T. Rudas (Ed.), *Handbook of probability: Theory and applications* (pp. 383–403). SAGE. https://doi.org/https://doi.org/10.4135/9781452226620

Martí, P., Serrano-Estrada, L., & Nolasco-Cirugeda, A. (2019). Social media data: Challenges, opportunities and limitations in urban studies. *Computers, Environment and Urban Systems*, *74*, 161–174. https://doi.org/10.1016/j.compenvurbsys.2018.11.001

McCloskey, J. T., Lilieholm, R. J., Boone, R., Reid, R., Sader, S., Nkedianye, D., & Worden, J. (2011). A participatory approach for modeling alternative future land use scenarios around Nairobi National Park using Bayesian belief networks. *WIT Transactions on Ecology and the Environment*, *144*, 43–57. http://doi.org/10.2495/ECO110041

Montgomery, J. (1998). Making a city: Urbanity, vitality and urban design. *Journal of Urban Design*, *3*(1), 93–116. https://doi.org/10.1080/13574809808724418

Moura, A. C., & Campagna, M. (2018). Co-design: Digital tools for knowledge-building and decision-making in planning and design. *Disegnarecon*, *11*(20), 1–3. https://doi.org/10.20365/disegnarecon.20.2018.ed

Nasar, J. L. (1998). *The evaluative image of the city*. SAGE.

Norsys Software Corporation. (n.d.). *GeoNetica*. https://www.norsys.com/WebHelp/NETICA/X_GeoNetica.htm

Pearl, J. (1986). Fusion, propagation, and structuring in belief networks. *Artificial Intelligence*, *29*(3), 241–288. https://doi.org/10.1016/0004-3702(86)90072-X

Rinner, C., & Bird, M. (2009). Evaluating community engagement through argumentation maps—A public participation GIS case study. *Environment and Planning B: Planning and Design*, *36*(4), 588–601. https://doi.org/10.1068/b34084

Sanoff, H. (1992). *Integrating programming, evaluation and participation in design (Routledge revivals): A theory Z approach* (1st ed.). Routledge. https://www.routledge.com/Integrating-Programming-Evaluation-and-Participation-in-Design-Routledge/Sanoff/p/book/9781138203396

Site Management Directorate of Istanbul Historic Peninsula. (2011). *Istanbul Historic Peninsula site management plan (October 2011)*. https://www.praha.eu/public/2a/40/af/1595575_386437_Istanbul_Historic_Peninsula_Site_Management_Plan.pdf

Site Management Directorate of Istanbul Historic Peninsula. (2018). *Istanbul Historic Peninsula management plan (May 2018)*. http://www.alanbaskanligi.gov.tr/evrak/engtyp.pdf

Skogheim, R., & Atkinson, R. (2013). Urban regeneration and the use of "urban knowledge" in English and Norwegian cities: Knowledge producers, interests and inclusion/exclusion of knowledge. In R. Atkinson & H. T. Andersen (Eds.), *Production and use of urban knowledge: European experiences* (pp. 35–54). Springer. https://doi.org/10.1007/978-90-481-8936-6_3

Sohtorik, A. S. (2016). *A knowledge discovery approach to urban analysis: The Beyoğlu Preservation Area as a data mine* [Unpublished doctoral dissertation]. Istanbul Technical University. https://tez.yok.gov.tr/UlusalTezMerkezi/TezGoster?key=cbOXH84ZayrLjc0tI-QXKmlOgclEmpqWt1b79s9hcADGviYR79b7NqupZUoWDXDG

Sprague, R. H., & Carlson, E. D. (1982). *Building effective decision support systems*. Prentice-Hall International Inc.

Steck, H., & Tresp, V. (1999). Bayesian belief networks for data mining. In *Proceedings of the 2. Workshop On Data Mining and Data Warehousing Als Grundlage Moderner Entscheidungsunterstützender Systeme* [Proceedings of the 2nd Workshop on Data Mining and Data Warehousing as a Basis for Modern Decision Support Systems] (pp. 145–154). Citeseer.

Stritih, A., Rabe, S.-E., Robaina, O., Grêt-Regamey, A., & Celio, E. (2020). An online platform for spatial and iterative modelling with Bayesian networks. *Environmental Modelling & Software*, *127*, Article 104658. https://doi.org/10.1016/j.envsoft.2020.104658

Talen, E. (2006). Design that enables diversity: The complications of a planning ideal. *Journal of Planning Literature*, *20*(3), 233–249. https://doi.org/10.1177/0885412205283104

Tang, L., Lin, Y., Li, S., Li, S., Li, J., Ren, F., & Wu, C. (2018). Exploring the influence of urban form on urban vibrancy in Shenzhen based on mobile phone data. *Sustainability*, *10*(12), Article 4565. https://doi.org/10.3390/su10124565

Tekeli, İ. (2009). *Akılcı planlamadan bir demokrasi projesi olarak planlamaya*. Yurt Publication.

Wilken, R., & Goggin, G. (2014). *Locative media* (1st ed.). Routledge. https://doi.org/10.4324/9781315887036

Yanık, S., Aktas, E., & Topcu, Y. I. (2017). Traveler satisfaction in rapid rail systems: The case of Istanbul metro. *International Journal of Sustainable Transportation*, *11*(9), 642–658. https://doi.org/10.1080/15568318.2017.1301602

Zhang, L., Ye, Y., Zeng, W., & Chiaradia, A. (2019). A systematic measurement of street quality through multi-sourced urban data: A human-oriented analysis. *International Journal of Environmental Research and Public Health*, *16*(10), Article 1782. https://doi.org/10.3390/ijerph16101782

About the Authors

Gülce Kırdar completed her undergraduate studies in architecture at Bahcesehir University and earned her MSc degree from Istanbul Technical University in architectural design computing. Since 2017, she has pursued a PhD in the same program. She also instructs architectural design courses at respected private foundation universities in Turkey, including Altinbas, Kultur, Medipol, and Yeditepe Universities. Her research interests encompass big data, urban decision support systems, data analysis, and urban vibrancy and livability. Since 2022, she has actively participated in the COST Action CA18204—Dynamics of Placemaking and Digitization in Europe's Cities (DOPMADE).

Gülen Çağdaş graduated from Istanbul Technical University, Faculty of Architecture. She began as a teaching assistant in 1981 at the same faculty, later earning her PhD in architectural design from the same university in 1986. Over the years, she progressed through the academic ranks, becoming an assistant professor in 1987, an associate professor in 1989, and full professor in 1997. She held various leadership roles, including vice dean of the Faculty of Architecture from 1997 to 2000, head of the Architectural Design Chair from 2004 to 2007, and department head of Architecture from 2008 to 2012. Additionally, she served as the coordinator of the Architectural Computing Graduate Program from 2000 to 2015 and as department head of Informatics at the Institute of Science, Engineering, and Technology, at Istanbul Technical University, from 2006 to 2018. Her primary research area centers on architectural design computing, with more information available on her web page (https://avesis.itu.edu.tr/cagdas).

Urban Planning
2024 • Volume 9 • Article 7206
https://doi.org/10.17645/up.7206

ARTICLE

Open Access Journal

The Soundscape and Listening as an Approach to Sensuous Urbanism: The Case of Puerta del Sol (Madrid)

Cristina Palmese [1], José Luis Carles Arribas [2], and Alejandro Rodríguez Antolín [2]

[1] Social and Communication Sciences, Universidad Europea de Madrid, Spain
[2] Interfaculty Music Department, Autonomous University of Madrid, Spain

Correspondence: Cristina Palmese (cristina.palmese@universidadeuropea.es)

Submitted: 19 May 2023 **Accepted:** 3 October 2023 **Published:** 16 January 2024

Issue: This article is part of the issue "Citizen Participation, Digital Agency, and Urban Development" edited by Simone Tappert (University of Applied Sciences Northwestern Switzerland), Asma Mehan (Texas Tech University), Pekka Tuominen (University of Helsinki), and Zsuzsanna Varga (University of Glasgow), fully open access at https://doi.org/10.17645/up.i327

Abstract

This article focuses on the placemaking process and experimental research on the citizens' assessment of the soundscape in Puerta del Sol in Madrid. Numerous studies conducted in recent decades have shown that sound is a crucial element capable of providing new insights into the relationship between human beings and the environment. Sound possesses physical-sensory-perceptual qualities which connect the emotional and the rational aspects of the experience of the place, overcoming the aesthetic/scientific duality. By default, the soundscape is the result of a collective production. It is the resonant expression of the multiple activities and uses that inhabit a space. The soundscape of everyday life provides a vision of life in a particular place, giving meaning and a singular character to the fact of living there. The concept and methods of the soundscape arise from sensitive experiences of the place in direct relation to a community. This exploratory research focused on in situ methods (soundwalks, improvised interview mappings, sound archives, performances, and collective sound actions) as expressions of collective listening to place. This article also focuses on how to map and share the result of this research, the technology to build a collective digital place as a place of confluence of experiences, citizen knowledge, and reflection on the situated soundscape.

Keywords

city life; Madrid; public space; Puerta del Sol; situated soundscape; soundwalk

1. Introduction

Traditionally, we have measured the city (in meters, decibels, lux), or we have described it from a sensitive subjectivity (seeing it, narrating it, painting it, singing it, etc.). We have projected it numerically (technically), or

according to cultural, patrimonial, or social considerations, but what tools do we have to propose a new and necessary transversal view? In one of their most controversial works, Lefebvre and Regulier (1992) proposed the point of observation as a central question: Are we immersed in the flow, in the movement that we want to characterise, or is it, on the contrary, our external "point of view," dominating the phenomenon from above and in the distance? For us, this issue remains crucial.

This article addresses how to produce understanding in the motion of urban space, exploring the relationship between users, practices, and urban and architectural space (Thibaud, 2001), revisiting methods, techniques, and strategies that seek to imaginatively understand the heterogeneity and fluid urban environments by connecting quantitative data and qualitative data.

By rethinking the role of the researcher concerning the agents (citizens, artists, associations) of the studied environment, this article focuses on experimental research on the citizens' assessment of the soundscape in Puerta del Sol, a central square in Madrid where family and friends can meet to make memories, a space that is highly recognised by locals and tourists alike. This article also focuses on debating how to integrate the fluidity, resonances, and lived experiences of a place with the need to standardise this understanding. Concepts such as context, body, listening, and soundscape in situ are explored from different perspectives and with the involvement of creativity. Furthermore, it discusses the action and representation of technologies for a sensuous urbanism, proposing a sound map as a place of confluence of experiences, citizen knowledge, and reflection on the sound environment, geolocating not only sound but words, interviews, sound stories, etc. (Levy-Landesberg, 2022).

The soundscape of everyday life provides insight into life in a particular place and significantly influences the complex process by which spaces become places (Relph, 1976; Tuan, 1977). The complex and transversal dimension of the soundscape (physical, sensory, sociocultural) overcomes the aesthetic/scientific duality; it is, at the same time, a scientific and artistic tool, and we can connect quantitative data (decibels, acoustic responses, physical measurements) and affective relationships. We consider the concept of soundscape not only as an acoustic environment, as interpreted by physics, sounds located in space perceived by humans and animals, but also involving the memory and experience of listening and the knowledge that arises from the phenomenon of sound considering the meanings and representation of sounds over time. The first aim of this article is to situate the research in its theoretical background, the second aim is to explore and develop appropriate methods to evaluate the situated soundscape involving the citizen, and the third aim is to show the development and results of the research.

2. Theoretical Background

The concept of soundscape was born almost contemporarily in urbanism (Southworth, 1969) and music (Schafer, 1977), generating a wide field of research involving very different disciplines. In the last decades, environmental acoustics has also been interested in soundscape and has formalised its methodologies through an International Organization for Standardization (ISO) standard (ISO, 2014, 2018, 2019). This fruitful connection between different approaches opens a crucial debate between standardisation, epistemology, phenomenology, and the aesthetics of soundscape, involving the critique of Western scientific thought that started in the 1950s and has continued until today (Barrow, 1991; Bateson, 1972/1997; Capra, 1984; Prigogine & Stenger, 1983). In this context, our research seeks to experiment with

the connection between methods to deepen the knowledge of the dynamics, rhythms, and choreography created by the soundscape in public space.

2.1. Sensory Approach to Knowledge

Since the 1960s, the aesthetic relationship between the human being and the environment began to be investigated in many disciplines (geography, anthropology, ecology, urban planning, etc.), promoting a revaluation of the culture of inhabiting or better valuation of inhabiting as a culture. Norberg-Schulz (1988, p. 23, translation by the authors) points out:

> There is a need to return to everyday reality which, unlike scientific reality, is more simply the way of living, the way of living in a place, the way of having life. Returning to things themselves, as Husserl said, is becoming ever more urgent.

Urban planners Gordon Cullen and Kevin Lynch theoretically formalised the introduction of the perception of citizens, of the everyday, of the subjective in the urban project. Cullen (1974), in his book *Townscape*, incorporated the emotional reactions of the inhabitants in urban planning, thus reacting against the neutrality of the functionalist concept of public space. Techniques such as cognitive maps developed by Anglo-Saxon geographers and urban planners (such as Trowbridge, B. Goodey, T. Lee, or F. Lodd) played an important role in the work of Lynch (1960/1984) for the study of the image of the city.

Lynch developed and formalised the application protocols through the hypothesis of the legibility of the city, based on a topological "grammar" composed of five main structural elements (path, edges, district, nodes, and landmarks), which constitute the "image of the city." These techniques were adapted to the sound field by the French urban planner Pascal Amphoux, who applied them in his research on sound urbanism and the perception of sound (Amphoux et al., 1991).

M. Southworth carried out a pioneering study taking sound into account in the evaluation of urban spaces. His work collected the reactions of several groups of people walking through three areas of the city of Boston, and shows how the responses of citizens to the soundscape (using this term for the first time, although the development of a theory or methodology of the soundscape did not follow) depend on the information contained in the sound, the urban environment where it is perceived, and the sound level (Southworth, 1969).

2.2. What is Soundscape?

Schafer (1977) will provide a complete theory and practice that will give continuity to this field of study. Schafer proposes listening to the world of sound as a collective musical composition, going beyond the physical characteristics and pointing out the importance of the meaning that sound has for people in their specificities and in their shared and constantly changing everyday social and cultural identities. Since the beginning, many questions have arisen about understanding the soundscape, the information it provides, the listener's experience, who the listener is, and exploring an unexpected state of belonging where the human personality merges with the environment, as Tuan (1977) describes. The impact of sound on bodies, feelings, and emotions is also found in the work of scholars exploring ambience (Thibaud, 2011) and affective

atmospheres (Anderson, 2009). Inherent in these approaches is the recognition that sound is not something that can be perceived in an instant; rather it is a temporal and spatial event that unfolds around and through the materiality of place (Duffy, 2017, 2020). One of the most influential laboratories that has worked since 1979 on the multidisciplinary approach to soundscape was the CRESSON, directed in the first years by Jean Francois Augoyard, a philosopher and urbanist.

2.3. Music, Context, and Listening

The expansion of music towards the appreciation of everyday sounds, which began with historical vanguards, stressed the importance of context and the development of a phenomenology of listening. That expansion towards the world of sounds has led to changes of sensibility in the field of musical creation but also had implications in the innovative exploration of the environment, in the revaluation of the body and movement, and in urban and environmental studies. This will eventually lead to the promotion of various transversal applications that also involve the urban space.

Sound artists and musicians such as Max Neuhaus, John Cage (1961/2002), Pierre Schaeffer (1966), and R. Murray Schafer (1977) propose theories and practices based on sound in a broad and complex sense, taking into account all kinds of everyday sounds beyond spoken language, noise, or music, giving the context a new meaning that will influence more technical and scientific disciplines such as urban planning and architecture. In the 1970s, Canadian composer R. Murray Schafer invited us in his book *The Tuning of the World* to listen to the sounds of the environment. For Schafer (1977), the world of sound is a world of events, of activities rather than artefacts, of sensations rather than reflections. This new way of considering landscape and sound and the human being opens up several lines of research to understand the informative and expressive (affective and emotional) richness that sounds provide.

2.4. Walking and Soundwalking: A Collective Exploration Between Art and Science

In the last century, avant-garde movements that explored forms of anti-art, such as surrealism or dadaism, developed collective practices of understanding and experimenting with the city through walking, but it was only the situationist movement that directly involved architecture and the urban project. The consideration of the impact of architecture on people's lives transformed the critique of architecture into a critique of life in general. Guy Debord and the situationists, through the theory of psychogeography, proposed a combination of art and technology for the integral construction of an environment in dynamic relation with behavioural experiments (Careri, 2002).

One of its main manifestations would take place in the creation of cartography, with the objective of transforming architecture and urbanism. Thus, for Debord (1967/2014, p. 6):

> The spectacle inherits the weakness of the Western philosophical project, which attempted to understand activity by means of the categories of vision, and it is based on the relentless development of the particular technical rationality that grew out of that form of thought. The spectacle does not realize philosophy, it philosophizes reality, reducing everyone's concrete life to a universe of speculation.

Among the situationist procedures, dérive is the technique of uninterrupted wandering. In the *Situationist Manifesto*, Debord explained that people who abandon themselves to dérive no longer act normally in relationships at work and in their everyday lives.

2.5. Francesco Careri's Contribution

Another form of wandering is walking as a critical and cognitive tool of the landscape. Francesco Careri, in his book *Walkscape*, studies the human–walker–landscape relationship:

> The walk is a form of expression that underlines a place by physically tracing a line. The fact of traversing; an instrument of phenomenological knowledge and symbolic interpretation of the territory, is a form of psychogeographic reading of the territory comparable to the walkabout of the Australian Aborigines. (Careri, 2002, p. 11, translation by the authors)

Walking becomes an aesthetic instrument with which to explore and transform the spaces of the contemporary city. In this way, the importance of subjectivity arises from the exploration of each walk. Careri argues that we not only create landscapes by filling the territory with objects but also by filling it with meanings; thus, through walking, human beings begin to construct the natural landscape around them, exploring and transforming it.

2.6. Soundwalk

In the 1970s, the World Soundscape Project exposed Hildegard Westerkamp's ideas about soundwalking through a specific site that the audience is encouraged to explore in their own ways, with her suggestions and questions as guides: "A soundwalk is any excursion whose main purpose is listening to the environment….The intention of soundwalking is listening. Soundwalks can take place in the mall, at the doctor's office, down a neighbourhood street or at the bus stop" (Westerkamp, 1974, p. 18).

As "qualified time" (in the words of the French philosopher Jean-François Augoyard), sound expression provides us with a dynamic image of each place, in which the "material" or spatial context acts as a sounding board for the everyday situations that give life to that space (Palmese & Carles, 2013). The soundwalk, with its several complementary techniques, is one of the most complex tools for exploring the city's soundscape (Piga et al., 2021). This potential of the soundwalk is also captured in the ISO standard, which recognises in a more technical framework the soundscape as "a sound environment (or sonic environment) with emphasis on how it is perceived and understood by the individual or by a society" (ISO, 2017, p. 4).

Based on an in situ and dynamic urban approach, Thibaud's method of commented walk developed in the CRESSON laboratory aims to analyse the sensitive experience, mainly sound, of the inhabitant in movement in urban space in a transversal manner, considering qualitative and quantitative data. There are three principles of action—to walk, to perceive, and to describe—and they are framed in three fundamental hypotheses aimed at apprehending the sensitive environment: reaffirming the importance of context in the survey protocol; relating, describing and perceiving, which implies bringing into play the ability of citizens to describe the environment in which they live; and in-situ data collection protocol (physical measurements, observations, interviews, etc.) focusing on the urban walk (Thibaud, 2001).

This approach aims to demonstrate how the dimension of sound is a specific and direct way of understanding the morphology of urban spaces. Augoyard (2008, pp. 127–152) made a distinction between "the sound itself" and the sound interpreted or experienced by the citizen, strongly determined by a situation or context.

All these references are crucial for our work to explore what a context is, considering the complexity of the relationship between being and environment, and above all, they help us to broaden our perspective by incorporating ephemeral, situated variables linked to place, to affects, to memories, and to the body. These questions also open up a fruitful debate on how to study the soundscape of a particular place, and how to combine this multi-sensory and phenomenological approach with more numerical and reductionist approaches (Carles et al., 1992).

Within this background, our research questions are:

> RQ1: How can we study the citizens' assessment of the situated soundscape?
>
> RQ2: How can we involve the population in open and non-directed research, to collect spontaneity, perception, and feelings towards the soundscape?
>
> RQ3: How can we analyse the rhythms and urban choreographies of Puerta del Sol by situating ourselves as researchers in the environment?
>
> RQ4: How can we represent and share the results?

Starting from the hypothesis that it is not enough to consider the acoustic environment as interpreted by physics and its discrete perception by the inhabitants (Carles & Palmese, 2004), we explore methods that allow us to consider collective listening, the affective aspects and emotions experienced in the place, the transitory, emergent, and unexpected events of unforeseen resonances determined by being in a place. Our main goal is to study the soundscapes, rhythms, and urban choreographies generated in the daily life of Puerta del Sol through the perceptions and narratives of those who inhabit this public space.

3. Case Study: Puerta del Sol

Puerta del Sol (Figure 1) is one of the key points of the ongoing research Soundscape Map of Madrid: Identity and Listening, an interactive and accessible online map-based system focused on creating an informal digital space of situations, actions, experiences, listening, and physical data, capable of highlighting the importance of sound in everyday life in the centre of Madrid. Since the first development of the city in 1500, this square has always played a very important role in city life. It has been a place for social gatherings, meetings and shopping, and it is noteworthy that it was the site of the 2011 camp (known as 15M), the start of a protest movement that has had an impact in many parts of the world.

Puerta del Sol Square is a predominantly commercial area. The urban, economic, and socio-cultural changes in this area of the city have caused changes in the uses and customs of its citizens, which is reflected in its soundscape. It is therefore necessary to propose a study of this evolution focused on this sonorous reality, requiring a process of data collection, observations, recordings, etc. The interdisciplinary study, Urban

Landscape Needs and Functionalities of the Square System in the Surroundings of Sol Madrid, carried out by the Instituto Juan de Herrera of the Technical University of Madrid, which did not include the study of the soundscape, was used for demographic information, functional characteristics of the square, historical evolution, and socio-economic analysis.

Figure 1. Puerta del Sol. Image from Google Maps.

3.1. Listening as a Central Tool

For this research in Puerta del Sol, listening is a central tool. We must indicate that this is understood as:

- A long-term process, considering the memory, the stories of bodies with history, and the relationships shaped over time by the physical and social-cultural environment (Haraway, 1991, pp. 149–181);
- A process of inclusion, to facilitate a way to unlearn, embracing unfamiliar viewpoints as an exercise to recognise diversity;
- The embodiment of listening ("indissolubility of being and place") is not only about studying the existence of self-consciousness of the experience of place but also how, through the experience of listening, individuals and communities make sense of places (Feld, 2012).

3.2. Methodological Itinerary

For the development of our research, the challenge will be to deeply intertwine methodologies and tools applied to the interdisciplinary field of soundscape. Our main objective is to observe, with the help of citizens, events, practices, and processes taking place in urban space, such as rhythms, rituals, and choreographies that we often ignore. We invite participants (citizens, artists, experts) to experience and describe the territory in situ, to share their sensations, memories, and collective representations of the everyday use of the city, and

thus also discover possible hidden spaces. All the methodological steps are related to each other, and all the insights and scenarios obtained in the first step are translated into the following steps.

3.2.1. First Step: Digital Questionnaire (Google Forms)

The first methodological step was to set up an online questionnaire to get an overview of the residents' feelings, perceptions, awareness, or ignorance of the soundscape. The aim is to identify the sound situations that characterise the neighbourhood as perceived by its inhabitants. The neighbourhood is an administrative unit, but also an identity unit and the two do not always coincide. Inhabitants are invited to talk about the sounds, sensations, and feelings they perceive and the sounds they hear most in their daily lives, their auditory memory and their representations of them. They are invited to think about collective and community spaces and whether they are related to sound, intersensory, and collective characteristics of their daily listening, focusing on the neighbourhood, and are openly asked about the sound quality of their environment. The positive and negative aspects are approached from a personal point of view without an external influence.

3.2.2. Second Step: Impromptu Interview

Open interviews have been conducted by approaching people on the street to gauge their spontaneous sensitivity to soundscapes by interrupting the urban dynamics without giving the person time to prepare answers or think much about the subject. This type of interview focuses on quantifiable characteristics such as sound type, height, and identifiability, as well as memories, inter-sensory relationships, and resonances. Urban experiences are often limited to standardised behaviours that limit our ability to fully experience our surroundings. Engaging in conversations about the soundscape opens our ears to the environment, to others, and to ourselves. It is possible to access the sound map under construction and to listen to this interview (Palmese & Carles, 2022).

3.2.3. Third Step: Soundwalk

The main objective of the soundwalk is to collect the in-situ sensory experience of the citizens, following the proposal of Amphoux and Tixier (2017) and Thibaud (2020). The comments and representations collected during the walk will allow us to share our wishes related to the possible transformation of these spaces. The aim is to encourage citizens to be more active and aware of their surroundings while experimenting with strategies aiming to involve them in the process of constructing the public space.

The first typology, following Westerkamp's (1974) indications, consists of, with and without recordings, exploring local concerns and political aspects of spaces.

The second typology, augmented soundwalk, focuses on technical/aesthetic exploration (for 90 minutes). These are more limited explorations, with the double purpose of collecting qualitative and quantitative data (recording sounds, collecting visual data, text, and commentary via individual stops in the walk, etc.). The subjects are supported by a questionnaire guide (Google Forms), intended for the exploration of specific points of the walk and subsequent digitisation.

The third typology, augmented soundwalk, comprises explorations and actions of long duration (six to seven hours) to tour the space for a long time, altering the routine in the space through actions with a varied group of volunteers (citizens, artists, researchers). This requires a previous analysis of the space to be explored, interacting with the occasional users of the public space with random interviews and/or inviting them to participate in the actions. This form arises from the situationist approach, with a group of volunteers built via an open call and with the objective of understanding through the act of sharing a public space, its characteristics and eventual problems, but also from a relationship with the context through the imagination, sound experiences, daily experiences, happenings, and casual encounters with the inhabitants. For this journey, we can synthesise Careri's (2016) proposal of "losing time to gain space." Careri (2016, p. 127) adds: "We know that whoever goes around setting a goal and a definite time loses all the possibilities that derive offers." The results of this tour/happening will be compiled at the end of the session. The plurality of results (videos, recordings, interviews, stories, drawings, photos, etc.) will be shared and analysed in a second session, to be later geolocalised in a layer of the tour area map, to map ourselves, our communities, and our surrounding environments.

3.2.4. Fourth Step: Sound Mapping and Cartography---Digitisation of Sound Data and Experiences in Urban Environments

We propose a digital space of collectivity and connectivity between researchers and inhabitants of a given space, reflecting the importance of working with formats and environments accessible to all and forums for data exchange. Thus arises the idea of the sound map, a dynamic digital space composed of multiple layers where the local population, artists, and researchers can work together, sharing their knowledge and experiences about the sound environment in which they live. The map as a geographical and codified representation of physical spaces becomes a fluid, subjective, dynamic, and changing environment, not only because of the plurality of data it contains but also because of the multiple readings that can be made of these data. It is about creating an environment of shared knowledge, but also a place of projection of future scenarios for the urban space in which everyone's voice is heard.

These sound maps allow us to locate verbalisations, impressions, and/or memories, through a process of research/action to collect qualitative and quantitative data. The points geolocated on the map no longer correspond to neutral spaces, measured and equal for every observer located outside the map; now, these points are the impression, memory, and perception that the inhabitant has of this place (Levy-Landesberg, 2022).

4. Puerta del Sol (2022–2023): First Results

In this phase of the research, people answered the Google Forms survey, 15 people answered the impromptu interviews, and 13 people participated in the soundwalk's first typology. The tools used were:

- Digital form;
- On-site measurements by CESVA SC-2 digital sound level meter;
- Zoom H4 and H6 omnidirectional stereo digital hand-held recorders;
- Sound Man Omnidirectional OKM II Classic/Studio A3 stereo ambient microphones for sound tours;
- Sennheiser AMBEO smart casque binaural microphones.

4.1. Observation

Early analyses based on Google Forms and impromptu interviews show general soundscape descriptions that include sound typologies expressed by:

- General descriptions: "Voices, different languages, murmur, the hustle and bustle of the square…building work, clock strike."
- Verbalisations: "The constant murmur and background noise of the building work is unpleasant, irritating….The noise of the building work makes it impossible to hear the bells….I like the sound of the bells….I find the excessive noise and the noise of the construction work unpleasant."
- Sound identifications: "Crowd echoes, helicopters, bells, construction work noise."

4.2. Soundwalk First Typology: Participants' Stories

This soundwalk was designed based on information obtained from Google Forms and impromptu interviews. It starts at kilometre zero from Puerta del Sol and arrives at Plaza Mayor through Plaza de Pontejos (Figure 2). Participants had the opportunity to define their own forms of representation, share their way of categorising sounds, and add suggestions for representing space. The analysis of the soundwalk verbalisations confirms the results obtained with the previous methods (general descriptions and sound identification), but in this case, the participants describe relationships between elements that are shown separately in the forms, with more elaborate expressions that include complementary and opposite elements (noise/silence, up/down, inside/outside, etc.) and synonyms and more complex rhetorical expressions. There is also selective listening. People refer to both what they hear and what they do not hear. Subjective and emotional responses to sounds and their relationships to objects and architectural elements are evident.

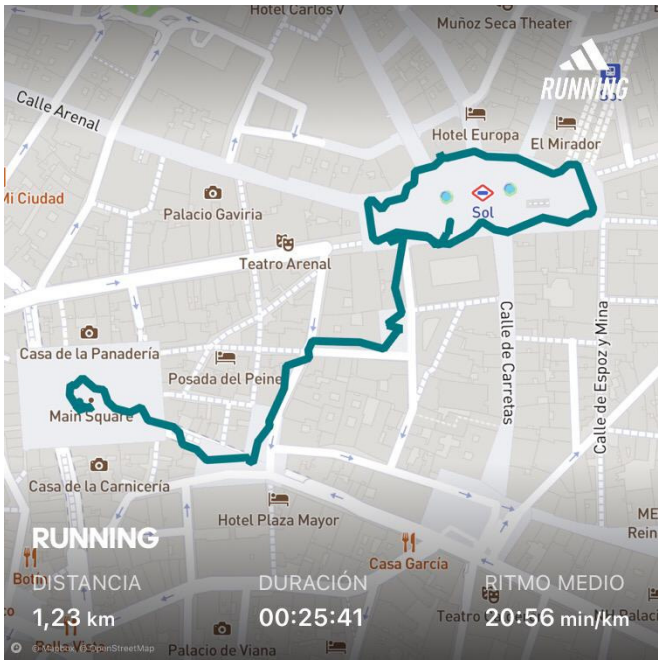

Figure 2. Route for the soundwalk.

In short, what these responses describe in the soundwalk are not just simple reactions to a stimulus or simple subjective evaluations or answers to predetermined questionnaires but describe aesthetic processes in which sound phenomena are perceived in situ, integrated with the temporal experiences of a specific space. The verbalisation of the soundwalk provides a rich lexicon that describes the sound environment and helps to understand the participants' sound experiences. Below are sound effects identified in the first soundwalk typology, following Amphoux et al. (1991) and Augoyard and Torgue (2005):

- Directionality: "There are those who are in a hurry because they must go to the station, those who take a leisurely stroll and enjoy the company, those who go to work and have a regular rhythm."
- Legibility: "The most characteristic sounds of the recording, apart from the footsteps, the conversations in different languages and the noise of the crowd are the brakes of a motorbike passing by the Mallorquina, a rented motorbike."
- Anamnesis: "The next thing to note is the sound of a bell, even if it was after 7 p.m. It is a very characteristic sound of all churches, although it is true that each one has a specific timbre that can vary a little."
- Resonance: "I also hear the sound of heels, of a person walking elegantly, probably going to an event or to work, because this is an area where we find many offices and conference rooms or important meetings."
- Attraction: "We moved to another area with quite different acoustics despite being next to our first study area. We arrive at a place where we find a fountain in the middle of a small square with the characteristic sound of water."
- Cut out: "We hear the sound of the water falling into the fountain, but although it is quiet at first, as soon as we approach it from the front, the volume increases drastically. It is a strange thing to study because, with a simple movement, we can perceive a big difference. We seem to be transported from a place where the fountain is far away to a place where it seems to fall on us quickly."
- Ubiquity: "The exchange of raised voices is characteristic throughout the recording. Being an area with so much loudness, it is not easy to maintain a more moderate level. We can even hear how a man indicates the street where he is, giving instructions to someone he is talking to on the phone: 'I'm on Preciados Street.'"

4.3. Augmented Soundwalk

We use the term "augmented" with a double meaning. On one hand, the use of technology helps us to amplify or augment our senses; on the other hand, the possibility of inhabiting possible worlds thanks to the activation of the imagination through attentive listening. The augmented soundwalk aims to make us aware of the sound environment and to appreciate the influence it has on our orientation in physical space, appealing to the present and past experiences of all participants. Through a series of questions, we can guide the participants without limiting their experiences, inviting them to use their tools of analysis of urban space by introducing the sound variable and especially listening as conscious practices. The participants are volunteers among the inhabitants and researchers. They are divided into groups of 20 people, taking a walk in silence. This leads to a narrative of the tour that includes texts, images, drawings, poems, and sounds. The assembly of these materials allows a reconstruction between the real and the imaginary place, while the different descriptions, verbalisations, images, recordings, and comments allow us to delimit shared recurrent elements that define the place studied.

4.3.1. Description of the Soundwalk Augmented Path in Puerta del Sol, Alcalá

The soundwalk starts at kilometre zero (Figure 3), passing by the Mallorquina bakery, one of the points most frequently mentioned by respondents and in Google Forms, to Calle Alcalá, a monumental street that has been redesigned in recent years and is a favourite among street musicians. The soundwalk had four stop points. At each stop, we collected responses to a form including questions following ISO 12913–2:2018 (ISO, 2018) recommendations about sound identification and soundscape assessment, and creative input from participants. The researchers took acoustic measurements, sound level, and audio and video. Sixteen people between 19 and 22 years old, 10 females and six males, participated. The data obtained are on the quality and quantity of sounds heard, the quality of the sound environment, the quality of the visual environment, the congruence or incongruence between the soundscape and the visual landscape, memory, and impression.

Figure 3. Route and images of the soundwalk. Photos by Cristina Palmese.

The first interesting result was about the open answer. Some comments highlight the reduction of the questions aimed at simplifying the Soundscape to a few categories, highlighting the need to broaden and complexify:

> In this case, I don't think a category is missing, but it is true that the sound of water that predominates in this landscape is not exactly natural, so I don't know if we should look for a different category for these kinds of sounds that are difficult to classify.
>
> Perhaps the way in which we perceive these sounds, that is to say, if they are fleeting sounds (like the voice of a person passing by you quickly) or continuous (like the sound of the fountain).

Contextual sounds (that locate space temporally).

At this moment, we are analysing and cross-checking all the results to design the third type soundwalk and generate the map with the data and recordings.

4.4. Previous Project

Tables 1 and 2 show a sample of the results of two projects implemented at two different times in Puerta del Sol in Madrid, the first one from 1996 and the second from the project Soundscapes of Madrid (2006).

Table 1. Results from 1996.

Methods	Mental map, survey, and reactivating listening.
Summary	Recordings, re-activated listening interviews. Groups of emigrants in Puerta del Sol, near the end of Preciados Street. Microphones oriented towards the central clock of the square. Conversations of those emigrants are heard. We can also hear the chimes (11 p.m.).
Sound levels	67 dBA.
Appreciation	Re-activated listening interviews. Easy recognition, especially at the moment when the chimes ring out.
Reception	Strong appreciation of the chimes and negative reception of the voices. Comments refer to the evolution of the place. Nostalgic evocation of a "traditional" Madrid versus Madrid as a cosmopolitan and open city.
Space	Subjects reconstruct the space easily, recognising the wide and semi-enclosed space with the crowd noise and movement, plus the sound signal of the chimes. Recognised as an intermediate space of social exchanges and "dealings" among people.
Time	Everyday moment in the big city. The chimes evoke the New Year's Eve celebration at this place. Feelings of nostalgia, of when this square was a meeting place and emblem of the Madrid tradition.
Madrid's representativeness	Highly representative. Representative of the Madrid of the 1990s and the demographic and urban social changes, marked by the voices of the emigrants. Strong emblematic character of the central clock chimes.
Cultural semantics	Comments referring to the changes in the area, the evolution of the city itself, which has led to a loss of the emblematic character of a traditional city, a meeting place for locals and newcomers from the provinces, in favour of an impersonal place, a transit and a meeting point to go to another place of the city. Some comments refer to feelings of insecurity.
Sound material	Voices, raising the debate between a traditional and a cosmopolitan city. In another "sound dimension," the chimes are strongly recognised and appreciated, being an "emblematic sound" of the city. This sound evokes the traditional world (the church, the town square, etc.).

The results of the two studies show how by listening to the citizens you can read the changes and characteristics, social and cultural, of Puerta del Sol Square. In recent years, Madrid has become an important tourist destination. Puerta del Sol Square is a central and iconic place in the city. It has evolved as the city has undergone several changes in its design (it has been redesigned three times since 1996), and its occupancy and activities have changed, and these changes are evident in these previous studies.

Table 2. Results from 2005.

Methods	Book by artist, audiovisual analysis, observation, and deep listening.
Summary	Diffuse and indeterminate sound mixture of the city. Recognition of some sounds with tonal character (horns, beeps of the traffic guards, metallic sounds of machines).
Sound levels	73.4 dBA.
Appreciation	Dense and annoying conjunction of work noises versus the evocative sound of the chimes (significant and attractive for inhabitants and visitors).
Reception	The sound of the chimes is almost inaudible in some parts of the square, due to the constant noises of the construction work.
Space	Semi-enclosed space recognised as a meeting place, a place of sociability and a transit point.
Time	The clock as a time marker, restoring a sound memory of the city and imprinting a character to the landscape.
Madrid's representativeness	Highly representative. Urban noises are representative of the big city, while the chimes refer to a traditional and local vocation.
Cultural semantics	Noisy atmosphere, sometimes annoying, but representative of the vitality and exuberance of the city.
Sound material	Intense, indefinite, broad-spectrum sound mix. Particular sound signatures (horns, sirens, beeps, bells) that orient and mark rhythms and places.

5. Discussion and Conclusion

The characterisation of the soundscape situation in space and time is a fundamental tool to support the planning and management of urban space. The participants' critical analysis of the closed criteria of sound cataloguing established in the questionnaires is interesting. By offering the possibility of commenting on the questionnaire, the participants bring new, personal, and elaborated ways of describing the sound space (for example, the sound of the fountain in the square makes a participant doubt whether it is a natural sound or not). We were able to verify through the verbalisation of the participants that the characteristics of the sonic space are specific to each place, each moment, and each social and environmental context. Although we recognise the usefulness of establishing sound categories in initial forms (natural sounds, animals, traffic, humans, etc.), it is crucial to consider the rich perceptual come from an in-situ analysis of sound phenomena that integrates the present with the absent, the quantitative with the qualitative. The difficulty lies in the need to constantly adapt the methodology to a specific place, to have enough time to develop a complex methodology, to work with changing and subjective variables, and to involve enough people to understand the characteristics of the soundscape and its influence on the quality of life of citizens.

The application of qualitative methods from the artistic, compositional, and musical fields can be combined with tools from sociology, environmental psychology, geography, or ecology with the necessary and appropriate contribution of urban planners and designers to adapt the results to the urban project processes. The combination of soundwalks, walks including random interviews (impromptu), in-depth interviews, in-situ and online questionnaires, acoustic measurements, and other data collection strategies (recordings, videos, geolocation applications, drawings, etc.), guarantee a collection of quantitative data. It is a work in progress, in which we have also relied on results from previous soundscape studies, showing how sound evolves and

represents changes in public space. This study is in an initial phase, so the sound map is under construction, actively involving stakeholders and qualitative data to reflect the perceptions and experiences of citizens.

We are aware of the difficulty of analysing results, and we think it is necessary to propose these approaches, which do not tend only to create archetypes that can be transferred to other similar realities, but rather highlight the experience lived in a specific place, with its resonance, its specificities, its rhythms, and its diversities.

To deeply understand our way of living in a place, we need to rethink our connection to the environment. The results also show that users do not pay much attention to the quality of public space in all its aspects. Puerta del Sol has become a transit and shopping area, and the new design of the square includes uncomfortable seating to discourage users from lingering. Inviting people to listen carefully also means reconnecting with the environment, reflecting together on the qualities of our increasingly hostile public spaces, and, above all, raising awareness of the challenges posed by climate change.

The next step of our work will be to design an augmented soundwalk, considering the results already obtained and integrating scientific and artistic tools in a long-term data collection session in Puerta del Sol, and to complete the sound mapping (Palmese & Carles, 2022).

The new GIS technologies and the new sound cartographies make it possible to go beyond the traditional noise maps to include the aural experience of the territory, considering sensory and qualitative variables and the contexts linked to the territory. This ongoing research, with preliminary results, highlights the potential for open experimentation, for an intuitive and aesthetic approach that, although difficult to categorise, provides valuable feedback on the local place and its users. Another challenge will be to go beyond the descriptive aspects through new analyses: semantic, phonetic, linguistic, discourse analysis, spatial-sensory associations, etc.:

> The situated knowledge i.e., an intuitive and multiple experience of place is hard to categorize or even describe due to its almost instinctive and ever-changing nature. Therefore, it will be necessary be about and take place through multiple and collective in-situ experience of place. And the main result of this research process will be the experience itself, making sense of place. (Sand & Atienza, 2016, p. 54)

Acknowledgments

We would like to thank María Paloma Ramos Riesco and María Elvira Chover Alvarez Monteserin and their team for their support during the realisation of the project Soundscapes of the Central District of Madrid: Identity and Listening. Thanks to all the people who kindly participated in all phases of the project. This article is based upon work from COST Action DOPMADE, CA18204, supported by COST (European Cooperation in Science and Technology).

Funding

The work was supported by Dirección General de Patrimonio Cultural, Madrid City Council.

Conflict of Interests

The authors declare no conflict of interests.

References

Amphoux, P., Jaccoud, C., Meier, H., Meier-Dallach, H. P., Gehring, M., Bardyn, J.-L., & Chelkoff, G. (1991). *Aux écoutes de la ville: La qualité sonore des espaces publics européens, méthode d'analyse comparative. Enquête sur trois villes suisses* (Report No. 20). Institut de Recherche sur l'Environnement Construit.

Amphoux, P., & Tixier, N. (2017). Paroles données, paroles rendues: La marche collective comme écriture du projet urbain. *Europe. Revue Littéraire Mensuelle*, *2017*(1055), 196–215.

Anderson, B. (2009). Affective atmospheres. *Emotion, Space and Society*, *2*(2), 77–81.

Augoyard, J. F. (2008). *L'entretien sur ecoute reactivée en l'espace urbain en méthodes*. Parentheses.

Augoyard, J. F., & Torgue, H. (Eds.). (2005). *Sonic experience: A guide to everyday sounds*. McGill-Queen's University Press.

Barrow, J. D. (1991). *Il mondo dentro il mondo* (3rd ed.). Adelphi Edizione.

Bateson, G. (1997). *Verso una ecologia de la mente*. Adelphi Edizioni. (Original work published 1972)

Cage, J. (2002). *Silencio: Conferencias y escritos de John Cage*. Árdora. (Original work published 1961)

Capra, F. (1984). *Il punto di svolta: Scienza, società e cultura emergente*. Feltrinelli.

Careri, F. (2002). *Walkscapes: El andar como práctica estética*. Gustavo Gili.

Careri, F. (2016). *Pasear, detenerse*. Gustavo Gili.

Carles, J. L., Bernáldez, F., & De Lucio, J. V. (1992). Audiovisual interactions in soundscape preferences. *Landscape Research*, *17*(2), 52–56.

Carles, J. L., & Palmese, C. (2004). *Identidad sonora urbana*. Estudio de Música Electroacústica. http://www.eumus.edu.uy/eme/ps/txt/carles.html

Carles, J. L., & Palmese, C. (2005). *Paisajes sonoros de Madrid*. Área de las Artes del Ayuntamiento de Madrid.

Cullen, G. (1974). *El paisaje urbano. Tratado de estética urbanística*. Blume-Labor.

Debord, G. (2014). *The society of spectacle*. Bureau of Public Secrets. (Original work published 1967)

Duffy, M. (2017). Re-sounding place and mapping the affects of sound. In T. Leppänen, P. Moisala, M. Tiainen, & H. Väätäinen (Eds.), *Becoming with music and sound: Musicking Deleuze and Guattari* (pp. 189–203). Bloomsbury.

Duffy, M. (2020). Soundscapes. In T. Edensor, A. Kalandides, & U. Kothari (Eds.), *The Routledge handbook of place* (pp. 125–134). Routledge

Feld, S. (2012). *Sound and sentiment: Birds, weeping, poetics, and song in Kaluli expression* (3rd ed.). Duke University Press.

Haraway, D. J. (1991). *Simians, cyborgs and women: The reinvention of nature*. Routledge.

International Organization for Standardization. (2014). *Acoustics—Soundscape—Part 1: Definition and conceptual framework* (ISO Standard No. 12913-1:2014).

International Organization for Standardization. (2017). *Draft technical specification 12913-2* (Reference No. ISO/TC 43/SC 1).

International Organization for Standardization. (2018). *Acoustics—Soundscape—Part 2: Data collection and reporting requirement* (ISO Standard No. 12913-2:2018).

International Organization for Standardization. (2019). *Acoustics—Soundscape—Part 3: Data analysis* (ISO Standard No. 12913-3:2019).

Lefebvre, H., & Regulier, C. (1992). *Éléments de rythmanalyse: Introduction à la connaissance des rythmes*. Syllepse.

Levy-Landesberg, H. (2022). Sound and the city: Rethinking spatial epistemologies with urban sound maps. *Sound Studies*, *8*, 20–42.

Lynch, K. (1984). *La imagen de la ciudad*. Gustavo Gili. (Original work published 1960)

Norberg-Schulz, C. (1988). Città e identità. In G. De Franciscis (Ed.), *Uomo e ambiente costruito* (pp. 23–31). Officina Edizioni.

Palmese, C., & Carles, J. L. (2013). Herramientas de análisis del espacio urbano: Recorridos sonoros. In A. Pérez López & A. Calvo Manzanado (Eds.), *44 Congreso Español de Acústica: Encuentro Ibérico de Acústica* (pp. 389–396). Sociedad Española de Acústica.

Palmese, C., & Carles, J. L. (2022). *Soundscape map*. Paisaje Sonoro de Madrid. https://paisajesonorodemadrid.es/investigation-group

Piga, B. E. A., Siret, D., & Thibaud, J.-P. (2021). *Experiential walks for urban design: Revealing, representing, and activating the sensory environment*. Springer.

Prigogine, I., & Stenger, I. (1983). *La nueva alianza*. Alianza Editorial.

Relph, E. (1976). *Place and placelessness*. Pion.

Sand, M., & Atienza, R. (2016). Playing the space: Resonance, re-action and the conference re(s)on-art. In T. Lind (Ed.), *The art university: Political dream or broadened future for the arts?* (pp. 52–62). Swedish Research Council.

Schaeffer, P. (1966). *Traité des objets musicaux*. Le Seuil.

Schafer, R. M. (1977). *The tunning of the world*. Alfred A. Knopf.

Southworth, M. (1969). The sonic environment of cities. *Environment and Behavior*, *1*(1), 49–70.

Thibaud, J. P. (2001). La méthode des parcours commentés. In M. Grosjean & J. P. Thibaud (Eds.), *L'espace urbain en méthodes* (pp. 79–99). Editions Parenthèses.

Thibaud, J. P. (2011). The three dynamics of urban ambiances. In B. LaBelle & C. Martinho (Eds.), *Sites of sound: Of architecture and the ear* (Vol. 2, pp. 43–53). Errant Bodies Press.

Thibaud, J. P. (2020). Sensibilities to lifeworlds. In D. Masson (Ed.), *Ambiances, alloaesthesia: Senses, inventions, worlds. Proceedings of the 4th International Congress on Ambiance* (Vol. 1, pp. 80–85). Réseau International Ambiances.

Tuan, Y. F. (1977). *Space and place: The perspective of experience*. University of Minnesota Press.

Westerkamp, H. (1974). Soundwalking. *Sound Heritage*, *3*(4), 18–27.

About the Authors

Cristina Palmese graduated in architecture from the University of Naples. She is a specialist in Urban and Architectural Design, having graduated from the same university and the Technical University of Graz in Austria. She holds a PhD from the Higher Technical School of Architecture of Madrid. She is an independent researcher and director of the Paisajesensorial Office-Lab. She is the curator of Semana del Sonido Madrid and co-director of the programme *La Casa del Sonido* (House of Sound) on Radio Clásica of RTVE. She develops work in interdisciplinary fields that combine theoretical, applied, and creative research.

José Luis Carles Arribas is an ecologist and composer, as well as a doctor of Biological Sciences (Autonomous University of Madrid) and a professor at the Interfaculty Department of Music, Autonomous University of Madrid. His research focuses on acoustic ecology and soundscapes. He collaborates with international research groups and publishes the results in national and international journals on music, landscape, acoustic ecology, and urbanism. Between 1986 and 2001, he was a researcher at the Institute of Acoustics (CSIC–Madrid), National Centre for Scientific Research. He is, since 2002, the director of the programme *La Casa del Sonido* (Radio Clásica, RTVE).

Alejandro Rodríguez Antolín (Ferrol, 1995) holds a PhD in Musicology (Autonomous University of Madrid), specialising in music, sound technologies, and digital humanities. His academic studies are related to interdisciplinary and multimedia creation in relation to electroacoustic music and sound art, as well as computer and automatic/algorithmic music creation and contemporary music. His doctoral thesis, *Beyond the Electric: Electroacoustic Music in Spain. Multimediality and Interdisciplinarity*, related to the history, situation, and particularities of Spanish electroacoustic music, was defended in March 2023.

Urban Planning
2024 • Volume 9 • Article 7065
https://doi.org/10.17645/up.7065

cogitatio

ARTICLE

Open Access Journal

Digital Rights to the City: Local Practices and Negotiations of Urban Space on Decidim

Aline Suter [1], Lars Kaiser [2], Martin Dušek [3,4], Florin Hasler [5], and Simone Tappert [1]

[1] School of Social Work, University of Applied Sciences and Arts Northwestern Switzerland, Switzerland
[2] Urban Equipe, Switzerland
[3] School of Art & Design, Lucerne University of Applied Sciences and Arts, Switzerland
[4] Accenture, Switzerland
[5] Opendata.ch, Switzerland

Correspondence: Aline Suter (aline.suter@fhnw.ch)

Submitted: 27 April 2023 **Accepted:** 8 September 2023 **Published:** 16 January 2024

Issue: This article is part of the issue "Citizen Participation, Digital Agency, and Urban Development" edited by Simone Tappert (University of Applied Sciences Northwestern Switzerland), Asma Mehan (Texas Tech University), Pekka Tuominen (University of Helsinki), and Zsuzsanna Varga (University of Glasgow), fully open access at https://doi.org/10.17645/up.i327

Abstract

The organization, management, and production of urban space through digital information and communication technologies have become a central means for governing urban life. To overcome a lack of citizen-centered practices in today's smart cities, governments and municipalities institutionalize citizen-centered digital infrastructures such as Decidim, a digital infrastructure proposing non-corporate, decentralized, and collaborative forms of digital production to evoke participatory governance practices and ultimately social transformation (Barandiaran et al., 2018). Swiss city administrations have adapted the Decidim platform for participatory budgeting processes and city-wide participation platforms since 2019. This article explores the process of institutional adoption, focusing on how the use of Decidim impacts local practices and negotiations for governing urban space. The examination of the Decidim platform in the Swiss cities of Zurich and Lucerne will be framed by re-conceptualizing Lefebvre's right to the city in the age of digital transformation. The findings show that for a successful introduction of the Decidim platform based on principles of the right to the city (a) local needs for a new digital democratic instrument need to be pre-existent, (b) government employees must implement a scope of action which allows organized civil society and grassroots initiatives to appropriate the infrastructure for their own purposes, and (c) local practices of hybrid communication and organizing must be aligned with the structure of the platform. Nevertheless, digital participation tools such as Decidim cannot solve entrenched inequalities such as the financialization of land, the issue of disadvantaged neighborhoods, or the absence of voting rights for certain communities. Therefore, city administrations need to integrate hybrid participation strategies which prioritise collective power over distributive power as well as tackle urban inequalities through political means.

Keywords
civic technology; Decidim; neighborhood governance; smart city; Switzerland; urban development

1. Introduction

The mediation and contestation of urban space through the political, ideological, and social spheres is a central debate in critical urban studies (Brenner, 2009, p. 198). With digital transformation processes altering governance practices, it has become central to analyze the urban fabric through and with the digital sphere (Geuder & Alcântara, 2019, p. 118). Smart city concepts have become a standard for city administrations. Digital tools are introduced with the objective of enhancing information flow and data management both within and outside the municipality, as well as inducing a culture of shared governance through collaborative city-making (Tappert & Suter, 2021). To overcome the lack of citizen-centered practices in today's smart cities, new modes of governance are established based on technological concepts such as civic technology (Zhang et al., 2022). The institutionalization of the Decidim platform by city administrations around the world is one example of this development. Decidim envisions non-corporate, decentralized, and collaborative forms of digital production, is democratically designed, and aims to shift political power relations beyond the digital to create participatory governance practices and ultimately social transformation (Barandiaran et al., 2018, pp. 22–24, 37). The development of the platform was engendered by the 15-M citizen activists (Indignados Movement).

This article examines the use of the Decidim platform in the Swiss cities of Zurich and Lucerne based on the following research questions:

> RQ1: How is the public-commons digital platform Decidim institutionalized in Switzerland?
>
> RQ2: How does the platform shape local practices and negotiations for governing urban space?
>
> RQ3: How does Decidim enable or impede a (digital) right to the city?

Since 2019, larger cities in Switzerland have experimented with or partially adapted Decidim as their city-wide participation platform. In Zurich and Lucerne, the city administrations have initiated this process by testing a participatory budgeting process on the digital infrastructure. Both cities have now integrated Decidim as a central tool for digital participation, used particularly in urban development and collaborative city-making projects. As current research on Decidim mainly focuses on the role of citizens and social movements, a research gap on the use of the Decidim infrastructure in cities and questions related to the institutionalization of Decidim by city administrations beyond Spain was identified (Borge Bravo et al., 2022; Islar & Irgil, 2018; Pradel-Miquel, 2021). Therefore, this article analyzes the institutional adoption of Decidim by city administrations in Switzerland and shows how this shapes local practices and negotiations for governing urban space based on three empirical case studies with varying foci: project implementation from a local bottom-up initiative to the institutionalization by the city administration (Zurich), grassroots practices on the platform and beyond (Zurich), and participatory approaches in a hybrid setting (Lucerne). As spatial effects and the production of urban space through the Decidim platform have not yet been a focus by scholars, we use Geuder and Alcântara's (2019) conceptualizations of digitalizing the right to the city, based

on Henri Lefebvre's work, and adapt it to citizen participation in the context of the Decidim platform. This theoretical lens is substantiated by first situating Decidim in a critical debate on citizen-centered smart cities, as well as contextualizing the digital infrastructure in terms of its guiding principles.

2. Citizen-Centered Smart Cities and the Digital Right to the City

The organization, management, and production of urban space through digital information and communication technologies have become a central means to govern urban life. While authors emphasize that "smart city" is a fuzzy term (e.g., Camero & Alba, 2019), it is generally described as the collection and use of digital data aiming to address current and future challenges of urbanization and to enhance service deliveries in the fields of governance, mobility, environment, and economy (Arroub et al., 2016). Critical scholars in digital geography and urban studies situate smart city concepts in neoliberal ideologies embedded in a techno-capital paradigm (e.g., Cardullo & Kitchin, 2019). Even though people are usually described as a key component of a smart city, a significant body of literature highlights a lack of citizen-centered practices in today's smart cities (Tran Thi Hoang et al., 2019).

Some scholars therefore propose adjusting governance practices in smart cities by actively engaging citizens in the production and administration of the digital city (e.g., Camero & Alba, 2019; Chantry, 2022; Helbing et al., 2021; Kitchin, 2015). Other research states that this shift has already been put into practice (e.g., Castelnovo, 2016; Correia et al., 2021; Tomor, 2020). Such smart governance strategies seek to reinforce cooperation with companies and local associations and engage citizens in participatory processes with the use of intelligently connected information and communication technologies. They position local authorities as service providers based on principles of transparency, participation, and collaboration.

Smart governance acts on the underlying idea of creating better-functioning democracies by moving beyond top-down practices (Camero & Alba, 2019, p. 86). However, a critical reading of such novel modes of governance indicates new or emphasised existing forms of power and control both by state authorities and large digital companies in the production of urban space (e.g., Sadowski, 2021). Vadiati (2022) argues that such smart citizen concepts remain "rooted in rational, functional and paternalistic discourses instead of in social rights, political citizenship and the common good" and constitute only a conditional resistance to techno-capitalist smart cities and digital inequalities (Nikki Han & Kim, 2021, pp. 3, 11). Therefore, critical scholars urge a radical shift away from the neoliberal and entrepreneurial smart city (Anastasiu, 2019; Galič & Schuilenburg, 2020; Vadiati, 2022).

Many scholars prompting such a shift refer to Lefebvre's right to the city as a theoretical lens to analyze the digital transformation of society and its implications in the production of urban space, and urge the transfer of decision-making processes away from the state into the hands of the "*citadins*" (Purcell, 2002, p. 102) This scholarly strand sees the digital sphere as an extension or continuation of urban space, creating a hybrid terrain in cities (Ash et al., 2018; Castells, 2015; Certomà, 2020). Here, the right to the city is conceptualized in the study of smart cities (Anastasiu, 2019; Breuer et al., 2019; Galič & Schuilenburg, 2020; Kitchin et al., 2019), citizenship and participation in the digital era (Alevizou, 2020; Breuer & Pierson, 2021; Islar & Irgil, 2018; Reeve, 2022), informational and digital power in today's cities (Currie et al., 2022; Shaw & Graham, 2017), and the digital sphere as the site of struggle and resistance (Garay et al., 2020; Geuder & Alcântara, 2019; Middha & McShane, 2022; Tayebi, 2013).

Geuder and Alcântara (2019) have outlined three central dimensions to Lefebvre's conceptualization of the urban to theoretically frame a digital right to the city. To acknowledge the interwoven implications between analogue and digital practices, and to research the spatial effects and the production of urban space by and with the Decidim platform, their considerations are used and adapted to citizen participation in the context of the Decidim platform. First, urban space is produced by conflicts, negotiation, interaction, and assembling. Here, the urban level unfolds and acts as:

> An intermediary and mediating level situated between two others—on the one hand, the private level, the proximate order, everyday life, and dwelling; on the other hand, the global level, the distant order, the world market, the state, knowledge, institutions, and ideologies. (Schmid, 2012, p. 46)

Today, the digital must be considered as an integral part of the urban level (Geuder & Alcântara, 2019, p. 128). Due to new modes of governance and digital transformation of the everyday, spaces of encounter (Merrifield, 2011) are increasingly transferred to digital platforms such as Decidim. Simultaneously, social media or digital messenger applications have become essential for bottom-up initiatives and other forms of counter-hegemonic practices (e.g., Tayebi, 2013). Second, Lefebvre understands the city as a site of accumulation, of people, products, symbols, knowledge, techniques, money, and capital (Schmid, 2022, p. 214). Centrality is a key concept through which Lefebvre defines what he understands as the city: a form which allows synchronicities of events and perceptions, but also the possibility of encounter (Schmid, 2012, pp. 47–48). What Lefebvre meant by centrality in contemporary society is the possibility of processing knowledge and information. Sovereignty over data collection and processing leads to increasing control over the management of access to centrality. We argue that digital developments in the fields of civic technology aim to enhance the production and construction of centralities through their tools. Simultaneously, biases inscribed in digital tools can reinforce the exclusion of disadvantaged groups. Further, it raises questions of power relations in terms of hegemonic access to central digital spheres. Third, Lefebvre distinguishes between abstract space and differential space. In abstract spaces, which are produced by capitalism, exchange value is rated higher than local qualities and uses (Geuder & Alcântara, 2019, pp. 131–132). Instead, Lefebvre proposes the making of differential space which enables power in decision-making for all who construct and appropriate urban space. Led by *auto-géstion* (self-governance), the right to difference "arises from the simultaneous presence of very different worlds and values, ethnic, cultural, and social groups, activities, and knowledge" (Schmid, 2022, p. 374). In conclusion, digitalizing the right to the city can be defined as reclaiming urban technology by acts of commoning and de-commodification (digital sovereignty), leading to a systemic change led by self-management and participatory city-making. The three aspects in Lefebvre's reading of the urban—the right to encounter, the right to centrality, and the right to differential spaces—serve as the central dimensions when studying Decidim and governance practices of urban space through the platform in the three Swiss case studies.

3. The Vision of the Decidim Platform

The Decidim platform is a web-based "public-common's, free and open, digital infrastructure for participatory democracy" (Barandiaran et al., 2018, p. 8) and is programmed as a modular platform: Components such as proposals, meetings, blogs, comments, voting, or participatory texts can be combined and used to design entities in participatory spaces, such as processes (e.g., a participatory budget),

assemblies (e.g., website of a neighborhood association), conferences (e.g., the landing page of a city planning hackathon), initiatives, and voting/elections.

Decidim's vision shares great similarities with Lefebvre's utopia of differential spaces. The platform was collaboratively designed by activists following the 2011–2012 15-M movement in Spain (Borge Bravo et al., 2022, p. 1; Charnock et al., 2021, p. 589), challenging the current political and economic state, rising inequalities, and claiming radical democracy (Postill, 2017, pp. 16, 23). Thus, Decidim attempts to establish the values of a political movement in the design principles of an online platform aiming at improving and enhancing "the political and administrative impact of participatory democracy in the state" (Barandiaran et al., 2018, p. 11). Despite being born into an institutional context with its first use by Barcelona City Council, a central goal has always been "empowering social processes as *a platform for massive social coordination* for collective action independently of public administrations" (Barandiaran et al., 2018, p. 11). As such Decidim (as an infrastructure) finds itself between being a centralized and decentralized public platform (see Figure 1). Decidim's ruleset is outlined by the Decidim Social Contract (Decidim, n.d.-a) and is described as setting the underlying design principles for the platform (Barandiaran et al., 2018, pp. 50–53). Firstly, the contract defines what Decidim means by free software (meaning free as in freedom, not unpriced) and correspondingly, under which licenses the software may be used (Decidim, n.d.-a). Secondly,

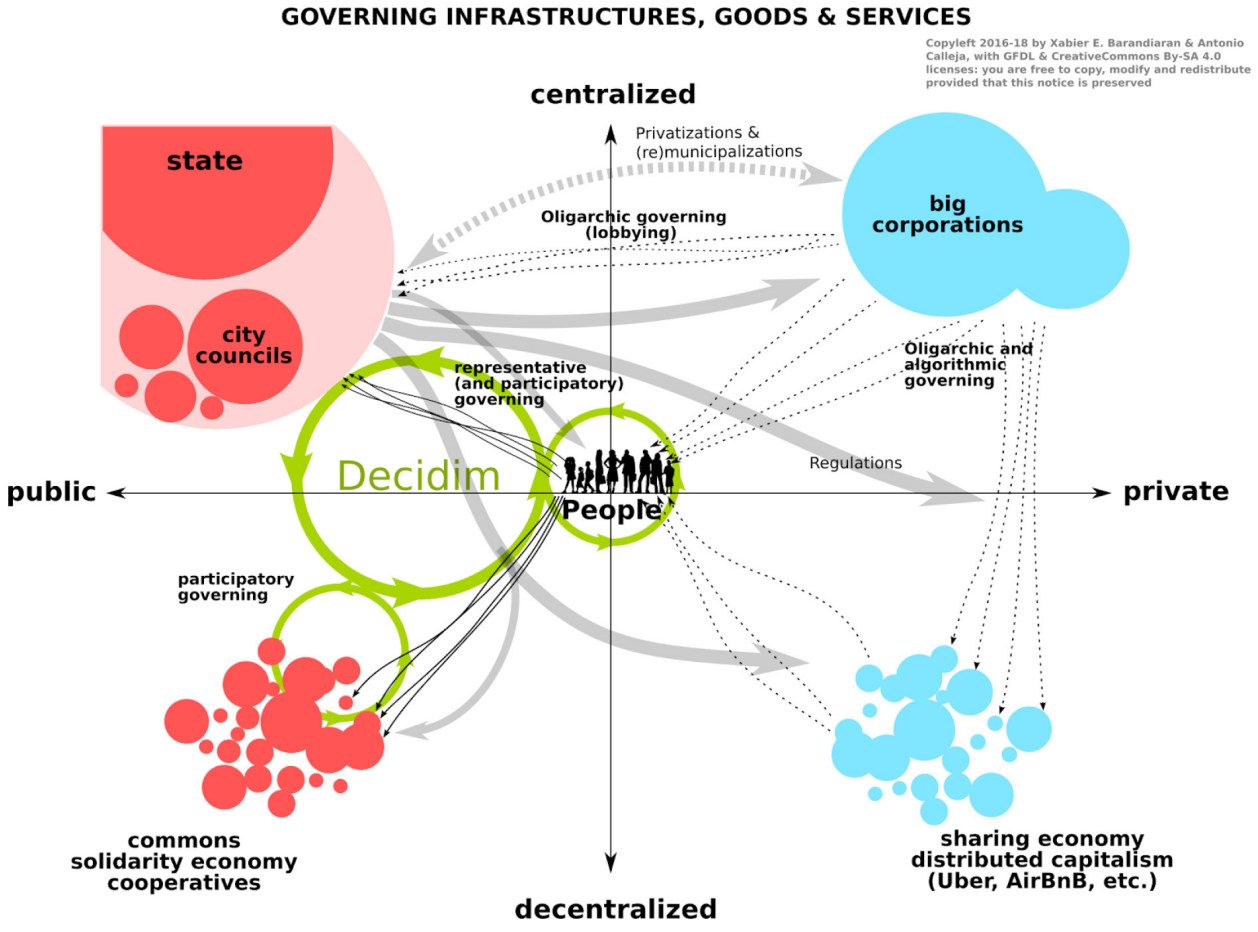

Figure 1. Governing infrastructures, goods, and services. Source: Barandiaran et al. (2018, p. 22).

the contract introduces the three concepts of transparency, traceability and integrity of content: in short, all content on the platform must be accessible, downloadable, and traceable (Barandiaran et al., 2018, p. 51). Additionally, all content should be treated equally, offering equal opportunities to all participants. Personal data (i.e., for verification purposes) needs to be handled confidentially. Lastly, the Social Contract enforces adopters of the software to interinstitutional collaboration to facilitate continuous improvement of the platform (Decidim, n.d.-a). Thereby, Decidim ensures the perpetuation of an infrastructure with a democratic vision in three dimensions:

> The *political* (focused on the democratic model that Decidim promotes and its impact on public policies and organizations), the *technopolitical* (focused on how the platform is designed, the mechanisms it embodies, and the way in which it is itself democratically designed), and the *technical* (focused on the conditions of production, operation and success of the project: the digital factory, collaborative mechanisms, licenses, etc.). (Barandiaran et al., 2018, p. 11)

As of 2023, Decidim has spread worldwide and is being used and continuously developed by roughly 400 cities, countries, and NGOs (Decidim, n.d.-b). The transfer of the vision embedded in its Social Contract to local use cases is particularly challenging within smart governance practices; this will be the subsequent focus of this article.

4. Research Questions and Method

The examination of the Decidim platform in the Swiss cities Zurich and Lucerne is framed by Geuder and Alcântara's (2019) conceptualizations of digitalizing the right to the city in order to explore the institutional adoption of Decidim by city administrations and its impact on practices and negotiations for governing urban space at the local scale. Therefore, this article aims to analyze the three research questions presented in Section 1.

The article combines the findings of two qualitative research projects (case study Zurich: "Placemaking through Idealizations and the Role of Local Knowledge and Practices in the Age of Digitalization" funded by the Swiss National Science Foundation, 2021–2024; case study Lucerne: Dušek, 2021) that were conducted in the cities of Zurich and Lucerne in the years 2021 and 2022. Both studies focused on processes of interaction, negotiation, and decision-making among stakeholders in participatory urban development projects at the neighborhood scale, and particularly looked at the implementation of digital tools by different stakeholders and their impact on the outcome of such projects. The cities Zurich and Lucerne were chosen as they were the first two cities in the German-speaking part of Switzerland to implement the Decidim platform in order to strengthen public participation as part of their smart city strategies (Zurich: "Mitwirken an Zürichs Zukunft" and Lucerne: "Dialog Luzern"). The strategies also included conducting a trial run of participatory budgets: Quartieridee Wipkingen (neighborhood scale, Zurich), Stadtidee Zürich (city scale, Zurich) and Quartiereffekt (Lucerne).

The studies adopted a constructivist-hermeneutic approach for data collection and analysis, and the controlled strategy of theoretical sampling was used to develop the data corpus. First, document analysis was conducted in order to grasp (a) the smart city concepts, the strategies of public participation within these concepts and the role of Decidim as a digital tool to promote the goals defined in the smart city

concepts, and (b) its implementation through the lens of the participatory budget trial runs which constitute the three case studies presented in this article. A broad definition of documents was applied, ranging from administrative documents (such as political motions, concepts, and spatial planning documents) to documents published by or circulated amongst the different stakeholders participating in the participatory budget trial runs. Second, qualitative interviews were conducted with a total of 15 interviewees in Zurich (municipality, planning team, intermediary actors, and neighborhood initiative) and a total of 17 interviewees in Lucerne (municipality, intermediary actors, and neighborhood associations). Third, to enable an in-depth understanding of local practices and negotiations, participatory observations were carried out (informal participatory events such as dialogue events, discussion forums, and workshops with the stakeholders and the wider public). The data was analyzed thematically and inductively, based on the principles of grounded theory (Strauss & Corbin, 1990). This involved close reading of the data material (interview transcripts, documents, field notes), noting central concepts, key emerging themes, patterns, and variations in order to move from descriptive to explanatory accounts following the coding scheme of the grounded theory methodology and its iterative approach. For the purpose of this article, the findings of the two research projects were compared at the final stage of the data analysis.

5. The Digitalization of Citizen Participation in Urban Development in Switzerland

In Switzerland, citizen participation in urban development processes is legally prescribed in Art. 4 of the Federal Act on Spatial Planning (“ Provision on information and participation”) and authorities responsible for planning are required to inform the public and to ensure participation. While the Federal Office for Spatial Development in Switzerland operates as a coordination platform for spatial planning, traffic, and transport issues, due to the federalist structure of the country, the cantons, cities, and municipalities play a key role in implementation (Federal Office for Spatial Development, 2012). Since the communicative turn in the 1990s, the planning culture in Switzerland has gradually shifted towards an understanding of participation going beyond the legally guaranteed participation of the population (e.g., in municipal referendums, hearings, and public planning requirements) or the direct democratic procedures (especially referendums) that are solely accessible for citizens of Swiss nationality. Today, every planning project that is in the interest of the public involves an informal planning process in addition to the actual formal planning process (e.g., citizen panels, workshops, activating surveys, and world cafés; Neuhaus et al., 2015). Such informal planning processes are of particular importance in order to enable the participation of urban residents who are not Swiss citizens and, thereby, excluded from direct democratic voting procedures.

Swiss cities are increasingly adopting digital tools to ensure public participation and cooperation. The digitalization of citizen participation is linked to the broader aim of creating smart cities through governance strategies that promote citizen participation by urban residents independently of their nationality, broaden citizen participation through a hybrid approach, and reinforce cooperative structures. This digitalization process is politically promoted and structured through the following strategies and guidelines: (a) Digital Switzerland Strategy (2020, 2023, federal level); (b) E-Government Strategy Switzerland (2007, 2015, 2020–2023, federal level); (c) Smart City Concepts (canton, city, municipal level).

The Digital Switzerland Strategy was first implemented in the year 2020 and sets guidelines for digital transformation in Switzerland. It aims to ensure sustainable and responsible digital transformation for the benefit of the Swiss population and requires the Confederation to support the cantons, cities, and

municipalities in the implementation of smart city initiatives. The E-Government Strategy promotes the digital transformation of public administration and lays the structural ground for the coordination of all e-government activities at municipal, city, canton, and federal levels. Within the framework of the E-Government Strategy Switzerland, the Confederation enables and finances digital participation initiatives (e.g., participatory budgeting projects Quartieridee Wipkingen Zurich and the Decidim association). Thus, the strategy is directly connected with the implementation of smart city strategies in Swiss cities. According to the Smart City Survey 2022 (Sütterlin et al., 2023), 28% of Swiss cities have already implemented smart city initiatives and strategies, and 36% are currently in the process of implementation. In the area of "smart people" a total of 45 projects were listed with the majority focusing on digital participation such as participation platforms, online surveys, and online workshops.

The cities of Zurich and Lucerne have both developed a smart city strategy which aims at promoting digital communication and public participation in urban development projects (Zurich Smart City Strategy 2018, Lucerne's Digitalstrategie und Smart City Luzern). As a part of this process, digital participatory platforms were implemented by the city authorities using the open-source software Decidim (Mitwirken an Zürichs Zukunft, Dialog Luzern), and the participatory budget was introduced as a subproject on a trial basis (Stadtidee Zurich at city scale, Quartiereffekt Lucerne at district scale). The case of Decidim and the participatory budget in the cities of Zurich and Lucerne will be presented in-depth in the following sections.

6. Local Practices and Negotiations of Urban Space on Decidim

6.1. Joining Bottom-Up Initiatives and Institutional Adaptations: Quartieridee Wipkingen

From 2020 to 2021, the Quartieridee was implemented as the trial run of a participatory budget in a Zurich neighborhood (Wipkingen). Unlike similar processes observed around the world, the test run was conducted by the two associations—Nextzürich, a civil initiative focusing on redesigning city development, and Urban Equipe, an organization aiming to strengthen democratic aspects of urban life—instead of by municipal authorities, which supported the test run financially and strategically (Urban Equipe, 2022). In 2020, the trial run started with a budget of 40,000 Swiss francs for ideas submitted via a Decidim platform branded specifically for the process. The ideas submitted dealt with improving public spaces, strengthening urban networks or improving the ecological state of the urban sphere. In total, 99 ideas were submitted, of which eight received the requested budget for the implementation phase. Unlike in other participatory budgeting processes (e.g., Madrid, Reykjavik, or Paris), the individuals/groups who submitted an idea were responsible for its realization, as the pilot character did not allow for the creation of a legal framework as a municipal political instrument (Urban Equipe, 2022).

Quartieridee Wipkingen can be seen as an example of the kind of process for which Decidim was designed. Firstly, Nextzürich and Urban Equipe identified a gap between the micro needs of the individual and the macro responsibilities of elected representatives in urban life and sensed an opportunity to reduce this gap (Nextzürich & Urban Equipe, 2018) with the introduction of new democratic instruments focusing on strengthening public participation and creating visibility for hyperlocal needs from both a top-down and a bottom-up perspective. Therefore, the associations focused on developing a concept for a participatory budgeting system in Zurich, aiming to supplement Switzerland's already existing semi-direct democratic political instruments. During the same period, Zurich's legislature commissioned the City of Zurich to pilot

methods to strengthen participation in neighborhoods and adjust the Smart City Strategy through the new strategic goal Civic Tech, later implemented by the Zurich Smart City Strategy (City of Zurich, 2018). The final step towards implementation was then undertaken by a locally rooted actor, the neighborhood association of Wipkingen, which offered to collaborate with Urban Equipe and Nextzürich for a trial run. Secondly, the need for the platform arose from the need for an infrastructure to facilitate the proposed instrument and not as a means in itself, i.e., as an imposed way to apply the platform. The main focus of the implementation of the participatory budget was placed on strengthening social networks and civil society within Wipkingen, which was achieved through 18 physical events throughout the process (Urban Equipe, 2022). The Decidim platform was used as an infrastructure for online communication and for the key features of any participatory budget, i.e., the submission of ideas, the discussion, and the voting process.

However, the process design chosen also created challenges: Firstly, the process builds greatly upon small-scale networking. This requires vast resources both financially and in the form of voluntary work. This is only sustainable in the long term if the process is clearly understood by the public and followed by large-scale self-organization. Secondly, while enabling a short-term implementation of the trial run with the non-governmental project lead of Urban Equipe and Nextzürich, problems arose during the implementation of the projects with allocated budgets due to approvals required by the municipality (i.e., for events), which did not have a legal framework for expediting and facilitating ideas chosen by the public in Wipkingen.

6.2. Grassroots Practices on the Decidim Platform and Beyond: Stadtidee Zürich

As a follow-up to the first participatory budget experience in Wipkingen, the participatory budget was upscaled to the city level in 2021 with an overall budget of 540,000 Swiss francs and named "Stadtidee." For two months, all interested citizens residing in Switzerland were able to digitally submit a project idea in the predefined subject areas of "Climate and Environment" and/or "Children and Youth" to apply for a budget of between 1,000 and 9,999 Swiss francs. The city's urban development department led the digital participatory budgeting process for Zurich, supported by Urban Equipe. Based on previous experience, the project team used a similar setup on the Decidim platform. The website was used for the entire process, from project proposals and voting to the implementation of the projects.

One of the ideas submitted is of particular relevance in the context of (digital) rights to the city: The "Linkes Seeufer für Alle" (LSFA) is a coalition of neighborhood residents, cultural workers, and citizens of Zurich, advocating for a public and democratic debate on the future development of a land plot currently owned and used by Kibag AG, a concrete and gravel processing company, located on the shores of Lake Zurich. LSFA submitted a proposal for a neighborhood event on the participatory budgeting platform Stadtidee together with other local organizations and applied for 4,500 Swiss francs. The aim of this neighborhood festival was to "put the interests of the local community back at the center of the…debate" (LSFA, 2023). The proposal needs to be contextualized within a larger discourse on housing for profit and public space in this area. Based on a special building regulation passed by the city council in 2008, this private company is permitted to build residential buildings on the land after 2030, which they aim to do. As the surrounding neighborhood had had similar experiences with another upmarket real-estate project, the publicized profit-oriented plans of Kibag AG led to both public outrage and political action. On the basis of a motion by two politicians in the municipal council in 2019, the city planning office carried out a test planning process for the aforementioned area in 2021–2022, in which local interest groups were invited to participate in the

formal planning procedure. LSFA participated in the test planning process together with other advocacy groups, including, e.g., the local community center, representatives of the Rote Fabrik (alternative cultural center), the local neighborhood association, and a youth representative (Amt für Städtebau, 2022). Due to the formal setting of the test planning process, local actors had limited room for manoeuvre in participation and no decision-making power. To strengthen their position and demands for the space, the collective made intensive use of diverse hybrid practices; the participatory budgeting of the City of Zurich was one of them.

The Decidim platform served as a networking tool and enlarged the pool of organizers for the event. The call for voting on their proposal over social media and other networks was successful, and the neighborhood festival took place in May 2022. Over two days, local organizations were present in various booths and the organizers, together with the neighborhood association, collected signatures for a political petition to rezone the area into a non-residential industrial zone. LSFA used the Decidim platform as an enabler to legally occupy contested urban space, claim their right to it, and circulate their demands in the manner of a bottom-up initiative. This formalization of traditionally informal or incremental practices (Miraftab, 2011) becomes visible in a statement by the organizers: "The festival is legal, popular, and fascinating, but the gesture is also that of an occupation: The appropriation of a space stimulates the imagination of what else could be done with it" (LSFA, 2023) Currently (August 2023), the development plans for the land owned by Kibag AG are still active. However, the neighborhood festival, together with other activities by LSFA, has initiated a public discussion on the legitimate ownership of the land as well as profit-oriented urban development. The results of the test planning process by the city planning office support this in prioritizing local interests for non-residential, non-commercial, free spaces, creating places of encounter, and promoting self-organization. The future development is at present uncertain and will depend on political negotiations and decisions.

6.3. Activating Participation: Quartiereffekt LuzernNord

LuzernNord, a development focus of the canton of Lucerne, has a high proportion of migrants and socio-economically marginalized areas. Upgrading the Seetalplatz area carries the risk of gentrification, higher rents, and displacement of locals. In March 2021, the area's management initiated the participatory budget "Quartiereffekt" through the digital platform Dialog Luzern, using Decidim. The participatory budget was organized top-down by the area management with the involvement of local institutions and associations to engage the residents. Public communication was limited to flyers, brochures, and posters distributed to well-connected key actors at the kick-off event. A Telegram group chat was also used to mobilize residents to vote for their ideas. A total of 18 ideas were submitted, and four winners were selected, receiving a total of 21,000 Swiss francs.

This case study examines the engagement of residents with a migrant background in participatory budgeting and highlights the factors that contribute to their low participation rates. Although Quartiereffekt has improved local networks, public relations, and the familiarity of public administrations with swift, experimental planning processes, limitations related to participation, pre-existing socio-economic inequalities, and a digital divide were identified.

The participation barrier for individuals with limited knowledge of the German language was high, as communication materials, including flyers, brochures, posters, and the website, were only available in

German. Moreover, the digital interface for entering ideas was identified as a hurdle for some residents. Older residents, particularly those over 50, stated their preference for analogue channels for entering ideas. "Why isn't there a normal, printed form? As if dealing with the German language wasn't already challenging," a member of the Islamic Cultural Association commented during an interview. Two other primary reasons given for not participating were not feeling engaged and low levels of confidence in having an influence on the development of public space through a participatory budget. Residents who were already involved in different associations were more willing to participate but complained of a lack of resources due to their existing commitments, such as family, voluntary work, and multiple jobs, leaving little time to organize and enter an idea through the platform.

The example of LuzernNord shows it would be wrong to claim that major social problems have been addressed with the help of participatory budgeting using Decidim. The danger of gentrification of the surrounding neighborhoods, which arises from the redevelopment of the former industrial area, is not mitigated. Residents' concerns that rents will rise remain. The residents who decisively shape the appearance of the public space are still the same well-connected Swiss citizens. And so Decidim, when used as in LuzernNord, reproduces prevailing power relations. Nonetheless, it was never Decidim's intention to carry out purely digital participation and tackle the big social issues exclusively on the platform. Rather, analogue processes should be supported through the digital platform. In spite of the aforementioned shortcomings, Decidim can be a practical tool for location marketing, strengthening local networks and rethinking administrative processes. Looking at other examples where participatory approaches have been used to address urgent social problems, one might conclude that Decidim can even serve the purpose of enabling less established sectors of the population to help shape their neighborhood. In order for Quartiereffekt to have a more fundamental impact and enable more diverse participation, other conditions would need to exist in local society. This includes the political will to rethink power relations and to allocate funds to lower the barriers for less privileged people, for example, with larger budgets for public communication and communication tools translated into different languages.

7. Discussion

The three case studies have individually highlighted different aspects of a participatory budgeting process on the Decidim platform. Together, they illustrate larger themes around a (digital) right to the city and demonstrate the ways in which the institutionalization of the platform shapes spaces of encounter, centrality, and difference. In both cities, Decidim served as a platform to discuss and negotiate urban space by civil society and local actors. The extent to which the digital process acted as a catalyst to claim rights to the city varied greatly.

We argue that the Social Contract of Decidim has the potential to create differential spaces in the digital sphere. However, the local use cases reveal only selective islands of differential spaces. The substructure, visible in the institutionalization of the platform, is maintained by pre-existing top-down practices. The platform creates spaces of encounter when aspects such as accessibility, familiarity, and hyperlocal needs are met. This has been illustrated by the case of Wipkingen, where Decidim was not imposed top-down. However, in the cases of the Stadtidee and Quartiereffekt LuzernNord, the digital tool was implemented by city administrations. This can even lead to a shift in digital tools, as shown in Lucerne, where the residents created an alternative communication channel over Telegram.

The two case studies in Zurich highlight shifting power dynamics and centrality in hyperlocal realities enabled by the participatory budgeting process on Decidim. In the case of Wipkingen, the project management was rooted in civil society and therefore facilitated a fragmented hegemony over hybrid urban spaces. This aspect becomes more pronounced in the example of the Stadtidee: The neighborhood festival has partly impacted a formal planning process by creating a base to reclaim local rights by appropriating a contested area. In Lucerne, access to centrality was occupied by formal actors such as the area manager, strengthening the digital divide and leading to non-participation. This shows that while a right to centrality is inscribed into the programming of Decidim, it is the local and institutional implementation of the platform that determines (in)accessibility.

The cases studied have shown that underlying urban issues such as financialization of land, disadvantaged neighborhoods, and housing for profit were partially addressed on Decidim to foster public support. The platform has even been appropriated, improved, and used by organized civil society as a counter-power (Castells, 2015). Furthermore, the institutionalization of Decidim enhances aspects around transparency, the organization of information, and the collection of citizen proposals (Borge Bravo et al., 2022, p. 9). To ensure a right to the city, digital participation processes would need to enable aspects around social justice, common good, and self-management. Therefore, the full potential of the platform is not (yet) exploited in Switzerland. To achieve this, city administrations would need to fully integrate (hyper)local needs (e.g., with intermediary actors) into the institutional use of Decidim, as well as enable space for self-organization.

8. Conclusions

Managing urban space with information and communication technologies has become a central means of governance in today's cities. An idealized vision of a more democratic, transparent, and just world underlies these developments. This vision has inspired tool developers in the fields of civic technology and beyond to program according to principles of decentralization, collaboration, and the commons (Zhang et al., 2022). The institutionalization of such tools by governments and municipalities is considered a standard trend in participatory governance practices (Borge Bravo et al., 2022). This article has studied Decidim as an example of citizen-centered infrastructure undergoing such institutionalization processes in the context of Switzerland. A lack of research beyond Spain has emphasised the relevance of this study, which focuses in particular on local practices and negotiations of urban space. A re-conceptualization of Lefebvre's right to the city in the age of digital transformations has been highly useful as a theoretical lens as it (a) centers both bottom-up and top-down practices for governing urban space, (b) the vision of civic technology shares great similarities with the right to the city concept, and (c) the Decidim infrastructure is aligned with Lefebvre's formation of ideas on differential space.

The case studies have shown that for a successful introduction of the platform based on the principles of a right to the city, certain prerequisites need to be in place: (a) Local needs for a new digital democratic instrument are pre-existent, (b) government employees implement a scope of action which allows organized civil society and grassroots initiatives to appropriate the infrastructure for their own purposes, and (c) local practices of hybrid communication and organizing are aligned with the structure of the platform. A central point of critique refers to the local administration having power over the Decidim infrastructure, reducing moments of the self-management advocated by Lefebvre to a minimum. The right to centrality is administered by formal government structures and substantiates pre-existing hegemonic power relations in

the governance of urban space. There is a risk that governments consider the Decidim infrastructure as an automatic enabler of collaborative city-making, without adjusting the dominant distribution of power and agency. Empowering public participation can only be realized when distributive power (the power over) is transferred to collective power (the power to), as elaborated by Koch (2013).

As the empirical case studies have shown, digital participation tools such as Decidim cannot resolve entrenched inequalities such as financialization of land, disadvantaged neighborhoods, or the absence of voting rights for certain communities. Therefore, it seems crucial that users' expectations of the examined platform need to be adjusted accordingly. This means that city administrations both need to integrate hybrid participation strategies which center collective power over distributive power, as well as tackling urban inequalities through political means.

The integration of the Decidim infrastructure in participatory city-making is an emergent phenomenon in Switzerland. The cases examined have used either the platform or the participatory budgeting process on Decidim in an experimental setting. Therefore, it will be necessary to carry out similar explorations when participatory governance practices become more established.

Acknowledgments

The Quartieridee was made possible by the huge amount of voluntary work invested by civil society in Wipkingen, as well as the Migros Pionierfonds, Digitale Verwaltung Schweiz, the Schweizerische Gemeinnützige Gesellschaft, and Smart City Zürich. The authors would like to thank everyone who participated in the research project and allowed us to gain relevant insights into the field, as well as the anonymous reviewers for their well-considered and helpful comments. This article is based upon work from COST Action DOPMADE, CA18204, supported by COST (European Cooperation in Science and Technology).

Funding

This article is part of a research project funded by the Swiss National Science Foundation.

Conflict of Interests

The authors declare no conflict of interests.

References

Alevizou, G. (2020). Civic media and technologies of belonging: Where digital citizenship and "the right to the city" converge. *International Journal of Media & Cultural Politics*, *16*(3), 269–290.

Amt für Städtebau. (2022). *Testplanung Seeufer Wollishofen. Abschlussbericht*. https://www.stadt-zuerich.ch/hbd/de/index/staedtebau/planung/entwicklungsgebiete/seeufer-wollishofen.html#schlussbericht

Anastasiu, I. (2019). Unpacking the smart city through the lens of the right to the city: A taxonomy as a way forward in participatory city-making. In M. de Lange & M. de Waal (Eds.), *The hackable city: Digital media and collaborative city-making in the network society* (pp. 239–260). Springer.

Arroub, A., Zahi, B., Sabir, E., & Sadik, M. (2016, October 26–29). *A literature review on smart cities: Paradigms, opportunities and open problems* [Paper presentation]. 2016 International Conference on Wireless Networks and Mobile Communications, Fez, Morocco.

Ash, J., Kitchin, R., & Leszczynski, A. (2018). Digital turn, digital geographies? *Progress in Human Geography*, *42*(1), 25–43.

Barandiaran, X., Calleja-López, A., & Monterde, A. (2018). *Decidim: Political and technopolitical networks for participatory democracy*. Decidim. http://ajbcn-meta-decidim.s3.amazonaws.com/uploads/decidim/attachment/file/2005/White_Paper.pdf

Borge Bravo, R., Balcells, J., & Padró-Solanet, A. (2022). Democratic disruption or continuity? Analysis of the Decidim platform in Catalan municipalities. *American Behavioral Scientist*, *67*(7), 926–939. https://doi.org/10.1177/00027642221092798

Brenner, N. (2009). What is critical urban theory? *City*, *13* (2/3), 198–207.

Breuer, J., & Pierson, J. (2021). The right to the city and data protection for developing citizen-centric digital cities. *Information, Communication & Society*, *24*(6), 797–812.

Breuer, J., Walravens, N., Van der Graf, S., & Mariën, I. (2019). The right to the (smart) city, participation and open data. In S. M. Figueiredo, S. Krishnamurthy, & T. Schroeder (Eds.), *Architecture and the smart city* (pp. 126–138). Routledge.

Camero, A., & Alba, E. (2019). Smart city and information technology: A review. *Cities*, *93*, 84–94.

Cardullo, P., & Kitchin, R. (2019). Being a "citizen" in the smart city: Up and down the scaffold of smart citizen participation in Dublin, Ireland. *GeoJournal*, *84*(1), 1–13.

Castells, M. (2015). *Networks of outrage and hope: Social movements in the internet age* (2nd ed.). Polity.

Castelnovo, W. (2016). Co-production makes cities smarter: Citizens' participation in smart city initiatives. In M. Fugini, E. Bracci, & M. Sicilia (Eds.), *Co-production in the public sector: Experiences and challenges* (pp. 97–117). Springer.

Certomà, C. (2020). Digital social innovation and urban space: A critical geography agenda. *Urban Planning*, *5*(4), 8–19.

Chantry, W. (2022). "Built from the internet up": Assessing citizen participation in smart city planning through the case study of Quayside, Toronto. *GeoJournal*, *88*(2), 1619–1637.

Charnock, G., March, H., & Ribera-Fumaz, R. (2021). From smart to rebel city? Worlding, provincialising and the Barcelona model. *Urban Studies*, *58*(3), 581–600.

City of Zurich. (2018). *Smart City Zürich*. https://www.stadt-zuerich.ch/portal/de/index/politik_u_recht/stadtrat/weitere-politikfelder/smartcity.html

Correia, D., Feio, J., Teixeira, L., & Lourenço Marques, J. (2021). The inclusion of citizens in smart cities policymaking: The potential role of development studies' participatory methodologies. In N. A. Streitz & S. Konomi (Eds.), *Distributed, ambient and pervasive interactions* (pp. 29–40). Springer.

Currie, M., Knox, J., & McGregor, C. (2022). Introduction: Data justice and the right to the city. In M. Currie, J. Knox, & C. McGregor (Eds.), *Data justice and the right to the city* (pp. 1–21). Edinburgh University Press.

Decidim. (n.d.-a). *Decidim's social contract*. https://docs.decidim.org/en/develop/understand/social-contract

Decidim. (n.d.-b). *Decidim in use: These cities, regions and organizations are already using Decidim*. https://decidim.org/usedby

Dušek, M. (2021). *Foster better conversations between city developers and residents. A study at the intersection of participatory urban development and conversation design, using the example of LuzernNord* [Master's thesis]. Lucerne University of Applied Sciences and Arts. https://www.martindusek.ch/ma-thesis

Federal Office for Spatial Development. (2012). *Sustainable development in Switzerland—A guide*. https://www.are.admin.ch/are/en/home/media/publications/sustainable-development/nachhaltige-entwicklung-in-der-schweiz-ein-wegweiser.html

Galič, M., & Schuilenburg, M. (2020). Reclaiming the smart city: Toward a new right to the city. In J. C. Augusto (Ed.), *Handbook of smart cities* (pp. 1–18). Springer.

Garay, L., Morales, S., & Wilson, J. (2020). Tweeting the right to the city: Digital protest and resistance surrounding the Airbnb effect. *Scandinavian Journal of Hospitality and Tourism*, *20*(3), 246–267.

Geuder, J., & Alcântara, L. (2019). (Urban) space, media and protests: Digitalizing the right to the city? In J. Bauer & R. Fischer (Eds.), *Perspectives on Henri Lefebvre: Theory, practices and (re)readings* (pp. 118–146). De Gruyter.

Helbing, D., Fanitabasi, F., Giannotti, F., Hänggli, R., Hausladen, C. I., van den Hoven, J., & Pournaras, E. (2021). Ethics of smart cities: Towards value-sensitive design and co-evolving city life. *Sustainability*, *13*(20), Article 11162.

Islar, M., & Irgil, E. (2018). Grassroots practices of citizenship and politicization in the urban: The case of right to the city initiatives in Barcelona. *Citizenship Studies*, *22*(5), 491–506.

Kitchin, R. (2015). Making sense of smart cities: Addressing present shortcomings. *Cambridge Journal of Regions, Economy and Society*, *8*(1), 131–136.

Kitchin, R., Cardullo, P., & Di Feliciantonio, C. (2019). "Citizenship, justice, and the right to the smart city." In P. Cardullo, C. Di Feliciantonio, & R. Kitchin (Eds.), *The right to the smart city* (pp. 1–24). Emerald Publishing.

Koch, P. (2013). Bringing power back in: Collective and distributive forms of power in public participation. *Urban Studies*, *50*(14), 2976–2992.

Linkes Seeufer für Alle. (2023). *Linkes Seeufer für Alle—Nachbarschaftsevent*. Stadt Zürich. https://mitwirken.stadt-zuerich.ch/processes/stadtidee/f/313/results/188

Merrifield, A. (2011). The right to the city and beyond. *City*, *15*(3/4), 473–481.

Middha, B., & McShane, I. (2022). E-gentrification: Digital community engagement, urban change and digital rights to the city. In S. Hovik, G. A. Giannoumis, K. Reichborn-Kjennerud, J. M. Ruano, I. McShane, & S. Legard (Eds.), *Citizen participation in the information society: Comparing participatory channels in urban development* (pp. 141–165). Springer.

Miraftab, F. (2011). Beyond formal politics of planning. *International Journal of Urban and Regional Research*, *35*(4), 860–862.

Neuhaus, F., Stark, H. J., & Drilling, M. (2015). *Atlas ePartizipation: Demokratische Stadtentwicklung*. FHNW.

Nextzürich, & Urban Equipe. (2018). *Quartieridee—Hüt im chopf, morn im Quartier: Ein Gedankenexperiment für Participatory Budgeting in Zürich*. https://nextzuerich.ch/wp-content/uploads/2018/12/Quartieridee_participatory-budgeting-in-Zürich_-Diskussionsgrundlage-V1-von-Nextzürich.pdf

Nikki Han, M. J., & Kim, M. J. (2021). A critical review of the smart city in relation to citizen adoption towards sustainable smart living. *Habitat International*, *108*, Article 102312. https://doi.org/10.1016/j.habitatint.2021.102312

Postill, J. (2017). Field theory, media change and the new citizen movements: Spain's "real democracy" turn as a series of fields and spaces. *RECERCA. Revista de Pensament i Anàlisi*, *21*, 15–36.

Pradel-Miquel, M. (2021). Analysing the role of citizens in urban regeneration: Bottom-linked initiatives in Barcelona. *Urban Research & Practice*, *14*(3), 307–324.

Purcell, M. (2002). Excavating Lefebvre: The right to the city and its urban politics of the inhabitant. *GeoJournal*, *58*, 99–108.

Reeve, A. (2022). Reading Lefebvre's *Right to the City* in the age of the internet. In S. Flynn (Ed.), *Equality in the city: Imaginaries of the smart future* (pp. 58–78). The University of Chicago Press.

Sadowski, J. (2021). Who owns the future city? Phases of technological urbanism and shifts in sovereignty. *Urban Studies*, *58*(8), 1732–1744.

Schmid, C. (2012). Henri Lefebvre, the right to the city, and the new metropolitan mainstream. In N. Brenner, P. Marcuse, & M. Mayer (Eds.), *Cities for people, not for profit: Critical urban theory and the right to the city* (pp. 42–62). Routledge.

Schmid, C. (2022). *Henri Lefebvre and the theory of the production of space*. Verso.

Shaw, J., & Graham, M. (2017). An informational right to the city? Code, content, control, and the urbanization of information. *Antipode*, *49*(4), 907–927.

Strauss, A., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. SAGE.

Sütterlin, B., Oberkalmsteiner, J., Giger, J., Kappeler, M., & Carabias, V. (2023). *Swiss Smart City Survey*. https://smartcity-survey.ch

Tappert, S., & Suter, A. (2021, October 11–13). *Digital placemaking—New opportunities, considerations and challenges for social work practice* [Virtual poster presentation]. IFSW European Conference on Social Work 2021. https://www.ifsw.org/event/ifsw-european-conference-on-social-work-2021

Tayebi, A. (2013). Planning activism: Using social media to claim marginalized citizens' right to the city. *Cities*, *32*, 88–93.

Tomor, Z. (2020). Citizens in the smart city. *International Journal of Public Administration in the Digital Age*, *7*(1), 1–16.

Tran Thi Hoang, G., Dupont, L., & Camargo, M. (2019). Application of decision-making methods in smart city projects: A systematic literature review. *Smart Cities*, *2*(3), 433–452.

Urban Equipe. (2022, September 30). "Quartieridee Wipkingen"—Arbeitsbericht Oder: Wie organisierten wir ein partizipatives Quartierbudget? *Urban Equipe Blog*. https://www.urban-equipe.ch/blog/quartieridee_1

Vadiati, N. (2022). Alternatives to smart cities: A call for consideration of grassroots digital urbanism. *Digital Geography and Society*, *3*, Article 100030.

Zhang, W., Lim, G., Perrault, S., & Wang, C. (2022). *A review of research on civic technology: Definitions, theories, history and insights*. ArXiv. https://arxiv.org/ftp/arxiv/papers/2204/2204.11461.pdf

About the Authors

Aline Suter holds an MA degree in Critical Urban Studies (University of Basel) and is a research associate at the Institute of Social Planning, Organisational Change and Urban Development (School of Social Work, University of Applied Sciences Northwestern Switzerland). In her research, she focuses on urban development with a key interest in citizen participation, digitalization, financialization of land and housing, urban processes in the Global South, and community organizing.

Lars Kaiser is an urbanist from Zurich, Switzerland. After his studies in spatial development and infrastructure systems at ETH Zurich, he has become part of the association Urban Equipe. His work focuses on strengthening the voices in civil society and advancing participatory formats in political and urban processes. His projects aim to combine the strengths of the physical and digital spheres.

Martin Dušek has investigated how participatory urban development can be made more inclusive during his Master in Service Design at the Lucerne University of Applied Sciences and Arts. After four years of teaching at the Department of Design of the Zurich University of the Arts, he currently works as a service and interaction designer at Accenture Switzerland. In both his work for industrial clients and his academic research, he focuses on putting people at the center and understanding transformations holistically, which includes organizational, business, and non-human interests.

Florin Hasler is the director of Opendata.ch, a non-profit committed to using data for the common good. In addition to advocacy, public sector consulting, and hackathons, his organization runs the Prototype Fund, a support programme for civic and public interest tech.

Simone Tappert is an urban anthropologist and senior researcher at the School of Social Work, University of Applied Sciences Northwestern Switzerland. Her research, teaching, and consultancy activities focus on urban development, social sustainability, citizen participation, community work, and digitalization in European cities. She is MC member of the COST Action CA18204 Dynamics of Placemaking and leads the SNSF research project "Placemaking through idealizations and the role of local knowledge and practices in the age of digitalization."

Urban Planning
2024 • Volume 9 • Article 7096
https://doi.org/10.17645/up.7096

cogitatio

ARTICLE

Open Access Journal

Beyond the Blind Spot: Enhancing Polyphony Through City Planning Activism Using Public Participation GIS

Eveliina Harsia [1] and Pilvi Nummi [1,2,3]

[1] Department of Built Environment, Aalto University, Finland
[2] Department of Civil Engineering and Architecture, Tallinn University of Technology, Estonia
[3] FinEst Centre for Smart Cities, Tallinn University of Technology, Estonia

Correspondence: Eveliina Harsia (eveliina.harsia@aalto.fi)

Submitted: 29 April 2023 **Accepted:** 22 September 2023 **Published:** 16 January 2024

Issue: This article is part of the issue "Citizen Participation, Digital Agency, and Urban Development" edited by Simone Tappert (University of Applied Sciences Northwestern Switzerland), Asma Mehan (Texas Tech University), Pekka Tuominen (University of Helsinki), and Zsuzsanna Varga (University of Glasgow), fully open access at https://doi.org/10.17645/up.i327

Abstract

A key advantage of public participation GIS (PPGIS) tools has been seen as increasing the polyphony of urban planning by reaching the wisdom of crowds. However, the challenge is to enable participation for those who do not have the skills or resources. This article describes participatory action research where the authors of the article collaborated with a local city planning activist at the Kontula Mall, Helsinki (Finland) to improve the participation of a group marginalized from the renewal process (i.e., immigrant entrepreneurs) using a PPGIS tool (Maptionnaire). The case study provided insights into the potential for city planning activism to bring out marginalized groups' perspectives and use PPGIS. Moreover, the research also revealed barriers to polyphony in current planning practices. Nevertheless, planning activism can enable the participation of the marginalized by coming into contact with them, providing them with information, and bringing their perspectives to the collaboration. The PPGIS tool can serve as a platform to collect participatory data through different response modes. Local activism can also facilitate the questionnaire's co-design, testing, and marketing. Therefore, a bottom-up approach can be a way to improve the impact of PPGIS and enhance polyphony in urban planning.

Keywords

bottom-up participation; city planning activism; expanded urban planning; Finland; immigrant entrepreneurs; polyphonic urban planning; PPGIS; public participation

1. Introduction

Cultural diversity challenges participatory urban planning as increasingly diverse social and cultural needs and participants with varying abilities and resources accumulate in the same place. Urban planning practices must evolve to meet these needs (e.g., Sandercock, 2003). Therefore, polyphonic planning is required to engage diverse participants (Antadze, 2018) and compose plans that reflect different perspectives (Ameel et al., 2023; Chung & Zhou, 2011; A. Wallin et al., 2018). This article discusses the potential of city planning activism to increase polyphony in urban planning using a public participation GIS (PPGIS) tool (Maptionnaire). We present a case study employing participatory action research in Kontula Mall, an open-air shopping center in a multicultural suburb in East Helsinki, Finland. We worked with a local urban planning activist as bridge-builders between urban planning and immigrant entrepreneurs, who are essential actors in the mall but underrepresented in the ongoing renewal process. We ask: Can planning activism increase polyphony in urban planning by using the PPGIS tool to communicate information between marginalized participants and planners? This is explored through two focused research questions: To what degree were we able to respond to the user needs of immigrant entrepreneurs and planners with the bottom-up PPGIS questionnaire? What kind of participatory data were we able to produce from the perspective of polyphony? Finally, we present our recommendations for the interaction between immigrant entrepreneurs and urban planning, considering what role city planning activism and the PPGIS questionnaire can play.

In this research, we identify a normative objective to improve the participation of immigrant entrepreneurs in planning outside the statutory planning process. However, our research is also pragmatic, as we wanted to find ways in which self-organization can contribute to collecting participatory data. As our research relates to planning that takes place outside the statutory planning process but affects it, we use the concept of expanded urban planning as a framework for our research (Staffans & Horelli, 2014; S. Wallin, 2019). Expanded urban planning recognizes that planning processes are not linear and rational but increasingly complex and influenced by different partnerships and local networks (S. Wallin, 2019, pp. 9–12). The city is identified as one actor alongside others, extending the demand for participation beyond administrative boundaries (S. Wallin, 2019). Participation in expanded urban planning includes self-organization and involvement in one's living environment through everyday practices, not only participation in formal planning processes.

1.1. Public Participation and Polyphonic Planning

In Finland, the right to participate in urban planning has been legislated since the 1950s (Vuorela, 1991). Legislation on land use and building supports administrative participation (Ministry of Justice, 1999), but the legislation guiding the activities of municipalities also includes the idea of self-organized participation (Ministry of Finance, 2015). Although more interactive planning practices have been developed throughout the 2000s (e.g., Nummi, 2020), recent studies still highlight the inability of administration-led planning to reach and reflect diverse voices. It seems that contemporary methods support the participation of active and highly educated people with good digital and language skills (Hewidy, 2022; Sjöblom & Niitamo, 2020). Moreover, planning processes produce information that is not necessarily useful or understandable to participants (Leino et al., 2018), and participatory information is scattered in different forms and used vaguely (Harsia & Nummi, 2022; Kahila-Tani, 2015; A. Wallin et al., 2018). Despite the extensive participation, the plans often remain abstractions, failing to consider the conflicting meanings attached to places or to offer alternatives (A. Wallin et al., 2018).

As polyphony refers to the co-presence of multiple equal voices that do not merge but inform and shape each other (Bakhtin & Booth, 1984), planning processes should bring different perspectives into dialogue (Antadze, 2018). Consequently, understanding the needs of minorities and marginalized actors for participation is one of the prerequisites for polyphonic planning (A. Wallin et al., 2018). New types of actors and approaches are required to ensure that those who do not want to participate or have different ways of expressing themselves (e.g., storytelling or public art) are considered (Ferilli et al., 2016). For example, mediators could communicate diverse information needs from participants to planners, between different planning actors, and transmit planning information to participants (Leino et al., 2018).

Additionally, planning documents should better reflect the different, even conflicting, perspectives (Ameel et al., 2023; Chung & Zhou, 2011; Shearer & Xiang, 2009). Therefore, polyphonic planning calls for new ways of producing plans and reflecting diverse perspectives, which poses a challenge for those organizing participation. Planning requires methods that generate broad, polyphonic participatory information, following the demand for small-scale, face-to-face participation for planners to interpret participatory data and develop planning solutions. In the context of planning support systems and digital participation, Staffans et al. (2020) have argued for the essential of context-sensitive planning processes that combine participation, generating broad heterogeneous information, and collaborative planning in small groups with representation of selected perspectives and the ability to develop planning solutions based on participatory input.

1.2. Participation of Immigrant Entrepreneurs

Research on the participation of immigrant entrepreneurs in urban planning is limited. Nevertheless, immigrants develop their living environments through entrepreneurship (Sandercock, 2003). Therefore, urban planning can have a crucial impact on them and the characteristics of their neighborhoods. However, they are often not considered (Sezer, 2018; Zhuang, 2013). Recent studies in Finland suggest that immigrant communities are not consulted in developing ethnic business clusters (Hewidy, 2022). Hence, immigrant entrepreneurship is described as a blind spot in Finnish urban planning, requiring new approaches, for example, to participation (Hewidy, 2022; Hewidy & Lilius, 2022).

Planners require more tailored methods to understand the needs of immigrant entrepreneurs (Schmiz & Hernandez, 2019) as well as new skills and qualities when working in multicultural environments (Sandercock, 2003; Zhuang, 2013). Institutional urban planning should expand its partnerships with local actors and adopt more bottom-up approaches (Salgado & Galanakis, 2014; Sandercock, 2003).

Studies on participation in urban nature (Leikkilä et al., 2013) and people-centered planning (Salgado & Galanakis, 2014) have found that immigrants are interested in participating. However, the accessibility of methods and the impact of participation are problematic (Hewidy, 2022; Salgado & Galanakis, 2014). For example, participation methods must allow self-expression despite the language barrier (Leikkilä et al., 2013). Linguistic and cultural interpreters representing the participant's culture can lower the threshold for participation (Rinkinen, 2004), whereas surveys are considered unsuitable except for highly educated immigrants (Leikkilä et al., 2013; Rinkinen, 2004).

Additionally, immigrants are often unaware of their civil rights, such as participation (Leikkilä et al., 2013; Listerborn, 2007). More recently, information on financial support measures during the Covid-19 pandemic

revealed that immigrant entrepreneurs do not receive the necessary information from society. To reach them, they must be given comprehensible information delivered through informal networks (Tuominen & Kantola, 2022). Similarly, in urban planning, studies highlight the importance of reaching out to immigrants to improve the accessibility of participation while acknowledging the difficulty of cross-cultural dialogue (Leikkilä et al., 2013).

1.3. Self-Organization and Public Participation GIS Questionnaires

PPGIS refers to digital map-based tools and methods enabling citizens to participate in the production of place-based information (e.g., development ideas, opinions, experiential information). Mainly, PPGIS tools are studied and developed in the context of land use planning and management (Brown & Kyttä, 2014; Kahila-Tani, 2015). Encouraging wider audiences to participate and, thus, achieving more democratic decisions by engaging the wisdom of crowds is seen as one key benefit of PPGIS (Brown, 2015). In parallel, there is the aim to empower and involve disadvantaged groups in developing their living environment (Ghose, 2018). Consequently, PPGIS is seen as an enabler for polyphonic planning as it allows the collection of numerous perspectives (Ameel et al., 2023). PPGIS is primarily applied in administrative urban planning in expert-led data collection. However, challenges remain in using the methodology in different planning stages, formulating questions, and analyzing the results (Kahila-Tani, 2015). While there are advantages to adopting a bottom-up approach to gathering local knowledge, especially from marginalized groups (Ghose, 2018), the number of self-organized examples of the use of PPGIS tools remains scarce.

Outside academic research, there are examples of PPGIS tools being employed outside institutional urban planning in spontaneous citizen-driven participation. In Finland, the Urban Helsinki group has carried out a map survey to prepare an alternative plan for the Helsinki Master Plan (Mäenpää & Faehnle, 2021). At a more detailed planning level, in the Helsinki railway station development process, the activists created an alternative plan using Maptionnaire to map the users' views of the area. Nonetheless, these self-organized processes are becoming more common and their integration into urban planning practices is a topical challenge (Mäenpää & Faehnle, 2021; Nummi, 2020). Technology is seen as one enabler of self-organizing participation (Rantanen & Faehnle, 2017), while actors' ability to network is essential for the effectiveness of bottom-up PPGIS questionnaires (Ghose, 2018).

PPGIS accessibility (e.g., access to software or skills to use technology) can be promoted by combining digital and face-to-face methods and creating alternative mapping methods (Ghose, 2018). Planners often prefer open online questionnaires instead of sampling due to cost-effectiveness and their desire to offer an opportunity for all to participate (Czepkiewicz et al., 2017; Kahila-Tani, 2015). However, targeted PPGIS questionnaires (e.g., usability of the tool, design, and marketing) enable them to address the different characteristics of participants (such as age, language skills, and cultural backgrounds; see, e.g., Bartling et al., 2021; Gottwald et al., 2016), and thus increase the participation of hard-to-reach groups such as immigrants (Ministry of the Environment, 2020). Practical examples exist of targeted questionnaires for under-represented groups alongside open surveys or random sampling. For example, in Espoo (Finland), alongside an open PPGIS questionnaire, a questionnaire was designed for children with age-appropriate questions and distributed through schools to ensure that it reached the target group comprehensively and that children had access to support when responding (City of Espoo, 2021).

2. Urban Development and Immigrant Entrepreneurship at Kontula Mall

Kontula is a suburb of about 15,000 inhabitants in East Helsinki, built in the 1960s. Since the 1990s, as immigration has increased, Kontula has become one of the most multicultural areas in Finland. Today, 35% of the residents are of immigrant background. In Kontula, the accumulation of inequalities is a challenge, which has, however, led to the development of a robust grassroots democracy (Kuittinen et al., 2011). In 2009, a collaborative group (Vetoa ja Voimaa Mellunkylään, "Attractive and Empowered Mellunkylä") was established, bringing together local activists and organizations, city officials and decision-makers, and entrepreneurs to tackle local challenges. The group has successfully reached people involved in traditional civic activities and social services, but a lack of representativeness has been identified (e.g., for immigrants; Kuittinen et al., 2011).

The commercial and public services of Kontula are mainly located at the mall (Figure 1), one of Helsinki's clusters of ethnic retail (Hewidy & Lilius, 2022). Nearly half of the about 80 entrepreneurs are of immigrant background. The City of Helsinki owns the land and has leased it to four real estate companies that own the mall buildings. The city owns two of these companies. The other two are mostly owned by real estate development and wholesale trading companies, although the small business owners who own their premises hold around 30% of the ownership (Colliers International, 2018).

Figure 1. The Kontula Mall.

Several urban planning projects have been undertaken at the mall, such as (since 2009) the local detailed planning and the planning principles for the densification of Kontula (City of Helsinki, 2020a). In 2019, the city granted a development reservation to the four mall companies, as it proved too challenging to prepare a feasible detailed plan (City of Helsinki, 2019a). A development reservation is a procedure whereby the city reserves a site it owns for two years for a private partner to prepare a plan, on which a local detailed plan is prepared (City of Helsinki, 2019b). The case of Kontula Mall is a good representation of the complex planning processes that S. Wallin (2019) describes. The feasibility (e.g., technical challenges) of the local detailed plan led

to the stalling of the detailed planning process and a partnership with the mall companies. Thus, the planning process does not follow the linear and straightforward models describing the planning processes (e.g., City of Helsinki, 2019b).

The mall companies organized an architectural competition in 2020. According to the competition program, the floor area of the mall is multiplied by 2.5, adding 70,000 m^2 of housing (SAFA, 2020b). The city of Helsinki was involved in the jury, provided initial data, and organized participation, i.e., a sparring group and online commenting on the proposals (City of Helsinki, 2020b; SAFA, 2020a, 2020b). However, the competition arrangements did not meet the needs of different participants, and participation remained superficial (Hewidy, 2022). The city's use of power to allow the mall companies a "free hand" to define the objectives of competition and bypass the needs of immigrant entrepreneurs both in participation (e.g., language) and planning (e.g., evaluation criteria, the expertise of the jury) are questioned (Hewidy, 2022).

Furthermore, a local architect and urban planning activist recognized how difficult it was to comment on proposals online. She organized a workshop for locals at the Kontula Library. However, only a few immigrants showed up, which made her wonder about the barriers to participation, especially for immigrant entrepreneurs. The participation gap found through her activism is the practical challenge that we, as researchers, set out to solve with her.

3. Methodology

Our research represents participatory action research, which aims to simultaneously generate knowledge about social systems and develop solutions to any identified problems with those concerned (Elden & Chisholm, 1993). Our team of researchers and a city planning activist first explored (Figure 2A) the challenges of participation from the perspective of urban planning and immigrant entrepreneurs, in response to which a PPGIS questionnaire was co-designed and implemented (Figure 2B). Additionally, the planners and immigrant entrepreneurs participated in generating both knowledge and solutions.

As the project was part of a program employing design thinking (The Finnish Innovation Fund Sitra, 2021), the action research process took the form of a double-diamond process (Figure 2C). As with design thinking, action research combines problem inquiry and solving in a cyclical learning process. In addition, action research provides an understanding of a scientific problem (Elden & Chisholm, 1993). Consequently, the results of the research comprise both the practical and scientific findings, as well as the process itself. Typical of action research, we used mixed methods to collect and analyze the data (D in Figure 2; Ivankova, 2015).

3.1. A Planning Activism-Driven Process for Co-Creating a Public Participation GIS Questionnaire

First (Figure 2, Stage 1), we explored the planning and participation in Kontula through interviews and a dialog event. The interviewees and dialog event participants represented different sectors of the city (urban planning, business, communication, and culture), research related to Kontula and immigrant entrepreneurship, and local activism. Additionally, we analyzed planning and other public documents highlighted by interviewees as essential for interaction in Kontula. In the second stage (Figure 2, Stage 2), we took a closer look at the problem through expert interviews covering immigrant entrepreneurship, property development, immigrant integration, and multilingual PPGIS questionnaires. The interviews and the dialog

were conducted and recorded remotely (via Meet, Zoom, and Teams) or on-site at Kontula Mall in spring–autumn 2021 and, after that, transcribed.

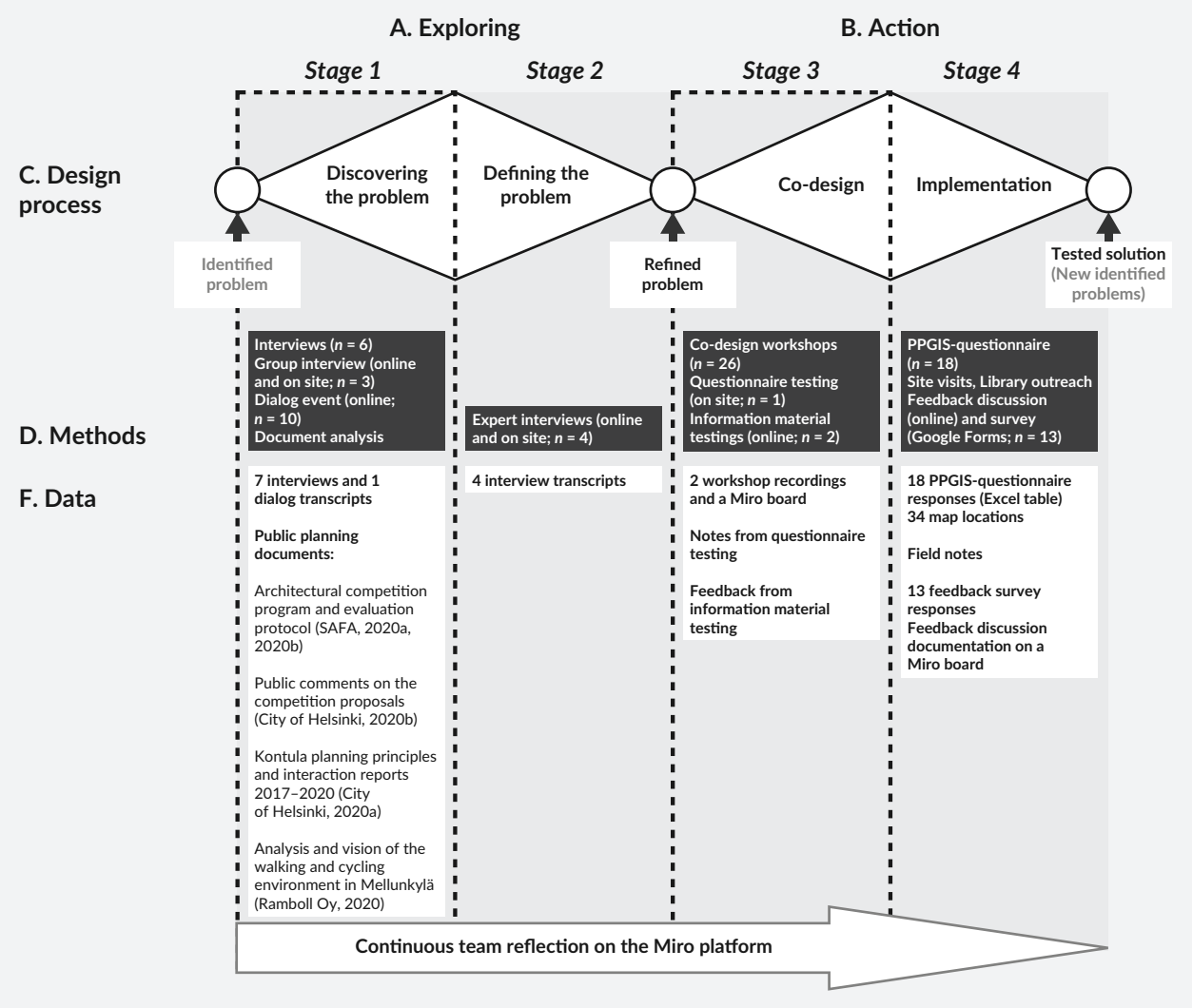

Figure 2. Research process and data collection. The research process consists of exploring (A) and solving (B) the problem in four stages that diverge and converge information. We used mixed methods (D) to collect the data (F).

In autumn 2021, we moved from exploring the problem to solving it through action, i.e., co-designing participation methods (Figure 2, Stage 3). We organized two bilingual (Finnish and English) workshops with experts from different city sectors, local activists, and researchers. The Covid-19 pandemic impacted the action phase, as we had to organize the workshops remotely and could not arrange large gatherings. The PPGIS questionnaire was designed based on the workshop findings and a testing session with one immigrant entrepreneur. We have published a separate conference paper on the development of the questionnaire (Nummi & Harsia, 2022).

For the choice of questionnaire languages, Turkish, Arabic, and (easy) Finnish were selected through co-design workshops, and Bengali through questionnaire testing. Later, we added English for the Bengali

interpreter and Kurdish (Sorani) at the request of the participating entrepreneurs. In addition, we tested the information material designed for entrepreneurs with two people from immigrant backgrounds. Having tested the questionnaire, we developed a method for assisted answering, as it was easier for the entrepreneur to respond when we recorded the answers.

The different answering modes, i.e., independent and assisted, were considered when designing the questionnaire's layout, structure, and content. The final structure (Figures 3–5) included seven pages: language selection, information on the research, background questions, a map question about important places in the mall, open questions about the future of the mall, feedback, and the map answers of other respondents.

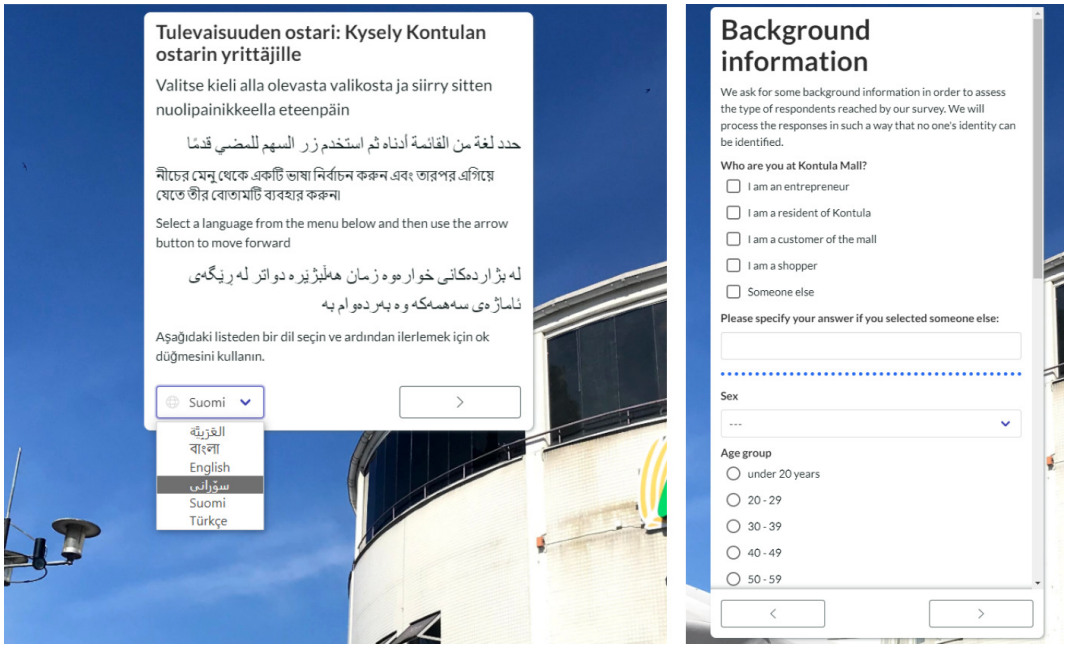

Figure 3. Questionnaire pages 1 and 3. First, the respondent chose the questionnaire language. The following pages provided information about our study and asked respondents for background information (role in Kontula, gender, age, mother tongue, other languages, and the possibility of talking about themselves).

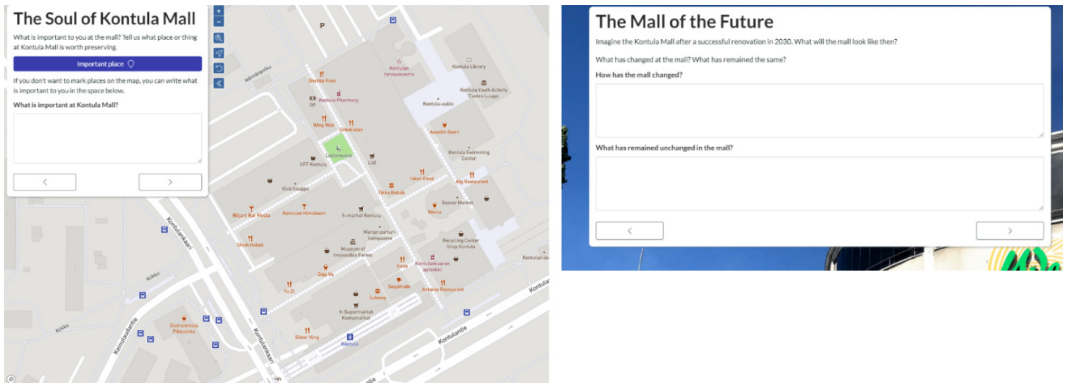

Figure 4. Questionnaire pages 4 and 5. A map question asked about the important locations of the current mall. Needs and wishes for the future mall were asked in open questions.

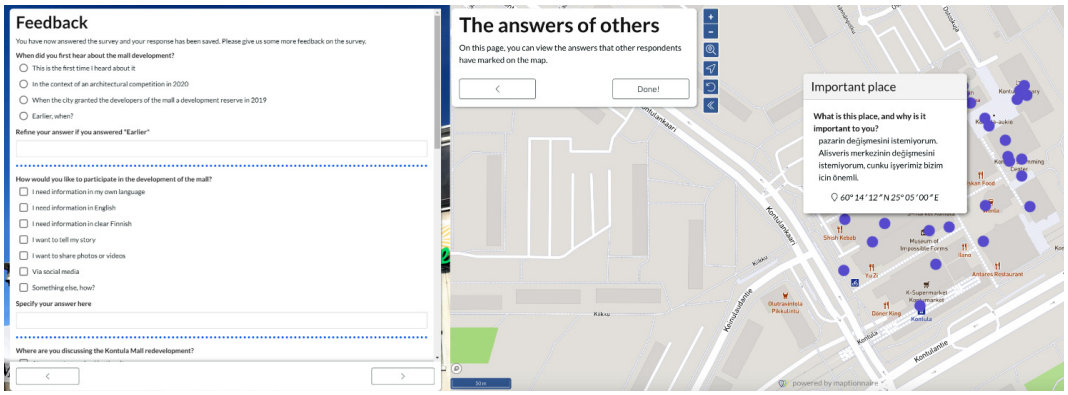

Figure 5. Questionnaire pages 6 and 7. We asked for feedback on the questionnaire, respondents' previous participation in the planning of the mall, and how respondents would like to participate in the future. Finally, the respondents could see how others had answered the map question.

At the end of 2021, we implemented the participation (Figure 2, Stage 4) with the mall entrepreneurs. We shared the link to the PPGIS questionnaire and instructions on answering it via a flyer in five languages (Arabic, Bengali, easy Finnish, English, and Turkish) given to all entrepreneurs. We organized a consultation at the library, visited businesses three times with three different interpreters (Turkish, Arabic/Kurdish, and Bengali), and distributed information about planning as a leaflet in five languages (Arabic, Bengali, easy Finnish, English, and Turkish).

Altogether, 18 people responded to the questionnaire. Most entrepreneurs participated through assisted answering at their business premises (n = 7; Figure 6c) or the library (n = 4; Figures 6a and b). There were also independent responses (n = 7), two of which were from immigrant entrepreneurs. At its lightest, the assisted response was an instruction via an interpreter on using the questionnaire tool (Figure 6c). At its most advanced, it was a situation like an interview, where the questionnaire served as an interview framework for documenting responses (Figure 6a).

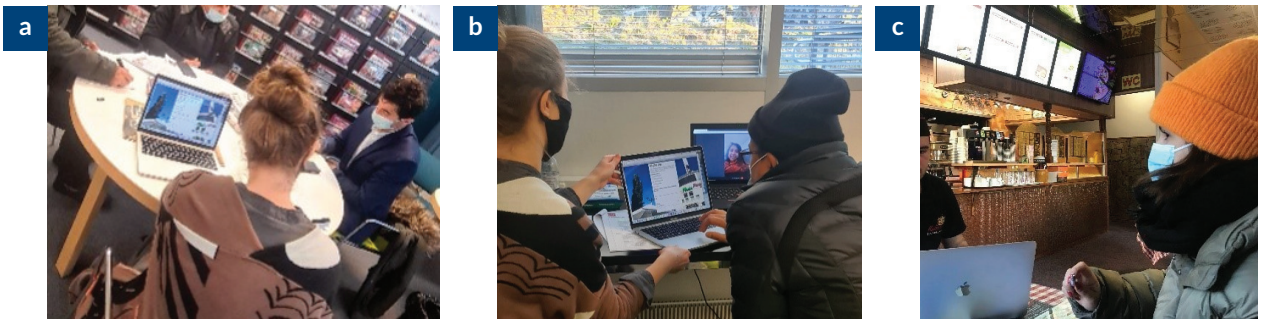

Figure 6. Examples of assisted responses: (a) Writing down interview notes in the questionnaire with the assistance of an interpreter in the library, (b) using a (remote) interpreter and researcher in the library, and (c) using an interpreter in a shop.

The participating entrepreneurs represented various branches (e.g., grocery, restaurant, hairdresser, warehouse). Respondents were mainly men (70%) aged 20–60 from eight language groups. Bengali and Kurdish were the most common native languages. In contrast, Turkish, Finnish, and Bengali were the most used questionnaire languages since not all respondents chose their native language, even if it had been made available.

Finally, the questionnaire data needed to be analyzed and visualized in a format that was easy for planners to understand. We used interpreters and translation tools (Google Translate, DeepL) to translate the answers into Finnish and QGIS and Miro software (Figure 7) to analyze and visualize the data. We presented the results in a blog (https://kaupunkisuunnitteluaktivismi.fi) and as presentations in a feedback discussion with the participants of the co-design workshops and in the collaboration group.

Figure 7. Visualizations of questionnaire responses.

3.2. Data and Analysis

The data consists of transcripts and notes from interviews and a group interview (interviewees, n = 13), dialogues and workshops (participants, n = 36), public planning documents, questionnaire responses (respondents, n = 18), feedback survey data (respondents, n = 13), and the team's collective reflection and field notes. We combined the qualitative and quantitative data for the analysis by exporting all data to Atlas.ti, which required initially running quantitative analyses of the questionnaire data for background information (e.g., spoken languages, ages, roles at the mall) and feedback (participation and information needs) in Excel.

In Atlas.ti, we coded the data by the needs of planners and immigrant entrepreneurs from a participation perspective, the aspects of the PPGIS questionnaire usability that emerged, the participation data gaps/needs in planning, and the participants' needs for planning and background information. The findings from Atlas.ti were exported to the Miro platform, where we further analyzed them by themes and process stages. Therefore,

the results are not based on single findings but are formed from several different perspectives and aspects that emerged at different stages of the process.

4. Results

4.1. Understanding and Addressing the User Needs for Participation

4.1.1. New Approaches and Resources

In the interviews, city representatives called for new approaches to participation based on local activism and recognized that the current processes are insufficient. One city representative described current participation practices as follows:

> The city's systems are built for middle-class, well-off people who know how to use the internet, understand where to look for information, want to make a difference and understand how society works. However, many people do not even know that this [public participation] exists.

The local activists who participated in the dialogue and workshops pointed out that in their activities, they encounter different actors, including immigrant entrepreneurs, in the mall daily. The city's services, such as the library, also interact with entrepreneurs. However, planners perceive that involving immigrants in planning is complicated, and encountering them requires more time and resources than they have.

Based on the feedback session, the planners also considered the co-designed methods too resource-intensive. Some of the planners preferred the data to be in GIS form, while others in the form of analyzed summaries. However, they did not have a clear idea of how this information could be used in the planning led by the mall companies.

4.1.2. Accessible Methods

The questionnaire results indicate that many entrepreneurs would have liked to participate in the planning process but were not able to do so. Based on the interviews, workshops, and our questionnaire results, from immigrant entrepreneurs' perspectives, the participation culture in Finland could be more attractive, and the benefits of participation should be more apparent. Often, events are difficult to fit into their schedules or are not culturally appropriate (e.g., religious restrictions such as holy days, as is the case of Fridays for Muslims, or encountering different genders). Also, language skills, lack of networks, or knowledge of the right to participate distinguish them from native Finnish entrepreneurs. Nevertheless, as interviews and our questionnaire results demonstrated, immigrant entrepreneurs are diverse in their background (e.g., education) and skills (e.g., digital and language skills).

For most entrepreneurs who responded, the PPGIS questionnaire was the first real opportunity to participate. The assisted response option made it easy to answer even the map questions, which the city planners considered too demanding. According to one interpreter, the assisted response situation was natural for the respondents since some languages are difficult to write in, and the entrepreneurs expressed their gratitude for the opportunity to have had assistance in giving their response. Most respondents used

the opportunity to share their thoughts in their language, although half reported that they spoke Finnish. Some of the entrepreneurs wished for an opportunity for a dialogue with each other about the mall's development, while others said they discussed the development among themselves in the mall.

All participants reported that answering the questionnaire was easy regardless of the response mode. The multiple-choice questions proved easy to answer, but the opportunity to give their views in their own words was essential for them. Respondents found the language in the questionnaire understandable and the questions well designed.

4.1.3. Understandable and Relevant Information

Both interview and questionnaire results suggest that immigrant entrepreneurs require understandable information about plans, their right to participate in the planning process, the timetable for implementing the plans, and the impact on using the premises. The mall companies had informed some entrepreneurs, but the questionnaire results revealed a lack of understandable information that meets their information and language needs. A third of the PPGIS respondents had never heard of the plans for the mall before. However, the interviews revealed that access to up-to-date information on planning is also tricky for urban planners because of the development reservation. From the planners' perspective, informing entrepreneurs is the responsibility of the mall companies, and participation is not required. The legal obligation for participation does not apply to the companies holding the planning reservation since the planning they carry out is not considered part of the statutory planning process.

The questionnaire and information leaflet could not transmit the information that entrepreneurs required because when designing the questionnaire, we did not have a sufficient understanding of the information needs (e.g., development allowances) and because we did not have access to the information needed by the entrepreneurs (e.g., development schedule). In turn, the questionnaire succeeded in identifying the information requirements of entrepreneurs and revealed communication gaps between the mall companies and the entrepreneurs.

Additionally, we learned that easy Finnish was insufficient to convey complex planning information. Translations and interpreters were necessary to make the planning information comprehensible.

4.1.4. Trust and the Influence of Participation

The interviews, the dialogue event, and the workshops highlighted the importance of trust. All interviewees working with immigrant entrepreneurs stressed that reaching out requires, from the participant's point of view, trustworthy intermediaries who can communicate with them and be understood. Besides us, the interpreters who assisted the entrepreneurs in answering the questionnaire acted as trusted mediators.

Based on co-design workshops and implementing the questionnaire, trust is built through concrete actions demonstrating that the participant's views are taken seriously, and that participation influences the planning process, planning documents, and other outcomes. As the mall companies chose not to participate in our research, we could not guarantee the impact of the PPGIS results on planning. However, we promised to pass the information on to the city and local decision-makers. We also tried to respond to the participants'

needs that emerged during the participation, for example, by adding another language to the questionnaire or searching for the information they required.

The influence of participation is related to problems in interpreting participatory data and the city's role in the development process. An entrepreneur who had already participated in the competition stage and local activists in the interviews pointed out that participation has not influenced the content of the plans as the interpretation of participatory data is superficial. Furthermore, some interviewees stated that multiculturalism is an alien concept to planners and, therefore, is not reflected in planning solutions. The city representatives were also disappointed with the interpretation of multiculturalism in the competition proposals, yet from their point of view, the influence of the participation depends on the mall companies. Nevertheless, as existing research suggests (Hewidy, 2022), the workshops reinforce that the city could have affected the planning objectives and the competition evaluation criteria. However, the preconditions for immigrant entrepreneurship were not included.

The results indicate a demand for more transparent collaboration from the mall companies. Even the active locals require a clearer description to help them understand the ambiguous planning process and are concerned about the position of the disadvantaged. The questionnaire results also indicate mistrust towards the real estate companies, created by a feeling that information is being withheld.

4.2. Polyphonic Participatory Information

Based on the interviews and interaction documents, there is a requirement for more polyphonic participatory data for planning. From the city's perspective, the debate on mall development has boiled down to demolition versus preservation. According to local activists, those in between dare not participate in the public discussion, and only a couple of immigrant entrepreneurs, specifically bar owners, do so. The same entrepreneurs participated in the architectural competition phase. In the interviews, local actors estimated that mainly the members of the collaboration group and their acquaintances participated in the sparring group and commented on the competition entries. Immigrant entrepreneurs' voices seem to be missing, especially from the broader participation (e.g., online participation; City of Helsinki, 2020b) or official opinions (City of Helsinki, 2020a). However, assessing the participants' roles at the mall based on available data is difficult due to the lack of background information on them. Furthermore, apart from comments on the results of the architectural competition, participatory information is only available in the form of summaries. Thus, the diversity of opinions is not visible.

The workshops revealed barriers in current planning practices to produce participatory data with participants' background information. Firstly, targeting participation for immigrant entrepreneurs can, according to the city representatives, distort the participatory data, and the entrepreneurs' perspectives may be at odds with the other groups, such as children. They argued, for example, that the bar owners may not see excessive substance abuse at the mall as a problem. Another barrier concerns the strict European General Data Protection Regulation interpretation. The city representatives hesitate to ask for detailed background information and think that background information should only be asked in strictly critical situations because of the General Data Protection Regulation. However, other workshop participants pointed out that it is worth asking about qualities related to entrepreneurship and people's relationship with the place, as these indicate their commitment to the place.

The questionnaire revealed that entrepreneurs have diverse opinions on the development. These opinions were influenced, for example, by their future intentions. Therefore, the most relevant question is not whether to demolish or preserve the old mall but whether the entrepreneurs will be able to continue operating after the renewal.

Almost all respondents marked their own business as an important place in the mall on the map, and they also wanted to write about its history and customers. Regardless, there are different perspectives between the extremes of a complete transformation of the mall and the preservation of the present. For example, most of those who wanted change wanted the opportunity to continue or expand their businesses in the area. On the other hand, those who were against the renewal also saw opportunities in it. For instance, this entrepreneur did not want change but also saw it as an opportunity to develop their business if the premises met their needs: "Opportunities for diverse businesses. More opportunities to open new businesses. I need a large commercial space, 400 m^2 for a company selling oriental food and clothing and at least 50–100 m^2 for a car wash company. Preferably a larger space."

Entrepreneurs with different views on development shared the desire for a cleaner and safer mall and the maintenance of public services. Both bar and other business owners hoped for a reduction in people's use of intoxicants in the street. Some saw the development of services as a solution, while others would reduce the number of bars or substance abuse services in the area. The preservation of public services also united respondents. Respondents with different attitudes toward the renewal marked the library, the health center, and the swimming pool as important places on the map.

The location of the mall or own shop there was considered advantageous for business and customer accessibility. There were requests for the new development in terms of the characteristics of the commercial space (e.g., the possibility to use charcoal grills, size, and floorplans of premises) and the locating of the business premises (e.g., in relation to housing or clustering similar types of businesses). Most often, the fears underlying the mall renewal were related to the loss of income, suitable premises, and investments.

The attitude of immigrant entrepreneurs towards the development of the mall does not seem to differ from the opinions of other participants if comparing the results of our questionnaire with, for example, the online comments of the architectural competition (City of Helsinki, 2020b). Nevertheless, our data reveals more detailed information on the entrepreneurs' needs and, therefore, a different perspective on the mall's development. Whereas many of the competition commentators would like immigrant entrepreneurs to remain in the area after the development, our data provide information on, for example, what kind of planning solutions are preferable to enable the entrepreneurs to continue their activities after the renewal or what kind of impact the development might have on them.

5. Discussion

Our research revealed barriers to polyphonic planning and the conditions for reducing them. The results align with previous studies showing that immigrants want to participate but need information about their rights and accessible participation opportunities (e.g., Listerborn, 2007; Salgado & Galanakis, 2014). Furthermore, the results suggest that participatory planning requires accessible and targeted methods. In this case, designing the PPGIS questionnaire by exploring user needs through interviews and co-design workshops helped to

understand the needs of planners and the barriers to interaction for immigrant entrepreneurs. The needs of immigrant entrepreneurs regarding ways to respond to the questionnaire and the questions' wording were discovered when testing the questionnaire in practice.

Our study reinforces that targeting questionnaires to hard-to-reach stakeholders is worthwhile (e.g., Gottwald et al., 2016; Ministry of the Environment, 2020). In contrast to existing studies (e.g., Leikkilä et al., 2013), our case showed that surveys can effectively engage different types of immigrants if combined with methods that increase accessibility, for example, field visits, interpretation, and assistance. We agree with previous research (Ghose, 2018) that particular attention must be paid to how encountering and digital methods are combined. Our research suggests that encounters are critical when participants do not have the resources, such as skills or time, to answer a questionnaire. As in communicating information (e.g., Tuominen & Kantola, 2022), when meeting immigrant entrepreneurs, reliable "bridge-builders" such as interpreters who understand the language and culture make it easier for the participants to respond. Equal language versions of the questionnaire serve independent respondents but also signal that participants have been considered and are welcome to respond.

The planners' perception of immigrant entrepreneurs' opinions and needs seems distorted by the lack of participation of different types of entrepreneurs and the need for more understanding of multiculturalism. The planning uses methods that fail to identify participants' relationship to the place and to identify whose voice needs to be added to the participatory processes. Additionally, the interpretation of participatory information is superficial, and planning outcomes do not reflect different perspectives of participants or the impacts of planning solutions on different actors.

We agree that there is a demand for both processes and plans in which different perspectives are represented, as suggested in previous studies (e.g., Ameel et al., 2023; Antadze, 2018; A. Wallin et al., 2018). The participatory data we collected shows the diversity of opinions among immigrant entrepreneurs and the difference in perspective compared to other participants. Therefore, we argue that targeted PPGIS questionnaires not only fill shortfalls in terms of the representativeness of respondents (e.g., City of Espoo, 2021) but can also enhance the diversity of the opinions in the participatory data and, thus, create the conditions for polyphonic planning.

On the other hand, planning documents should reflect the concrete needs of participants, which may conflict with each other and with the objectives of the development (A. Wallin et al., 2018; see also Ameel et al., 2023; Chung & Zhou, 2011; Shearer & Xiang, 2009). The questionnaire tool allowed us to generate a participatory dataset in which the responses are linked to the respondents' background information. Referring to the call to consider immigrants' perspectives (Hewidy, 2022), when the participant's relationship to the place and background information is known, participatory data can be relevant when setting planning objectives or evaluating plans. Thus, the impact of urban development on immigrant entrepreneurs, and consequently on the character of the place (Sezer, 2018; Zhuang, 2013), can be understood and discussed.

However, although the map questionnaire allowed participants to read other respondents' answers and showed that some respondents wished for an opportunity to discuss the topic with each other, it did not create a polyphonic dialogue between entrepreneurs (Antadze, 2018). Therefore, as in any other urban planning process (Staffans et al., 2020), the participation of marginalized participant groups should be

accompanied by collaborative methods to bring different perspectives together to form planning solutions. Nevertheless, the library outreach and the business visits revealed that finding a suitable time for the entrepreneurs to meet can be challenging. Multilingualism challenges joint discussion as communication becomes mediated with interpreters or digital translation tools. Thus, we wonder whether planning activists with a comprehensive knowledge of the needs of a marginalized group could communicate these perspectives in planning and help overcome the challenges of cross-cultural dialogue (Leikkilä et al., 2013).

Ultimately, our biggest challenge was conveying the participatory information in planning. The questionnaire was not a tool for communicating information to planners or property developers. The data in different formats required analysis and visualization, an essential step between collecting participatory data and formulating the plan (Kahila-Tani, 2015). However, we tried to do this in a way that would allow different perspectives and different preferences to emerge. On the other hand, since answering the map question was not a problem for the respondents, mainly since help to use the tool was provided, more spatial participatory data, which is useable for some planners, could have been collected from this group of participants.

Moreover, the development reservation is a barrier to the transfer of information between the participants and the planning. Thus, we agree with Ghose (2018) that the impact of a bottom-up PPGIS depends on the success of building networks, in our case, with those who have the power to define planning objectives and evaluate plans. Our research suggests that in urban development projects such as Kontula Mall, planning and participation should be expanded to include self-organization, as proposed by S. Wallin (2019). Drawing on Leino et al. (2018), self-organization, such as city planning activism, could mediate information between urban planning and marginalized participants. The city has the tools but needs the necessary resources to use them in an accessible way. On the other hand, local activists have the capabilities for outreach and the trust of local communities but not the expensive tools or the power to make planning decisions.

6. Conclusions and Recommendations

This article discusses using a PPGIS questionnaire as a tool for city planning activism to improve the polyphony of planning. We collaborated with a local planning activist at the Kontula Mall in Helsinki and co-designed a targeted PPGIS questionnaire, using various methods to improve the participation of immigrant entrepreneurs—a diverse group described as a blind spot in Finnish urban planning. Our research also revealed barriers to polyphony in current planning practices.

As the immigrant entrepreneurs' perspectives should be more comprehensively reflected in planning, more than the mere representation of individuals in the interaction is needed to bring out the diversity of their views. Hence, targeted but broad participatory data collection that reveals the different perspectives within the group is required. Otherwise, the perception of the group's needs, opinions, or essential features can become distorted and reduced to one-dimensional simplifications.

Therefore, we see potential in PPGIS tools for the participation of marginalized groups in urban planning. Understanding the needs of participants allows for targeting the questionnaires, for example, selecting tools and methods for participants with different skills and resources. In Kontula, using culturally sensitive and encountering methods, such as visits to businesses at appropriate times, enabled immigrant entrepreneurs to respond to the questionnaire. Assistance and interpretation compensated for the participant's lack of skills

and made participation more accessible. Furthermore, the threshold for participation was lowered because entrepreneurs were able to reflect on their responses and ask questions in their language.

Although the PPGIS questionnaire does not provide ready-made planning solutions, it can be used to bring different planning perspectives to the table for dialogue. The challenge for engaging immigrant entrepreneurs remains to enable accessible discussion situations and to consider different perspectives in the planning documents. Therefore, we recommend dialogue-based interaction situations alongside questionnaires to bring interpretations of the collected data and planning solutions for evaluation. More real-life planning cases are required to develop ways of expressing and using polyphonic participatory data in different planning phases together with planners.

For urban planning to respond to increasingly diverse needs, more polyphonic participatory information and plans that reflect these different perspectives are required. Therefore, the participation practices should expand to include self-organization, but the challenge remains to link it to administrative planning. Our study suggests that in a place like Kontula, with plenty of local activism and existing structures for collaboration, self-organization can play an essential role in enabling interaction between marginalized participants and urban planning. Planning activism can enable the participation of a marginalized group by mediating information, encountering participants, and bringing their perspectives to the collaboration. The PPGIS tool can serve as a platform to collect participatory data through different modes. Local activism can also facilitate the questionnaire's co-design, testing, and marketing. Thus, a bottom-up approach can be a way to improve the influence of PPGIS and enhance polyphony in urban planning.

Acknowledgments

We want to thank the two anonymous reviewers and the journal editor for their constructive comments, which helped significantly improve the article. We are grateful to all those who participated in the Case Kontula Mall research project. Special thanks to the third member of our team, city planning activist and architect Anni Hapuoja from Kontula.

Funding

The work of Eveliina Harsia has been supported by the Finnish Cultural Foundation (Grant No. 00190294). The work of Pilvi Nummi has been supported by the European Commission through the H2020 project Finest Twins (Grant No. 856602). The case is part of The Finnish Innovation Fund Sitra's Sitra Lab: Bottlenecks to Democracy program and received pilot funding through the program.

Conflict of Interests

The authors declare no conflict of interests.

Supplementary Material

Supplementary material for this article is available online in the format provided by the authors (unedited).

References

Ameel, L., Gurr, J., & Buchenau, B. (2023). Polyphony. In L. Ameel, J. M. Gurr, & B. Buchenau (Eds.), *Narrative in urban planning: A practical field guide* (pp. 85–90). transcript Verlag. https://doi.org/10.1515/9783839466179-016

Antadze, N. (2018). Polyphonic environmental planning processes: establishing conceptual connections between procedural and recognition justice. *Local Environment*, *23*(2), 239–255. https://doi.org/10.1080/13549839.2017.1413540

Bakhtin, M., & Booth, W. C. (1984). Dostoevsky's polyphonic novel and its treatment in critical literature. In C. Emerson (Ed.), *Problems of Dostoevsky's poetics* (pp. 5–46). University of Minnesota Press. https://doi.org/10.5749/j.ctt22727z1.8

Bartling, M., Resch, B., Trösterer, S., & Eitzinger, A. (2021). Evaluating PPGIS usability in a multi-national field study combining qualitative surveys and eye-tracking. *The Cartographic Journal*, *58*(2), 167–182. https://doi.org/10.1080/00087041.2020.1842143

Brown, G. (2015). Engaging the wisdom of crowds and public judgment for land use planning using public participation geographic information systems. *Australian Planner*, *52*(3), 199–209

Brown, G., & Kyttä, M. (2014). Key issues and research priorities for public participation GIS (PPGIS): A synthesis based on empirical research. *Applied Geography*, *46*, 122–136. https://doi.org/10.1016/j.apgeog.2013.11.004

Chung, H., & Zhou, S.-H. (2011). Planning for plural groups? Villages-in-the-city redevelopment in Guangzhou City, China. *International Planning Studies*, *16*(4), 333–353. https://doi.org/10.1080/13563475.2011.615544

City of Espoo. (2021). *Young people wish to see a green and responsible Espoo*. https://www.espoo.fi/en/articles/young-people-wish-see-green-and-responsible-espoo

City of Helsinki. (2019a). *Kontulan keskusta-alueen varaaminen kehityshankkeen toteutusedellytysten jatkoselvittämistä varten*. https://dev.hel.fi/paatokset/asia/hel-2019-006077/khs-2019-32

City of Helsinki. (2019b). *Real property development*. https://www.hel.fi/en/urban-environment-and-traffic/plots-and-building-permits/applying-for-a-plot/real-property-development

City of Helsinki. (2020a). *Kontulan kerrostaloalueen täydennysrakentamisen suunnitteluperiaatteet*. https://dev.hel.fi/paatokset/asia/hel-2015-012847

City of Helsinki. (2020b). *Kontulan keskustalle uusi suunta—Kommentoi arkkitehtuurikilpailun ehdotuksia*. https://kerrokantasi.hel.fi/kontulanostari2020/5Uubzgd2HRaJq7U4boqEZteGn0WYFxfN?headless=false

Colliers International. (2018). *Kontulan kaupallinen kehittäminen* [PowerPoint presentation]. https://dev.hel.fi/paatokset/media/att/9f/9fdfe913defd943206cfb099211b41cb5c02b030.pdf

Czepkiewicz, M., Jankowski, P., & Młodkowski, M. (2017). Geo-questionnaires in urban planning: Recruitment methods, participant engagement, and data quality. *Cartography and Geographic Information Science*, *44*(6), 551–567. https://doi.org/10.1080/15230406.2016.1230520

Elden, M., & Chisholm, R. F. (1993). Emerging varieties of action research: Introduction to the special issue. *Human Relations*, *46*(2), 121–142. https://doi.org/10.1177/001872679304600201

Ferilli, G., Sacco, P. L., & Blessi, G. T. (2016). Beyond the rhetoric of participation: New challenges and prospects for inclusive urban regeneration. *City, Culture and Society*, *7*(2), 95–100.

Ghose, R. (2018). Defining public participation GIS. In B. Huang (Ed.), *Comprehensive geographic information systems* (pp. 431–437). Elsevier. https://doi.org/10.1016/B978-0-12-409548-9.09630-5

Gottwald, S., Laatikainen, T. E., & Kyttä, M. (2016). Exploring the usability of PPGIS among older adults: Challenges and opportunities. *International Journal of Geographical Information Science*, *30*(12), 2321–2338. https://doi.org/10.1080/13658816.2016.1170837

Harsia, E., & Nummi, P. (2022). Ainutlaatuista, täydentävää ja epämääräistä: Osallistiedon hyödyntäminen kulttuuriympäristön arvottamisessa Sipoon Nikkilässä. *The Finnish Journal of Urban Studies*, *60*(1), 10–54. https://doi.org/10.33357/ys.119918

Hewidy, H. (2022). Just city planning competitions in Helsinki: Between the power of image and many images of power. *European Planning Studies*, *30*(4), 663–683. https://doi.org/10.1080/09654313.2021.1990216

Hewidy, H., & Lilius, J. (2022). In the blind spot: Ethnic retailing in Helsinki and the spontaneous placemaking of abandoned spaces. *European Planning Studies*, *30*(8), 1493–1513. https://doi.org/10.1080/09654313.2021.1932763

Ivankova, N. (2015). *Mixed methods applications in action research: From methods to community action*. SAGE.

Kahila-Tani, M. (2015). *Reshaping the planning process using local experiences: Utilising PPGIS in participatory urban planning* [Unpublished doctoral dissertation]. Aalto University. http://urn.fi/URN:ISBN:978-952-60-6604-2

Kuittinen, O., Laitio, T., Lovio, I., & Ritola, M. (2011). *Vetoa ja voimaa Mellunkylään. Kohti lähidemokratiaa*. Demos Helsinki.

Leikkilä, J., Faehnle, M., & Galanakis, M. (2013). Promoting interculturalism by planning of urban nature. *Urban Forestry & Urban Greening*, *12*(2), 183–190. https://doi.org/10.1016/j.ufug.2013.02.002

Leino, H., Santaoja, M., & Laine, M. (2018). Researchers as knowledge brokers: translating knowledge or co-producing legitimacy? An urban infill case from Finland. *International Planning Studies*, *23*(2), 119–129. https://doi.org/10.1080/13563475.2017.1345301

Listerborn, C. (2007). Who speaks? And who listens? The relationship between planners and women's participation in local planning in a multicultural urban environment. *GeoJournal*, *70*(1), 61–74. https://doi.org/10.1007/s10708-007-9114-8

Mäenpää, P., & Faehnle, M. (2021). *Neljäs sektori: Kuinka kaupunkiaktivismi haastaa hallinnon, muuttaa markkinat ja laajentaa demokratiaa*. Vastapaino.

Ministry of Finance. (2015). *Local Government Act (410/2015)*. Finlex. https://www.finlex.fi/fi/laki/kaannokset/2015/en20150410.pdf

Ministry of Justice. (1999). *Land Use and Building Act (132/1999, amendment 222/2003 included)*. Finlex. https://www.finlex.fi/fi/laki/kaannokset/1999/en19990132.pdf

Ministry of the Environment. (2020). *Pupu, bunny, 'arnab—Participation in a multicultural urban environment*. Sustainable City. https://kestavakaupunki.fi/en/-/pupu-bunny-arnab-participation-in-a-multicultural-urban-environment

Nummi, P. (2020). *Hallitsematon tekijä?—Sosiaalisen median rooli kaupunkisuunnittelussa* [Unpublished doctoral dissertation]. Aalto University. http://urn.fi/URN:ISBN:978-952-64-0032-7

Nummi, P., & Harsia, E. (2022). Socially and culturally sustainable public participation in urban development: Map questionnaire as a bridge-building tool in Kontula shopping mall. *IOP Conference Series*, *1122*, Article 012011. https://doi.org/10.1088/1755-1315/1122/1/012011

Ramboll Oy. (2020). *Mellunkylän kävely- ja pyöräily-ympäristön ja kaupunkitilojen analyysi ja visiotyö*. https://dev.hel.fi/paatokset/media/att/0e/0ea4bf098920a37573b1cbb48e6aabad1d1904d1.pdf

Rantanen, A., & Faehnle, M. (2017). Self-organisation challenging institutional planning: Towards a new urban research and planning paradigm—A Finnish review. *The Finnish Journal of Urban Studies*, *55*(3), 4–14.

Rinkinen, K. (2004). *Rivien väliin jäävät asukkaat. Hiljaisten ryhmien osallistaminen ympäristönsuunnittelussa*. City of Vantaa.

SAFA. (2020a). *Kontulan Keskusta: Invitational architectural competition—Competition jury's evaluation protocol*. https://www.safa.fi/wp-content/uploads/2020/03/Kontulan-keskusta-Arvostelup%C3%B6yt%C3%A4kirja.pdf

SAFA. (2020b). *Kontulan Keskusta—Kilpailuohjelma*. https://www.safa.fi/wp-content/uploads/2020/03/kontulan_keskusta_-_ideakilpailu_-_kilpailuohjelma.pdf

Salgado, M., & Galanakis, M. (2014, October 6–10). *"...so what?": Limitations of participatory design on decision-making in urban planning* [Paper presentation]. PDC '14: Participatory Design Conference, Windhoek, Namibia.

Sandercock, L. (2003). *Cosmopolis II: Mongrel cities of the 21st century*. Continuum.

Schmiz, A., & Hernandez, T. (2019). Urban politics on ethnic entrepreneurship. *Tijdschrift voor Economische en Sociale Geografie*, *110*(5), 509–519. https://doi.org/10.1111/tesg.12387

Sezer, C. (2018). Public life, immigrant amenities and socio-cultural inclusion: The presence and changes of Turkish amenities in Amsterdam. *Journal of Urban Design*, *23*(6), 823–842. https://doi.org/10.1080/13574809.2018.1475221

Shearer, K., & Xiang, W. N. (2009). Representing multiple voices in landscape planning: A land suitability assessment study for a park land-banking program in Concord, North Carolina, USA. *Landscape and Urban Planning*, *93*(2), 111–122. https://doi.org/10.1016/j.landurbplan.2009.06.010

Sjöblom, J., & Niitamo, A. (2020). The intermediating role of municipal urban planners in online discussions with citizens. *Planning Theory & Practice*, *21*(5), 710–726. https://doi.org/10.1080/14649357.2020.1844282

Staffans, A., & Horelli, L. (2014). Expanded urban planning as a vehicle for understanding and shaping smart, liveable cities. *The Journal of Community Informatics*, *10*(3). https://doi.org/10.15353/joci.v10i3.3439

Staffans, A., Horelli, L., Geertman, S., Sillanpää, P., & Kahila-Tani, M. (2020). Communication-oriented and process-sensitive planning support. *International Journal of e-Planning Research*, *9*(2), 1–20. https://doi.org/10.4018/IJEPR.2020040101

The Finnish Innovation Fund Sitra. (2021). *Sitra Lab 3: Bottlenecks to democracy*. Sitra Lab. https://www.sitra.fi/en/projects/sitra-lab-3-bottlenecks-to-democracy/#contact-us

Tuominen, P., & Kantola, A. (2022). Miten tieto ja tuki tavoittivat maahanmuuttajayrittäjät koronapandemian aikana? *Yhteiskuntapolitiikka*, *87*(4), 390–396.

Vuorela, P. (1991). Rakennetun ympäristön suunnittelun johtavista periaatteista Suomessa toisen maailmansodan jälkeen. In P. von Bonsdorff, C. Burman, H. Lehtonen, M. Norvasuo, J. Rautsi, Y. Sepänmaa, S. Säätelä, & P. Vuorela (Eds.), *Rakennetun ympäristön kauneus ja laatu. Esteettisesti ja laadullisesti korkeatasoinen fyysinen ympäristö ja uudet suunnittelutekniikat. Osa 1* (pp. 92–149). VTT.

Wallin, A., Leino, H., Jokinen, A., Laine, M., Tuomisaari, J., & Backlund, P. (2018). A polyphonic story of urban densification. *Urban Planning*, *3*(3), 40–51. https://doi.org/10.17645/up.v3i3.1340

Wallin, S. (2019). *Managing urban complexity—Participatory planning, self-organization and co-production of urban space* [Unpublished doctoral dissertation]. Aalto University. http://urn.fi/URN:ISBN:978-952-60-8702-3

Zhuang, Z. C. (2013). Rethinking multicultural planning: An empirical study of ethnic retailing. *Canadian Journal of Urban Research*, *22*(2), 90–116.

About the Authors

Eveliina Harsia, architect, is a PhD researcher in the Department of Built Environment, School of Engineering, at Aalto University. Her research focuses on polyphonic urban planning processes and outcomes. She has worked on participatory urban planning as an urban planner and researcher. Recently, she has been working on participatory action research to develop participatory and polyphonic urban planning practices with planning organizations, evaluate participants' participation experiences, and involve marginalized communities in urban planning.

Pilvi Nummi, architect, PhD, is a postdoctoral researcher in the Department of Built Environment, School of Engineering, at Aalto University. Her research interest is in e-planning and e-participation in urban and land-use planning. Recently, she has worked with the user-centered development of digital tools for participatory urban planning and studied the cultural impacts of digitalization on urban planning practices. She is also affiliated with FinEst Centre for Smart Cities, Estonia.

Urban Planning
2024 • Volume 9 • Article 7093
https://doi.org/10.17645/up.7093

cogitatio

ARTICLE

Open Access Journal

Digital Feminist Placemaking: The Case of the "Woman, Life, Freedom" Movement

Asma Mehan

Huckabee College of Architecture, Texas Tech University, USA

Correspondence: Asma Mehan (asma.mehan@ttu.edu)

Submitted: 28 April 2023 **Accepted:** 17 August 2023 **Published:** 16 January 2024

Issue: This article is part of the issue "Citizen Participation, Digital Agency, and Urban Development" edited by Simone Tappert (University of Applied Sciences Northwestern Switzerland), Asma Mehan (Texas Tech University), Pekka Tuominen (University of Helsinki), and Zsuzsanna Varga (University of Glasgow), fully open access at https://doi.org/10.17645/up.i327

Abstract

Throughout Iran and various countries, the recent calls of the "Zan, Zendegi, Azadi" (in Persian), "Jin, Jiyan, Azadi" (in Kurdish), or "Woman, Life, Freedom" (in English) movement call for change to acknowledge the importance of women. While these feminist protests and demonstrations have been met with brutality, systematic oppression, and internet blackouts within Iran, they have captured significant social media attention and coverage outside the country, especially among the Iranian diaspora and various international organizations. This article, grounded in feminist urban theories of the Global South, analyzes the digital feminist placemaking movement in Iran. As the first counter-revolution led by women, the movement utilizes digital art, graffiti, and protest movements to embody women's solidarity groups and sympathy rallies. Our analysis employs various digital research methods, including social media scrutiny and the study of protest illustrations. Analyzing the digital feminist placemaking in Iran will enable us to compare the commonalities, differences, challenges, and opportunities between the minorities and majorities in the world's countries. The outcomes of this research can help international organizations such as Amnesty International and the United Nations Agency for Gender Equality and Women's Empowerment (UN Women), as well as policymakers, institutions, academics, and NGOs, to highlight the various ways in which broader public participation could be encouraged in the process of digital feminist insurgent placemaking.

Keywords

digital art; digital graffiti; digital placemaking; feminist placemaking; Iranian feminist movements

1. Introduction

Drawing insights from critical sociologists and feminist geographers regarding the gendered aspects of public spaces, this article explores the gender-segregated spaces in Iran as a multivalent, ongoing social process (Lefebvre, 2009; Mehan, 2023a; Mehan & Rossi, 2019; Zamani & Mehan, 2019). This study employs process-based sociology to understand historical, societal, and cultural shifts, giving analytical priority to describing the properties of a generative process or chain of events (Lamont & Molnar, 2002).

In recent years, the Middle East and North Africa (MENA) region has witnessed a powerful feminist wave advocating for women's rights and gender equality (Mehan, 2017, 2019). Specifically, in Iran, a significant feminist movement emerged, underscored by the slogan "Zan, Zendegi, Azadi" in Persian, "Jin, Jiyan, Azadi" in Kurdish, or "Woman, Life, Freedom" in English. This movement was ignited by the tragic death of 22-year-old Mahsa (Jina) Amini in September 2022, who was in the custody of Iran's "morality police" for alleged violations of hijab regulations. Despite facing brutal repression, systematic oppression, and internet blackouts, the movement gained international attention, especially among the Iranian diaspora and various international organizations. Against a universal understanding of women's revolutionary practices in democratic settings, it is crucial to note that these may not be applicable under non-democratic conditions (Bayat, 2007, p. 160). As Bayat (1997) elaborates, women in authoritarian settings encounter considerable challenges in organizing and mobilizing through traditional means.

In this article, digital feminist placemaking refers to Iranian women's creative utilization of digital platforms to advocate for their rights and promote social change. This encompasses various activities such as digital protests, demonstrations, information kiosks, murals, graffiti, and digital art strategies. These digital placemaking practices empower women to surpass government limitations and express themselves freely.

To investigate this phenomenon, this article seeks to answer three central research questions:

> RQ1: How have Iranian women utilized digital platforms to advocate for their rights and promote social change in gender-segregated spaces and oppressive conditions?
>
> RQ2: What strategies and tactics have proved most effective in the digital feminist placemaking movement in Iran?
>
> RQ3: What do these digital feminist placemaking practices present regarding challenges and opportunities?

To answer these questions, this study examines multiple case studies demonstrating how these tactics enable Iranian women to claim ownership of public spaces, amplify their voices, challenge traditional power structures, and drive change.

This article is an outcome of a collective attempt to navigate the complex, uneven literature of feminist placemaking studies in Iran, particularly in response to the recent Woman, Life, Freedom feminist movement. Instead of solid and conclusive outcomes, this article focuses on processes that highlight the complex, multilayered, and nuanced relationship that arises from studying layered interactions between gender, public

space, religion, and the state. The aim is to identify commonalities, differences, challenges, and opportunities in these practices and suggest ways to encourage broader public participation. The findings of this research can benefit policymakers, institutions, academics, and NGOs in their efforts to promote inclusive and empowering feminist urban spaces.

2. Literature Review and Theoretical Framework

This section explores the intersection of feminism, digital technologies, and geographic scholarship in the MENA region, focusing on feminist insurgent placemaking and its digital practices (Harvey, 2013; Mehan, 2023b; Mehan & Nawratek, 2023; Soja, 2010).

To provide a comprehensive understanding of placemaking, it is crucial to refer to theorists such as Gieryn (2000), who has emphasized the significance of physical places in the social sciences. Gieryn's conceptualization of place as a socio-cultural phenomenon can serve as a foundation to further delve into the realm of feminist placemaking, providing a clearer framework to comprehend the concept in the context of physical spaces. In his view, placemaking encompasses physical modifications and embedding social narratives, historical events, and cultural values. This lens offers a comprehensive understanding of feminist insurgent placemaking, emphasizing its potential to reshape and imbue spaces with feminist ideals.

Digital placemaking is an extension of placemaking principles into the digital realm. It employs digital tools, technologies, and strategies to enhance and influence physical spaces and foster community engagement (Mostafavi & Mehan, 2023). In addition, digital placemaking encompasses various activities such as digital protests, demonstrations, murals, graffiti, art, and e-petition strategies. Although based in the digital domain, these activities have tangible impacts on the physical world and significantly contribute to shaping public spaces (Varış Husar et al., 2023).

Adding another layer to this discussion, "feminist digital geographies" is a term that scrutinizes how digital technologies shape gender relations, identities, and inequalities. Furthermore, it explores how these technologies can challenge traditional gender norms and promote feminist ideologies, underscoring the interplay of gender, space, and digital technologies (Tong, 2009, pp. 71–72).

This concept draws from Lefebvre's (1991) idea of counter-space, where space is seen as a social product and a tool for challenging established power structures. It also relates to Fraser's (1990) concept of subaltern counter-public, where marginalized groups form parallel discursive arenas to articulate their interests and needs.

The literature review delves into the historical perspective of feminist placemaking in Iran, gender segregation policies in contemporary Iran, and feminist insurgent placemaking and its digital practices in the MENA region. By focusing on these themes, the review provides a comprehensive understanding of feminist insurgent placemaking and its digital dimensions within the MENA region, linking placemaking's digital and physical dimensions with broader social, cultural, and political contexts.

2.1. A Historical Perspective of Feminist Placemaking in Iran

Compared to other countries in the MENA region, Iran's feminist placemaking has a lengthy and intricate history shaped by the country's feminist movement and marked by political, social, and cultural changes (Nawratek & Mehan, 2020). Throughout much of the 19th century, public spaces in Iran were predominantly male territories. However, towards the end of the Qajar dynasty, women's confinement within private spaces was challenged for the first time. Concurrently, efforts were made to transform public order by creating women-only spaces, theaters, and presses (Mehan et al., 2022; Najmabadi, 1991; Navai, 2014; Rostam-Kolayi, 2008).

The advent of modern discourse prompted a paradigm shift in discourse and practices around gender boundaries (Thompson, 2003). This shift, led by modernizing tendencies, aimed to dissolve the segregation between men and women, aspiring to create a "modern," heterosocial public sphere within the traditionally male-dominated public realm (Abu-Lughod, 1998; Amin, 2002).

The Pahlavi era (1925–1979) expanded state-level modernizing discourse, primarily focusing on the emancipatory effects of gender desegregation and mandatory unveiling (Mehan, 2023c). The state used women's dress codes to signify Iran's modern and progressive political agenda (Tohidi, 2002). During this period, the women's rights movement in Iran took shape, with many women advocating for greater rights, educational spaces, consumption, freedoms, and representation. Influenced by Western feminist movements, a group of educated, upper-middle-class women campaigned for voting rights, education, and employment opportunities. They also aimed to improve the status of women in Iranian society, focusing on issues like education, voting, and property rights. Despite some progress, their efforts were hindered by Iranian society's patriarchal and conservative nature (Mehan, 2022; Rajendran et al., 2021).

The second wave of the women's rights movement in Iran emerged in the 1960s as a new generation challenged traditional roles and expectations. Influenced by factors such as the spread of Western feminism, increased education and employment opportunities for women, the rise of an urban middle class, and growing awareness of human rights and gender equality, women began advocating for expanded rights and opportunities in various fields, including education, employment, and political participation. Despite ongoing challenges, women had made considerable progress in these areas by the 1970s.

The next section will focus on contemporary Iran, examining gendered placemaking agencies through various case studies.

2.2. Gender Segregation Policies in Contemporary Iran

The contemporary feminist movement in Iran has been shaped by several factors, including the Islamic Revolution of 1979, the ongoing struggle for democracy, and the evolving role of women in modern Iranian society (Jaynes, 1979). The Islamic Republic has imposed a patriarchal model of gender roles on Iranian women, restricting their education, employment opportunities, and political participation (Sciolino, 1992, 2003). Consequently, women's presence in the public sphere, including the workforce and political life, has been significantly curtailed (Hosseini, 2019).

A notable manifestation of this patriarchal agenda was Ayatollah Khomeini's call for women to wear the chador, a long black veil covering the body, exposing only the face. The chador became symbolic of the revolution and part of the state's strategy for gender segregation in public spaces (Moghadam, 2004; Shahrokni, 2019). Checkpoints were established at entrances to universities, shopping malls, airports, theaters, and government buildings to prevent unrelated men and women from mingling, thereby enforcing gender segregation and upholding notions of morality. Despite these restrictions, feminist movements in Iran have persistently challenged the state's patriarchal policies. Women have employed various forms of resistance, such as wearing colorful coats and scarves instead of the chador, to reclaim public spaces (Amir-Ebrahimi, 2006).

On March 8, 1979, thousands of women marched from Tehran University with their heads uncovered, protesting mandatory veiling, and rejecting the prescribed notion of womanhood defined by religion (Moghissi, 2009). However, these efforts were met with an accelerated expansion of gender-segregated spaces (Tahar et al., 2023). The state has established women-only spaces, including buses, metro cabins, taxis, parks, cafes, restaurants, city complexes, internet cafes, and schools. Although these spaces were intended to reinforce gender segregation, they have sometimes transformed into alternative public spheres where individuals can freely express themselves and engage in different practices.

The state's gendered placemaking policies in Iran have been influenced by Foucault's concept of "pastoral power" and Young's (2003) "logic of masculinist protection," with the state positioning itself as the protector of women's bodies (Foucault, 2007). The regime shifted from exclusion, closure, and prohibition in the 1980s to inclusion, opening, and provision in the 2000s (Shahrokni, 2019, p. 20).

The state's expansion of women-only parks, cafes, restaurants, city complexes (known as *shahrbanu* in Farsi), internet cafes, schools, and universities to reinforce gender segregation reached its peak with the rise of conservative factions (Vakil, 2011). However, these women-only spaces have sometimes evolved into "alternative or distinct public spheres" due to the practices and actions of the individuals within them (Fraser, 1990; Habermas, 1989). Additionally, the state-enforced gender segregation policies in Iran have significantly influenced the feminist movement and the role of women in society. Despite the restrictive policies imposed by the state, feminist movements have persisted in resisting and challenging patriarchal norms, reclaiming public spaces for women (Mehan & Nawratek, 2023).

In Iran, women's resistance to patriarchal norms and their reclamation of public spaces manifests in several ways. Feminist activists protest for their rights in public spaces, and artists and writers utilize their work to challenge gender inequality. Legal initiatives are pursued to challenge oppressive policies, while increased female education is changing traditional roles. Furthermore, feminists use technology and social media as platforms for mobilization and dialogue, effectively creating virtual spaces of resistance.

These historical developments have shaped feminist placemaking in Iran, influencing how women interact with and mold public spaces. In addition to physical design, the modern era emphasizes the role of digital tools and technologies in placemaking. As digital tools have become more prevalent, they have offered new means for women to engage with public spaces but have also introduced concerns about surveillance and privacy.

The next section will focus on feminist insurgent placemaking and digital practices in the MENA region.

2.3. Feminist Insurgent Placemaking, Digital Practices, and Protest Movements in the Middle East and North Africa Region and Beyond

Feminist placemaking, rooted in Grosz's (1995) "lived space," emphasizes spaces as sociocultural constructs. Roy's (2016) postcolonial urban theory introduces complexities from historical and racial intersections. In the MENA region, feminist practices confront patriarchal norms of regimes, such as in Iran (Barlow & Akbarzadeh, 2008). Digital tools amplify these feminist voices, addressing issues like discrimination, violence, and reproductive rights. Digital feminist placemaking creates spaces promoting gender equality, bridging physical and digital worlds, and challenging patriarchal norms (Mehan, 2023b, 2023d).

In the scholarship on digital placemaking, key arguments emphasize its potential to democratize the process of placemaking, increase community engagement, and promote inclusivity. By leveraging digital technologies, digital placemaking offers novel avenues for participation, allowing a broader spectrum of voices to be heard in shaping public spaces. Some argue that digital placemaking can create virtual or augmented experiences that transcend physical boundaries, enabling individuals to engage with public spaces in innovative and immersive ways.

Critically, digitizing everyday activities and social interactions—a cornerstone of digital placemaking—refers to increasingly integrating digital technologies into daily life. This includes online shopping, social media interactions, virtual communication, and digital content consumption. These digital practices profoundly affect how people engage with physical spaces and contribute to placemaking, further blurring the physical and digital boundaries.

Some innovative practices in modern urban development occur in placemaking processes at the intersection of the physical and digital worlds. For example, digital placemaking practices have also been employed in the MENA region to raise awareness about women's health and reproductive rights. This is achieved through interactive platforms and mobile applications that offer women private access to reproductive health and family planning resources. Feminist insurgent placemaking and digital practices have been at the forefront of many socio-spatial struggles. However, the movement faces numerous obstacles, including patriarchal cultural norms, political repression, and limited resources.

Concurrently, digital transformation affects public space dynamics, sparking debates over its role in political discourse. Scholars like Kavada (2015) have highlighted social media's pivotal role in anti-austerity movements. Similarly, Castells (2015) asserts the significance of online networks for organizing protests, while Costanza-Chock (2012) links digital tech to Occupy Wall Street mobilizations. Yet, Bennett and Segerberg (2013) caution about the individual-centric nature of such digital activism.

The hybrid reality of a social protest, consisting of both material and digital elements, constitutes the protest event. In an empirical analysis of the Syntagma Square protests in Athens, Mattoni (2020, p. 1768) posits that:

> To appreciate the manifold interactions of activists with the media in an age of media abundance, we should employ an approach to social movements' culture that can grasp the nuances of activists' shared cognitive, emotional, and moral understandings and their concrete embodiments of what it takes to make a social movement occur, develop, and thrive.

In a similar study on the Taksim Square protests in Turkey in 2013, Smith et al. (2015) suggest that social media users aim to influence through vicarious experience—representing others' experiences—rather than direct personal experience. They propose that social media is used to effect change from a distance, with content ownership and online reputation becoming driving forces of online participation in a protest movement (Smith et al., 2015, p. 499).

Countries like Poland, Russia, and India have experienced a wave of feminist digital activism, highlighting innovative tactics and engagement with creative strategies. For example, Nacher (2021) explores feminist digital activism in Poland, specifically the #BlackProtest movement, highlighting the narrative potential of hashtags and their impact on online and offline spaces. McLean (2019) discusses the concept of feminist digital spaces, providing insights into how online platforms are essential for feminist activism. Perheentupa (2021) contributes to the understanding of mediatized manifestations of feminism in the context of neoconservative Russia, shedding light on the interplay between feminist movements and digital media. Pain (2021) examines feminist digital activism within the Indian #MeToo movement, focusing on developing voices and the transformative power of digital platforms.

Consequently, an innovative interdisciplinary approach is needed to examine the complex relationships between digital media's role in protest activity and its geographic and political contextualization (Kozlowski et al., 2020; Lokot, 2021, pp. 2–3). Studies indicate that protest activities and critical features of participation culture, such as radical inclusivity, multiple narrations, and a mosaic-like nature, are enhanced by integrating offline and online structures and mechanisms. This hybrid multiplicity provides individuals with various modes of participation and makes the potential for collective action and participatory processes accessible to diverse actors.

3. Research Design and Methodology

This section, focusing on methodology, elucidates the methodological implications of the chosen approach and demonstrates the links between the research's purpose, guiding questions, sampling strategies, data collection, and data analysis methods.

To address the article's research questions, a triangulation of qualitative methods was employed. In the first phase, books, journal articles, and monographs on feminist insurgent placemaking, gender segregation, placemaking policies, the Iranian feminist movement, and digital feminist placemaking practices were collected and critically reviewed. These documents were identified through a literature review of the library database at Texas Tech University in English. The large body of published resources in Farsi/Persian has also been studied to engage with local resources. This research incorporated anonymous interviews with select artists and questionnaires filled out by students during the Community Design and Development Resources course at Texas Tech University University in Fall 2022 and Spring 2023. Through the course, it became evident that defining "feminist urban spaces" posed a challenge due to the subjective nature of feminist placemaking, which depends largely on context analysis.

The feedback from these questionnaires and interviews played a crucial role in the final selection of representative digital art for the case study section.

From the beginning of the movement in Iran, back to September 2022, 80 social media posts related to the Woman, Life, Freedom movement in Iran were analyzed. For selecting the digital arts, other digital communication methods like emails, online forums, and digital media archives were explored alongside social media platforms such as Instagram, Twitter, and Facebook. These posts, chosen for their relevance to the research questions and high levels of engagement (likes, comments, and shares), offered substantial insights into the public discourse surrounding the movement. The selected posts, sourced from a diverse group of artists and activist groups, covered various topics such as advocacy for women's rights, personal experiences of gender segregation, calls for legal changes, expressions of solidarity, and digital art and graffiti related to the movement. The analysis of social media posts was performed using thematic analysis, a qualitative method for identifying, analyzing, and interpreting patterns of themes within data. This involved systematically sorting and coding the data to identify recurring patterns or themes related to the research questions.

The research was also carried out under the purview of feminist methodologies, emphasizing the importance of understanding individual experiences and power dynamics in the research process. It is important to note that the data collection for this research faces several constraints due to censorship in Iran, especially regarding data linked to the Woman, Life, Freedom movement.

4. Context and Case Study

The Woman, Life, Freedom movement in Iran presents a compelling context for studying feminist placemaking, digital placemaking practices, and Iranian feminist movements. Incited by the tragic death of 22-year-old Mahsa (Jina) Amini at the hands of Iran's "morality police" due to an alleged hijab violation in September 2022, this movement has taken center stage in Iranian society.

Digital platforms have played an integral role in mobilizing this movement, enabling individuals to share videos of defiance against authorities, such as removing and burning headscarves and standoffs with Iranian police. As a response, the government has attempted to stifle these protests through internet blackouts, further illuminating the importance of these digital tools in propagating the movement.

Digital feminist placemaking is not restricted to Iran; it is a global phenomenon, evident in movements such as #MeToo. Commencing in 2017, this movement employed digital media to champion gender equality and female empowerment (Mehan & Rossi, 2019). By leveraging social media and hashtags, women globally shared their experiences of sexual harassment and assault, challenging the patriarchal structures that perpetuated such abuses (Mehan, 2023b).

A poignant instance of this strategy is visible in Iran, where women have employed digital media as a medium of resistance in the public sphere. The social media campaign My Stealthy Freedom, initiated in 2014, involved women posting photos of themselves with their hair unveiled, holding their hijabs aloft. They shared these images every Wednesday using the hashtag #WhiteWednesdays to protest the compulsory hijab law. This digital resistance triggered activism among Iranian women, spearheaded by a young woman's defiant stand on a utility box in Tehran's Revolution Street in December 2017. This symbolic act gave rise to a new generation of protesters, termed "daughters of the revolution," who brandished white scarves on poles as symbols of their protest. The struggle transcended the issue of the hijab and embraced broader issues concerning gender politics and state control over women's bodies.

The core demands of the movement revolve around eradicating discriminatory laws, such as the mandatory hijab law, and challenging patriarchal norms that impede women's rights and autonomy. Despite governmental attempts to quell the movement, it continues to grow and strengthen through the effective usage of digital platforms for communication, mobilization, and organization.

Moreover, the context of this movement has been enriched by previous feminist placemaking and digital activism initiatives like My Stealthy Freedom, White Wednesdays, and The Girls of Revolution Street movement. These movements have utilized digital platforms and e-petitions to promote gender equality and women's rights, demonstrating the power of digital tools in challenging patriarchal norms and creating more inclusive societies; White Wednesdays is a campaign initiated by Alinejad in 2017 that encourages Iranian women to wear white clothing or headscarves as a symbol of protest against the compulsory hijab. Participants use the hashtag #WhiteWednesdays on social media to share images and videos of their acts of defiance, creating a sense of solidarity among women across Iran. The Girls of Revolution Street movement started in 2018 when Vida Movahed climbed onto a utility box on Tehran's Enghelab Street and removed her hijab in protest. Her act inspired others to do the same, with women sharing images of their protests on social media under the hashtag #دختران_خیابان_انقلاب, which translates to "The Girls of Revolution Street." This movement highlights the power of individual acts of resistance to inspire collective action.

Simultaneously, Iranian artists have used digital art, digital graffiti, and visual expressions to express their feminist beliefs and challenge traditional gender roles. These creations are typically shared across various social media platforms, such as Instagram, Facebook, and Twitter, as well as personal blogs and websites. Digital sharing enables artists to circumvent traditional barriers and censorship, extending their reach within Iran and internationally. These digital arts have raised public awareness and support for women's rights in Iran, drawing attention to the struggles faced by women and non-binary individuals and contributing to shifting public attitudes towards gender equality.

Figures 1–5 showcase numerous examples of the movement's impact, including protests, artwork, and empowering visual language. Artists such as Arghavan Khosrvai, Roshi Rouzbehani, Zartosht Rahimi, Abbas Shahsavar, and Maryam Ayeen have created murals, digital graffiti, and other artworks that depict strong, independent women, claiming public spaces and challenging the status quo. This grassroots placemaking is a potent form of resistance, enabling women to demand greater visibility, inclusion, and equality in the public sphere.

The striking visual elements in Khosravi's artwork, as seen in Figure 1, reflect her commitment to catalyzing cultural transformation through visual art. Khosravi critically engages with the aesthetics of Persian miniature paintings, traditionally used to illustrate folkloric texts, where women often occupy subservient or secondary roles. Her paintings challenge this historical narrative by offering women agency and critical social significance.

A striking characteristic of Khosravi's work is its multi-dimensionality. This layering creates a shifting perceptual experience, inviting viewers to engage with the artwork from different perspectives. Khosravi employs potent visual motifs—black plumes, rockets, and cages—to allude to corrupted economic and political systems. Depictions of female bodies, often shackled or with mouths sewn shut, serve as a powerful critique of gender repression.

Thus, Arghavan Khosravi's art encapsulates the depth and complexity of the feminist struggle in Iran. Her digital graffiti demonstrates how feminist placemaking can occur within visual art, reshaping cultural narratives and challenging oppressive systems. The social media dissemination of her work extends this influence, opening avenues for national and international audiences and reflecting on Iranian gender politics today (see Figure 1).

Figure 1. Arghavan Khosravi's surrealist paintings of women embody a new sense of urgency. Khosravi is influenced by Persian miniature painting and her memories of coming of age in Iran. Image courtesy of the artist.

Roshi Rouzbehani's artwork, *Free Tehran*, vividly portrays an aspiration for emancipation and envisions women celebrating their freedom above the iconic Azadi Tower in Tehran. This powerful piece, accompanied by the hashtag #MahsaAmini, references the tragic death of a young Iranian woman that ignited nationwide protests, highlighting the intersection of digital activism and the tangible struggle for women's rights. By focusing on the Azadi Tower, an urban symbol of independence, freedom, and liberation in modern Tehran, Rouzbehani's work symbolically connects the fight for gender equality with the broader quest for societal change.

Social media platforms serve as Rouzbehani's canvas, where her powerful visual narratives traverse the borders of Iran to touch a global audience. Figure 2 showcases Rouzbehani's art, which centers on empowering women and developing her unique visual language. Her focus on empowering depictions of women positions her work as a counter-narrative to the traditionally subordinate representations of women in Iranian society.

In analyzing the impact of her work, it becomes evident that Rouzbehani's art challenges societal norms and cultivates solidarity and collective action among those involved in the struggle for gender equality. The integration of her art with digital tools demonstrates these platforms' significant role in amplifying feminist discourse, enabling it to permeate beyond the confines of Iran and resonate with audiences globally.

Rouzbehani's use of digital platforms for feminist placemaking serves as a compelling example of how digital art can be used to challenge societal norms, foster solidarity, and drive the struggle for gender equality. These platforms facilitate the propagation of feminist messages and the establishment of digital communities, contributing to the ongoing fight for women's rights in Iran and beyond (see Figure 2).

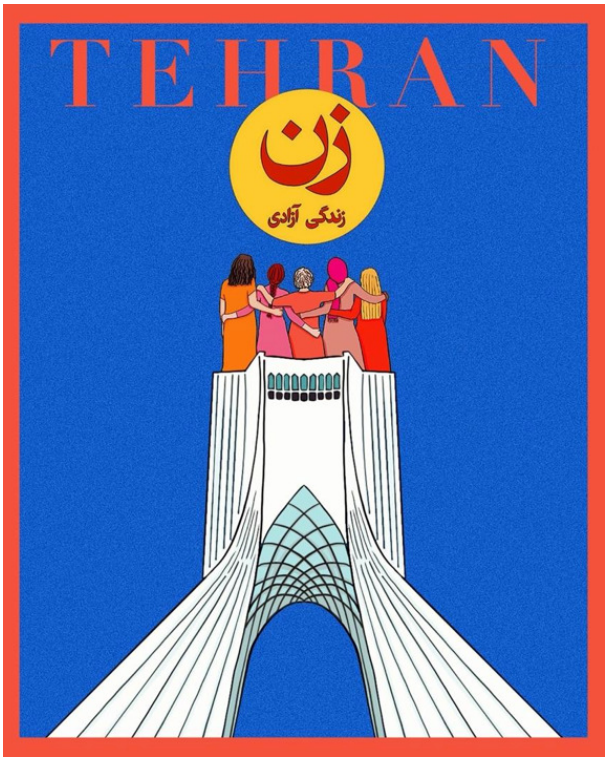

Figure 2. Roshi Rouzbehani, *Free Tehran*: Women will celebrate freedom above the Azadi Tower in Tehran one day. For Woman, Life, and Freedom. #MahsaAmini. Image courtesy of the artist.

Figure 3 features Zartosht Rahimi's artwork dedicated to martyrs of freedom. Rahimi's artwork, titled *For All the Martyrs of Freedom*, showcases a piece called "pietà," an acrylic canvas painting measuring 100 x 80 cm (about 2.62 ft), created in 2022. In the background of the painting, the symbolic Damavand Mountain stands tall, evoking its religious significance in Iranian culture and its association with spirituality and transcendence. This inclusion adds depth and meaning to the artwork, intertwining the struggle for freedom with spiritual and religious connotations.

Zartosht Rahimi's artwork offers a unique perspective on the struggle for freedom in Iran. With hashtags like #Woman_Life_Freedom, #IranianArtist, and #pieta on his public Instagram page, Rahimi has effectively raised awareness of this movement and garnered attention to the struggles faced by women in Iran. Using artistic techniques and symbolism contributes to portraying feminist resistance and agency within the Iranian context. The representation of female figures in his work underscores the centrality of women's rights to the broader struggle for freedom, offering an accessible medium for raising awareness and fostering change. Additionally, understanding the digital platforms or online communities where Rahimi's work is shared can shed light on facilitating feminist placemaking through digital tools, creating virtual spaces for dialogue and solidarity (see Figure 3).

Figure 3. Zartosht Rahimi, *For All the Martyrs of Freedom*, on saving the world with art, 2022. Image courtesy of the artist.

Shahsavar and Ayeen's artwork stands as a potent critique of the Iranian government's actions, and it is instrumental in unveiling the emotional turmoil experienced by many Iranians. They employ evocative visual techniques in their gouache and watercolor artworks, capturing the complexities of the Iranian socio-political landscape and the emotional weight of living within it. Through their poignant pieces, they communicate not only personal emotions but also a collective sense of grief and frustration, thereby aligning their expressions with broader social narratives (see Figure 4).

Their use of hashtags, such as #MahsaAmini (in Persian, #مهسا_امینی), underscores their intent to extend their artworks' reach and provoke conversation around the specific case of Mahsa Amini, a young woman who tragically died. By highlighting this case, Shahsavar and Ayeen engage with a shared sense of loss within Iranian society and amplify the demand for justice and accountability. The use of digital platforms here functions not merely as a showcase of their work but also as an active space for dialogues on the government's treatment of its citizens.

While their art does not answer why the government easily attacks its society, it importantly foregrounds these questions in the public sphere, compelling viewers to confront these issues and initiate dialogues. The artworks transcend their aesthetic appeal to become active sites of protest and resistance, embodying many Iranians' emotional struggles.

Shahsavar and Ayeen's digital feminist placemaking practices, as seen in their use of online platforms and hashtags, emphasize the power of art in connecting individual stories to broader socio-political discourses.

Their work serves as an affirmation of the resilience of Iranians navigating an intricate socio-political terrain. It highlights the transformative potential of digital platforms in amplifying dissent and fostering a sense of solidarity among Iranian communities.

Figure 4. Abbas Shahsavar and Mayram Ayeen: *Why does the Iranian government easily attack its society? We who live in Iran do not know the answer to this question, It is clear to us that we are in an unfortunate situation.* Image courtesy of the artists.

Gender Justice: Woman, Life, Freedom in Iran, the artwork created by Karla D. Hernandez and Tahseen Reza Anika, effectively demonstrates the capacity of art to communicate complex socio-political narratives and to serve as an instrument for change. By creating a visually compelling depiction of their vision for a society that values women's rights and gender equality, the artists harness their creativity to contribute to the broader discourse on social justice in Iran (see Figure 5).

The virtual exhibition of this artwork at the Venice Biennale in 2023 through an augmented-reality-enabled installation broadened the potential audience for their message. The augmented reality technology imbued their work with immediacy and intimacy that would have been challenging to achieve in a traditional exhibition setting. This innovative approach to the exhibition attests to the effectiveness of digital tools in enhancing the reach of art. It provides an immersive experience that deepens viewers' engagement with the artwork's themes and messages.

Furthermore, this digital medium provides an opportunity to sidestep physical boundaries and censorship issues that could limit the artwork's reach, particularly for artists from regions with restrictive freedom of expression, such as Iran. This way, the digital platform became an enabling environment, amplifying the artists' voices and facilitating engagement with a global audience.

Therefore, this instance of the artwork's creation and exhibition showcases the potential of combining traditional artistic practices with digital tools to pursue feminist placemaking. It illustrates how the creative

utilization of digital platforms can provide a conduit for dialogue, reflection, and action on pressing social issues. As seen in the works of Hernandez and Anika, the fusion of art and technology can be a powerful strategy in the ongoing struggle for women's rights and gender equality. Further exploration of such intersectional approaches can provide valuable insights for future feminist placemaking endeavors.

Figure 5. Karla D. Hernandez and Tahseen Reza Anika, *Gender Justice: Woman, Life, Freedom in Iran, #MahsaAmini*. Image courtesy of the artists.

5. Discussions

The concept of digital practices comes to the fore as digital spaces serve as crucial platforms for activism when physical spaces are inaccessible or restricted, as exemplified by the Woman, Life, Freedom movement in Iran. These digital platforms extend the scope of activism by facilitating communication, collective mobilization, and advocacy, mainly through social media platforms. In the face of physical assembly restrictions, digital spaces have become pivotal tools for raising global awareness, sharing experiences, and strategizing.

However, despite their critical role in mobilizing movements, digital activism's potential limitations and risks—such as surveillance, censorship, and misinformation—should not be underestimated. Feminist digital initiatives like My Stealthy Freedom, White Wednesdays, and The Girls of Revolution Street have deftly employed digital platforms to advocate for gender equality and women's rights. Nevertheless, their long-term impact remains an area for further exploration. The feminist digital art discussed here catalyzes social relations by fostering dialogue, contesting societal norms, and spotlighting individual experiences within a political context.

The artworks created by Iranian artists Arghavan Khosravi, Roshi Rouzbehani, Zartosht Rahimi, Abbas Shahsavar, and Maryam Ayeen underscore the crucial role of art in challenging societal norms and advancing social justice. Each artist uses their unique artistic language to question traditional gender roles, expose injustices, and advocate for societal change. Their works stand as powerful testaments to the struggle for gender equality and the emancipation of women in Iran.

With their distinct themes of exile, suppression, and empowerment, Khosravi's surrealist works provoke a critical examination of the societal structures that confine and oppress. Rouzbehani's creations, on the other hand, visually empower women and address pressing social issues, effectively utilizing the digital realm to disseminate her messages. Similarly, the works of Rahimi, Shahsavar, and Ayeen draw attention to the deep-seated problems in Iranian society, using their art to give voice to the voiceless and to demand change.

Gender Justice: Woman, Life, Freedom in Iran, an artwork by Karla D. Hernandez and Tahseen Reza Anika, skillfully depicts their vision of a society underpinned by gender equality. Exhibited at the 2023 Venice Biennale through an augmented-reality-enabled installation, their work uses digital tools to create immersive experiences that provoke dialogue around critical social issues.

Thus, the works of these artists, as presented in Figures 1–5, serve as a vivid illustration of the transformative power of digital art in promoting social justice. They not only reflect the challenges faced by individuals in Iran, but they also echo the global struggle for gender equality and women's rights.

6. Conclusions

Feminist art and protest in Iran challenge societal norms through symbolic resistance and the redefinition of spaces. Actions like removing hijabs during protests exemplify this resistance. These efforts, often occurring in digital spaces, form counter-narratives to dominant societal discourses and create arenas for marginalized voices. Despite this, cultural norms, repression, and resource scarcity present unique challenges.

Digital spaces provide platforms for activism, especially when physical spaces are inaccessible or restricted. They facilitate communication, mobilization, and advocacy, becoming essential for raising global awareness. Despite this, potential limitations, such as surveillance, censorship, and misinformation, highlight the need for caution in digital activism. Despite their initial success, the long-term impact of these initiatives remains an area for further exploration.

The emergent digital activism in the feminist movement in the MENA region, particularly in Iran, signifies a significant strategic shift against gender norms and discriminatory practices. Women creatively leverage online platforms to push back against patriarchal power structures under authoritarian regimes.

As discussed, one significant example is the Woman, Life, Freedom movement, which has galvanized a considerable following, demonstrating how digital spaces can promote women's rights and equality. This movement has been effective in challenging traditional gender norms and expectations, asserting autonomy over personal spaces, and pushing for legislative and societal change. It has brought individual narratives of resistance and empowerment to the fore, thereby contributing to a broader discourse on gender equality in Iran.

However, the reality of enduring conservative Islamic laws and societal norms, such as the compulsory hijab in Iran, underscores the challenges that remain. As such, while acknowledging the accomplishments of digital feminist movements like Woman, Life, Freedom, it is crucial to continue assessing their long-term influence on public opinion and policy changes concerning women's rights in Iran.

The impact of digital arts and online platforms on shaping discussions around gender equality and feminist activism, both within Iran and globally, is palpable. Still, further research is warranted to fully appreciate the depth of this influence, especially in terms of practical changes in policies and societal attitudes towards gender norms. The intersection of art, feminism, and digital activism presents rich opportunities for further scholarly exploration. It is poised to significantly contribute to the discourse on women's rights in the MENA region.

Acknowledgments

I would like to express deep gratitude to the students of the Community Design and Development Resources course at Huckabee College of Architecture, Texas Tech University, for their exceptional creativity during Spring 2023. Jessica Stuckemeyer's invaluable input in refining this article's English language is especially acknowledged. Additionally, I am thankful to the artists, activists, students, and fellow Iranians for their insights from interviews and focus groups that enriched this research. This article is based upon work from COST Action DOPMADE, CA18204, supported by COST (European Cooperation in Science and Technology).

Conflict of Interests

The author declares no conflict of interests.

References

Abu-Lughod, L. (1990). The romance of resistance: Tracing transformations of power through Bedouin women. *American Ethnologist*, *17*(1), 41–55.

Abu-Lughod, L. (1998). *Remaking women: Feminism and modernity in the Middle East*. Princeton University Press.

Amin, C. (2002). *The making of the modern Iranian woman: Gender, state policy, and popular culture, 1865–1946*. University Press of Florida.

Amir-Ebrahimi, M. (2006). Conquering enclosed public spaces. *Cities*, *23*(6), 455–461.

Barlow, R., & Akbarzadeh, S. (2008). Prospects for feminism in the Islamic Republic of Iran. *Human Rights Quarterly*, *30*(1), 21–40.

Bayat, A. (1997). *Street politics: Poor people's movements in Iran*. Columbia University Press.

Bayat, A. (2007). A women's non-movement: What it means to be a woman activist in an Islamic State. *Comparative Studies of South Asia, Africa, and the Middle East*, *27*(1), 160–172.

Bennett, W. L., & Segerberg, A. (2013). *The logic of connective action: Digital media and the personalization of contentious politics*. Cambridge University Press.

Castells, M. (2015). *Networks of outrage and hope: Social movements in the internet age*. Polity Press.

Costanza-Chock, S. (2012). Mic check! Media cultures and the Occupy movement. *Social Movement Studies*, *11*(3/4), 375–385.

Foucault, M. (2007). *Security, territory, and population: Lectures at the Collège de France, 1977–78*. Palgrave Macmillan.

Fraser, N. (1990). Rethinking the public sphere: A contribution to the critique of actually existing democracy. *Social Text*, *1990*(25/26), 56–80.

Gieryn, T. F. (2000). A space for place in sociology. *Annual Review of Sociology*, *26*(1), 463–496.

Grosz, E. (1995). *Space, time, and perversion: Essays on the politics of bodies*. Routledge.

Habermas, J. (1989). *The structural transformation of the public sphere: An inquiry into a category of bourgeois society*. The MIT Press.

Harvey, D. (2013). *The ways of the world*. Profile Books.

Hosseini, S. (2019). *Gender segregation in urban public space: The case of Iran*. Springer.

Jaynes, G. D. (1979). The veiling of the Islamic woman. *The Journal of the American Oriental Society*, *99*(4), 633–644.

Kavada, A. (2015). Creating the collective: Social media, the Occupy movement, and its constitution as a collective actor. *Information, Communication, and Society*, *18*(8), 872–886.

Kozlowski, M., Mehan, A., & Nawratek, K. (2020). *Kuala Lumpur: Community, infrastructure, and urban inclusivity*. Routledge.

Lamont, M., & Molnar, V. (2002). The study of boundaries in the social sciences. *Annual Review of Sociology*, *28*, 167–195.

Lefebvre, H. (1991). *The production of space* (Vol. 142). Oxford.

Lefebvre, H. (2009). *State, space, and the world: Selected essays*. The University of Minnesota Press.

Lokot, T. (2021). *Beyond the protest square: Digital media and augmented dissent*. Rowman & Littlefield.

Mattoni, A. (2020). Making the Syntagma Square protests visible: Cultures of participation and activists' communication in Greek anti-austerity protests. *Information, Communication, & Society*, *23*(12), 1755–1769.

McLean, J. (2019). Feminist digital spaces. In J. McLean (Ed.), *Changing digital geographies: Technologies, environments and people* (pp. 177–201). Palgrave Macmillan.

Mehan, A. (2017). Review of "The Empty Place: Democracy and Public Space" by Teresa Hoskyns. *ID: International Dialogue, a Multidisciplinary Journal of World Affairs*, *7*, 86–90.

Mehan, A. (2019). Emerging spatialities of discontent in modern Tehran. *QU3: iQuaderni di U3*, *19*(1), 63–71.

Mehan, A. (2022). *Tehran: From sacred to radical*. Routledge.

Mehan, A. (2023a). Re-narrating radical cities over time and through space: Imagining urban activism through critical pedagogical practices. *Architecture*, *3*(1), 92–103.

Mehan, A. (2023b). The digital agency, protest movements, and social activism during the Covid-19 pandemic. In G. Kacmaz Erk (Ed.), *AMPS Proceedings Series 32* (pp. 1–7). AMPS Publisher.

Mehan, A. (2023c). The Iranian architects in exile: Hossein Amanat. In S. Celli & F. Deo (Eds.), *Architects in exile: Stories of new spatial experiences* (pp. 24–26). Thymos Books.

Mehan, A. (2023d). The role of digital technologies in building resilient communities. *Bhumi, The Planning Research Journal*, *10*(1), 33–40.

Mehan, A., & Nawratek, K. (2023). The city as the (anti) structure: Urban space, violence and fearscapes. In A. Vaz Milheiro & A. Silva Fernandes (Eds.), *Colonial and post-colonial landscapes: Architecture, colonialism, war—II International Congress* (pp. 78–79). Calouste Gulbenkian Foundation.

Mehan, A., Nawratek, K., & Tahar, F. (2022). Beyond community inclusivity through spatial interventions. *Writingplace*, *2022*(6), 136–147.

Mehan, A., & Rossi, U. (2019). Multiplying resistance: The power of the urban in the age of national revanchism. In K. Jacobs & J. Malpas (Eds.), *Philosophy and city: Interdisciplinary and transcultural perspectives* (pp. 233–245). Rowman & Littlefield.

Moghadam, V. M. (2004). Women's economic participation in the Middle East: What difference has the neoliberal policy turn made? *Journal of Middle East Women's Studies*, *1*(1), 110–146.

Moghissi, H. (2009). *Feminism and Islamic fundamentalism: The limits of postmodern analysis*. Zed Books.

Mostafavi, S., & Mehan, A. (2023). De-coding visual cliches and verbal biases: Hybrid intelligence and data justice. In M. del Campo (Ed.), *Diffusions in architecture: Artificial intelligence and image generators* (pp. 150–159). Wiley.

Nacher, A. (2021). #BlackProtest from the web to the streets and back: Feminist digital activism in Poland and narrative potential of the hashtag. *European Journal of Women's Studies*, *28*(2), 260–273.

Najmabadi, A. (1991). Hazards of modernity and morality: Women, state, and ideology in contemporary Iran. In D. Kandiyoti (Ed.), *Women, Islam, and the state* (pp. 48–76). Palgrave Macmillan.

Navai, R. (2014). *City of lies: Love, sex, death, and the search for truth in Tehran*. Arcade Publishing.

Nawratek, K., & Mehan, A. (2020). De-colonizing public spaces in Malaysia: Dating in Kuala Lumpur. *Cultural Geographies*, *27*(4), 615–629.

Pain, P. (2021). "It took me quite a long time to develop a voice": Examining feminist digital activism in the Indian #MeToo movement. *New Media & Society*, *23*(11), 3139–3155.

Perheentupa, I. (2021). Mediatized manifestations of feminism. In I. Perheentupa (Ed.), *Feminist politics in neoconservative Russia: An ethnography of resistance and resources* (pp. 123–148). Bristol University Press.

Rajendran, L., Molki, F., Mahdizadeh, S., & Mehan, A. (2021). (Re)framing spatiality as a socio-cultural paradigm: Examining the Iranian housing culture and processes. *Journal of Architecture and Urbanism*, *45*(1), 95–105.

Rostam-Kolayi, J. (2008). Progress unveiled: Women's rights and the Iranian constitutional revolution. In G. Nashat & L. Beck (Ed.), *Women in Iran from the rise of Islam to 1800* (pp. 153–178). University of Illinois Press.

Roy, A. (2016). What is urban about critical urban theory? *Urban Geography*, *37*(6), 810–823.

Sciolino, E. (1992, April 23). Teheran Journal: From the back seat in Iran, murmurs of unrest. *The New York Times*. https://www.nytimes.com/1992/04/23/world/teheran-journal-from-the-back-seat-in-iran-murmurs-of-unrest.html

Sciolino, E. (2003, April 2). Daughter of the revolution fights the veil. *The New York Times*. https://www.nytimes.com/2003/04/02/world/daughter-of-the-revolution-fights-the-veil.html

Shahrokni, N. (2019). *Women in place: The politics of gender segregation in Iran*. University of California Press.

Smith, B. G., Men, R. L., & Al-Sinan, R. (2015). Tweeting Taksim: Communication power and social media advocacy in the Taksim Square protests. *Computers in Human Behavior*, *50*, 499–507.

Soja, E. W. (2010). *Seeking spatial justice*. University of Minnesota Press.

Tahar, F., Mehan, A., & Nawratek, K. (2023). Spatial reflections on Muslims' segregation in Britain. *Religions*, *14*(3), Article 349.

Thompson, E. (2003). *Colonial citizens: Republican rights, paternal privilege, and gender in French Syria and Lebanon*. Columbia University Press.

Tohidi, N. (2002). The global-local intersection of feminism in Muslim societies: The cases of Iran and Azerbaijan. *Social Research: An International Quarterly*, *69*(3), 851–875.

Tong, R. (2009). *Feminist thought: A more comprehensive introduction*. Westview Press.

Vakil, S. (2011). *Women and politics in the Islamic Republic of Iran: Action and reaction*. Bloomsbury Publishing.

Varış Husar, S. C., Mehan, A., Erkan, R., Gall, T., Allkja, L., Husar, M., & Hendawy, M. (2023). What's next? Some priorities for young planning scholars to tackle tomorrow's complex challenges. *European Planning Studies*. Advance online publication. https://doi.org/10.1080/09654313.2023.2218417

Young, I. M. (2003). The logic of masculinist protection: Reflections on the current security state. *Signs*, *29*(1), 1–25.

Zamani, F., & Mehan, A. (2019). The abstract space and the alienation of political public space in the Middle East. *Archnet-IJAR: International Journal of Architectural Research*, *13*(3), 483–497.

About the Author

Asma Mehan (PhD) is a researcher, educator, and architect working at the intersection of architectural humanities and critical urban studies. She is currently an assistant professor at Texas Tech University College of Architecture. She is the author of the books *Tehran: From Sacred to Radical* (Routledge, 2022) and *Kuala Lumpur: Community, Infrastructure, and Urban Inclusivity* (Routledge, 2020). She has authored over 50 articles and essays in scholarly books and professional journals in multiple languages, such as English, Persian, and Italian, on critical urban studies, architecture, urban planning, housing, and heritage studies.

Urban Planning
2024 • Volume 9 • Article 7083
https://doi.org/10.17645/up.7083

cogitatio

ARTICLE

Open Access Journal

Social Media Groups in Interaction With Contested Urban Narratives: The Case of Koper/Capodistria, Slovenia

Tim Mavrič [1] and Neža Čebron Lipovec [2]

[1] Creativity and Society Research Group, InnoRenew CoE, Slovenia
[2] Faculty of Humanities, University of Primorska, Slovenia

Correspondence: Tim Mavrič (tim.mavric@innorenew.eu)

Submitted: 28 April 2023 **Accepted:** 14 August 2023 **Published:** 16 January 2024

Issue: This article is part of the issue "Citizen Participation, Digital Agency, and Urban Development" edited by Simone Tappert (University of Applied Sciences Northwestern Switzerland), Asma Mehan (Texas Tech University), Pekka Tuominen (University of Helsinki), and Zsuzsanna Varga (University of Glasgow), fully open access at https://doi.org/10.17645/up.i327

Abstract

Social media is arguably the most widespread tool for digital communication in Europe and worldwide, which makes it particularly important to investigate how this type of communication tool affects and reflects the processes that shape the urban physical and socio-cultural environment. Its influence on urban realities may be twofold: On one side we can use it as a reflection (or extension) of the processes that occur on the ground; on the other side, the specific ways in which social media operate might influence processes that shape the urban environment. This interaction between the urban and digital spaces is increasingly influencing how collective memory and related heritage discourses are shaped, transformed, and contested. In this article, we present the case of Koper (Italian: Capodistria), the main seaside harbour town of Slovenia, which faced a deep demographic and socio-cultural transformation in the aftermath of the Second World War. Its historic urban core became a deeply contested urban environment, where a hegemonic historical narrative clashed with several subaltern ones. The dissonance between contested narratives has re-emerged in the digital space through a handful of history-oriented Facebook groups in recent years. We analyse how digital tools have influenced the dynamics between the contested narratives and how these refer to specific locations within the town or to its historic urban core as a whole.

Keywords

Capodistria; contested spaces; dissonant heritage; Facebook groups; Koper; memory narrative; Slovenia

1. Introduction

Social media represent a pillar of participatory culture (H. Jenkins et al., 2006). They form "one of the most important platforms to promote the public participation process in urban heritage in the process of rapid urbanisation" (Liang et al., 2021, p. 1), primarily because they give a voice to a broad range of stakeholders. They can reveal how people interact with physical heritage and socially construct meanings and values (Giaccardi, 2012, p. 3; Liang et al., 2021, p. 1). As a polygon of "heritagisation" processes (Harvey, 2001), they allow subaltern and dissenting heritage discourses (Smith, 2006) to be voiced and shared. Digital technologies can also become facilitators of people-centred approaches to heritage (Liang et al., 2021, p. 1; Silberman & Purser, 2012, p. 13) since they carry the potential to promote mutual understanding among people and groups of different cultural or ethnic provenience (Psomadaki et al., 2019). They can also unveil a sense of place and place attachment as the "symbolic relationship formed by people giving culturally shared affective meanings to a particular space that provides the basis for the individual's and group's understanding of and relation to the environment" (Altman & Low, 1992, p. 165). Yet, heritage sites are inherently dissonant, often explicitly contested spaces "where conflicts in the form of opposition, confrontation, subversion, and/or resistance engage actors whose social positions are defined by differential control of resources and access to power" (Low & Lawrence-Zuñiga, 2003, p. 18). Contestation can take many forms (G. Jenkins, 2008; Plüschke-Altof & Sooväli-Sepping, 2022), but is especially frequent in multi-ethnic or multicultural contexts, as the urban centres of northern Istria, in Slovenia, clearly show. So, social media can take an inverse role, creating homogenised, exclusive online communities, and co-creating discourses of misrecognition in the politics of heritage (Smith, 2022). Social media can thus illustrate the heritage dimension of urban space and the underlying social and cultural dynamics; these can play a major role in addressing urban development and planning, especially in issues of management of historic urban areas, particularly participatory approaches in conservation (Madgin & Lesh, 2021; Wells & Stiefel, 2019).

In this contribution we observe two local history-oriented Facebook groups related to the town of Koper (Italian: Capodistria), Slovenia, to investigate how this digital tool influences the dynamics of heritage and memory discourses in relation to the historic core. We scrutinise which, if any, useful outcomes for conservation and urban planning can be detected. The scope of our contribution is thus limited to an exploratory investigation based on a limited number of case studies. On a local level, the topic has not yet been examined through the lens of social media, although recently through an in-depth ethnographic study (Hrobat Virloget, 2021).

2. Research Approach

In contemporary heritage theory, it is now accepted that heritage is discursively constructed and thus represents a cultural process or practice, rather than a material artefact (Harrison, 2013; Smith, 2006). Stakeholders and communities play a key role within it while confronting hierarchies within themselves. Heritage is negotiated through memory, performance, identity, place, and dissonance, mainly using language and discourse as primary vectors (Smith, 2006, p. 4). Thus, intrinsic to the heritagisation process are memory narratives as a specific discourse type (Forchtner, 2021), because "it is through narrativity that we come to know, understand, and make sense of the social world, and it is through narratives and narrativity that we constitute our social identities" (Somers, 1994, p. 606). Memory narratives play a key role in the formation and reproduction of collective memory, while also using physical places as crucial references (Halbwachs,

2001). Group hierarchies within multicultural contested areas cause reactions where "hegemonic modes of claiming the past are contested and coexist with alternative heritage forms" (van de Port & Meyer, 2018, p. 2), the latter usually belonging to unheard or invisible social groups. Here we deal with "dissonant heritage," which "involves a discordance or a lack of agreement and consistency, which in turn immediately prompts the question, 'between what elements does dissonance occur?'" (Tunbridge & Ashworth, 1996, p. 20)—commonly between antagonistic memory narratives. Reproduction of official and authorised narratives is contested by dissenting counter-narratives or diasporic narratives within "communities of memory" of those formerly displaced (Silberman & Purser, 2012, p. 22). Within these discourse dynamics, emotion and affect seem to be central topics (Smith et al., 2019), with (mis)recognition performances (Smith, 2022).

In this democratisation process in the heritage field, people-centred approaches in built heritage conservation are gaining momentum (Wijesuriya et al., 2017), reflecting well-known issues of participatory planning (Sanoff, 2000) as well as trends in critical heritage theory. The potential of social media as a tool in such approaches, as well as for heritage research, was highlighted recently (Madgin & Lesh, 2021). In terms of methodology, critical heritage studies rely on critical discourse analysis, and thus on a broad interdisciplinary framework for linguistic analysis of texts concerning their social and cultural context (Wodak & Meyer, 2009), revealing power relations in society (Fairclough, 1989). Adapting Fairclough's (1989) framework to the scope of our inquiry, we scrutinised two local history-oriented Facebook groups, from which we selected four case studies (thematically connected selections of posts or comments) that we identified as dealing with dissonance in heritage and contested memory narratives. We use the three steps of description, interpretation, and explanation that reflect Fairclough's model of discourse with three concentric domains: text, (social) interaction, and (social) context. The formal linguistic analysis is covered here by text translations from Slovene with occasional pinpointing of significant formal features, and the language or dialect used. We focus here on the interpretation phase to detect discourse dynamics, text meanings, group affiliations, values, and emotional bonds. Following Fairclough's (1989) further subdivision of interpretation focused on "situational context" and "intertextual context," we focus on the latter. Situational context analysis is meaningful, especially since group rules, administrator activities, membership filtering, and the Facebook algorithm itself all introduce unequal power positions meant to structure communication within a group, commonly perceived as a community of equals. However, for our scope, we focus on intertextual context analysis, that is, linking the analysed discourse with the historical and cultural processes. The explanation phase structures the texts into dominant narratives and counter-narratives within the analysed cases. The three phases of analysis are used to form a matrix as a tool for text analysis.

3. A Contested Border Area

Northern Istria is part of the namesake peninsula in the Upper Adriatic. We use the term to refer to the sole coastal region of Slovenia, located between the Italian (northwest) and Croatian borders (south). Historically, the coastal strip with the towns of Koper, Izola, and Piran was inhabited by Romance-speaking populations, while the hilly hinterland was Slavic-speaking. Formally the area was part of the Venetian Republic until the end of the 18th century, which left a strong mark on historic urban architecture in the area. The last two centuries brought numerous shifts of borders and political regimes: The 19th century was marked by Austrian rule, which was followed by the Kingdom of Italy (1921–1943), a short German occupation (1943–1945), a period of temporary demarcation (1945–1947), the Free Territory of Trieste buffer-zone

state (1947–1954), the Socialist Federal Republic of Yugoslavia (1954–1991), and from 1991 to the present, the Republic of Slovenia (Guštin & Žitko, 2021; Pirjevec, 2007). The wider period of the Second World War is the principal historical context that shaped the current socio-cultural identities and memory narratives of the region. The interwar period was marked by the Fascist regime in Italy, which led to violent ethnic homogenisation policies towards Slovenes and Croats, lasting throughout the period and ranging from material to cultural annihilation (Pirjevec, 2007, p. 116; Pupo, 2021, Chapter 3). The Second World War was followed by a decade of international negotiations about a new borderline between Italy and Yugoslavia, which brought the Free Territory of Trieste with its dual military administrations (Pirjevec, 2007, pp. 369–377). Its partition between Italy and Yugoslavia in 1954 fundamentally transformed the demography of the area: By 1956, more than 90% of the pre-war urban population of Koper—mainly Italian-speaking—had left. Yugoslav authorities immediately started an industrialisation and urbanisation policy by choosing Koper as Slovenia's main seaport and regional industrial centre. Several waves of economic immigration allowed the repopulation of the historic core and the erection of new modernist neighbourhoods, both overseen by state-appointed architect Edo Mihevc, who combined modernist ideals of progress (with skyscrapers in historic cores and other sanitation measures) with vernacularist aesthetics (Čebron Lipovec, 2019). The described cultural, economic, and urban changes can be interpreted as a part of the "Yugoslavisation" process of the Istrian region (Hrobat Virloget, 2021; Kalc, 2019).

The population change remains a point of dispute in historiography, especially in the official national discourses: Italian discourses conceive it as an "exodus," and the displaced people as *esuli*, thus as a forced displacement; while in the Slovene historiography, the displaced are called *optanti*, those who could choose whether to leave or stay. Recent ethnologic and historiographic research (Hrobat Virloget, 2021; Kalc, 2019) showed that a high number of people were indeed, directly and indirectly, instigated to leave, while it also shows that ethnicity was not the sole reason. The few Italians who remained from the northern Istrian towns (about 8%) were immediately (in 1955) recognised as a national minority. Thus, in the Yugoslav period, a new identity (or identities) formed in the Slovene part of Istria based also on symbolic boundaries (Hrobat Virloget, 2021), as discussed in Section 5. The urban heritage of Koper played a minor role in this respect, which is reflected in the material condition of its historic core. Single prominent buildings aside, the historic urban fabric lacks maintenance, infrastructure upgrades, a lively street life, and an integrated heritage conservation approach. This degradation was also identified by sociological surveys (Hočevar, 1998; Medarić, 2014). We can at least partly attribute this to the inhabitants experiencing a "lack of 'longue durée' type bond with the environment" (Hrobat Virloget, 2021, p. 224).

3.1. Northern Istrian Memory and Heritage Issues on Facebook

Since the early 2010s, Facebook emerged among the social media platforms with the widest audience worldwide (Brügger, 2015, pp. 7–8), arguably due to its versatility and accessibility. The Facebook groups feature, which allows communication spaces to form around a common topic or interest, is frequently mentioned in social research, but few analyse it in depth (Soukup, 2018, p. 6). By the middle of the decade, Facebook groups centred on local history became popular in Slovenia. They quickly developed into a medium for collective remembering of past places, events, and people, especially by sharing historic pictures. Posts tend to trigger diverse debates in the comment section, frequently about history, memories, and contemporary urban issues. Over time such groups evolved into significant public "proto-databases" of historical data and collective memory. Two such groups exist for Koper, listed in Table 1.

Table 1. Facebook groups centred on the history of Koper/Capodistria, Slovenia.

Name	Translated name	Date founded	Membership (as of July 2023)	Abbreviation
Koper, kot je bil nekoč–Capodistria com'era una volta	Koper, as it once was	July 16th, 2016	12,328	KKJBN
Kuopr anbot–Koper nekoč	Koper once upon a time	January 26th, 2020	5,916	KA–KN

In the following paragraphs, a preliminary characterisation of both groups is given, acknowledging the possibility that a large-scale discourse analysis of each group might offer different insights. The first Facebook group is called Koper, kot je bil nekoč–Capodistria com'era una volta (KKJBN) and it has a bilingual (Slovene and Italian) group description and rules section. Both aim to regulate and restrict content to pictures and information about the history of Koper, giving the administrators the authority to delete off-topic and inappropriate content, such as "postings not conforming to rules of communication in the media, advertising, political and ideological propaganda or disrespectful behaviour and insults among members" (KKJBN, n.d.). The group's founder was an Italian speaker (unclear whether a member of the local Italian minority or the *esuli*). Among the main post and comment contributors, we can find mainly Slovene majority members, but also occasionally some Italian minority members, and very rarely some of the *esuli*. The Slovene language is vastly prevalent; however, Italian appears occasionally. Interestingly, language use seems to be fluid and not strictly linked to group appurtenance, as Italian is used also by Slovene speakers, and vice versa. There are three administrators, who are among the most frequent contributors, but there are also numerous other frequent contributors marked as "top contributors" by Facebook's algorithm.

The second group, Kuopr anbot–Koper nekoč (KA–KN), has an exclusively Slovene description. The rules seem to be stricter here since unorganised and irrelevant pictures are deleted by the administrator. Also, contemporary pictures without historic counterparts are not accepted. The group does not sanction the posting of advertisements or political propaganda. However, the first sentence of the rules seems to be peculiar, since the group's aim is to provide "short descriptions of recent history—the official and the silenced one" (KA–KN, n.d.). A content overview reveals that the two administrators are the main daily contributors, with no other member playing a comparable role. The Slovene language is used almost exclusively, sometimes alternated with the local Slovene Istrian dialect. The circumstances of its creation deserve attention too. The founder and administrator of this group got involved in a heated debate within the KKJBN group. The debate crossed the line of acceptance by the group's administrators, and the related post was deleted, thus being inaccessible to us. Consequently, the founder of KA–KN declared that he was leaving the KKJBN group and starting a new one on January 26th, 2020. KA–KN can therefore be interpreted as a breakaway group from KKJBN, although many people are members of both.

4. Four Examples of (Conflicting) Narratives

4.1. The Statue of Nazario Sauro in Koper

The first example relates to the historical figure of Nazario Sauro (1880–1916), a native of Koper who became a fervent supporter of the Italian national movement, working extensively against Habsburg rule in

Istria and deserting the Italian navy during the First World War. His capture and execution by the Austrian authorities elevated him to a hero and a martyr in the Italian official discourse—the actual personification of Italian nationalism and irredentism in Istria. In 1935, the fascist-led municipality, supported by state authorities, erected a monument to Sauro in a prominent seaside location at the edge of the historic harbour. The monument was demolished by the German occupation authorities in 1944. Today the area is denominated as Ukmar Square, after the Slovene partisan hero Anton Ukmar (1900–1978). Currently, a parking lot and a small park occupy the square, with no trace of the monument. The figure of Nazario Sauro is a relatively unknown figure in the collective memory of the current population. There are no public commemorative efforts (monuments, tags, signs, street names) dedicated to him, not even on his house of birth in the historic Bošadraga quarter. It can be considered an example of "negative heritage" (Meskell, 2002, p. 558) for the Slovene majority, and therefore removed from public memory and discourse. On the other hand, nearby Trieste erected a monument to him in 1966, on an important part of the city's waterfront that also bears his name. A picture of the former monument in Koper was posted in the KKJBN group on February 13th, 2017, at 9:28 PM, collecting 52 comments in total. In Table 2 we analyse six representative ones.

Table 2. Selected comments from a post of the Nazario Sauro monument in KKJBN group from February 13th, 2017.

No.	Translated post	Timestamp	Interpretation	Explanation
1	Fu** it, you shouldn't have posted this irredentist and nationalist up here!	February 13th, 2017, 9:35 PM	1. Disapproves of the original post. 2. Condemns the historical personality and monument. 3. There's an association with Italian nationalism and hostility towards Slavs.	Dominant narrative
2	History should not be erased.	February 13th 2017, 9:46 PM	1. Recognises a multifaceted history and, implicitly, the right to remember a historical personality, regardless of its political connotation.	Counter-narrative
3	It was marvellous.	February 14th, 2017, 8:28 PM	1. Acknowledges the aesthetic quality of the monument.	Counter-narrative
4	It is interesting that Italians tend to ask through official channels when the monument will be re-erected. I was told so by the late prof. Valerij Novak, when he was still the president of the Social Activities Office at the Koper Municipality. I hope that we won't erect monuments to fascists in Koper, too.	February 19th, 2017, 10:58 AM	1. Designates the historical personality as a "fascist," condemning the tendency of the Italian state to continue publicly commemorating nationalist and irredentist figures. 2. The implications that a similar practice may take place in Koper is seen as negative.	Dominant narrative

Table 2. (Cont.) Selected comments from a post of the Nazario Sauro monument in KKJBN group from February 13th, 2017.

No.	Translated post	Timestamp	Interpretation	Explanation
5	Ljubo, Nazario Sauro 1880–2016, born in Koper, defector to Italy, hanged by the Austrians as an Italian irredentist after they caught the whole crew of the submarine that crashed on rocks in the Kvarner gulf. He wanted to attack the Rijeka harbour with it. It was WWI, we cannot be sure if he would become a fascist in 1922. However, if his monument had survived until 1945, it could have become a peculiar contrast to the fact and to the efforts of our side regarding the decision that Istria was annexed to Yugoslavia. A peculiar example of a tragic personality of that time, of that Europe.	February 19th, 2017, 7:19 PM	1. Reply to comment no. 4 (directly addressing the author). 2. Clarifies some historical facts about Sauro's death and problematises his designation as "fascist," since his death preceded the forming of the fascist party. 3. Outlines the contrast of the memorial against the dominant narrative after 1945. 4. Calls Sauro a "tragic historical figure."	Counter-narrative
6	A tragic personality? Are you sleepwalking? Educate yourself, come on.	February 19th, 2017, 7:32 PM	1. Reply to comment no. 5. 2. condemns the designation of Sauro as a "tragic historical figure" (in the form of a rhetorical question), reinforced by claims of poor rationality and education on the part of the commentator.	Dominant narrative

The former monument location (Ukmar Square) is thus a dissonant heritage site, being contested through discourse on Facebook. We identified two distinct memory narratives. The dominant narrative is congruent with the former Yugoslav and the current Slovene official historical narrative. It pictures Sauro not just as an irredentist and nationalist, but also as a fascist. It argues that memory of him is rightly ignored and erased in the public sphere, as he represented an ideology hostile to the Slovene population. The dominant narrative exhibits a high degree of coherence, where condemnation of Sauro (and of the ideology he is a symbol of) is perceivable by all its advocates. Its dominant position is reaffirmed in one case by calling into question the reasoning and education levels of an alternative reading proponent. On the other hand, we have the counter-narrative, which is much less coherent. Here we encounter calls to represent history objectively (including its negative sides), recognition of the monument's aesthetics, and calls for historical accuracy. However, no dissenting opinion gives an overtly positive outlook of Sauro's figure. It is also relevant to note that Italian minority members, usually active in the group, did not react to the post, which hints at a deliberate silence (Hrobat Virloget, 2021), while it illustrates alternative history readings within the Slovene majority itself. This is just a glimpse of the public discourse about the topic since the Sauro monument is a recurring theme within both

groups. A more comprehensive analysis would make sense to inform the planning activities of the municipality, which has already closed the parking lot in order to re-purpose and re-design the area ("Ukmarjev trg doživlja preobrazbo," 2023).

4.2. Main Square in Koper

The second example refers to Tito Square (named after Yugoslav president Josip Broz Tito). It is the main town square and features the most prominent historic buildings (with clear Venetian character): the cathedral with the bell tower, the Praetorian Palace (seat of the city council), and the *loggia*, a former public gathering space currently serving as one of the central cafeterias. The square also retains a highly symbolic value, dominating the town's media image and symbolising urban continuity since the 6th century AD. Today, the square still retains the role of the primary public space of the town, remaining the main location of major events, protests, and gatherings. We can interpret Tito Square as the urban space where institutional relations of power are most directly symbolised. The architecture speaks of the former dominance of Italian-Venetian culture, while its name and uses speak of the current Slovene and former Yugoslav dominance. In the KKJBN group, a picture from 1952 was posted on March 30th, 2020, at 7:28 PM, depicting Yugoslav People's Army soldiers dancing a traditional Balkan *kolo* dance in front of the cathedral. The author of the post explained that she understood the picture as depicting liberation and freedom from oppression, wishing to soon experience such a liberation also from the oppressing Covid-19 epidemic. A debate developed with 73 comments, one of which disagreed with the picture description, initiating a small sub-debate with 10 replies. In Table 3 we present the initial comment (comment no. 1) and a selection of replies:

Table 3. Selection of comments from a post of Tito square in KKJBN group from March 30th, 2020.

No.	Translated post	Timestamp	Interpretation	Explanation
1	Well, this was not really a joy for Koper. Just before that, most of the autochthonous population moved out, this for me is first of all a tormented and a brutal image.	March 30th, 2020, 9:01 PM	1. Shares a very negative interpretation of the picture, connected primarily with the exodus of Italians after the Second World War.	Counter-narrative
2	I cannot share your views! In the Habsburg monarchy, ethnicities were mixed everywhere. If the *optanti* decided for their own Italian country, this was their own decision. Italians that remained got special privileges, that Slovenes in Italy got with the protective law for Slovenes in 2001. As far as I know, those who decided to leave regretted this and they would still like to return, since they were abandoned by Italy; they lived many years in camps, which surely was not a nice thing!	March 30th, 2020, 10:20 PM	1. Reply to comment no. 1 (disagreement). 2. Frames the exodus as an act of free choice of the *esuli*, not a forced expulsion, as they perceive it; alludes to Italian minority rights in Slovenia (recognised immediately) and Slovene minority rights in Italy (recognised only in 2001). 3. Uses the pejorative term "privileges," iterating that many Italians regretted emigrating and were seeking to return (reinforcing the free choice narrative).	Dominant narrative

Table 3. (Cont.) Selection of comments from a post of Tito square in KKJBN group from March 30th, 2020.

No.	Translated post	Timestamp	Interpretation	Explanation
3	I cannot refrain from commenting. For some it was a joyful one. My father hoped that after the slaughter he could return to his native Trieste. But since it remained out of Slovenia, he did not return there. The picture above represents the end of suffering for many. Freedom. Unity. Power. That's why I compared it with the joy that we will experience at the end of this current state. It does not have any political basis. I would be happy to see my father in the picture, who finally started to live freely.	March 31st, 2020, 8:09 AM	1. Reply to comment no. 1 (disagreement). 2. Agrees with the original post, reconnecting it with personal memories of a parent who wished to return to native Trieste (originally liberated by the Yugoslav army in 1945 but then ceded to the allies). 3. Posits the original post as a carrier of basic values: liberation from oppression, freedom, unity, power.	Dominant narrative
4	Don't make me laugh….Hahaha. Evidently, it's the easiest thing to believe those in power!!!! (The first part of the comment is in Italian)	March 31st, 2020, 11:24 AM	1. Reply to comment no. 2. 2. Rebuts the original post as laughable and suggests the presented story is untrue, artificially crafted by state propaganda.	Counter-narrative

The debate evolved around two main topics: feelings and values emanating from the image on one side, and the nature of the Italian exodus on the other. The dominant narrative connects the picture with positive feelings and values (such as freedom, unity, and power), and takes pride in Slovene and Yugoslav culture taking a position in the symbolic centre of the town. The exodus is also clearly defined as a voluntary choice of the former Italian-speaking inhabitants, who supposedly left without any coercion by Yugoslav authorities. Besides that, we also find comparisons between Slovene and Italian minority rights (that supposedly favour the Italians) and a latent grief for the fact that Trieste became part of Italy. All these are typical elements of the dominant history and memory narrative among the Slovene majority (Hrobat Virloget, 2021). The much less outspoken counter-narrative is nevertheless more coherent than previously. The partial use of Italian in one of the replies (Table 3, comment no. 4) could indicate an Italian minority member's contribution to the counter-narrative. It focuses on revealing the deceiving nature of the dominant narrative and on exposing more nuanced connotations (even if not negative and painful) of certain events linked to Tito Square. This points to its dissonant heritage nature, which should be taken into consideration when planning heritage conservation, interpretation activities, and future uses.

4.3. The Historic Core of Koper and Its Name

Next is the analysis of selected posts from the KA–KN group, which mostly refer to the historic urban core as a whole. As mentioned, the group was formed as a "breakaway" group from KKJBN in February 2020 to unveil "silenced recent history," as the founders claim. Table 4 reports three posts. The first one includes a

historic engraving of the waterfront. The second post is on a postcard from 1898 representing Brolo Square and includes original handwriting with personal names and a dedication. The third post is on a map of the local Italian dialectal area, taken from a book written by a locally residing dialectologist.

Table 4. Selection of posts from KA–KN group related to the historic core of Koper/Capodistria, Slovenia.

No.	Translated post	Timestamp	Interpretation	Explanation
1	Did you know, that the name Kuopr/Kopr/Copr is older than Capodistria? In Roman times Aegida became Capris. Later they renamed the town Iustinopolis in honour of the Byzantine emperor, but Capris stayed as the vernacular name until the official renaming to Caput Histriae by the Aquilea patriarchs, who had their own governor in the town in the early 13th century. Since Slovenes inhabited these lands at least since the 7th century, clearly Kuopr was derived from Capris much before Capodistria, which was adopted by the Venetians when they superseded the patriarchs at the end of the 13th century. Of course, this does not come from some communist books, neither was it recounted to me by some 100-year-old grandmother, as some "people of good will" insinuated to me. The source is a renowned 19th-century historian from Trieste.	January 26th, 2020, 6:47 PM	1. Frames the toponym "Koper" as older than the toponym "Capodistria," underlining the continuity of Slovene (not Slavic) inhabitation in Istria, while omitting the continuity of Romance-speaking communities.	Dominant narrative
2	A postcard of Brolo Square sent in 1898 to the city of Brescia, to Miss Golob with greetings from Slavica Pavlovič, Maršič Viktorija, etc. The media are convincing us that just Italians lived in Koper. Can we believe them?	April 24th, 2020, 9:39 AM	1. Transliterates names and surnames from the postcard into modern Slovene script. 2. Presents the etymology of surnames as a proof of national affiliation and presence of the Slovene community in Koper.	Dominant narrative

Table 4. (Cont.) Selection of posts from KA–KN group related to the historic core of Koper/Capodistria, Slovenia.

No.	Translated post	Timestamp	Interpretation	Explanation
3	Last time Stanko used the sentence: "Concealed history is the worst deception." This holds true also for this map of our area, with indication of spoken languages and dialect, the work of a known "coastal expert." Although, it's not clear for which era this holds true, I hope this is reported in her book, but this is not the main problem. I personally see a much bigger problem that the whole coastal area is represented as if there were no Slovenes here, even if they came before the Venetians. I think it is an extreme deception, since the author cared so much to mark such a small "enclave" as Valmarin, with just a few farms as exclusively Istro-Venetian, but hasn't designated Koper as Slovene-speaking or mixed, even if we know that over the centuries it always had from a few hundred to a few thousand Slovenes. We as Slovenes don't need an outside enemy!	July 26th 2021, 10:35 PM	1. Protests because the map does not represent Koper as a Slovene-speaking or ethnically mixed area. 2. Claims the continuous presence of a small Slovene-speaking minority in Koper for a longer historical period. 3. Asserts that Slovenes have an internal enemy, which is consciously concealing a part of history to the public.	Dominant narrative

The analysis unveils some common traits. One is a reinforced autochthonist interpretation of history, that seeks to anchor Slovenes in the culture of pre-exodus Koper, especially by arguing that a sizable Slovene minority was historically present, downplaying the role of Italian culture. Official historiography (including the latest research) does not deny Slovene presence in pre-war Koper, but it also overwhelmingly agrees about the predominant Romanic nature of the town continuously from the Romans to the Second World War. This narrative frames the official historiography as an enemy, explicitly referring to an inner enemy (Slovene counter-narrative adherents and the Italian minority), which also implies external enemies (the Italian state and the *esuli*). The Second World War-rooted antagonism between Italians and Slovenes is perpetuated into the present time by reinforcing a locally rooted defensive brand of Slovene nationalism that conceptualises Slovenes as blameless victims of Italians in perpetuity. Interestingly, the presented discourse seeks to reinforce the dominant narrative with a new element, a discursive reconstruction of the historic urban core as a Slovene "ancestral homeland" within the digital realm. We could interpret this as a possible answer to the "lack of 'longue durée' type bond" (Hrobat Virloget, 2021, p. 224). The presented discourse

also narrows opportunities to engage in intercultural dialogue to mediate new, more inclusive narratives, as the dissonant heritage is mobilised on a trajectory of misrecognition (Smith, 2022, p. 625), within a digital space that instead of transcending, reinforces symbolic boundaries, producing isolated and mutually disengaged groups (Silberman & Purser, 2012, p. 18).

4.4. Giardinetto

A rather different perspective on local memory narratives is provided by the so-called *Giardinet* or *Giardinetto* (Italian dialectal and standard forms for "small garden" and "children's playground"), a smaller open space, or square without an official denomination. Historically a kitchen garden, it was transformed into a park in the late 19th century, turned into a children's playground in the mid-1950s, and covered with asphalt in the early 1970s to become a car park. In 2022 the parking was removed, with a few benches and olive trees placed in the now pedestrianised space as a temporary intervention. As the new programme and aesthetics are not yet defined, it was taken as a case study of anthropological research (started in September 2022 and is ongoing) to promote a participatory approach to built heritage conservation. Since then, several *Giardinetto*-related posts have appeared on both Facebook groups; here we will report comments from three of them (Table 5). The first is from the KA–KN group and represents a picture of two children playing on a playground carousel (posted on October 12th, 2022, at 6:04 PM). The other two are from the KKJBN group (November 10th, 2022, at 11:49 AM, and May 25th, 2023, at 5:08 PM) and both contain past and contemporary pictures of the square.

Table 5. Selection of comments from different posts in both analysed Facebook groups related to the Giardinetto.

No.	Translated post	Location/Timestamp	Interpretation	Topics
1	This was the most beautiful place, where I played as a child. In the back there is a glimpse of the door of my home. Here I played, here I was at home. Nice memories.	KA–KN Post: October 12th, 2022, 6:04 PM Comment: October 13th, 2022, 1:02 AM	1. Speaks of memories of childhood playground and home.	Childhood memories
2	I remember this park. The door on the right is where Feručo Mikolič lived, the first window on the right is where Šare Milovan and Ivica lived. Above them there was Muto, as we called him. On the extreme left Leon Bradaševič.	KA–KN Post: October 12th, 2022, 6:04 PM Comment: October 13th, 2022, 7:12 PM	1. Speaks of memories of past inhabitants of surrounding buildings.	Childhood memories
3	Hey, you remember everything like they were standing right in front of you now, you forgot to write that next door there was your house, where we used to take a shortcut over the yard gate to Kidričeva street.	KA–KN Post: October 12th, 2022, 6:04 PM Comment: October 13th, 2022, 8:17 PM	1. Reply to comment no. 2, adding an account of a shortcut over a private courtyard to the nearby street.	Childhood memories

Table 5. (Cont.) Selection of comments from different posts in both analysed Facebook groups related to the Giardinetto.

No.	Translated post	Location/Timestamp	Interpretation	Topics
4	*Giardinetti* = *betonetti*...with olives, that are not and must not become decorative trees. An olive is an olive. A noble tree that rewards us. Besides that, the squares of Koper need shade, deciduous trees with large canopies.	KKJBN Post: November 10th, 2022, 11:49 AM Comment: November 10th, 2022, 2:57 PM	1. An utterance of the informal name of the place, a pun/rhyme to express criticism of the excessive use of concrete for shaping public urban surfaces. 2. Criticises the use of olive trees as decorative urban trees. 3. Proposes a vision of large, deciduous trees for the square.	Visions for the future
5	Terrible. The asphalt must be removed and the squares and streets must become paved again. I cannot stand asphalt, it's just for roads. The square needs more greenery, not these poor olives, but actual deciduous trees that will offer shade and embellish the place. Everything is possible if the will is there. Above the underground garage trees are thriving, then plant them here too! [five tree emojis]	KKJBN Post: November 10th, 2022, 11:49 AM Comment: November 10th, 2022, 11:27 PM	1. Criticises asphalt paving instead of stone paving on public urban surfaces. 2. Proposes a vision of large, deciduous trees for the square and compares them with the nearby Museum Square, where trees are planted in a limited depth above an underground garage. 3. Emojis are used to reinforce the commentator's opinion.	Visions for the future
6	The mandatory stop from JPV school to home.	KJKBN Post: May 25th, 2023, 5:08 PM Comment: May 25th, 2023, 5:51 PM	1. Shares memories of childhood, specifically of the path from elementary school to home, where a frequent stop was the playground.	Childhood memories
7	Via Garibaldi & Giardinetto [heart emoji]	KJKBN Post: May 25th, 2023, 5:08 PM Comment: May 26th, 2023, 12:00 PM	1. An utterance of the official street name and informal name of the square (both in the Italian language). 2. The emoji signifies a positive emotional bond.	Childhood memories

In this case, a different kind of discourse is present. There is hardly any dissonance between established memory narratives, but rather dissonance between childhood memories and the current setting. We can thus detect two recurring themes: memories of a bygone past and proposals for future urban design. Personal memory sharing, where certain memories help other users evoke theirs (comments no. 2 and 3), contributes to the collective remembering process: a clear example of "remembering together" (Simon, 2012) as the main discourse type. Memories included accounts of the playground, of people who lived and played nearby, or of walking paths the children used. Also, the unofficial place name (Giardinetto) is a recurring theme, representing an element of "membership in a social collectivity" (Silberman & Purser, 2012, p. 15), where members of the same community, or online memory community, share the same knowledge, the same perception of value.

The design proposals focus on increased greenery, especially large deciduous trees to provide shade. The dislike for asphalt surfaces is clearly expressed and put forward as an antithesis to past realities and future visions, which both include lush greenery. We can thus detect a sense of nostalgia that reconnects both themes: The "good old happy days of childhood" when the square was still a park point to a nostalgic past that could be recreated as a progressive future. The nostalgia could also be read as "progressive nostalgia," or "nostalgia for the future" (Smith & Campbell, 2017), namely:

> [A] particular and unashamedly overtly emotional way of remembering that actively and self-consciously aims to use the past to contextualise the achievements and gains of present day living and working conditions and to set a politically progressive agenda for the future. (Smith & Campbell, 2017, p. 613)

At the same time, the online memory community identified itself as a collaborative stewardship for its shared heritage (Silberman & Purser, 2012, p. 21).

5. Discussion

The presented cases expose diverse discourse dynamics. The first three cases illustrate contestation: On the one hand, there is a coherent dominant narrative, aligned with the Slovene official one, reinforced by a locally rooted defensive brand of Slovene nationalism, where self-victimisation plays a central role. On the other hand, we have a timid and less coherent counter-narrative opening space for alternative interpretations of history and potential recognition processes (Smith, 2022, p. 625). Recently analysed symbolic boundaries (Hrobat Virloget, 2021, Chapter 4) in the fragmented local population provide the explanatory framework. Beyond the ethnic divide, the Slovene majority is divided into first-wave immigrants from neighbouring border regions (occurring before and during the exodus), second-wave immigrants from continental Slovenia (coming after the exodus), and third-wave immigrants from former Yugoslav republics (coming in the 1960s and 1970s). First-wave newcomers integrated within a mostly Italian urban community, while the second wave of migrants already perceived Italians as a minority, a nuisance, a remnant of the "fascist past," becoming the principal promoters of the official narrative. The third wave of migrants usually have lower incomes and suffer marginalisation, representing the "ultimate other" from the Balkans. Ironically, they are the main inhabitants of the historic urban core of Koper, forming an almost "ghettoised" community, after the first two groups moved out to seek better accommodation in the outskirts. We can thus also observe a clear hierarchy of power positions along these symbolic boundaries (Hrobat Virloget, 2021, Chapter 4), identifying the authors of the reported dominant-narrative posts as the members or descendants of the second-wave migration.

The fourth case shows a nostalgia driven by "remembering together" (Simon, 2012) discursive practice, where a sense of belonging to a place of shared childhood memories takes precedence. Interestingly, the involved urban space is not a spatial or symbolic landmark, unlike in the first two cases, but an intimate and often overlooked square, degraded and without an official name. This process seems to have helped to transcend the symbolic boundaries at least temporarily, and the contestation of narratives, usually triggered by dissonant heritage, seems absent. By rediscovering a "lost space," social media encouraged the development of an emotional community, which in turn fostered social capital, through "progressive nostalgia" (Smith & Campbell, 2017), and civic engagement by highlighting tangible and, especially,

intangible qualities of this heritage site, otherwise overlooked by statutory heritage approaches (Gregory & Chambers, 2021, p. 61). Working on its revitalisation by engaging with places such as the *giardinetto*, the historic core of Koper, if recognised as an example of dissonant heritage, could work as a platform for mutual recognition of different heritage and memory narratives and identification of "shared heritage" (Küver, 2021) on a larger scale.

Readiness to redefine identities and the historic narratives that are backing them seems a requirement for the above, since "identity is fluid and can, and often must, change, particularly in the case of privileged groups, as part of the process of recognition" (Smith, 2022, p. 625). The re-engagement of the heritagisation process is where people-centred approaches could be at the forefront. The critical heritage studies framework is slowly entering the conservation practice (Avrami & Mason, 2019; Chitty, 2017), including the historic urban landscape approach (Bandarin, 2019; Wijesuriya et al., 2017), which offers a broader framework to introduce the rich existing corpus of methods and techniques (see Clark, 2019; Low, 2018) to feed the decision-making process within the urban planning process in relation to heritage preservation. Aside from the well-established methods and techniques (e.g., charette, focus groups, workshops) many of these can be transposed online (mapping, storytelling, memory sharing, etc.). Social media, if properly managed, may in this sense provide an inclusive and accessible tool to research and identify values that can inform the significance-assessment process (Liang et al., 2021, p. 1).

6. Conclusions

In this brief contribution, we confirmed the potential of local history-oriented Facebook groups as valuable resources to research contested memory narratives related to dissonant heritage sites, using discourse analysis. We observed how Facebook groups re-created the discourse dynamics in society, either by reflecting and amplifying existing narratives (while allowing open contestation) or by aiding collective remembering processes that go beyond them. During the process, implicit or explicit inputs for planning are generated, mainly by highlighting the intangible dimensions of the historic environment (Gregory & Chambers, 2021, p. 60). The analysed posts and comments, however, represent just a small part of all conversations present in the examined Facebook groups. For a more comprehensive understanding of their discourse dynamics, and to help understand the evolution of groups over time, a larger sample of texts and cases would be needed. Situational context analysis with a comprehensive assessment of administrators' roles is also a path for future research. Before exploiting Facebook groups as a tool for heritage conservation and management, more research is needed to define adequate methodologies for extrapolating insights and data for planning and intervention.

Acknowledgments

This article is based upon work from COST Action DOPMADE, CA18204, supported by COST (European Cooperation in Science and Technology).

Funding

The authors gratefully acknowledge the European Commission for funding the InnoRenew CoE project (Grant Agreement #739574) under the Horizon2020 Widespread-Teaming program and the Republic of Slovenia (Investment Funding of the Republic of Slovenia and the EU of the European Regional Development Fund). The publication of this article was enabled by the project The Potential of Ethnographic Methods in

the Conservation of Built Heritage in Contested Places, the Case of Northern Istria (Z6–3226, Slovenian Research Agency).

Conflict of Interests

The authors declare no conflict of interests.

References

Altman, I., & Low, S. M. (1992). *Place attachment: A conceptual inquiry*. Plenum Press.

Avrami, E., & Mason, R. (2019). Mapping the issue of values. In E. Avrami, S. Macdonald, R. Mason, & D. Myers (Eds.), *Values in heritage management: Emerging approaches and research directions* (pp. 9–33). Getty Conservation Institute.

Bandarin, F. (2019). Reshaping urban conservation. In A. Pereira Roders & F. Bandarin (Eds.), *Reshaping urban conservation. The historic urban landscape approach in action* (pp. 3–20). Springer.

Brügger, N. (2015). A brief history of Facebook as media text: The development of an empty structure. *First Monday*, *20*(5). https://firstmonday.org/ojs/index.php/fm/article/view/5423/4466

Chitty, J. (Ed.). (2017). *Heritage, conservation and communities. Engagement, participation and capacity building*. Routledge.

Clark, K. (2019). *Playing with the past. Exploring values in heritage practice*. Berghahn.

Čebron Lipovec, N. (2019). Post-war urbanism along the contested border: Some observations on Koper/Capodistria and Trieste/Trst. *Dve domovini/Two Homelands*, *2019*(49), 199–220. https://doi.org/10.3986/dd.v0i49.7261

Fairclough, N. (1989). *Language and power*. Longman.

Forchtner, B. (2021). Introducing "narrative in critical discourse studies." *Critical Discourse Studies*, *18*(3), 304–313.

Giaccardi, E. (2012). Introduction: Reframing heritage in a participatory culture. In E. Giaccardi (Ed.), *Heritage and social media: Understanding heritage in a participatory culture* (pp. 1–10). Routledge.

Gregory, J., & Chambers, S. (2021). Longing for the past: Lost cities on social media. In R. Madgin & J. Lesh (Eds.), *People-centred methodologies for heritage conservation: Exploring emotional attachments to historic urban places* (pp. 41–64). Routledge.

Guštin, M., & Žitko, S. (2021). *Slovenska Istra 2: Zgodovina in družba*. Slovenska matica.

Halbwachs, M. (2001). *Kolektivni spomin*. Studia humanitatis.

Harrison, R. (2013). *Heritage: Critical approaches*. Routledge.

Harvey, D. (2001). Heritage pasts and heritage presents: Temporality, meaning and the scope of heritage studies. *International Journal of Heritage Studies*, *7*(4), 319–338. https://doi.org/10.1080/13581650120105534

Hočevar, M. (1998). Analiza revitalizacijske problematike Koprskega mestnega jedra: Fizični prostor in družbene vsebine. *Annales: Series Historia et Sociologia*, *8*(12), 79–94.

Hrobat Virloget, K. (2021). *V tišini spomina: "Eksodus" in Istra*. Založba Univerze na Primorskem; Založništvo tržaškega tiska.

Jenkins, G. (2008). *Contested space: Cultural heritage and identity reconstructions: Conservation strategies within a developing Asian city*. LIT Verlag.

Jenkins, H., Puroshotma, R., Clinton, K., Weigel, M., & Robison, A. J. (2006). *Confronting the challenges of participatory culture: Media education for the 21st century*. MacArthur.

Kalc, A. (2019). The other side of the "Istrian exodus": Immigration and social restoration in Slovenian coastal towns in the 1950s. *Dve domovini/Two Homelands*, *2019*(49), 145–162.

Kuopr anbot–Koper nekoč. (n.d.). *About*. Facebook. https://www.facebook.com/groups/kuopranbot

Koper, kot je bil nekoč–Capodistria com'era una volta. (n.d.). *About*. Facebook. https://www.facebook.com/groups/1569679486669759

Küver, J. (2021). The politics of shared heritage: Contested histories and participatory memory work in the post-colonial urban landscape. In M.-T. Albert, R. Bernecker, C. Cave, A. C. Prodan, & M. Ripp (Eds.), *50 years world heritage convention: Shared responsibility—Conflict & reconciliation* (pp. 139–150). Springer.

Liang, X., Lu, Y., & Martin, J. (2021). A review of the role of social media for the cultural heritage sustainability. *Sustainability*, *13*(3), Article 1055. https://doi.org/10.3390/su13031055

Low, S. M., & Lawrence-Zuñiga, D. (2003). Locating culture. In S. M. Low & D. Lawrence-Zuñiga (Eds.), *The anthropology of space and place*: *Locating culture* (pp. 1–48). Wiley.

Low, S. M., Simpson, T., & Scheld, S. (2018). *Toolkit for the ethnographic study of space – TESS*. City University of New York.

Madgin, R., & Lesh, J. (2021). *People-centred methodologies for heritage conservation: Exploring emotional attachments to historic urban places*. Routledge.

Medarić, Z. (2014). Pogledi prebivalcev na življenje v starem mestnem jedru Kopra. In T. Žakelj, M. Koderman, B. Bugarič, & T. Cotič (Eds.), *Koper živi? Vključevanje prebivalcev v urejanje javnega prostora* (pp. 69–86). Univerzitetna založba Annales.

Meskell, L. (2002). Negative heritage and past mastering in archaeology. *Anthropological Quarterly*, *75*(3), 557–574.

Pirjevec, J. (2007). *"Trst je naš!" Boj Slovencev za morje (1848–1954)*. Nova revija.

Plüschke-Altof, B., & Sooväli-Sepping, H. (2022). *Whose green city? Contested urban green spaces and environmental justice in Northern Europe*. Springer.

Psomadaki, I., Dimoulas, C. A., Kalliris, G. M., & Paschalidis, G. (2019). Digital storytelling and audience engagement in cultural heritage management: A collaborative model based on the digital city of Thessaloniki. *Journal of Cultural Heritage*, *36*, 12–22.

Pupo, R. (2021). *Adriatico amarissimo: Una lunga storia di violenza*. Laterza.

Sanoff, H. (2000). *Community participation methods in design and planning*. Wiley.

Silberman, N., & Purser, M. (2012). Collective memory as affirmation: People-centred cultural heritage in a digital age. In E. Giaccardi (Ed.), *Heritage and social media: Understanding heritage in a participatory culture* (pp. 13–29). Routledge.

Simon, R. I. (2012). Remembering together: Social media and the formation of the historical present. In E. Giaccardi (Ed.), *Heritage and social media: Understanding heritage in a participatory culture* (pp. 89–106). Routledge.

Smith, L. (2006). *Uses of heritage*. Routledge.

Smith, L. (2022). Heritage, the power of the past, and the politics of (mis)recognition. *Journal for the Theory of Social Behaviour*, *52*, 623–642.

Smith, L., & Campbell, G. (2017). "Nostalgia for the future": Memory, nostalgia, and the politics of class. *International Journal of Heritage Studies*, *23*(7), 612–627. https://doi.org/10.1080/13527258.2017.1321034

Smith, L., Wetherell, M., & Campbel, G. (2019). *Emotion, affective practices, and the past in the present*. Routledge.

Somers, M. R. (1994). The narrative construction of identity: A relational and network approach. *Theory and Society*, *23*(5), 605–649.

Soukup, P. A. (2018). Facebook: Changing the face of communication research. *Communication Research Trends*, *37*(1), 3–42.

Tunbridge, J. E., & Ashworth, G. (1996). *Dissonant heritage*: *The management of the past as a resource in conflict*. Wiley.

Ukmarjev trg doživlja preobrazbo. (2023, July 12). *Primorske novice*. https://primorske.svet24.si/2023/07/12/ukmarjev-trg-dozivlja-preobrazbo

van de Port, M., & Meyer, B. (2018). Introduction: Heritage dynamics, politics of authentication, aesthetics of persuasion and the cultural production of the real. In B. Meyer & M. van de Port (Eds.), *Sense and essence: Heritage and the cultural production of the real* (pp. 1–40). Berghahn.

Wells, J. C., & Stiefel, B. L. (2019). *Human-centered built environment heritage preservation: Theory and evidence-based practice*. Routledge.

Wijesuriya, G., Thompson, J., & Court, S. (2017). People-centred approaches: Engaging communities and developing capacities for managing heritage. In G. Chitty (Ed.), *Heritage, conservation, and communities: Engagement, participation, and capacity building* (pp. 34–50). Routledge.

Wodak, R., & Meyer, M. (2009). Critical discourse analysis: History, agenda, theory and methodology. In R. Wodak & M. Meyer (Eds.), *Methods for critical discourse analysis* (pp. 1–33). SAGE.

About the Authors

Tim Mavrič (MSc) is a historian and art historian, primarily focused on the research of architectural heritage and heritage conservation. He works as an assistant researcher at InnoRenew CoE at the Faculty of Mathematics, Natural Sciences and Information Technologies and the Faculty of Humanities of the University of Primorska (Slovenia). He is a PhD candidate and is focused on researching links between sustainability and heritage conservation in historic urban areas. He has been involved in many heritage research and interpretation projects.

Neža Čebron Lipovec (PhD) is an art and architectural historian, specialising in the conservation of monuments and sites (RLICC, KU Leuven), and in heritage studies. She has worked as a researcher and assistant professor at the Institute for Archaeology and Heritage at the Faculty of Humanities of the University of Primorska (Slovenia) since 2009. She has collaborated on several international projects while being an active member of the UNESCO Chair on interpretation and education for enhancing integrated heritage approaches at the University of Primorska.

Urban Planning
2024 • Volume 9 • Article 7156
https://doi.org/10.17645/up.7156

cogitatio

ARTICLE

Open Access Journal

National Map of Security Threats as a Citizen Involvement Tool for Planning Safer Urban Public Spaces

Paulina Polko [1] **and Kinga Kimic** [2]

[1] Security Studies Department, WSB University, Poland
[2] Institute of Environmental Engineering, Warsaw University of Life Sciences (SGGW), Poland

Correspondence: Paulina Polko (ppolko@wsb.edu.pl)

Submitted: 18 May 2023 **Accepted:** 17 August 2023 **Published:** 16 January 2024

Issue: This article is part of the issue "Citizen Participation, Digital Agency, and Urban Development" edited by Simone Tappert (University of Applied Sciences Northwestern Switzerland), Asma Mehan (Texas Tech University), Pekka Tuominen (University of Helsinki), and Zsuzsanna Varga (University of Glasgow), fully open access at https://doi.org/10.17645/up.i327

Abstract

The National Map of Security Threats (NMST) implemented in Poland in 2016 is a GIS-based tool for digital crime and threat mapping involving citizens in the processes of shaping local security by reporting hazards in their neighbourhood (volunteered geographic information). The map—open for external users—is a source of information about common threats to the safety of human life and health, property, and public order, taking into account their spatial distribution, in the opinion of its users. Among 26 reportable hazards, there are categories related to (1) Traffic, (2) Greenery, (3) Water, (4) Demoralisation and Vandalism, (5) Poverty, (6) Alcohol and Drugs, and (7) Animals. The study aims to investigate which threats reported by citizens are the most represented on the NMST. The study covered data collected based on public access to the map in the period from January–December 2022. The analysis of the results allowed us to conclude that the most common threats belong to the following categories: (1) Traffic, (2) Alcohol and Drugs, and (3) Greenery. While the first two categories are not a surprise for researchers, and their importance is confirmed by other studies, the category of Greenery—its condition, damage, etc.—becomes more and more important, which was not confirmed in previous studies. Recognizing this is crucial to support processes of planning and designing more secure public spaces.

Keywords

citizen participation; GIS; placemaking; Poland; security; urban public spaces; volunteered geographic information

1. Introduction

Crime and threat mapping is a process that has been going on since at least the 19th century when the first crime map was published in France in 1829. Its authors—Adriano Balbi and André M. Guerry—showed the relationship between the educational level, violence, and property crime in France (Hunt, 2019). Joseph Fletcher (in 1849) and Henry Mayhew (in 1861) produced maps that showed rates of male incarceration and county crime, respectively (Chamard, 2006). In the early 20th century, Clifford R. Shaw and Henry McKay mapped thousands of incidents of juvenile delinquency and analyzed the relationships between delinquency and various social conditions (Shaw & McKay, 1942).

The use of GIS has been another revolutionary step in crime mapping. The GIS, using geography and computer-generated maps, has enabled the police to plan effectively for emergency response situations, determine mitigation, prioritize, predict the future, and analyze past events. GIS helps to identify potential suspects, thereby increasing investigators' suspect base when no leads are evident (Johnson, 2000; Leitner, 2013; Mordwa, 2015; Santos, 2017). Using GIS software helps researchers visualize data, assess human behaviour over geographic space, and follow spatial patterns.

More and more advanced crime mapping methods have been used for several dozen years for imaging, analyzing, and, consequently, preventing and combating crime. The essence of modern mapping is not only the use of GIS and other available tools based on modern technologies but, above all, the involvement of citizens in the data collection process, referred to as volunteered geographic information (VGI), while maintaining the principle of voluntariness and anonymity and allowing universal access to collected data and its analysis. The data collected in this way makes it possible to supplement official reports prepared by the police at both the national and local levels. The analysis of the information obtained and the implementation of programs to improve local security allow the creation of safer public spaces.

1.1. Volunteered Geographic Information

The development of technology provides new tools that allow more and more precise determination of areas requiring the special attention of services and institutions responsible for ensuring the safety of users of public spaces. One of them is VGI, which involves geographic information created by volunteer citizens (Goodchild, 2007). It is an important element of the expansion and modernization of city monitoring, enabling e-participation to improve security. The data is generated by people actively participating in citizen science (Silvertown, 2009), social media (Longley & Adnan, 2016), or on the internet in general, as they all share the common characteristic of the voluntary and non-expert creation of geographic information (Zhang & Zhu, 2018). VGI, as a modern communication tool, represents a paradigm shift in the way geographic information is created and shared, as well as the content and characteristics of geographic information (Elwood, 2008). This is believed to be a novel phenomenon that will have a significant impact on geographic information science and geography and its relationship with society (Goodchild, 2007).

The link between criminology and geography, established through the process of geospatial mapping, has raised the rank of spatial location among the factors potentially related to crime (Ratcliffe, 2010). Each public space creates a separate environment, differentiated in terms of its spatial arrangement and the level of formal and informal social control. These features affect the frequency of occurrence of the so-called signs of disorder

(incivilities) and are associated with the greater or lesser vulnerability of space to problems related to crime and public disorder. Knowledge of the hazards associated with the space in which they occur can change the way individuals perceive the urban landscape. Formal and informal information exchange networks, including VGIs based on individual risk experiences, allow the mapping of potentially dangerous areas. This has an impact on day-to-day decisions regarding the visits to and general use of such spaces (Moura de Souza et al., 2022). Geospatial mapping technologies can also be used to develop statistical data to identify areas that are predisposed to generating threats—hot spots and hotlines. These are not accidental areas where more than average crime and public disturbances occur and where people are at higher risk of victimization (Eck et al., 2005; Nasar & Fisher, 1993; Ratcliffe, 2004). They require the special attention of services and institutions responsible for ensuring security. Tools such as VGI allow not only to detect existing particularly dangerous places but also to predict where new ones may appear.

Although there is much discussion in the literature about the representativeness of VGI, referring to the degree to which a sample consisting of VGI observations can represent the underlying population (Zhang & Zhu, 2018), there is no doubt that the identification of threats using this tool is a valuable supplement to data obtained from other sources. The National Map of Security Threats (NMST; Krajowa Mapa Zagrożeń Bezpieczeństwa in Polish) provides support for the police and other uniformed services in the field of mapping crime and threats (Ratcliffe, 2004), giving an in-depth picture in relation to what results from traditionally collected statistical data. It can significantly supplement the knowledge and understanding of different areas of the city in the context of security and facilitate the interpretation of the causes of crime hot spots. It also clearly indicates problems that are particularly important from the point of view of users of public spaces, because they are the ones who take the trouble to report on events considered important and inform about places that, in their opinion, require urgent improvement. The possibility of a more and more precise determination of areas requiring intervention with the use of modern technologies is very important for taking preventive measures (Klaka & Szafrańska, 2017).

1.2. National Map of Security Threats

The NMST was implemented in Poland as a GIS-based tool to involve citizens in the process of creation of local security and a source of knowledge about the perception of personal security of NMST users. It was established in 2016 after 12,000 meetings between police officers and local communities where the greatest threats in the area were discussed (Szyszka & Polko, 2020).

The NMST is an interactive tool (in the form of a mobile application or traditional website) that enables citizens to report online threats in their residential area (Krajowa Mapa Zagrożeń Bezpieczeństwa, 2022). Reports made by citizens are visible down to the exact street and number (if this can be indicated). The map allows for reports to be made in 26 hazard categories, presented in Table 1.

The reporting system used in NMST is assessed as simple and intuitive. The user clicks the “add report” red button, selects the threat type from the list of categories, and then indicates the reported location on the map by clicking on the right place or entering the address. In the report, the user can indicate the time of day or days of the week or if the threat occurs periodically, describe it in detail, and even attach a photo. Each time, the person entering the report is informed that in case of an emergency, the police should be contacted immediately by telephone through the indicated numbers. Each report is fully anonymous.

Table 1. Categories of events to be reported through the NMST.

Category	Hazard
Traffic	— Speeding — Illegal car rallies — Improper parking — Unguarded track crossings — Unguarded railway crossings — Inappropriate road infrastructure — Traffic incidents involving forest animals — Poor traffic organization
Greenery	— The burning of grass — Wild waste dumps — Illegal logging — Destruction of greenery — Driving quads in forest areas
Water	— Unguarded bathing sites — Dangerous places on the water — Drowning
Demoralisation and Vandalism	— Acts of vandalism — Groupings of minors at risk of corruption — The location of dangerous entertainment activities
Poverty	— A homeless person in need of assistance — Begging
Alcohol and Drugs	— Alcohol consumption in prohibited places — The use of drugs
Animals	— Wandering stray dogs — Animal abuse — Poaching

Source: Based on Krajowa Mapa Zagrożeń Bezpieczeństwa (2022).

Reports are marked with colours indicating their status: new (green), verification (yellow), confirmed (red), confirmed and reported to other institutions (violet), confirmed and eliminated (blue), and unconfirmed (grey). A citizen's report registered in the system appears on the map with a "new" status. Within a maximum of two days, it must be examined by the local coordinator appointed at the city (county, district) headquarters level and placed on a threat verification card. The verification may take a maximum of five days, which does not always make it possible to determine the validity of the report, especially in the case of incidental or seasonal events. After verification, the report is assigned a "confirmed" or "unconfirmed" status. Subsequent events from the same category in the same area and added in a short interval automatically receive the "confirmed" status. The data from the reports shows that every day residents indicate on the map over a thousand threats that, in their opinion, have a significant impact on their sense of security. By 5 October 2022, almost 2.5 million threat reports were recorded, more than 51% of which were confirmed by the police and actions were taken to eliminate them (Rachwalska, 2022). During the six years of the tool's operation, a total of 1,131,554 types of threats have been eliminated (Policja, n.d.-b).

Threats are visible on the map for a month from the moment of reporting and then they are archived. Therefore, if they appear regularly over a longer period of time, this means their continuous occurrence and little success of the services in terms of their elimination. The police report that the information posted by users on the map

over the six years of operation made it possible to: issue 100 tickets for incorrect parking in one day in one indicated location in Warsaw (September 2017); identify and arrest a speeding motorist moving at a speed of 119 km/h through a town with a speed limit of 40 km/h (September 2019); liquidate a stolen car holding point in Ostrołęka (March 2020); liquidate an illegal gambling point in Malbork (March 2021); seize 61,000 ampoules of steroids on the premises of an uninhabited property near Warka (March 2022); and arrest the perpetrator of an illegal dump site on Nysa Kłodzka thanks to accidentally discarded jewellery found on the spot (May 2022; Policja, n.d.-a).

Apart from some limitations (Polko, 2022), the NMST is a unique tool that allows citizens to report dangers or hazards in a given area while providing access to at least some of the data collected in this way. They can also follow the status updates and compare their reports with the reports of other map users. With the tool, they have an impact on safety in the neighbourhood and can gather information about its condition. The digital nature of this innovative tool allows for quick and anonymous reports which is an alternative to the visit to a police station.

1.3. Scope of the Study

The aim of the study, the results of which are presented in this article, was to analyse the NMST as a tool based on GIS and using the VGI approach to modern threat mapping using citizen involvement. During the research process, the following hypotheses were formulated:

> H1: Residents report clearly selected categories of threats that in their opinion are particularly burdensome and dangerous. The categories of threats with the greatest nuisance include areas such as Traffic, Demoralisation and Vandalism, and Alcohol and Drugs.
>
> H2: Despite its limitations, the NMST is an important source of information on the safety perception of citizens' residences and a useful tool not only for the geolocation of threats but also for building citizens' involvement in creating safer public spaces.

2. Materials and Methods

The study was conducted in the period from January–December 2022. Every three months (January, April, July, October, and then December), on the 15th day of each of the above-mentioned months, data for a given day was collected and entered into a separate table on the NMST. The data is summarized in Table 4 in the Supplementary Material. For further analysis, aimed at showing trends and verifying the research hypotheses, processed data or partial data was used. Each time, the actions performed on the data were marked.

The quantitative method of descriptive statistical analysis, which is appropriate to describe a large amount of collected data and allows to obtain key results regarding the studied phenomenon was used in the study. With this method, the collected raw data can be visualized and understood. To illustrate trends in reporting threats via NMST and responding to them, the mean (mathematical average) value was used. First, the collected data was simplified by presenting the results in the form of a mathematical average (mean) for a given category. This summary is presented in Table 2 and Figure 1. Basic data covered the general number of reports, which was then broken down into: New reports (added within the last 2 days); Reports under

Table 2. Mean values for hazard categories recorded in the NMST in 2022.

Category/Hazard		Number of reports (general)	New reports (added within last 2 days)	Reports under verification	Confirmed and eliminated reports	Unconfirmed	Confirmed	Confirmed % of all reports	Eliminated % of confirmed reports
Demoralisation and vandalism	Acts of vandalism	~1,337.6	~38.2	~186.6	~345.4	~105.2	~1,066.8	79.75	25.82
	Groupings of minors at risk of corruption	~1,441.4	~36.8	~959	~464.2	~117.8	~1,074.2	74.52	32.20
	The location of dangerous entertainment activities	~165.8	0	~1.4	~2.2	0,4	~165.8	100	1.33
Water	Unguarded bathing sites	~1.8	~0.2	~0.2	~0.2	~0,2	~1.14	63.33	11.11
	Dangerous places on the water	~128	~0.8	~5.2	~14	~4.2	~117.6	91.87	10.94
	Drowning	0	0	0	0	0	0	–	–
Greenery	The burning of grass	~52.2	~4.2	~13.6	~12.6	~6.4	~37	70.88	24.14
	Wild waste dumps	~4,293.2	~62.8	~196.6	~1,162	~219	~3,750.4	87.36	27.07
	Illegal logging	~106.4	~5.4	~25.8	~11.4	~24.8	~50.2	47.18	10.71
	Destruction of greenery	~289.4	~8.8	~60.2	~123.6	~32	~200.6	69.31	42.71
	Driving quads in forest areas	~259.4	~14.4	~33.2	~31.2	~42.4	~199.6	76.95	12.03
Traffic	Speeding	~25,693.8	~533	~1,354.4	~9,778.4	~985.8	~23,664.8	92.10	38.09
	Illegal car rallies	~584.8	~50.4	~113.8	~212.2	~154.8	~319.6	54.65	36.29
	Improper parking	~16,825.2	~328.4	~1,128.2	~5,233	~981.8	~14,985.8	88.92	31.10
	Unguarded track crossings	~28	~0.6	~2	~9.4	~1.8	~21.8	77.86	33.57
	Unguarded railway crossings	~30.8	~0.4	~2.4	~6.8	~1	~21.8	70.78	22.08
	Inappropriate road infrastructure	~8,706.6	~131.4	~328.2	~1,621	~224.6	~7,873.6	90.43	18.62
	Traffic incidents involving forest animals	~61.4	~0.8	~3	~23.8	~3.6	~55	89.58	38.76
	Poor traffic organization	~2,365.6	~33.6	~108.4	~228.6	~112	~2,118	89.53	9.66

Table 2. (Cont.) Mean values for hazard categories recorded in the NMST in 2022.

Category/Hazard		Number of reports (general)	New reports (added within last 2 days)	Reports under verification	Confirmed and eliminated reports	Unconfirmed	Confirmed	Confirmed % of all reports	Eliminated % of confirmed reports
Poverty	A homeless person in need of assistance	~220	~5	~20.4	~68.2	~17.8	~187.4	85.18	31.00
	Begging	~192.6	~8	~28.8	~67.4	~18.6	~158.2	82.14	34.99
Alcohol and Drugs	Alcohol consumption in prohibited places	~6,475	~205	~468.4	~2,436	~321	~5,849.4	90.34	37.62
	The use of drugs	~0.2	0	0	0	~0.2	0	0	–
Animals	Wandering stray dogs	~703.2	~21	~62	~184.6	~94.8	~496	70.53	26.25
	Animal abuse	0	0	0	0	0	0	–	–
	Poaching	~63.2	~3.4	~13.6	~18.2	~15.4	~37	58.54	28.79

Source: Based on Krajowa Mapa Zagrożeń Bezpieczeństwa (2022).

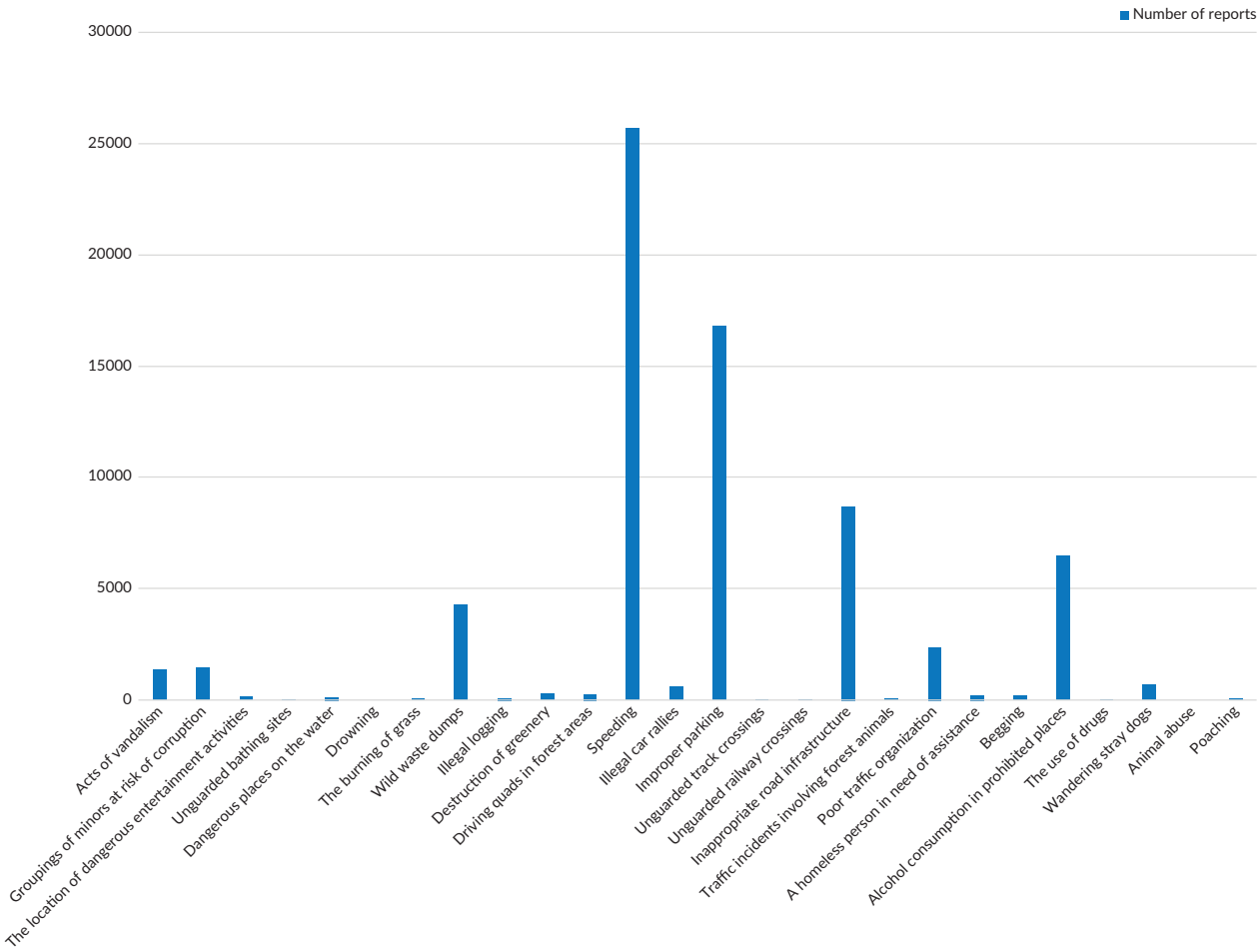

Figure 1. Average values for hazard categories recorded in the NMST in 2022. Source: Based on Krajowa Mapa Zagrożeń Bezpieczeństwa (2022).

verification; Confirmed and eliminated reports; Unconfirmed; Confirmed (including confirmed % of all reports); and Eliminated % of confirmed reports. This list made it possible to indicate the types of threats most frequently reported by citizens.

3. Results

The collected data made it possible to determine that two out of 26 types of threats reported using the NMST were not reflected at all in the data collected during 2022. They were drowning from the Water category and animal abuse from the Animals category. Due to the lack of reports in previous years, both of these types of threats have been removed from the options available for reporting after the NMST update in 2023. Data analysis shows that the five most frequently represented types of threats: speeding, improper parking, and inappropriate road infrastructure from the Traffic category; alcohol consumption in prohibited places from the Alcohol and Drugs category; and illegal dump sites from the Greenery category account for a total of 88.53% of all reports. Therefore, these are the dominant problems among those noticed by residents in 2022 and considered by them as important for improving the safety of urban public spaces.

Also noteworthy is the high percentage of confirmed reports. It ranges from 58.54% for a threat such as poaching to 100% in the case of the location of dangerous entertainment activities. In the case of 15 out of 24 types of threats (excluding the two above-mentioned threats with no reports), the percentage of confirmation of reported cases exceeded 75%. This means that citizens report real problems that they consider important in their environment and take the NMST seriously as a source of information and, at the same time, as a tool for shaping local security and public order.

The summary made it possible, as already indicated above, to isolate the key types of threats and the categories to which they belong. The most common type of reports appearing on the map are those related to speeding. The average for 2022 indicates 25,693.8 cases of reports visible on the map. This is more than 1/3 of all reports (36.69%). According to police data for the six years of operation of the NMST (October 2016–October 2022), this type of threat was reported the most often of all and covered 743,467 reports, of which more than half, i.e., 431,572, were confirmed. Thus, it can be indicated that citizens—guided by their subjective sense of security—consider speeding by car drivers to be the most serious threat in their neighbourhood. The detailed summary (Table 3) shows that the percentage of confirmed cases did not fall below 85% and even exceeded 96% in the selected months of 2022.

The second place was taken by another threat belonging to the Traffic category—improper parking. The average for 2022 indicates 16,825.2 reported cases visible on the map. This constitutes almost 1/4 of all threats reported by residents in all categories in the year in question (24.03%). According to police data, for the period of 6 years of operation of the NMST, a total of 588,552 reports were made in this category, of which 296,585—also more than half, as in the case of speeding—were confirmed. The percentage of confirmed cases did not fall below 82%, and in the selected months of 2022, it even exceeded 95%.

The third place among the most frequently reported threats was taken by inappropriate road infrastructure, also belonging to the Traffic category. The average for 2022 indicates 8,706.6 reports visible on the map. This represents 12.43% of all notifications in all threat categories. According to Police data, for the period of 6 years of map operation, a total of 147,358 reports were made in this category, of which 80,344 (more than half) were confirmed. The percentage of confirmed cases did not fall below 88%, and in the selected months of 2022, it even exceeded 93%.

The next two types of risk most frequently reported by citizens are included in the Alcohol and Drugs and Greenery categories. Alcohol consumption in prohibited places was ranked fourth after traffic hazards. The average for 2022 shows 6,475 reported cases visible on the map. This represents 9.25% of all reports. The detailed summary (Table 3) shows that the percentage of confirmed cases did not fall below 74%, and in the selected months of 2022, it even exceeded 97%. The fifth place among the reported threats was taken by Illegal dump sites. The average for 2022 indicates 4,293.2 reports visible on the map. This represents 6.13% of all reported cases. The percentage of confirmed cases did not fall below 81%, and in the selected months of 2022, it even exceeded 92%.

An important observation resulting from the collected data is the effectiveness of the police and other services in the area of eliminating the dangers reported by residents. While the collected data confirms that residents treat the map seriously and report real threat situations (as evidenced by the high percentage of reports confirmed by the police in the five types of threats discussed), their elimination is not as effective

Table 3. Top five most featured threats on the NMST in 2022.

Category/Hazard		Month of 2022	Number of reports (general)	New reports (added within last 2 days)	Reports under verification	Reports confirmed and eliminated	Unconfirmed	Confirmed	Confirmed % of all reports	Eliminated % of confirmed reports
Traffic	Speeding	I	23,281	404	1,155	12,599	653	21,069	90.49	59.79
		IV	25,084	460	1,830	7,380	1,367	21,432	85.44	29.42
		VII	25,671	556	1,233	8,990	789	24,356	94.88	35.02
		X	27,890	567	1,432	9,980	897	25,789	92.47	35.78
		XII	26,543	678	1,122	9,943	1,223	25,678	96.74	37.46
	Improper parking	I	15,731	295	895	7,135	724	13,817	87.83	51.64
		IV	15,942	304	1,249	4,379	1,181	13,209	82.86	27.49
		VII	16,789	332	1,344	3,443	879	14,356	85.51	20.51
		X	16,899	257	997	4,422	1,002	15,678	92.78	26.17
		XII	18,765	454	1,156	6,786	1,123	17,869	95.22	36.16
	Inappropriate road infrastructure	I	7,899	78	228	1,905	178	7,415	93.87	25.69
		IV	8,657	125	380	1,215	283	7,870	90.91	14.03
		VII	8,976	112	443	1,332	223	7,765	86.51	14.83
		X	8,994	133	367	1,888	241	7,986	88.80	20.99
		XII	9,007	87	223	1,765	198	8,332	92.51	19.59
Alcohol and Drugs	Alcohol consumption in prohibited places	I	6,688	136	294	3,684	232	6,026	90.10	61.13
		IV	5,440	118	639	1,513	614	4,069	74.80	27.81
		VII	7,890	345	768	2,345	180	7,680	97.34	29.72
		X	6,890	223	343	2,651	346	6,345	92.09	38.48
		XII	5,467	203	298	1,987	233	5,127	93.79	36.34
Greenery	Wild waste dumps	I	3,932	66	165	842	65	3,636	92.47	23.16
		IV	4,737	51	263	1,598	232	4,191	88.48	33.73
		VII	4,232	67	178	1,238	221	3,789	89.53	29.25
		X	4,567	78	254	987	345	3,890	85.18	21.61
		XII	3,998	52	123	1,145	232	3,246	81.20	28.64

Source: Based on Krajowa Mapa Zagrożeń Bezpieczeństwa (2022).

(see Table 3). The police can boast of the greatest successes in the case of destruction of greenery (42.71%). Significant elimination effectiveness also applies to such threats as traffic incidents involving forest animals (38.76%), speeding (38.09%), alcohol consumption in prohibited places (37.62%), illegal car rallies (36.29%), and begging (34.99%). The lowest effectiveness in eliminating threats was noted in the case of the location of dangerous entertainment activities (1.33%). An important observation also seems to be that even with relatively high effectiveness (30–40%) in the case of threats that are particularly numerous on the map, the number of reported cases does not drop drastically. This probably means that their occurrence is resistant to the current operation of the services, or that the presence of other circumstances causing their reappearance is also important (e.g., a general problem with the number of parking spaces, road infrastructure facilitating speeding, an attractive location for begging, etc.).

4. Discussion

As a result of the conducted research process and the analysis of the collected data, it was possible to verify the hypothetical assumptions. Residents did indeed clearly indicate specific threats, which proves their importance in shaping local security. These are speeding, improper parking, inappropriate road infrastructure, alcohol consumption in prohibited places and illegal dump sites, which together account for 88.53% of all reports. The threats indicated as the most serious and significant represent three categories. The most important is the Traffic category, which includes as many as three of the five threats most frequently reported by citizens. The problems and threats posed by both speeding and improper parking turn out to be the most burdensome for residents in the area of their residence. This is not surprising, because everywhere in urbanized areas, road traffic is a challenge, especially if inappropriate road infrastructure is also a problem. The importance of these factors in shaping the sense of security is confirmed by many studies (Balasubramanian & Bhardwaj, 2018; Corner-i, 2018; Indzior, 2021; Pljakić et al., 2022; Sheykhfard et al., 2021).

The next most numerous categories of threats represented on the map are Alcohol and Drugs and Greenery. The high position of behaviours such as alcohol consumption in prohibited places is also not surprising: it often generates disturbances, fights, destruction of infrastructure or littering, which is a source of further threats. The Greenery category turned out to be more important, although not very significant, with the total mean number of reports for 2022 amounting to 2,944.8 cases, which is 7.14% of all reported threats. The high position of this category was not expected, but it should be noted that many problems in urban green areas start with what is known as *visible signs of depreciative behaviour*, such as wild waste dumps (Bogacka, 2020; Kimic & Polko, 2022; Maruthaveeran & van den Bosch, 2014, 2015). Demoralisation and Vandalism, which were listed in H1 as the third category, turned out to be numerically insignificant: the mean for 2022 shows 2,944.8 reports visible on the map, which is 4.2% of all threats reported in all categories. Thus, H1 was partially confirmed.

The NMST is a unique crime mapping tool because it differs from the traditional way of collecting data from the police. The innovation of this map comes from the involvement of citizens (i.e., VGI) directly reporting threats to the system, as a new practice. This allows to gather knowledge about events subjectively recognized by citizens as burdensome and affecting their sense of security (Bieniek-Ciarcińska, 2022), even if their statistical significance is low. This type of tool cannot be considered the only or dominant source of knowledge about threats, but at the same time, its omission may expose the formations responsible for ensuring security to the loss of some important information about the perception of security in the

neighbourhood. The use of citizens for security/insecurity mapping is a new trend, appearing so far mainly in situations of natural disasters or large-scale technical failures. The NMST format makes it a unique tool for constantly collecting information about threats and the process of responding to them, which distinguishes it from other tools described in the literature. The subject of security in this tool is an individual perceiving threat in a subjective way, which consists of security community building, including differentiating threats into subjective and objective categories, the social construction of threats, common identity, the mutual responsibility of given entities, and others (Stawnicka, 2018). The uniqueness of the Polish solution requires its in-depth analysis in terms of its disadvantages, advantages, limitations, and opportunities for further development. The undoubted advantages of the NMST tool include a modern (online), easy-to-use, and anonymous way of reporting threats by respondents as part of their joint commitment to shaping local security. Its advantage is also that the reports are immediately visible to other map users, who can compare their perceptions of safety in a given area with the feelings of other residents. The visibility of reports made by others can encourage more intensive responses to inappropriate incidents. It can also be information about problems in a given district (or lack of them) for potential new residents. It is also an indicator of civic activity in a given region.

The NMST also has some limitations that can be considered as their disadvantages. First of all, there is no open access to all the collected data from the beginning of the tool's (map's) existence—it can only be obtained directly from the police, and only after submitting a query. When using the map, you can only see the current data from the last month. Secondly, the list of categories from which reports can be selected is closed and limited to only 26 types of threats. This prevents citizens from reporting other real dangers affecting their sense of security, such as littering the space (Hilborn, 2009; Polko & Kimic, 2022; Robinson et al., 2003), contamination with dog faeces (Bedimo-Rung et al., 2005; Corti et al., 1996), and many others. Although the police update the list on an ongoing basis and at the same time declare that new types of threats may be added to the menu in NMST during the evaluation process of this tool, this scope has not been extended as part of the last update in 2023. This limits the set of relevant data. Thirdly, there are no openly available statistics on the reporting profile (gender, age, place of residence, education, etc.), which the police do not disclose. The above-mentioned limitations of the NMST tool are important both from the point of view of its user (limited list of threat categories) and the analytics of data collection (no data on the social characteristics of those reporting threats). Lack of access to them was also a limitation of the presented research. For the improvement of the NMST, the police should also allow access to archival reports for comparative research purposes. It would be, for example, important for the assessment of the seasonality of selected hazards, which requires collecting data in different months of the year over a longer period. Evaluation of the effectiveness of permanent elimination of threats would, in turn, require the police to provide data on the re-reporting of the same threat in a given location. The police have this information, but it is not shared. Finally, it should be considered to collect basic data on those reporting threats, such as age, gender, or education, while maintaining the anonymity of the report. They would provide deeper knowledge about the profile of citizens involved in shaping local security. Despite the indicated limitations of the presented tool, the NMST is an important supplement to knowledge about security, giving a subjective perspective of residents, difficult to find in police statistics, but crucial for building safer public spaces, which confirms H2.

5. Conclusions

Crime mapping, or in other words mapping undesirable events, is not a new way to fight threats. However, it is developing nowadays through the engagement of citizens as volunteer evaluators of safety in the neighbourhood. The NMST is an innovative solution that serves not only to get information about security perception but also to involve residents in the co-creation of local security. In order to fully use the potential of this tool and eliminate its current limitations, the observations and suggestions resulting from the presented research should be used to expand the catalogue of threats, collected categories of information, and a greater scope of their public disclosure, especially in the comparative context. Extending access to new information will enable further research, primarily on the effectiveness of the tool in the process of eliminating threats, including the quality of police work, dynamics, including the seasonality of threats, reporting profiles, which may be part of broader research on citizens participation in shaping local security. Taking into account the lack of scientific literature in the discussed field, focusing mainly on the presentation of tools or solutions without their comprehensive evaluation, research on the use of VGI-based solutions to obtain geolocalized security data should be conducted in many directions, taking into account technical progress in the collection of information provided voluntarily by citizens.

Acknowledgments

This article is based upon work from COST Action DOPMADE, CA18204, supported by COST (European Cooperation in Science and Technology).

Conflict of Interests

The authors declare no conflict of interests.

Supplementary Material

Supplementary material for this article is available online in the format provided by the authors (unedited).

References

Balasubramanian, V., & Bhardwaj, R. (2018). Pedestrians' perception and response towards vehicles during road-crossing at nighttime. *Accident Analysis & Prevention*, *110*, 128–135. https://doi.org/10.1016/j.aap.2017.10.025

Bedimo-Rung, A. L., Mowen, A. J., & Cohen, D. A. (2005). The significance of parks to physical activity and public health: A conceptual model. *American Journal of Preventive Medicine*, *28*(2), 159–168. https://doi.org/10.1016/j.amepre.2004.10.024

Bieniek-Ciarcińska, M. (2022). Krajowa Mapa Zagrożeń Bezpieczeństwa w Polsce—aspekty praktyczne w perspektywie kryminologicznej. *Probacja*, *2*, 129–158. https://doi.org/10.5604/01.3001.0015.8798

Bogacka, E. (2020). Safety of urban park users. In V. Ceccato & M. Nalla (Eds.), *Crime and fear in public places: Towards safe, inclusive and sustainable cities* (pp. 108–124). Routledge. https://doi.org/10.4324/9780429352775-7

Chamard, S. (2006). The history of crime mapping and its use by American police departments. *Alaska Justice Forum*, *23*(3), 1–8.

Corner-i. (2018). *Safety and car parks*. https://app.croneri.co.uk/feature-articles/safety-and-car-parks

Corti, B., Donovan, R., & Holman, C. (1996). Factors influencing the use of physical activity facilities: Results from qualitative research. *Health Promotion Journal of Australia*, *6*(1), 16–21. https://search.informit.org/doi/10.3316/ielapa.461582631812285

Eck, J. E., Chainey, S., Cameron, J. G., Leitner, M., & Wilson, R. E. (2005). *Mapping crime: Understanding hot spots* (1st ed.). National Institute of Justice.

Elwood, S. (2008). Volunteered geographic information: Key questions, concepts and methods to guide emerging research and practice. *GeoJournal*, *72*, 133–135. https://doi.org/10.1007/s10708-008-9187-z

Goodchild, M. F. (2007). Citizens as sensors: The world of volunteered geography. *GeoJournal*, *69*(4), 211–221. https://doi.org/10.1007/s10708-007-9111-y

Hilborn, J. (2009). *Dealing with crime and disorder in urban parks*. U.S. Department of Justice, Office of Community Oriented Policing Services.

Hunt, J. (2019). From crime mapping to crime forecasting: The evolution of place-based policing. *National Institute of Justice Journal*, *9*, 1–6. https://nij.ojp.gov/topics/articles/crime-mapping-crime-forecasting-evolution-place-based-policing

Indzior, M. (2021). Analysis of factors influencing pedestrians' safety in the road traffic. *Motor Transport*, *64*(2), 24–29. https://doi.org/10.5604/01.3001.0015.5038

Johnson, C. P. (2000, January). *Crime mapping and analysis using GIS* [Paper presentation]. Geomatics 2000: Conference on Geomatics in Electronic Governance, Pune, India. https://www.cdac.in/index.aspx?id=pdf_geom4

Kimic, K., & Polko, P. (2022). Greenery as a matter of security for citizens involved in digital crime mapping by the use of GIS-based tool in Poland. In J. Fialová (Ed.), *Public recreation and landscape protection—With environment hand in hand…* (pp. 152–156). Mendel University Press. https://doi.org/10.11118/978-80-7509-831-3-0152

Klaka, J. B., & Szafrańska, M. (2017). Mapa zagrożeń jako narzędzie zapobiegania przestępczości w mieście. In J. Czapska, P. Mączyński, & K. Struzińska (Eds.), *Bezpieczne miasto: w poszukiwaniu wiedzy przydatnej praktykom* (pp. 41–63). Wydawnictwo JAK.

Krajowa Mapa Zagrożeń Bezpieczeństwa. (2022). *Krajowa Mapa Zagrożeń Bezpieczeństwa*. Geoportal. https://mapy.geoportal.gov.pl/iMapLite/KMZBPublic.html

Leitner, M. (2013). *Crime modelling and mapping using geospatial technologies* (1st ed.). Springer.

Longley, P. A., & Adnan, M. (2016). Geo-temporal Twitter demographics. *Geographical Information Systems*, *30*(2), 369–389. https://doi.org/10.1080/13658816.2015.1089441

Maruthaveeran, S., & van den Bosch, C. C. K. (2014). A socio-ecological exploration of fear of crime in urban green spaces—A systematic review. *Urban Forestry & Urban Greening*, *13*(1), 1–18. https://doi.org/10.1016/j.ufug.2013.11.006

Maruthaveeran, S., & van den Bosch, C. C. K. (2015). Fear of crime in urban parks—What the residents of Kuala Lumpur have to say? *Urban Forestry and Urban Greening*, *14*(3), 702–713. https://doi.org/10.1016/j.ufug.2015.05.012

Mordwa, S. (2015). Techniki GIS—w poszukiwaniu hot spotów przestępczości. *Archiwa Kryminologii*, *37*, 279–302.

Moura de Souza, C., Kremer, D., & Walker, B. B. (2022). Placial-discursive topologies of violence: Volunteered geographic information and the reproduction of violent places in Recife, Brazil. *ISPRS International Journal of Geo-Information*, *11*(10), Article 500. https://doi.org/10.3390/ijgi11100500

Nasar, J. L., & Fisher, B. (1993). "Hot spots" of fear and crime: A multi-method investigation. *Journal of Environmental Psychology*, *13*(3), 187–206. https://doi.org/10.1016/S0272-4944(05)80173-2

Pljakić, M., Jovanović, D., & Matović, B. (2022). The influence of traffic-infrastructure factors on pedestrian accidents at the macro-level: The geographically weighted regression approach. *Journal of Safety Research*, *83*, 248–259. https://doi.org/10.1016/j.jsr.2022.08.021

Policja. (n.d.-a). *Home*. www.policja.pl

Policja. (n.d.-b). *6 lat funkcjonowania Krajowej Mapy Zagrożeń Bezpieczeństwa*. https://policja.pl/pol/aktualnosci/223690,6-lat-funkcjonowania-Krajowej-Mapy-Zagrozen-Bezpieczenstwa.html

Polko, P. (2022). Citizen's Involvement in the shaping of local security by the use of a digital crime mapping tool based on GIS. *Politeja*, *19*(79), 203–218. https://doi.org/10.12797/Politeja.19.2022.79.12

Polko, P., & Kimic, K. (2022). Gender as a factor differentiating the perceptions of safety in urban parks. *Ain Shams Engineering Journal*, *13*(3), Article 101608. https://doi.org/10.1016/j.asej.2021.09.032

Rachwalska, M. (2022, October 5). Prawie 2,5 mln zgłoszeń na krajową mapę zagrożeń. *InfoSecurity24*. https://infosecurity24.pl/sluzby-mundurowe/policja/prawie-25-mln-zgloszen-na-krajowa-mape-zagrozen

Ratcliffe, J. H. (2004). The hotspot matrix: A framework for the spatio-temporal targeting of crime reduction. *Police Practice and Research*, *5*(1), 5–23. https://doi.org/10.1080/1561426042000191305

Ratcliffe, J. H. (2010). Crime mapping: Spatial and temporal challenges. In A. Piquero & D. Weisburd (Eds.), *Handbook of quantitative criminology* (pp. 5–24). Springer. https://doi.org/10.1007/978-0-387-77650-72

Robinson, J. B., Lawton, B. A., Taylor, R. B., & Perkins, D. D. (2003). Multilevel longitudinal impacts of incivilities: Fear of crime, expected safety, and block satisfaction. *Journal of Quantitative Criminology*, *19*, 237–274. https://doi.org/10.1023/A:1024956925170

Santos, R. B. (2017). *Crime analysis with crime mapping* (4th ed.). SAGE.

Shaw, C. R., & McKay, H. D. (1942). *Juvenile delinquency and urban areas: A study of rates of delinquents in relation to differential characteristics of local communities in American cities* (1st ed.). The University of Chicago Press.

Sheykhfard, A., Haghighi, F., Papadimitriou, E., & Van Gelder, P. (2021). Review and assessment of different perspectives of vehicle-pedestrian conflicts and crashes: Passive and active analysis approaches. *Journal of Traffic and Transportation Engineering (English Edition)*, *8*(5), 681–702. https://doi.org/10.1016/j.jtte.2021.08.001

Silvertown, J. (2009). A new dawn for citizen science. *Trends in Ecology & Evolution*, *24*(9), 467–471. https://doi.org/10.1016/j.tree.2009.03.017

Stawnicka, J. (2018). Krajowa Mapa Zagrożeń Bezpieczeństwa jako istotny element procesu zarządzania bezpieczeństwem publicznym w partnerstwie społecznym przez polską Policję. *Przedsiębiorczość i Zarządzanie*, *29*(8), 143–155.

Szyszka, M., & Polko, P. (2020). Interactive maps of social problems and security threats illustrated with an example of solutions currently used in Upper Silesia. *Sustainability*, *12*(3), Article 1229. https://doi.org/10.3390/su12031229

Zhang, G., & Zhu, A. X. (2018). The representativeness and spatial bias of volunteered geographic information: A review. *Annals of GIS*, *24*(3), 151–162. https://doi.org/10.1080/19475683.2018.1501607

About the Authors

Paulina Polko is a political scientist and head of the Department of Security Studies at the WSB University in Dąbrowa Górnicza (Poland). She graduated from the University of Warsaw and the Institute of Political Sciences of the Polish Academy of Sciences. Her research interests cover the area of securitization processes and new threats to states and societies, related to issues such as information, economic, social, cultural, and environmental security.

Kinga Kimic (PhD) is a landscape architect, designer, and assistant professor at the Department of Landscape Architecture, Institute of Environmental Engineering, Warsaw University of Life Sciences (SGGW), Poland. Her research is related to programming and design of urban public spaces with a special interest in public parks and focuses on functional, environmental, and social aspects, including participatory processes.

Urban Planning
2024 • Volume 9 • Article 7162
https://doi.org/10.17645/up.7162

cogitatio

ARTICLE

Open Access Journal

Participatory Budgeting and Placemaking: Concepts, Methods, and Practices

Carlos Smaniotto Costa [1], Juan A. García-Esparza [2], and Kinga Kimic [3]

[1] Department of Architecture and Urban Planning, Lusófona University, Portugal
[2] School of Technology and Experimental Sciences, Jaume I University, Spain
[3] Institute of Environmental Engineering, Warsaw University of Life Sciences, Poland

Correspondence: Carlos Smaniotto Costa (smaniotto.costa@ulusofona.pt)

Submitted: 9 May 2023 **Accepted:** 5 September 2023 **Published:** 16 January 2024

Issue: This article is part of the issue "Citizen Participation, Digital Agency, and Urban Development" edited by Simone Tappert (University of Applied Sciences Northwestern Switzerland), Asma Mehan (Texas Tech University), Pekka Tuominen (University of Helsinki), and Zsuzsanna Varga (University of Glasgow), fully open access at https://doi.org/10.17645/up.i327

Abstract

Participatory budgeting has arisen as an interesting form of citizen participation in urban development and, thus, as a new way of exercising placemaking and grassroots democracy. In this article, we provide an analysis of projects in Lisbon (Portugal), Valencia (Spain), and Warsaw (Poland) with a focus on three key projects concerned with improving the public realm and their contribution to enhancing the network of public open spaces. Our guiding question is: What are the potential benefits of participatory budgeting to increase green spaces and urban governance? A comparison of the three cities' participatory budgeting programmes provides an overview of their social and political goals and the contents that provide opportunities for citizens' participation in decision-making. The cases of Jardim do Caracol da Penha (Lisbon), the Green Street Świętokrzyska (Warsaw), and the Green Plan for the Poblats Marítims District (Valencia) pave the way for a discussion on engagement, empowerment, and connectivity with the local communities through public spaces. Using participatory budgeting as a planning and political instrument at the municipal level, as the three cases show, can be a useful way to enhance and enrich the communities' engagement with their environments. One aspect that emerged is the communication strategies implemented in the three cases. The analysis shows that the use of media and social networks to disseminate information and gather supporters for their ideas and this growth in political influence seems to be essential for participatory budgeting. The study is backed by desk work (comprehensive understanding of the local programmes) and field work to better identify the changes in loco.

Keywords

citizen participation; community engagement; participatory budgeting; placemaking; Poland; Portugal; public realm; Spain

1. Introduction

This article examines the potential of participatory budgeting (PB) initiatives for placemaking, decision-making processes, and civic engagement based on the programmes in three cities (Lisbon, Warsaw, and Valencia). These three cases were randomly selected, as they provide paradigmatic results for greenspace development, and secondly, they are in the cities where the authors are based, facilitating the data collection and site visits.

The aim and scope of the research that backs up this article are to draw on the experiences of these three PB initiatives regarding their potential for placemaking and enhancing the realm of public greenspaces. Based on these experiences, we try to synthesise some generalisability to fertilise the debate on the added value of participatory programmes. The limitation of these three cases is also due to their pioneer character in implementing PB programmes. To address our aim, the article provides an overview of the three programmes' social and political goals and contents, as well as an example of how each has been implemented. PB has been used in different contexts and for different purposes. There is neither a single definition nor a discernible pattern of what it should encompass (UN-Habitat, 2004). Hence, being used for different purposes, PB might lead to different results. To overcome this shortcoming, this article first addresses the main characteristics of the local initiatives before analysing the results of the local examples.

Citizen engagement and participation are central topics in contemporary urban planning and development. They are considered an essential tool to achieve more responsive, inclusive, sustainable, and thus liveable cities (OECD, 2022b; Smaniotto Costa et al., 2019). As Taylor (2019) rightly points out, in a democratic society, governments depend on the "voluntary" compliance of stakeholders for policy implementation. Smith (1973) called some decades ago for new models to guide planning practices, those that provide greater legitimacy and the basis for rule by consent. Legitimacy, according to the author, is a fundamental basis for planning actions and historical shifts. From a legitimacy perspective, Arnstein (1969, p. 216) defined citizen participation as a type of problem-solving in which "the redistribution of power that enables the have-not citizens, presently excluded from the political and economic processes, to be deliberately included in the future." Thus, participatory processes open up opportunities for citizens in decision-making about their environment. Conversely, for urban policymakers, participatory processes lead to further opportunities for collaborative ways to tackle challenging urban issues and share responsibilities (Cabannes, 2004; Michels, 2011; Sennett, 2002; Whitaker, 1980).

With the advances in information and communication technologies (ICT), urban governance has undergone prominent changes, as ICT can promote collaborative governance and increase participation and engagement in government. ICT can act as a catalyst for engaging people with their environment and culture (Artopoulos & Smaniotto Costa, 2019; García-Esparza & Altaba, 2018). It is increasingly being used for information and popularisation purposes in implementing the PB and attracting citizens to participate in the voting process. Nowadays, this tool has become one of the preconditions to active participation in PB programmes, as there is increasing use of online voting systems, and in many countries, it is done exclusively online (Cunha et al., 2011; Popławski & Gawłowski, 2023). Digital participation strengthens the integration of citizens in the political debate through internet connectivity, which enables greater numbers of people to participate directly and more frequently in decision-making. While the benefits outweigh the disadvantages, digital participation also has constraints. It does not reach the whole population due to the lack of technical skills or desire to participate digitally. The use of online voting to increase participation in PB may

inadvertently alter the voters' demographic profile, for example, increasing the proportion of more affluent social groups who have easier access to ICTs and, at the same time, excluding those with limited access (Lisi & Luis, 2022). As a consequence, this situation may distort the final result to some extent. In order to maintain balance and avoid exclusion, a solution may be to combine online participation with traditional voting procedures.

PB, putting it simply, is a process of involving the inhabitants in deciding how the public budget (or a part of it) is to be used and which projects should be implemented. The cradle of PB was set in 1989 by the city of Porto Alegre, Brazil, and has since been emulated in several cities. The basic idea is to empower people to come together to decide how public money should be spent. PB has arisen as an interesting form of citizen participation in urban development and, thus, as a new way of exercising placemaking and grassroots democracy. As a flexible planning and decision-making instrument, PB processes can run simultaneously with statutory planning systems (Smaniotto Costa, 2021; Taylor, 2019), enabling cities to better respond to local needs and circumstances. In addition to better use of citizen inputs, PB processes can improve citizens' capacity and experiences in negotiating their own interests (OECD, 2022a, 2022b). PB is a way to adjust public policies to citizens' needs and expectations (Câmara Municipal de Lisboa, 2008). The focus of our research is on projects that, financed by PB programmes, contribute to placemaking, as they target an improvement of the public realm and enhance the greenspace network in Lisbon (Portugal), Warsaw (Poland), and Valencia (Spain). This article assesses the three PB strategies and argues that besides improvements in the quality of public spaces, the three cases also revealed an increase in citizens' abilities to participate in urban governance.

2. Research Context and Methodology

The analyses and the methodological process that back up this article are structured in two phases. In the first phase, literature and documentary research were carried out to identify the main features of the PB programmes of the cities Lisbon, Valencia, and Warsaw, considering the PB history and the cities' policy agendas and political contexts. A case in each city was selected in the second phase to further examine the local PB programmes and their contribution to placemaking. This enables a better understanding of the process and, in particular, the results regarding the benefits of PB for placemaking and greenspace development (Maksymiuk & Kimic, 2016). The PB programmes were analysed individually and jointly; Table 1 is used to compile basic information and the features of each case. These are the relevant aspects to allow us to draw some lessons on engagement, empowerment, and connectivity with the local communities—taking the greenspaces development as a starting point for the discussion. The analysis of the three cases is backed by desk work (understanding of the local programmes) and field work to better identify the changes *in loco*. This consisted of site visits, observing local changes, and interviews with city council staff and project applicants. The interviews are, however, not part of this analysis. In Lisbon, site visits and observational changes were restricted as the park was still under construction.

By applying this mixed method, this article aims to answer the central question for placemaking: Are the PB programmes useful for enhancing and enriching the engagement of the communities? A cross-case analysis is used as a research method, as it can mobilise knowledge from individual case studies (Khan & VanWynsberghe, 2008) and allow us to demonstrate the similarities and differences of the PB programmes.

Websites and social media play a relevant role in disseminating the processes and development stages that require citizen participation. All information about the PB processes can be consulted on the following websites: (a) Lisboa Participa (https://lisboaparticipa.pt), (b) Budżet Obywatelski w Warszawie (https://um.warszawa.pl/waw/bo), and (c) DecidimVLC (https://decidimvlc.valencia.es). Likewise, in each city, information on the different milestones of the processes is provided through the city council's generic social networks or, as it happens in Valencia, through the social networks of the Department of Citizen Participation and Neighbourhood Action. City councils use ICT to disseminate information and gather supporters for their ideas contributes to an increase in political influence on the following topics: (a) participatory investment budgets, (b) investment project proposals, (c) districts' working groups, (d) the presentation of investment proposals by citizens, (e) support for the investment project proposals presented, (f) the feasibility study of the investment project proposals by the city council, (g) citizen voting, and (h) follow-up of the PB of investments.

3. Participatory Budgeting in Lisbon, Warsaw, and Valencia

According to Dias et al. (2021), a PB initiative is considered as such when three core features are met: (a) The process involves a public or institutional budget, (b) citizens concerned decide on the projects or budgetary measures to be prioritised or adopted, and (c) the programme ensures the implementation of the deliberated measures. In short, PB consists of citizens generating ideas, turning them into proposals, and voting on which projects should be brought to life by city agencies and staff. PB is understood as an open and democratic process, as the selected proposals best meet the community's needs (Agência para a Modernização Administrativa, 2022; Câmara Municipal de Lisboa, 2008; OECD, 2022a, 2022b; UN-Habitat, 2004). The three countries (Portugal, Poland, and Spain) fully embraced the concept of PB. According to Agência para a Modernização Administrativa (2022), Portugal had, in 2022, 1,666 PB projects, making it the second-largest country with PB programmes, after Poland and before Spain, with 2,014 and 334 projects, respectively.

One main characteristic of the PB programmes is that the amount to be spent by a single project is pre-set. This limits the range of the outcomes, but on the other hand, it guarantees that resources will be available. This is a relevant issue considering the fragility of public economic flows and the risk of losing political support. The three programmes' financial framework also lays down the maximum amount for single projects. In Lisbon, the 2021 programme allocated a global budget of €3,000,000 (Câmara Municipal de Lisboa, n.d.). In Valencia, the 2022 programme allocated a global budget of €16,000,000, while the maximum limit for a single project was €1,000,000. In Warsaw, the 2022 programme allocated a global budget of 93,575,094 PLN (about €20,000,000), which was 0.5% of the city's budget for the previous year (Warsaw City Council, 2020).

3.1. Participatory Budgeting in Portugal and Lisbon

Several PB programmes are in place, encompassing national, municipal, and local levels. On the national level, Portugal allegedly with the programme Orçamento Participativo Portugal (in English, Participatory Budgeting Programme, and henceforth OPP) launched in 2016 is the first and, until now, the only nationwide PB programme (Lusa, 2021). The first OPP issue was organised in 2017; since then, it has run annually. Between 2019 and 2022, it was suspended because of Covid-19-related restrictions. The OPP also

sets a renewed emphasis on the need to tackle Portugal's perpetuated spatial inequalities (Agência para a Modernização Administrativa, 2022). Hence, it aims to build new links between the regions, striking a better balance between the coastal and interior areas and connecting rural to urban areas (Agência para a Modernização Administrativa, 2022). In 2014, a network of municipalities with the PB programmes was created (Rede de Autarquias Participativas, www.portugalparticipa.pt/Home/Network) so they could come together to develop mechanisms for citizen participation and explore its potential at the local level. Since then, the network has been an exchange forum bringing together different initiatives. In 2017, a Charter of Quality (www.portugalparticipa.pt/Library/Book) was issued, providing the basic principles for PB initiatives.

In Lisbon, in 2008, the city council started a PB programme, with its 12th edition organised in 2021. This edition is also to be the last because, in 2022, there was no call opened. For 2023, on the official website, there is no information about any new programmes, which are usually opened every March. This situation is deplored by Martins (2023), who asks: "Where has the Participatory Budgeting Programme of Lisbon gone?" While the official PB website is kept online, the latest information is from 2021. According to the author, due to the changes in the political leadership of the municipality in 2021, the PB programme could lose support. This would lead to the end of the PB in Lisbon, like similar PB programmes worldwide, including the pioneering case of Porto Alegre. However, interesting for our purpose is the 2016 edition, in which a proposal called Jardim do Caracol participated.

3.1.1. Jardim do Caracol da Penha

The project Jardim Caracol da Penha concerns the creation of a greenspace (*jardim* in Portuguese) in a derelict land in the neighbourhood of Penha. The idea behind the Jardim do Caracol da Penha is more ancient than the PB programme. It started as a social movement—and it is still called Movimento pelo Jardim (Movement for the Caracol Garden)—against the council's plans to build a community garage with 86 plots on this 8-ha-sized piece of land.

Contrary to what might be expected, the need for parking plots was not to be taken for granted. The residents around the plot did not want a car park but a green park. The council's plans for a car park, which were well advanced and developed without civic consultation, triggered the mobilisation of the community to fight against these plans. The issue of creating a local greenspace tied the community together and gave rise to the movement. One of the strongest arguments for a greenspace was the lack of quality greenspaces, which are not equally distributed in Lisbon. The neighbourhood Penha and its neighbour Arroios are among those disadvantaged communities having significantly less access to nature. The idea that fuelled the movement was creating a green lung for the neighbourhood. The plot belongs to the council and was never built upon due to its steep terrain. As a remnant from a *quinta*, those traditional estates with farmhouses surrounded by cultivated land and orchards, it has several trees, many of which are fruit-bearing species (Smaniotto Costa et al., 2017). Neighbourhood kids already used to play here as they could be supervised from the apartments nearby.

The PB programme allowed the Movement for the Caracol Garden to make their demand for changing the municipal plans. The idea was preceded by several actions, in particular, to gain the community's support and to collect ideas for the design of a new greenspace. In June 2016, the community were able to organise a meeting with around 300 participants, which was taken as a sign of their direct interest in protecting the

environment (Smaniotto Costa et al., 2017, 2023). From this point, all activities towards creating, expanding, and managing the movement were taken by a coordination group. To raise awareness, several actions were implemented, including distributing posters and leaflets, information sessions, local assemblies, and creating a neighbourhood-based network of residents supporting shops and schools. To prepare the proposal for the PB programme, flora and fauna were mapped, and a collaborative design process was implemented, coordinated by a volunteer landscape architect. An effective communication strategy centred on being present in the neighbourhood through various activities, a dedicated website with the most relevant information (www.caracoldapenha.info) and building a strong social media presence, i.e., a Facebook page (www.facebook.com/jardimcaracoldapenha) currently with more than 4,000 followers, boosted engagement and activity participation. In particular, the Facebook group and the blog were very active in facilitating the temporal coordination of social events.

The proposal was submitted in June 2016 to the PB platform, as the PB process takes place online, and consisted of surveys and maps showing the environmental quality of the plot. In November 2016, it received 9,477 votes, still the largest vote ever in Lisbon. One of the main concerns of the proposal was not to propose a design but that the future garden should result from a participatory process. This process was approved by the council, ensuring the technical support for the project's development. Several workshops were organised, and design suggestions were collected and discussed through different tools across the neighbourhood. Special attention was paid to getting a comprehensive contribution from adults and children, men and women, able-bodied and disabled people. Since the plot is located on a steep slope, the garden design had to be coupled with the topography. Particularly, the steep slope was a challenge, according to the Movimento pelo Jardim do Caracol da Penha (n.d.); the Municipal Master Plan described the area as having a "moderate and high risk of earth movement," so it was important to help stabilise the soil and avoid topsoil run-off. The area had to be terraced and drained to alleviate the risk.

Design workshops and consultations resulted in the final project design, which was approved by the municipality. The project thus results from the balance between technical restrictions and the often conflicting perspectives and desires of numerous people. The construction works are the responsibility of the council. The garden has been under construction since 2019, with completion scheduled for 2021. However, probably in the wake of the Covid-19 crisis, the project has been stopped, and there is no information about when the garden will be open.

3.2. Participatory Budgeting in Poland and Warsaw

In Poland, the PB concept was introduced in 2011 in Sopot by an informal group working on sustainable development and increasing citizen participation. PB implemented by municipal governments reached its apogee in 2014–2015 (Pistelok & Martela, 2019). An act from 2018 introduced general regulations for running PB programmes in Poland. It stipulated the obligation for voivodship cities to organise a PB programme so that all 16 of them have PB initiatives. This act also established that at least 0.5% of the municipality's expenditure declared in the previous year has to be dedicated to a PB programme (ISAP, 2023). Several cities (such as Malbork and Lublin) have addressed specific groups of residents through the PB program, i.e., people under 16 or 18, or projects related to greenspaces and green infrastructure development. Green projects are popular (Maksymiuk & Kimic, 2016) among the programmes and are carried out by big cities and small municipalities alike. Citizen participation is encouraged through

information and educational campaigns, official profiles of cities on social media, announcements and press releases, posters, leaflets and information brochures, broadcasts and advertising spots on local radio and television, meetings with residents, and consultancy workshops. The call for PB is disseminated by a dedicated webpage, and the number of online votes increases yearly.

The Warsaw PB programme has been operating continuously since 2014 (Warsaw City Council, 2014). The funds are divided into a citywide pool (30%) and 18 district pools (70%). The Social Communication Centre of the Capital City of Warsaw coordinates the Warsaw PB. In each district, a PB coordinator is appointed and is responsible for (a) planning and implementation of approved projects, (b) contact with residents, and (c) operation of the electronic communication system (Warsaw City Council, 2019a, 2019b). Since the first edition, most projects have been concerned with activities aimed at improving the road infrastructure and urban greenery. Many of them are also a part of other programmes in the city, such as The Million Trees for Warsaw, based on the Warsaw 19115 mobile app, to propose places for tree planting. The Warsaw PB is part of the #Warsaw2030 Strategy, the most important multidimensional long-term planning document, as it defines the vision and goals of Warsaw's development (Warsaw City Council, 2018).

3.2.1. The Green Street Świętokrzyska

Świętokrzyska Street is an important artery in the Śródmieście District, surrounded by office and multifamily buildings. With the completion of the second metro line in 2014, the street space was refurbished, pavements were widened, car lanes narrowed, and parking spaces, cycle lanes, and pedestrian crossings were introduced. However, the project caused much controversy due to the lack of greenery. Some old trees were cut down, and due to the underground infrastructure, they were only replaced by small specimens in planters. This situation sparked numerous protests, and the planters were assessed as a makeshift solution and barriers for pedestrians.

In 2016, a project called Green Świętokrzyska Street (Zielona Świętokrzyska) was submitted to the Warsaw PB by the Warsaw Citizens Association (Warszawa Obywatelska). Promoted on Facebook (www.facebook.com/ZielonaSwietokrzyska), the project was preceded by consultations with citizens, tenants of commercial premises, and the Municipal Roads Authority. The project scope was very wide and included organising civic consultations and collecting expert opinions on technical solutions to enable the planting of trees, shrubs, and flower beds. Initially, the project was negatively assessed by officials, who argued that lowering the number of parking lots would reduce the number of customers of nearby services. However, social activation resulted in the project winning with 2,207 votes—the most voted in this edition. Social consultations were carried out in June 2016. They included a debate on street greenery, "street consultations," and workshops on land development. This builds the basis for making the final decision. The importance of increasing greenery (trees and shrubs), keeping the proportion between pedestrian and bicycle zones, and increasing the accessibility for users (Kimic & Polko, 2023) were emphasised.

The scope of the project was extended many times, which increased the implementation costs. In addition, the 2016 tender was cancelled because the proposed bids significantly exceeded the available funds. The implementation of the project was postponed until May 2017. Ultimately, the realisation costs amounted to 5 million PLN (€1.08 million), i.e., 10 times more than assumed in the proposal. Large trees

were planted: 191 plane trees, four hornbeams, and 18 spreading pink cherry trees, and many areas were covered by hedges and flower meadows. Innovative solutions such as anti-root screens and casing pipes were used to protect underground installations. Parklets, benches, some with comfortable armrests and backrests for the elderly and disabled, as well as litter bins and bicycle racks, were installed along the street. Świętokrzyska Street became the first street in the centre of Warsaw with a new greenery layout, clearly separated from traffic lanes. Project participants were honoured with commemorative plaques next to the planted trees. Preferential rents for tenants of service premises were also ensured, which allowed them to survive. The Green Świętokrzyska Street is a great success for all Varsovians and an important lesson for officials (Śmigiel, 2017), a project with high contribution to developing the green infrastructure. At the same time, it shows that despite many obstacles, good ideas created by the community for PB can be realised. This initiative also caused a snowball effect—The project became a role model and set a new trend in shaping greener and people-friendly streets in Warsaw.

3.3. Participatory Budgeting in Spain and Valencia

The development of PB in Spain has been adapted from the Porto Alegre model a few decades ago (González-Salcedo & Soler-Contreras, 2021; López-Ronda & Gil-Jaurena, 2021). PBs are based on the principles of transparency, publicity, clarity, access to information, institutional neutrality, the primacy of the collective interest, diversity, public debate, equality and non-discrimination, inclusion, efficiency, protection of personal data, and accountability. These principles constitute obligations for administrations and rights and guarantees for the residents participating in the process (Martinez-Sanchez, 2023). These processes contemplate the application of measures that, from a gender perspective, help achieve an inclusive participation of women and men to identify the priorities and needs of both (Laruelle, 2021).

Aligned with the Strategic Framework City of Valencia, the seventh PB biannual edition, DecidimVLC (Ayuntamiento de Valencia, 2022), was opened in 2022. The Urban Strategy Valencia 2030 (Estrategia Urbana València 2030, 2021b) dedicates a tactical line to improve urban and metropolitan governance, which has, among other objectives, in line with Moir and Leyshon (2013), "to enhance open government, transparency and participation in the development and implementation of public policies" (Ayuntamiento de Valencia, 2022, p. 10) and "to consolidate the instruments and processes of citizen participation that allow citizens to be part of decision-making, to create new spaces for physical and digital participation" (Estrategia Urbana València 2030, 2022, p. 21). This agreement reaffirmed Valencia's political and ethical commitment to the Sustainable Development Goals, the 2030 Agenda, and the Urban Agenda to make them cross-cutting references in the city's public policies. The strategy is oriented to the framework of Mission Valencia 2030, whose ultimate aim is to make Valencia a climate-neutral city by 2030, within the context of the European mission of 100 climate-neutral European cities by 2030. The València 2030 Climate Mission is a contribution from Valencia to reduce climate emissions by 55% by 2030 and to become climate-neutral by 2050. It, therefore, aims to make Valencia a healthier, more sustainable, more inclusive, more prosperous, and ultimately more liveable and desirable city for people through co-creation processes (Daniell et al., 2010; Leminen et al., 2021).

Valencia City Council has earmarked €16 million for the 2022 biannual PB programme. Of this budget, €13 million is redistributed among the 19 districts of the city, and €3 million is allocated to projects in neighbourhoods where the territorial rebalancing mechanism is applied. This aims to encourage citizens'

participation in neighbourhoods where, because of low population density, it is more difficult for them to select investment project proposals.

3.3.1. The Green Plan for the Poblats Marítims District

The Green Plan brings together all main sectors that have an impact on CO_2 emissions: mobility, transport, energy, economic and industrial activities, renaturation and biodiversity, and housing and urban design. It also represents all strata of society: the public and the private sectors, and the university and civil society, whose representatives have joined the initiative as project ambassadors. Thus, in line with Linnerooth-Bayer et al. (2016), the Climate Mission demonstrates the success of integrating experts in the process of developing objectives, indicators, and evaluation formulas for the PBs (García-Esparza, Pardo, et al., 2023).

Within the Climate Mission 2030, there are several initiatives throughout the city that call for a renaturation plan, such as the one in Poblats Marítims. Activities include a network of community gardens, a seed bank, a campaign against energy poverty, routes to learn about the neighbourhood's characteristic birds, and a solar cooker. The city council, through the Las Naves innovation centre, is looking for ideas that can be developed collectively to make Valencia a climate-neutral city. To this end, a call has been opened to select five proposals. To be eligible, proposals have to contribute to the Valencia Climate Mission, i.e., to enable the city to absorb 100% of its CO_2 emissions and can be designed, built, or developed in a first version or prototype within the deadlines. Applications can result from new ideas or adaptations of previous projects. This is the first call of the citizen laboratories Ciuta·lab of Las Naves centre oriented to the Climate Mission of Valencia. This initiative also aims to facilitate the constitution of learning communities, to value the diversity of knowledge and points of view that exist in the city, to innovate in the way of responding to social and urban problems, and to share learning, among other issues (García-Esparza & Altaba, 2022; García-Esparza, Altaba, & Huerta, 2023).

Particularly, in Poblats Marítims, the planting of trees and hedges has been requested in all the streets of the district to act as a structural element of biodiversity in the urban ecosystem. The benefits they bring to the neighbourhood and the city as a whole are thermal and acoustic insulation of buildings, reduction of heat produced by human activity, CO_2 retention capacity, and an increase in fauna linked to the new vegetation. This translates into better adaptation to climate change and mitigation of its effects. This is why the PB in this district requests a study by experts to determine the density and diversity of the tree units and hedges to be planted in the district's roads, to enhance the structural heterogeneity of the greenery, and to guarantee the connectivity of green spaces so as to create urban green corridors. The project aims to consider both environmental (light, temperature, water) and functional and aesthetic conditioning factors. Thus, species are proposed if they are native to the Mediterranean, can easily adapt to the area's environmental conditions, and are resistant to pest attack and non-invasive. In addition, these species should create chromatic diversity in the streets throughout the year. Among the objectives of the Poblats Marítims Green Plan, integrated into the Climate Mission and the Valencia 2030 Urban Strategy (Estrategia Urbana València 2030, 2021a), this action is framed within the main objective: to integrate the city through green and blue infrastructure at the metropolitan level. This objective is measurable through several indicators, i.e., (a) population with access to green areas within a five-minute walking distance and (b) green areas per capita.

Table 1. Key characteristics of three analysed cases.

	Lisbon (Portugal)	Warsaw (Poland)	Valencia (Spain)
First edition of PB	2008	2014	2008
Number of editions (as of 2023)	12 (until 2019 annually)	9 (annual)	7 (biannual)
Who is the organiser	City Council of Lisbon	Social Communication Centre of the Capital City of Warsaw	City Council of Valencia
Are citizens involved in the programme preparation?	Yes, before the programme started there were consultancy workshops	Yes, before a programme starts, consultancy workshops are organised	Yes, they participate in the proposal scheme, the voting process, and workshops
Are citizens involved in the evaluation process?	No, it is performed by the technical staff of the council	No, it is performed by the technical staff of the council and experts	No, it is performed by the experts and technicians of the council
How is the call for PB disseminated?	Dedicated website (https://lisboaparticipa.pt)	Through the website (https://um.warszawa.pl/waw/bo)	Through the website (https://decidimvlc.valencia.es)
A system that is easy to track and accountable	Through the website	Through the website	Through the website
Maximum limit for projects	No limits, the selected projects are those most voted for until the budget is exhausted	No limits, the selected projects are those most voted for until the budget is exhausted	Is is given by the amount of money available

4. Discussion

The purpose of the article is to better understand the experiences within the three distinct PB programmes specifically chosen for their contributions to the improvement of the local greenspace network. According to Smith (1973) and the experiences from the three cases, a participatory programme also contributes to the stability of the social system and is an essential element in making urban development a learning process. The three PB programmes provided interested stakeholders the opportunity to influence decisions that affect many spheres of their lives; the once-empowered citizens play a more active role in decision-making, as witnessed by the high number of voters in the three PB cases. According to Bernaciak et al. (2017), both creating opportunities to partake in decision-making and empowerment are important areas of creativity and innovation for the residents and municipalities alike. In particular, the interest in "green projects," such as in the three cases, indicates the increasing need of local communities for solutions aimed at ecology (Gherghina & Tap, 2021), climate mitigation (Bernaciak et al., 2017), and health improvement and wellbeing (Campbell et al., 2018). Such bottom-up processes can support and improve public governance and provide more responsive and sustainable public spaces capable of being public goods (Kardos, 2012; Stortone, 2010). At the same time, they can contribute to the long-term strategic goals for more sustainability

(Drobiazgiewicz, 2019) and digital agency. The last issue, digital agency, is approached in the three cases by online processes, communication, and, in particular, remote voting and vote ranking; a process also called e-PB (Barros & Sampaio, 2016). This means the proposals have to be prepared to be displayed online, and viewers (and voters) can gain insights only from these platforms.

The general features of PB include simple forms of participation (mostly voting), as confirmed by the cases. Discussion and communication between proponents and citizens occurred online through various platforms such as blogs, Facebook, and Twitter. In the three cases, the municipalities launched public awareness campaigns to inform citizens about the proposed projects so they could get involved in selecting the projects. This suggests that the proponents had to organise their own campaign to mobilise voters. The most popular projects include creating spaces for face-to-face encounters to reinforce social ties and relationships between administrators and residents. Today, when social interactions are increasingly moving to cyberspace, digital tools more strongly support the process of citizens' participation in PB (Šuklje Erjavec & Ruchinskaya, 2019). ICT tools, as exposed in the methodology and cases, promote plural and varied forms of citizenship, democracy, and participation (Cunha et al., 2011). There is also strong evidence that social media helps the government, empowers citizens, and expands democracy, especially in open local governments (Bonsón et al., 2015; Smaniotto Costa et al., 2020; Śmigiel, 2017; Šuklje Erjavec & Zlender, 2020). According to the cases, the use of social media platforms is a key issue in e-mobilising the community and voters.

Moreover, the Valencia case evidences that a strategic diagnosis was fundamental to the planned development of the PB system in a city (Estrategia Urbana València 2030, 2022). The framework for PB in Poland is not very deep but is guided by rules (Warsaw City Council, 2018) that impose PB programmes on the major cities. In Portugal, the central government sets a series of rules that municipalities have to follow when organising their PB programmes. The three cases demonstrate how a preliminary framework, or a strategic plan, helps draw up an initial diagnosis to identify the recurrent and cross-cutting themes for the cities in the coming years and the main city challenges associated with them. A strategic framework can be a tool to promote a process of participatory debate and shared decision-making, in line with Cabannes (2004), and as exemplary exposed by the Valencia case, PB:

> Is intended to be open to debate and citizen participation in order to be enriched by the contributions of a wide range of agents, whether from public administrations, the private sector, civil society or academia. To this end, the necessary mechanisms are established so that the city's Strategic Framework is widely agreed [upon]. (Estrategia Urbana València 2030, 2022, p. 7)

PB is based on the idea that service providers are encouraged to co-create services "with" service users rather than designing services "for" them. This requires a mindset change (Strokosch & Osborne, 2020). Citizens become co-creators of urban spaces, aware of their needs and a kind of "expert" based on their life experiences, while professionals are moderators using local knowledge. However, PB is most effective when citizens have the opportunity to be involved in every step of its process, and the projects can advance in the implementation of the urban strategy (Leśniewska-Napierała & Napierała, 2020; López-Ronda & Pineda-Nebot, 2013). The cases confirm that implementing PB as city labs can lead to positive changes in the city, even if the process is long and intricate due to all sorts of stakeholders' collaboration and co-creation (Williams, 2021).

5. Conclusions

The three PB projects selected in Lisbon, Warsaw, and Valencia provide an overview of greening strategies and objectives. They are incipient forms of grassroots-driven citizen science. Our focus, as researchers, lies in better understanding the stakeholder's role. In this line of thought, PB is a good way to close the gap between government and citizens and foster a culture of participation to include public concerns and demands in community-based urban design. The three PB processes show how the multitude of participatory practices can be set under an umbrella to base common meaning relations; this includes, above all, striving for a better and more responsive green environment. PB also means making use of local knowledge and citizens' needs. It enables greater involvement, which could culminate in a civic culture of participation and responsibility sharing.

The findings revealed that ICT, including diverse forms of social media, have an important role in supporting, sharing, and integrating information for stakeholders. In all three cases, voting occurs online, although the Warsaw programme also allows people to cast ballots at polling stations. There are two main ways in which ICT are being used: to host official sites to inform the public about the programme and the projects and to provide a means for them to vote for the most appealing project. In the three projects analysed, the proponents have also widely used social media platforms to spread information about their proposals faster to reach a broad public and, ultimately, voters. Although these three cases show the benefits of participatory approaches, citizen participation in urban planning is still a challenge that goes well beyond the mere selection of the most appropriate tools and methods. The focal point of applying ICT-based tools for participation should remain the citizen, who should be provided with a channel to dialogue, share knowledge, and express their spatial needs (Hadjimichalis & Hudson, 2007; Kallus, 2016; Kimic et al., 2019; Sintomer et al., 2008; Smaniotto Costa et al., 2023). As the three cases show, the digital agency offers a growing opportunity that could help guide planning decisions besides creating social capital (Taylor, 2019; Williams, 2021) and improving training and skills (Śmigiel, 2017).

A key issue for successful citizen participation and placemaking is the design of well-integrated strategic phases and work processes. It is also important to use various forms of social participation in order to adjust them better to current social needs and expectations, initiate positive interactions of people and space, and consequently contribute to the final success. Although the success of getting a project financed depends on many contextual and local factors, some general conclusions can be drawn, considering the three cases: They involve a range of ways to participate, from information to co-design, and they have a broad and creative dissemination strategy.

In terms of research and knowledge sharing, the analysis of cases demonstrates that the implementation of PB schemes needs to be accompanied by rigorous qualitative and quantitative evaluations over time to identify long-term impacts and collateral outcomes that revolve around eventual benefits not foreseen at the initial stages of the process. In the context of spatial planning, particularly greenspace development, as the three cases evidence, PB has proven useful as a creative problem-solving tool to encourage more responsive environments and, in turn, more sustainable and resilient urban development patterns. However, further research is required to better understand who participates in PB initiatives and why. This may enable a better understanding of the causes and effects of the PB programmes for strengthening the democratic processes and improving institutional transparency.

Acknowledgments

This article is based upon work from COST Action DOPMADE, CA18204, supported by COST (European Cooperation in Science and Technology).

Conflict of Interests

The authors declare no conflict of interests.

References

Agência para a Modernização Administrativa. (2022). *Orçamentos participativos em Portugal e na Europa*. https://diagrama.ama.gov.pt/w/estatisticas

Arnstein, S. (1969). A ladder of citizen participation. *Journal of the American Institute of Planners*, *35*(4), 216–224. https://doi.org/10.1080/01944366908977225

Artopoulos, G., & Smaniotto Costa, C. (2019). Data-driven processes in participatory urbanism: The "smartness" of historical cities. *Architecture and Culture*, *7*(3), 473–491. https://doi.org/10.1080/20507828.2019.1631061

Ayuntamiento de Valencia. (2022). *¿Qué es DecidimVLC? Participación ciudadana*. DecidimVLC. https://decidimvlc.valencia.es/help

Barros, S. A. R., & Sampaio, R. C. (2016). Do citizens trust electronic participatory budgeting? Public expression in online forums as an evaluation method in Belo Horizonte. *Policy & Internet*, *8*(3), 292–312. https://doi.org/10.1002/poi3.125

Bernaciak, A., Rzeńca, A., & Sobol, A. (2017). Participatory budgeting as a tool of environmental improvements in Polish cities. *Economic and Environmental Studies*, *17*(44), 893–906. https://doi.org/10.25167/ees.2017.44.16

Bonsón, E., Royo, S., & Ratkai, M. (2015). Citizens' engagement on local governments' Facebook sites. An empirical analysis: The impact of different media and content types in Western Europe. *Government Information Quarterly*, *32*(1), 52–62. https://doi.org/10.1016/j.giq.2014.11.00

Cabannes, Y. (2004). Participatory budgeting: A significant contribution to participatory democracy. *Environment And Urbanisation*, *16*(1), 27–46. https://doi.org/10.1177/095624780401600104

Câmara Municipal de Lisboa. (n.d.). *Lisboa Participa*. https://op.lisboaparticipa.pt

Câmara Municipal de Lisboa. (2008). *Carta de princípios*. https://op.lisboaparticipa.pt/download/file/1697467360_8KLFsv8LI9XP2KmLvDNG

Campbell, M., Escobar, O., Fenton, C., & Craig, P. (2018). The impact of participatory budgeting on health and wellbeing: A scoping review of evaluations. *BMC Public Health*, *18*, Article 822. https://doi.org/10.1186/s12889-018-5735-8

Cunha, E. S. M., Allegretti, G., & Matias, M. (2011). Participatory budgeting and the use of information and communication technologies: A virtuous cycle? *RCCS Annual Review*, *3*, 141–159. https://doi.org/10.4000/rccsar.316

Daniell, K. A., White, I., Ferrand, N., Ribarova, I. S., Coad, P., Rougier, J. E., Hare, M., Jones, N. A., Popova, A., Rollin, D., Perez, P., & Burn, S. (2010). Co-engineering participatory water management processes: Theory and insights from Australian and Bulgarian interventions. *Ecology and Society*, *15*(4), Article 11. http://www.ecologyandsociety.org/vol15/iss4/art11

Dias, N., Enríquez, S., Cardita, R., Júlio, S., & Serrano, T. (Eds.). (2021). *The world atlas of participatory budgeting 2020–2021*. Epopeia and Oficina.

Drobiazgiewicz, J. (2019). The importance of a participatory budget in sustainable city management. *Zeszyty Naukowe Akademii Morskiej w Szczecinie*, *59*(131), 146–153. https://doi.org/10.17402/362

Estrategia Urbana València 2030. (2021a). *Batería de indicadores*. https://estrategiaurbanavlc2030.es/wp-content/uploads/2022/10/5_BATERIA-DE-INDICADORES-es.pdf

Estrategia Urbana València 2030. (2021b). *The Urban Strategy home—Estrategia Urbana València 2030*. https://estrategiaurbanavlc2030.es/en

Estrategia Urbana València 2030. (2022). *Diagnóstico estratégico*. https://estrategiaurbanavlc2030.es/wp-content/uploads/2022/10/1_DIAGNOSTICO-ESTRATEGICO-es.pdf

García-Esparza, J. A., & Altaba, P. (2018). Time, cognition and approach. Sustainable strategies for abandoned vernacular landscapes. *Sustainability*, *10*(8), 2712–2733. https://doi.org/10.3390/su10082712

García-Esparza, J. A., & Altaba, P. (2022). Identifying habitation patterns in World Heritage areas through social media and open datasets. *Urban Geography*. Advance online publication. https://doi.org/10.1080/02723638.2022.2140971

García-Esparza, J. A., Altaba, P., & Huerta, J. (2023). Examining urban polarisation in five Spanish historic cities through online datasets and onsite stakeholders' perceptions. *Habitat International*, *139*, Article 102900. https://doi.org/10.1016/j.habitatint.2023.102900

García-Esparza, J. A., Pardo, J., Tena, P. A., & Alberich, M. (2023). Validity of machine learning in assessing large texts through sustainability indicators. *Social Indicators Research*, *166*(2), 323–337. https://doi.org/10.1007/s11205-023-03075-z

Gherghina, S., & Tap, P. (2021). Ecology projects and participatory budgeting: Enhancing citizens' support. *Sustainability*, *13*, Article 10561. https://doi.org/10.3390/su131910561

González-Salcedo, A., & Soler-Contreras, A. (2021). New perspectives on participatory budgeting: The results of participation from a political and technical perspective. *OBETS—Revista de Ciencias Sociales*, *16*(1), 135–149. https://doi.org/10.14198/OBETS2021.16.1.09

Hadjimichalis, C., & Hudson, R. (2007). Rethinking local and regional development—Implications for radical political practice in Europe. *European Urban and Regional Studies*, *14*(2), 99–113. Https://doi.org/10.1177/0969776407076290

ISAP. (2023). *Ustawa z dnia 9 marca 2023 r. o zmianie ustawy o samorządzie gminnym, ustawy o samorządzie powiatowym oraz ustawy o samorządzie województwa (Dz. U. 2023 poz. 572)*. https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20230000572/O/D20230572.pdf

Kallus, R. (2016). Citizenship in action: Participatory urban visualization in contested urban space. *Journal of Urban Design*, *21*(5), 616–637. https://doi.org/10.1080/13574809.2016.1186490

Kardos, M. (2012). The reflection of good governance in sustainable development strategies. *Procedia—Social and Behavioral Sciences*, *58*, 1166–1173.

Khan, S., & VanWynsberghe, R. (2008). Cultivating the under-mined: Cross-case analysis as knowledge mobilisation. *Forum: Qualitative Social Research*, *9*(1), Article 34. http://www.qualitative-research.net/index.php/fqs/article/view/334/730

Kimic, K., Maksymiuk, G., & Suchocka, M. (2019). Application of new technologies in promoting a healthy lifestyle: Selected examples. *Bulletin of Geography. Socio-Economic Series*, *43*, 121–130. https://doi.org/10.2478/bog-2019-0008

Kimic, K., & Polko, P. (2023). Older adults as a target group of users of green areas in projects of the Warsaw Participatory Budget. In J. Fialová (Ed.), *Public recreation and landscape protection—With environment hand in hand? Proceedings of the 14th Conference, 9–11 May 2023, Křtiny* (pp. 184–187). Mendel University Press. https://doi.org/10.11118/978-80-7509-904-4-0184

Laruelle, A. (2021). Voting to select projects in participatory budgeting. *European Journal of Operational Research*, *288*(2), 598–604. https://doi.org/10.1016/j.ejor.2020.05.063

Leminen, S., Rajahonka, M., Westerlund, M., & Hossain, M. (2021). Collaborative innovation for sustainability in Nordic cities. *Journal of Cleaner Production*, *328*, Article 129549. Https://doi.org/10.1016/j.jclepro.2021.129549

Leśniewska-Napierała, K., & Napierała, T. (2020). Participatory budgeting: Creator or creation of a better place? Evidence from rural Poland. *Bulletin of Geography. Socio-Economic Series*, *48*, 65–81. https://doi.org/10.2478/bog-2020-0014

Linnerooth-Bayer, J., Scolobig, A., Ferlisi, S., Cascini, L., & Thompson, M. (2016). Expert engagement in participatory processes: Translating stakeholder discourses into policy options. *Natural Hazards*, *81*, S69–S88. https://doi.org/10.1007/s11069-015-1805-8

Lisi, M., & Luis, C. (2022). (Un)ready for change? The debate about electronic voting in Portugal and its implementation before and after the pandemic era. *Frontiers in Political Sciences*, *4*. https://doi.org/10.3389/fpos.2022.876866

López-Ronda, S., & Gil-Jaurena, I. (2021). Transformations of participatory budgeting in Spain: From the implementation of the porto alegre model to the instrumentalisation of the new experiences. *OBETS—Revista de Ciencias Sociales*, *16*(1), 151–173. https://doi.org/10.14198/OBETS2021.16.1.10

López-Ronda, S., & Pineda-Nebot, C. (2013). Experiences of participatory budgeting in the Valencian country: Analysis of variables that are involved in their suspension. *OBETS—Revista de Ciencias Sociales*, *8*(2), 259–286. https://doi.org/10.14198/OBETS2013.8.2.03

Lusa. (2021, August 27). Governo aprova novo modelo para Orçamento Participativo Portugal. *Público*. https://www.publico.pt/2021/08/27/politica/noticia/governo-aprova-novo-modelo-orcamento-participativo-portugal-1975390

Maksymiuk, G., & Kimic, K. (2016). "Green projects" in participatory budgets inclusive initiatives for creating city's top quality public spaces. Warsaw case study. In O. Marina & A. Armando (Eds.), *Inclusive/exclusive cities* (pp. 120–135). City of Skopje.

Martinez-Sanchez, W. (2023). Participatory budgeting: Characteristics and participatory quality in institutional designs. *OBETS—Revista de Ciencias Sociales*, *18*(1), 133–154. https://doi.org/10.14198/obets.21914

Martins, R. P. (2023, February 23). Para onde foi o Orçamento Participativo de Lisboa? *Público*. https://www.publico.pt/2023/02/14/opiniao/opiniao/onde-orcamento-participativo-lisboa-2038798

Michels, A. (2011). Innovations in democratic governance: How does citizen participation contribute to a better democracy? *International Review of Administrative Sciences*, *77*(2), 275–293. https://doi.org/10.1177/0020852311399851

Moir, E., & Leyshon, M. (2013). The design of decision-making: Participatory budgeting and the production of localism. *Local Environment*, *18*(9), 1002–1023. Https://doi.org/10.1080/13549839.2012.752798

Movimento pelo Jardim do Caracol da Penha. (n.d.). *O que diz o PDM?* https://www.caracoldapenha.info/blank-4

OECD. (2022a). *Dispelling myths about participatory budgeting across levels of government*. https://www.oecd.org/tax/federalism/dispelling-myths-about-participatory-budgeting.pdf

OECD. (2022b). *OECD guidelines for citizen participation processes*. https://doi.org/10.1787/f765caf6-en

Pistelok, P., & Martela, B. (Eds.). (2019). *Partycypacja publiczna. Raport o stanie polskich miast*. Instytut Rozwoju Miast i Regionów. http://obserwatorium.miasta.pl/wp-content/uploads/2020/01/Partycypacja-publiczna_raport-o-stanie-polskich-miast-Martela-Pistelok_Obserwatorium-Polityki-Miejskiej-irmir.pdf

Popławski, M., & Gawłowski, R. (2023). Participatory budget as a method of e-democracy development or

merely a voting tool? *Przegląd Prawa Konstytucyjnego*, *1*, 269–281. https://doi.org/10.15804/ppk.2023.01.20

Sennett, R. (2002). Cosmopolitanism and the social experience of cities. In S. Vertovec & R. Cohen (Eds.), *Conceiving cosmopolitanism: Theory, context and practice* (pp. 42–47). Oxford University Press.

Sintomer, Y., Herzberg, C., & Rocke, A. (2008). Participatory budgeting in Europe: Potentials and challenges. *International Journal of Urban and Regional Research*, *32*(1), 164–178. https://doi.org/10.1111/j.1468-2427.2008.00777.x

Smaniotto Costa, C. (2021). Informal planning approaches in activating underground built heritage. In G. Pace & R. Salvarani (Eds.), *Underground built heritage valorisation* (pp. 185–196). CNR Edizioni.

Smaniotto Costa, C., Correia Pinto, M., & Cruz, R. (2017). Caracol da Penha—Parkidee contra Parkplatz. Die Entstehung eines öffentlichen Stadtteilparks in Lissabon. *Stadt und Grün*, *10*, 42–47.

Smaniotto Costa, C., Mačiulienė, M., Menezes, M., & Goličnik-Marušić, B. (Eds.). (2020). *Co-creation of public open places. Practice—Reflection—Learning*. Edições Universitárias Lusófonas. https://doi.org/10.24140/2020-sct-vol.4

Smaniotto Costa, C., Menezes, M., & Batista, J. S. (2023). *Territorial capacity and inclusion: Co-creating a public space with teenagers*. Edições Universitárias Lusófonas. https://doi.org/10.60543/ecati/8svp-d513

Smaniotto Costa, C., Šuklje Erjavec, I., Kenna, T., de Lange, M., Ioannidis, K., Maksymiuk, G., & de Waal, M. (Eds.). (2019). *CyberParks—The interface between people, places and technology: New approaches and perspectives*. Springer. https://doi.org/10.1007/978-3-030-13417-4

Śmigiel, M. (2017, September 30). Naprawdę zielona Świętokrzyska. Nie można było tak od razu?! *Wyborcza.pl*. https://warszawa.wyborcza.pl/warszawa/7,54420,22446505,naprawde-zielona-swietokrzyska-nie-mozna-bylo-tak-od-razu.html

Smith, R. W. (1973). A theoretical basis for participatory planning. *Policy Sciences*, *4*(3), 275–295. http://www.jstor.org/stable/4531532

Stortone, S. (2010). Participatory budgeting: Heading towards a "civil" democracy? In M. Freise, M. Pyykkasnen, & E. Vaidelyte (Eds.), *A panacea for all seasons? Civil society and governance in Europe* (pp. 99–121). Nomos.

Strokosch, K., & Osborne, S. P. (2020). Co-experience, co-production and co-governance: An ecosystem approach to the analysis of value creation. *Policy & Politics*, *48*(3), 425–442. https://doi.org/10.1332/030557320X15857337955214

Šuklje Erjavec, I., & Ruchinskaya, T. (2019). A spotlight of co-creation and inclusiveness of public open spaces. In C. Smaniotto Costa, I. Šuklje Erjavec, T. Kenna, M. de Lange, K. Ioannidis, G. Maksymiuk, & M. de Waal (Eds.), *CyberParks—The interface between people, places and technology: New approaches and perspectives* (pp. 209–223). Springer. https://doi.org/10.1007/978-3-030-13417-4_17

Šuklje Erjavec, I., & Zlender, V. (2020). Categorisation of digital tools for co-creation of public open spaces. Key aspects and possibilities. In C. Smaniotto Costa, M. Mačiulienė, M. Menezes, & B. Goličnik Marušić (Eds.), *Co-creation of public open places. Practice—Reflection—Learning* (pp. 165–184). Edições Universitárias Lusófonas. https://doi.org/10.24140/2020-sct-vol.4-2.1

Taylor, Z. (2019). Pathways to legitimacy. *Planning Theory*, *18*(2), 214–236. https://doi.org/10.1177/1473095218806929

UN-Habitat. (2004). *72 frequently asked questions about participatory budgeting*. https://unhabitat.org/sites/default/files/download-manager-files/72%20Frequently%20Asked%20Questions%20about%20Participatory%20Budgeting%20%28English%29.pdf

Warsaw City Council. (2014). *Zarządzenie Nr 5409/2014 Prezydenta Miasta Stołecznego Warszawy z dnia 13 stycznia 2014 r. w sprawie konsultacji społecznych z mieszkańcami Miasta Stołecznego Warszawy w zakresie*

budżetu partycypacyjnego na rok 2015. https://bip.warszawa.pl/NR/rdonlyres/BB3D47F1-22D3-4E59-9545-EB95B2755ACC/976010/5409_1301.doc

Warsaw City Council. (2018). *#Warsaw2030 Strategy*. https://um.warszawa.pl/documents/56602/38746844/%23Warsaw2030+Strategy.pdf

Warsaw City Council. (2019a). *Uchwała Nr XI/218/2019 Rady Miasta Stołecznego Warszawy z dnia 11 kwietnia 2019 r. w sprawie konsultacji społecznych z mieszkańcami m.st. Warszawy w formie budżetu*. https://um.warszawa.pl/documents/57254/16685992/UCHWA%C5%81A+Rady+m.st.+Warszawy+z+11+kwietnia+2019+roku+%28ze+zmianami+z+23+kwietnia+2020+roku%29.pdf/1de5a255-ecdd-dd74-f64d-b2715ad3140a?t=1615372244151

Warsaw City Council. (2019b). *Zarządzenie Nr 825/2019 Prezydenta Miasta Stołecznego Warszawy z dnia 17 maja 2019 r. w sprawie konsultacji społecznych z mieszkańcami m.st. Warszawy w formie budżetu obywatelskiego*. https://um.warszawa.pl/documents/57254/16685992/ZARZ%C4%84DZENIE+Prezydenta+m.st.+Warszawy+z+17+maja+2019+roku+%28ze+zmianami+z+18+lutego+2021+roku%29.pdf/890bccb6-57c0-a799-f1da-9071c9ef33f3?t=1615372275220

Warsaw City Council. (2020). *Informacja Prezydenta m.st. Warszawy na temat kwoty przeznaczonej na budżet obywatelski na rok 2022 oraz harmonogramu przeprowadzenia budżetu obywatelskiego na rok 2022, 27.11.2020*. https://um.warszawa.pl/documents/57254/20148109/informacja_prezydenta_o_kwotach_i_harmonogramie_bo2022_0.pdf

Whitaker, G. P. (1980). Coproduction: Citizen participation in service delivery. *Public Administration Review*, *40*(3), 240–246. https://doi.org/10.2307/975377

Williams, E. (2021). Participatory budgeting—The ultimate way to co-create services for social innovation? *Public Money & Management*, *42*(5), 304–305. https://doi.org/10.1080/09540962.2021.1981041

About the Authors

Carlos Smaniotto Costa (PhD) is a landscape architect and professor of Urban Design and Urban Ecology at Lusófona University, where he also leads the research area on socio-spatial studies. Smaniotto serves on the editorial board of several peer-reviewed international journals and has worked on a number of national and international research projects covering a range of issues all centred on sustainable urban development and transforming cities into more liveable spaces. Smaniotto has published widely on environmental, social, and urban geography as well as urban planning and design issues in professional journals in English, Portuguese, German, and Italian.

Juan A. García-Esparza holds a PhD in Cultural Heritage. He is an associate professor at Jaume I University (Spain), where he teaches Conservation and Heritage Management (2012). His research interests rely on heritage science in a broad sense, from buildings and historical materials science to the wider built environment. His current research focuses on historic towns and villages. He holds a Chair on Heritage and Sustainable Development (2015–2025) and is an elected member of the Regional Committee for the Cultural Heritage at Valencia Region, Spain (2016). He is an expert member and an elected member of the Executive Board of the ICOMOS International Scientific Committee for Historic Towns and Villages CIVVIH (2021).

Kinga Kimic (PhD) is a landscape architect, designer, and assistant professor at the Department of Landscape Architecture, Institute of Environmental Engineering, Warsaw University of Life Sciences—SGGW, Poland. Her research is related to the programming and design of urban public spaces with a special interest in public parks and focuses on functional, environmental, and social aspects. Her interest also relies on participatory processes of co-creating public spaces, implementation of ICTs to urban green areas to increase their attractiveness for users, and enhancement of urban parks' inclusiveness to meet the needs of older adults and people with disabilities. She is a vice-president of the Section of Landscape Architects at the Warsaw Branch of the Association of Polish Architects (OW SARP).

URBAN PLANNING
ISSN: 2183-7635

Urban Planning is an international, peer-reviewed open access journal of urban studies aimed at advancing understandings and ideas of humankind's habitats — villages, towns, cities, megacities — in order to promote progress and quality of life.

The journal is founded on the premise that qualitative linked to quantitative approaches provide mutually sympathetic outcomes for adding knowledge to the complex and polyhedral system par antonomasia as the city is.

cogitatio

www.cogitatiopress.com/urbanplanning