

New methods of citizen participation based on digital technologies

DISSERTATION ZUR ERLANGUNG DES AKADEMISCHEN GRADES
DOCTOR PHILOSOPHIAE (DR. PHIL.)
AN DER FAKULTÄT ARCHITEKTUR UND URBANISTIK
DER
BAUHAUS-UNIVERSITÄT WEIMAR

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GEBOREN 24.06.1983

Weimar, 2021

Betreuer
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Theses

1.1 CURRENT RESEARCH

- * Citizen participation in urban planning emerged as a reaction towards planning paradigms, such as functionalism or systems planning, that failed to include citizens in the processes and institutions that shaped the city (Jencks, 2011; Mumford, 2000; McLoughlin, 1969; Hall, 2012). Parallel to this, the establishment of modern institutions to regulate urban development further exacerbated the alienation of citizens from planning and decision-making processes (Frug, 2001).
- * Against such background citizen participation is often seen as a social imperative to make planning processes more democratic. Proponents of citizen participation suggested conceptual frameworks (Arnstein, 1969), new roles for planners as advocates (Davidoff, 1965) and also new planning paradigms (Healey, 1996, 1992) that grant citizens a central role in the conception and elaboration of plans for the city.
- * However, citizen participation processes have shown limitations. Cupps (1977) pointed out that it is not always possible to reach a representative number of citizens, and even if the process reaches such a representative number, it is not easy to distinguish legitimate participants from external actors. This negatively impacts the legitimacy of such processes and makes participation prone to manipulation and conflicts (King et al., 1998; Hall, 2012; Roberts, 2016).
- * The problems associated with these processes have led cities to view citizen involvement as a costly and time-consuming activity that can result in conflicts rather than practical solutions (Edwards, 2013; Hall, 2012). In this context there is the need to look for new methods that allow citizens to get engaged in the conception and design of their cities.
- * Over the last few years, informal interventions spontaneously initiated by citizens have become increasingly popular. “Guerrilla”, “tactical”, “pop-up” and “DIY” urbanism are some of the terms coined to describe this trend (Finn, 2014; Iveson, 2013; Lydon et al., 2015; Hou, 2010). Such methods offer citizens a viable alternative to transform spaces and participate in the development of their cities.
- * These methods have certain characteristics in common. First, they are usually initiated by small citizens’ organisations “city-makers” preoccupied with the improvement of their local areas. Second, most of their interventions are conceived to avoid bureaucratic hurdles or circumvent regulations, often by exploring grey areas in regulations. Third, a vast majority are located in public spaces and are publicly accessible, thus benefiting the general public. Finally they represent a trend towards the decentralization of participation processes.
- * In such context, de Lange & de Waal (2019) establish a parallel between the practices of city-makers and hackers, pointing out various common strategies and values. For example, both hackers and city-makers aim to open

up systems and make them available to a broader public. This implies a democratisation of not only knowledge but also of resources available in the city such as public space.

* Anttiroiko (2016) proposes that digital platforms have the potential to transform the governing structures of cities. He suggests that cities are evolving from centralized silo structures towards open, decentralized platforms where institutions and citizens can engage in dialogues and find solutions.

* The research conducted for the dissertation is situated at the **intersection of decentralized methods of citizen participation and the growing importance of digital platforms** for the management of urban spaces.

1.2 RESEARCH PROBLEM AND QUESTIONS

* Against the background exposed before, digital technologies have emerged as a viable option to generate new dynamics between citizens, institutions and experts. Therefore, numerous applications for citizen participation have emerged in various cities. This has already been noticed by different researchers who have analysed the characteristics of such applications.

* Such analyses have focused on the particularities of the applications, and the kind of engagement and actions allowed by them. However, limited attention has been given to the methods required to conceive and introduce digital technologies for decentralised models of participation in cities, where citizens, institutions and experts collaborate in the conception and development of urban transformations.

* Furthermore, there is a latent techno-deterministic paradigm that implies that the introduction of new technologies would bring greater engagement and participation. This raises a critical question regarding the underlying promises of increased engagement and activation of citizens. We do not know which elements determine the potential usage of digital tools and the hypothetical engagement of citizens in urban development.

* The last two points present a gap in the research work which necessitates the evaluation of new methods of citizen participation that establish new dynamics between citizens and institutions through the use of digital technologies. Therefore, this research will address the following main and subsidiary research questions.

* *How should digital technologies be conceived and introduced to allow for the establishment of decentralised methods of citizen participation in the context of cities?*

- Which participation methods are emerging thanks to the introduction of digital technologies?
- How does the introduction of technology affect citizens' interest in initiating interventions in their cities?

1.3 OBJECTIVES

* Research new methods of citizen participation based on digital technologies that allow decentralised forms of participation.

* Review current applications of citizen participation to learn about the methods of participation being offered and the degree to which such applications enable citizens to transform their cities.

- * Develop case studies based on existing opportunities of engagement that allow for the evaluation of the impact of digital technologies in citizen engagement and participation.
- * Evaluate whether the introduction of digital tools increases citizen engagement.

1.4 METHODOLOGY

* For the research I first conducted a review of the literature concerning citizen participation and technology enabled citizen participation in the context of urban planning. The literature review identified existing frameworks to understand citizen participation and laid the theoretical framework for the project.

* A survey of existing applications in the context of citizen participation was conducted. This survey investigated the methods and dynamics emerging due to the introduction of digital technologies for citizen participation. This was achieved by observing the actions and roles being created through the introduction of digital technologies. For the survey 24 applications in German-speaking countries were selected.

* The literature and the survey of applications presented the basis to conceive and introduce new methods of citizen participation based on digital technologies. Each of the methods constituted a case study in which digital technologies for decentralized forms of participation were conceived, introduced and observed.

1.4.1 CASE STUDIES

* For the development of the case studies, (figure 1.1) existing opportunities for participation in cities were selected. The obstacles and the regulatory framework related to such opportunities were analysed to conceive digital tools that can potentially facilitate citizen engagement.

* Next, the tools were developed and introduced to observe the interactions of citizens with these technologies as well as the way in which they transform the dynamics of citizen participation. Some of the tools were developed and tested in collaboration with citizen organisations.

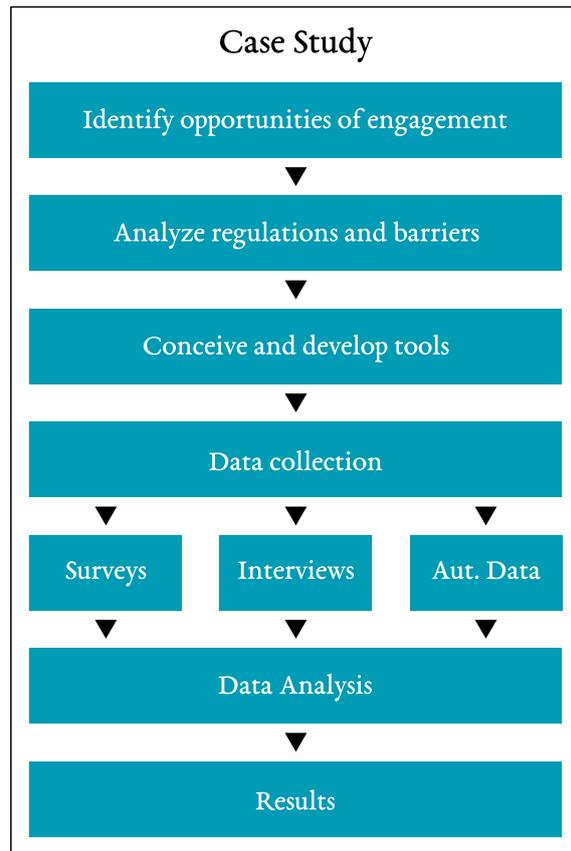


Figure 1.1: Schema of a case study

- * The case studies focused on three informal methods of citizen participation: **parklets**, **residential streets** (Wohnstraßen) and **play streets** (Spielstraßen). For each of the case studies a custom made web-application was developed and monitored.
- * The case studies observed the interplay of digital technologies, citizen engagement and participation through the introduction of digital technologies that facilitated the conception of interventions in the city.
- * Citizen interactions with digital tools were observed to learn to what extent these tools encourage citizens to be active or help transform the dynamics of participation in cities.

1.4.2 DATA COLLECTION

- * The following methods were used to collect data for the case studies: **automated data collection**, **surveys** and **expert interviews**.
- * The data collected allowed to conduct quantitative and qualitative analyses with the objective to gain a broad view through surveys but also to learn from individual experiences through interviews.
- * We compared citizen's engagement before and after the introduction of digital tools and test whether web technologies encourage or motivate citizens to be active in the city, based on their previous engagement.

1.5 RESULTS

- * The literature review identified three tensions that have shaped citizen participation, urban development and the uses given to digital technologies in cities. The first is the tension between centralised and decentralised models of governance and planning. The second tension oscillates between rational and intuitive understanding of cities. Finally, there is also a tension between the different uses of digital technologies in the context of urban development — it can be used for either for control and surveillance or for the appropriation and opening up of spaces.
- * The survey of technology enabled citizen participation applications showed that while cities are adopting technologies to open new channels of participation, the roles assigned to citizens are rather limited and demonstrate the cities' reluctance to use technology as a means for appropriation and opening up the city. Current applications appear inclined towards the use of technologies as a means for control and surveillance.
- * The results of the first two sections confirmed that further research was needed for applications that allow citizens to start intervening in the city. The case studies were planned taking these results into account.

1.5.1 CASE STUDY: PARKLETS

- * For the case study an online toolbox with a basic information, a potential map, a design tool, and an online form to request permits was introduced. The tools received 7,298 visits, the survey had 66 full responses and 5 experts were interviewed.

* The toolbox presented contributed to informing and awakening curiosity among citizen visitors and even helped some to request permits to build a parklet; however, it was unlikely to significantly change the current patterns of engagement. Hence, the underlying hypothesis that digital tools for citymaking could provoke a change in citizen engagement was not validated.

* The results suggest a larger disconnect between the perceived potential of technology and the actual problems faced by citizens. This disconnection emerged clearly during the interviews. People that work with citizen organisations but are not directly involved in the day-to-day reality of citizen engagement were much more confident on the potential impact of technologies on the engagement of citizens. People involved in fundraising, organisation of volunteers, and completion of projects in the city welcomed the toolbox and even showed enthusiasm about it, but saw limited potential in it.

1.5.2 CASE STUDY: RESIDENTIAL STREETS

* For the case study an interactive residential street map, and an online quiz were developed. The interactive map let citizens publish their own interventions in residential streets. The data collected for the case study consisted of: 2,815 visits, 245 completed responses to the survey and three experts interviews.

* The results show that a majority were informed or inspired by the digital tools introduced, but more than a third were apathetic or did not look for new residential streets. When looking at the differences between the groups with or without experience with interventions in public spaces, some bigger differences appear: participants with previous experience are less apathetic and showed much more interest in exploring other opportunities in the city.

* The impact of the tools introduced was significantly boosted by the cooperation with a citizen organization. This was evidenced by two facts. First, a vast majority of the visitors came from the website of the citizen organization. And second, most of the 17 activities recorded in the map were initiated by the citizen organization. Others were organised by citizens motivated to activate residential streets and contacted the citizen organization to publish them online.

1.5.3 CASE STUDY: PLAY STREETS

* For the case study an interactive play streets map and an online form to request support from the city were developed. The data collected included 714 visits, 82 complete responses to the survey, and two expert interviews.

* When looking at the interdependence between *a)* previous knowledge or experience with the organization of play streets and *b)* the reaction to the tools presented, the results showed that previous knowledge did not predict whether the participant would engage in organising play streets. However, the results showed a strong correlation between previous engagement in the organization of play streets and the reaction to the tools presented.

* People with previous engagement in organising play streets are more likely to join and initiate similar activities in public spaces. The values also show a slight difference in the interest to join or initiate play streets. These results single out previous engagement as a determining factor in the potential use of technologies for participation.

1.5.4 CONCLUSIONS AND CONTRIBUTIONS

- * The results of the three case studies consistently showed that previous experience and engagement with informal interventions in cities had the biggest impact on the potential adoption of digital tools for decentralised participation. People with previous experience with interventions in cities are more likely to check regulations and request permits to build parklets, use residential streets, or initiate play streets.
- * Such results strongly suggest that citizens who are already active are more likely to use digital tools for participation. This implies the contrary: that inactive citizens were not likely to become more active through the introduction of digital tools. Hence, the introduction of digital tools would most likely continue current patterns of citizen engagement.
- * Nevertheless, the case studies also showed that citizen organisations have a significant impact in the adoption of digital tools. For example, in the case of Residential streets, the tools were actively used and promoted by a citizen organisation. Such results lead to the conclusion that active citizens and citizen organisations should play a central role in the introduction of digital technologies for decentralised participation.
- * Following these results, each case study proposed concepts or methods that can be used for the conception and introduction of technologies for decentralised participation. These methods are one of the central contributions of this research work to the field.
- * Throughout the case studies, **active citizens and citizen organisations emerged as a key element for the conception and adoption of digital technologies**. In particular, citizen organisations bring together the expertise, experience and social structures needed for the initiation of urban interventions or transformations. This strongly speaks for schemas that introduce technologies in collaboration with citizens organisations.

1.6 FURTHER RESEARCH

- * Further experiments can investigate tools that help people connect with each other within cities and observe how such connections can be transformed into collective action. Experiments that mix digital tools with other community-building activities can also further examine how digital and person-to-person interactions can be better integrated to increase engagement in cities.
- * Further work can research how a citizen organizations can be involved in the development of digital tools through a two stage co-creation process, where they participate both in the development of the tools and later in their propagation.

References

- Anttiroiko, A.-V. (2016). City-as-a-Platform: The Rise of Participatory Innovation Platforms in Finnish Cities. *Sustainability*, 8(9), 922.
- Arnstein, S. R. (1969). A Ladder Of Citizen Participation. *Journal of the American Institute of Planners*, 35(4), 216–224.
- Cupps, D. S. (1977). Emerging Problems of Citizen Participation. *Public Administration Review*, 37(5), 478.
- Davidoff, P. (1965). ADVOCACY AND PLURALISM IN PLANNING. *Journal of the American Institute of Planners*, 31(4), 331–338.
- de Lange, M. & de Waal, M., Eds. (2019). *The Hackable City: Digital Media and Collaborative City-Making in the Network Society*. Singapore: Springer Singapore.
- Edwards, V. L. (2013). A theory of participation for 21st century governance. *International Journal of Organization Theory and Behavior*, 16(1), 1–28.
- Finn, D. (2014). DIY urbanism: implications for cities. *Journal of Urbanism: International Research on Place-making and Urban Sustainability*, 7(4), 381–398.
- Frug, G. E. (2001). *City making: building communities without building walls*. Princeton, N.J.: Princeton University Press. OCLC: 733352602.
- Hall, P. (2012). *Urban and Regional Planning*. Hoboken: Taylor and Francis. OCLC: 1109033086.
- Healey, P. (1992). Planning through debate: the communicative turn in planning theory. *Town Planning Review*, 63(2), 143.
- Healey, P. (1996). The communicative turn in planning theory and its implications for spatial strategy formations. *Environment and Planning B: Planning and Design*, 23(2), 217–234.
- Hou, J. (2010). *Insurgent public space: guerrilla urbanism and the remaking of contemporary cities*. London: Routledge. OCLC: 827971214.

- Iveson, K. (2013). Cities within the City: Do-It-Yourself Urbanism and the Right to the City: Do-it-yourself urbanism and the right to the city. *International Journal of Urban and Regional Research*, 37(3), 941–956.
- Jencks, C. (2011). *The story of post-modernism: five decades of the ironic, iconic and critical in architecture*. Chichester: Wiley. OCLC: 760112993.
- King, C. S., Feltey, K. M., & Susel, B. O. (1998). The Question of Participation: Toward Authentic Public Participation in Public Administration. *Public Administration Review*, 58(4), 317.
- Lydon, M., Garcia, A., & Duany, A. (2015). *Tactical urbanism: short-term action for long-term change*. Washington, DC: Island Press. OCLC: ocn866615644.
- McLoughlin, J. B. (1969). *Urban and regional planning a systems approach*. New York: Praeger.
- Mumford, E. P. (2000). *The CIAM discourse on urbanism, 1928-1960*. Cambridge, Mass.: MIT Press, 1. paperback edition. OCLC: 231859208.
- Roberts, N. (2016). Public Deliberation in an Age of Direct Citizen Participation:.. *The American Review of Public Administration*. Publisher: Sage PublicationsSage CA: Thousand Oaks, CA.