The Shape of Participatory Platforms for Bottom-up Urbanism: A Definition and Study for Success Factors

Pascal Abel[1], Daniel Herrmann[2], Amelie Hinz[1] & Susanne Robra-Bissantz[1]

[1] Technische Universität Braunschweig, Chair of Information Management, Braunschweig, Germany, e-mail: p.abel@tu-braunschweig.de, a.hinz@tu-braunschweig.de, s.robra-bissantz@tu-braunschweig.de
[2] Technische Universität Braunschweig, Chair of Educational Sciences, Braunschweig, Germany, e-mail: d.herrmann@tu-braunschweig.de

Abstract Citizens in Europe and North America gather on digital platforms to shape their urban environment from the bottom-up. Digital platforms offer participatory mechanisms to involve citizens in different situations and higher or lower levels of control. Platforms with high levels of control allow citizens to implement their own projects. This offers self-governance and gives control to the citizens. Although a look into practice shows an increasing number of platforms, there is a research gap regarding such platforms and research addresses the need for evaluation of self-governance models in the context of smart cities. In the ongoing empirical study of 30 platforms, we extract success factors for the development and adaptation of these platforms for practitioners.

Keywords: participatory platforms, bottom-up urbanism, smart city, self-governance, shape.

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1 Introduction

Smart city concepts focus on the improvement of quality of live as a goal with the use of information and communication technologies (ICT) in the urban environment (Kondepudi et al., 2014). There are two different concepts of the understanding to reach this goal: the top-down approach which is planned and executed by local governments and a bottom-up approach where citizens are the spring of the idea and care for the implementation by themselves (Breuer, Walravens, & Ballon, 2014).

Acting from the bottom: we see citizens around the world changing their urban space. They build old fridges into book-sharing shelves, organize local markets and revive an old building into a cinema. Those citizen-initiated activities are summarized under the term »bottom-up urbanism«. It is seen as an alternative to the top-down approach of planned environments (de Waal & de Lange, 2019) and we see the role of city planners changing: where planners previously developed projects for urban space, now the development of platforms for the engagement of the citizens is becoming a central task (Ertiö & Bhagwatwar, 2017). Local governments are acknowledging the citizen-driven initiatives (Fredericks, Hespanhol, Parker, Zhou, & Tomitsch, 2018) and research identifies it as a driver for urban innovation (Caragliu, Del Bo, & Nijkamp, 2011).

Successful smart city concepts use bottom-up elements as well as top-down elements (Shepard & Simeti, 2013). The usage of bottom-up participation elements can be seen as "logical extension of the democratic process in more local, direct, deliberative ways" (Brabham, 2009). In a shift towards the bottom-up we see a change towards a "smart city 2.0" in similarity of the rise of the web 2.0 concept (Trencher, 2019).

Arnstein's (1969) ladder of participation describes different levels of bottom-up participation. Even though Arnstein's concept is half a century old, it is still used as the evaluation standard for citizen participation (Collins & Ison, 2009). The ladder concept has been transformed and used in research for the conceptualization of different participation levels on digital platforms (Senbel & Church, 2011).

On the higher levels of participation future users are integrated into planning processes which helps to guarantee a widely acceptance of projects and citizen-involvement (Burby, 2003). To go further the approach of "[i]nterdisciplinary and participatory design collaborations seem[s] to be the best option for problem solving in a democratic society of the digital, postindustrial age" (Brabham, 2006). This means to bring the citizens together in experimental setting that leads to innovations (Anttiroiko, 2016) and to bring the smart city idea towards the centralization of the citizens in an inclusive, diverse manner and train ambiguity for future cities (Surowiecki, 2005).

On the highest level of participation citizens are in control of their actions which is known as self-governance in smart city research. Following Jacobs (1993) the right of citizens to actively change their conditions of everyday life is linked with their quality of life.

The empirical research of Gün et al. (2019) showed that "many of the platforms aimed at higher levels of design empowerment but failed to provide the required functionalities users need". We ask ourselves why we see so few platforms fulfilling the highest participation level.

In practice, bottom-up initiatives struggle to improve, maintain and fund their platforms (Abel, Stuwe, & Robra-Bissantz, 2019). Especially when it comes to platforms that target at high levels of participation, practitioners face the challenge of how they can successfully design such platforms.

According to Panopoulou et al. (2014) success factors cannot be generalized across different types of platforms since they are suspected to be linked to certain types of platforms. Therefore practitioners lack evidence-based recommendations in their journey to develop participatory platforms.

This study's outcome focuses on the following research question:
What success factors are important for participatory platforms that target at the highest level of participation in the context of bottom-up urbanism?

2 A definition of participatory platforms for bottom-up urbanism

In recent years there has been a broad interest in research on bottom-up urbanism activities (Kickert & Arefi, 2019). In recent empirical studies on participatory platforms in the urban context there has been a more general view of the nature of participatory platforms but they were not covering the highest level of participation (see Desouza and Bhagwatwar 2014; Falco and Kleinhans 2018) or investigating only 3 platforms from this level (see Gün et al. 2019).

When we take a look at the research, we find various components that lead to a definition. The main issue is that we have to acknowledge the concept of **bottom-up**. It is a change from asking the citizens towards what the citizen ask themselves. The citizens are in control of the process of their ideas and the implementation into the urban environment. It is "a radical repositioning of the designer, a shifting of power from the professional expert to the ordinary person" (Crawford, 2008). Their actions are recognized, supported or even invited by the government but not controlled.

The projects carried out by amateur designers with the character of **DIY in the public space** where citizens are the active part of the project implementation. But none of the projects is like another, there are various projects with different perspectives and goals (Kickert & Arefi, 2019).

The initiatives gather on digital platforms that offer various mechanisms for participation (Ertiö & Bhagwatwar, 2017). **On participatory platforms** it is up to the citizens to decide which participation mechanisms they want to use and therefore how deep they want to be involved.

The transparency that goes hand in hand with official digital platform excludes illegal or rebellious projects. On the one hand, the process is institutionalized and the actors made themselves visible. On the other hand, the projects gain a legitimation and the citizens act upon **self-governance** where they have the power for decision making which fulfills Arnstein's demand for citizen control.

3 Methodology & study design

Arnstein's ladder inspired the development of several frameworks for assessing eParticipation. In the selection and analysis of platforms we followed the frameworks from Tambouris et al. (2007) and Yusuf et al. (2019). Tambouris et al. (2007) present a framework that connects participation to electronic tools and technologies. Yusuf et al. (2019) proposed a framework especially for the smart city context. We executed the following steps (until step 3 so far):

(1) By searching scientific papers, websites, social media and getting suggestions from practitioners we constructed a database with 96 platform. (2) We identified 30 platforms which are offering self-governance within their set of participation mechanisms. These 30 platforms are located in Europe and Northern America which might be caused by the fact that bottom-up urbanism is a phenomenon of the global north (Kickert & Arefi, 2019). (3) A semi-structured interview was developed. We did not derive hypotheses about success factors from previous research according to the principle of theoretical openness, since success factors cannot be generalized across different types of platforms (Panopoulou et al., 2014). Therefore, the first part of the questionnaire included open-ended questions to gain in-depth understanding about practitioners' perspective on success factors. The second part of the questionnaire we asked the practitioners to rank the success derived from previews literature review (e.g. Gün et al., 2019). (4) We will analyze the qualitative data based on the grounded theory methodology. The grounded theory allows to discover "theories, concepts, hypotheses, and propositions directly from data, rather than from a priori assumptions, other research, or existing theoretical frameworks" (Taylor & Bogdan, 1984). Therefore it is ideal for discovering novel or unanticipated findings (Bryman, 1984; Creswell, 1994). According to (Urquhart, 2007), we used the preliminary literature review as orientation and not as defining framework. (5) We will compare the results of our qualitative data analysis and the evidence from the literature to explore the context dependency of success factors (theoretical grounding).

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