Citizens in the Smart City: What Is Actually Happening? An In-Depth Case Study From Utrecht, the Netherlands

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ABSTRACT

While the role of citizens in smart cities is hotly debated, there is a dearth of empirical research on the subject. This in-depth study of a European city, selected for its typical smart city ambitions, explores the roles that citizens actually play in smart city projects. The study examines twelve initiatives in the City of Utrecht (NL) using a framework that differentiates between types of citizen participation. The findings show that technology-enabled citizen participation in Utrecht is highly diverse and embraces all types of participation rather than simply taking the form of either “citizen empowerment” (as the advocates argue) or “citizen subjugation” (as the critics stress). The diversity found in the study highlights the need to conceptualize the role of the smart citizen at the micro (project) level rather than at the level of the city as a whole. The study shows that citizen participation in the smart city should not be understood as a technological utopia or dystopia but as an evolving, technologically mediated practice that is shaped by a variety of factors.

KEYWORDS

Smart Citizens, Smart City Governance, Technology-Enabled Citizen Participation, Urban Development

INTRODUCTION

The core idea of smart city governance is the usage of technologies in multi-stakeholder collaboration to build sustainable cities. This inherently implies a more significant citizens’ role, as through the utilization of technology, citizens are able to actively contribute to public matters such as urban development, and the co-creation of public services (Ferro & Osella, 2017; Meijer, Gil-Garcia, & Bolívar, 2016).

Smart governance in the literature is extensively discussed and conceptualized from manifold perspectives. In this varied argumentation landscape two major views stand out: the highly optimistic views on the one hand and the critical and/or sceptical opinions on the other. The first celebrates citizen empowerment enabled by the wide availability, place- and time-boundlessness of technologies (Aladalah, Cheung, & Lee, 2017; Mukhtarov, Dieperink, & Driessen, 2018; Oliveira & Santos, 2018).

These celebrative views are countered by the chorus of critical and sceptical voices decrying the position of citizens in the smart city (Cowley, Joss, & Dayot, 2017; Datta, 2015; Willis, 2019). They warn of technological determinism and highlight the potential limitations due to the insufficient socio-

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economic or organizational capacities of the actors (Hendriks, 2014; Ogonek & Hofmann, 2018). Others foresee the subjugation of citizens in the smart city under the dictates of data, technologies and neoliberal agendas. Such an instrumental approach, these scholars argue, eliminates the core of citizenship: socio-political reflection and activism (Cardullo & Kitchin, 2018; Shelton, Zook, & Wiig, 2015; Vanolo, 2016).

The paucity of empirical work on the actually existing citizen participation in smart cities makes it difficult to draw conclusive insights (Kitchin, 2015; March & Ribera-Fumaz, 2016). The few studies available, moreover, were found to rarely investigate tangible activities in smart, technology-based projects, focussing instead mainly on narratives, discourses and imaginaries in policy- and programme documents (Cowley et al., 2017; Engelbert, van Zoonen, & Hirzalla, 2019; Fernandez-Anez, Fernández-Güell, & Giffinger, 2018; Vanolo, 2016). These studies often embody a strongly normative approach rooted in critical theory and concentrate on the stark contrast between a sloganized concept of “citizen empowerment” and the realization of “citizen subjugation.” Hence, it is problematic and too early to claim that citizens are principally passive, subjugated and marketable actors in the smart city. This is all the more doubtful when surveying the upsurge of civil grassroots initiatives across the globe (De Vries, Boon, & Peine, 2016; Seyfang & Longhurst, 2013; Tomor, 2019). It is far more likely that citizens play a variety of roles in the development of smarter cities.

It is evident that further scrutiny of urban practices is urgently required to deepen our understanding of how citizens enabled by technology contribute to public matters. The present paper therefore looks beyond the archetypal contradictions in the literature and delves into the materialization of smart governance in the city. To that end, an in-depth case study approach has been used to analyse the actual contributions of citizens in the city of Utrecht (the Netherlands) based on the question: What are the actual roles of citizens in smart city governance in the context of Utrecht? This is addressed by drawing on classifications of citizen participation to construct a model and by examining twelve technology-mediated initiatives in the Utrecht practice. The case of Utrecht is relevant because this midsized city with its smart governance ambitions resembles, and thus exemplifies, many other cities in the world.

The remainder of the article is structured as follows. In the following Section (2), a brief literature overview of extant conceptualizations of citizen participation is presented, on the basis of which an analytical model is constructed. The subsequent Section (3) describes the research methods, which is followed by the findings (4). The final Section (5) discusses the results, presents the conclusions and indicates directions for future research.

CITIZENS’ ROLES IN THE SMART CITY

This sections first briefly discusses how citizen engagement in smart, technology-facilitated urban development is conceptualized in the literature. Based on these insights, an analytical framework is presented to study the roles citizens actually play in smart city development in Utrecht.

Citizen Participation

Although citizens’ roles in the smart city have only recently captured scholars’ attention, the use of ICT in the public sector for citizen participation has been extensively studied in other domains such as urban planning and e-participation (Ertiö, 2015; Wilson, Tewdwr-Jones, & Comber, 2017). These studies devised a wide range of conceptualizations and classifications of citizen participation in collective issues (Haklay, 2013; IAP2, 2007; Krabina, 2016; Macintosh, 2004; OECD, 2001; Tambouris, Liotas, & Tarabanis, 2007).

These classifications have all tended to build on Arnstein’s (1969) well-known participation ladder, which, throughout the decades, has sustained its heuristic utility to understand citizen involvement and power relations in decision-making. Its eight steps represent different gradations
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