Digitalisation in Africa: Interdisciplinary Perspectives on Technology, Development and Justice

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Combined Abstracts

Beyond the Boundaries: Addressing social and spatial inequality with digitally based mobility? The case of Cape Town, South Africa

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Over the last decade, the Smart City concept has increasingly become a popular urban policy approach of cities across the globe, including in Africa. Smart city approaches are often based on idealized, utopian visions of the future, digital and technology-driven urban innovation as well as on new data analytics (Kitchin 2014). They are also considered as universal solution to varied urban policy problems in different cities, however, they do not take sufficiently into account lived experiences, ordinary urban places and needs, issues of marginalisation and exclusion (Slavova and Okwechine, 2016; McFarlane and Söderström 2017). How Smart City policies operate in contemporary cities is being examined in the emerging, but still underdeveloped, academic field of 'smart urbanism'. According to Luque-Ayala and Marvin (2015), due to the 'infancy' of the discipline, its disciplinary fragmentation and single case study approach, the work lacks 'theoretical insight and empirical evidence required to assess the implications of this potentially transformative phenomenon' (p. 2106). In addition, mainstream smart urbanism considers Smart City as a set of technocratic solutions for urgent urban problems and not as a political response to political conflicts that reflect discourses on what urban problems are, what appropriate solutions are and what desired urban development is. Moreover, current attempts to theorize smart cities are often rooted in the notion of "Urban System", which draws on new approaches to complex systems thinking (Harrison and Donelly, 2011). While useful in their own right, such approaches fail to consider more qualitative dimensions of smart urbanism as well as the micro-level and individual perspectives. Due to the considerable consequences of Smart City strategies, critical engagement with the rationale, assumptions, methods, target group, implications of Smart City approaches in different urban contexts is required (Luque-Ayala and Marvin, 2015). These include ethical considerations, including the distribution of risks, opportunities, costs and benefits across social groups and actors.

Recently, Verrest and Pfeffer (2018) have furthered such critical engagement by distilling dimensions absent in current mainstream smart urbanism. They did so by exploring both the academic field of critical urbanism and smart urbanism. In critical urbanism, inspired by post-Marxist thought and thinkers such as Henri Lefebvre and David Harvey, scholars such as Neil Brenner, Christian Schmid, Ananya Roy, Jennifer Robinson and Colin McFarlane question how current capitalist urbanization shapes processes of social, political, economic and environmental inequality and deconstruct the discourses underpinning these. In their paper, Verrest and Pfeffer develop their contribution to the smart urbanism debate from existing theoretical and conceptual approaches within critical urbanism.

They distilled three dimensions that require further development to improve our analysis and understanding of what Smart City policies mean for contemporary urban life: (1) the acknowledgement that the urban is not confined to the administrative boundaries of a city; (2) the importance of local social-economic, cultural-political and environmental contingencies in analysing the development, implementation and effects of Smart City policies; and (3) the social-political construction of both the urban problems Smart City policies aim to solve and the considered solutions. In other words: the urban is relational; cities are ordinary; and urban knowledge, problems and solutions are constructed.

The contribution we propose for this conference builds on Verrest and Pfeffer (2018), specifically, it addresses the relationality of cities in assessing the impact of Smart City approaches. As such it aims to understand how the costs, benefits, risks and opportunities of a smart city approach are distributed socially and spatially, across and beyond the city limits. We focus our attention on one relevant sub-domain of smart city approaches, i.e. smart mobility and examine how spatial inequality and inclusion are being (re)shaped and addressed by smart mobility approaches, both in terms of its goals and implications as well as the process of the development and implementation of the policy.

In order to do so, the paper focuses on the case of Cape Town in South Africa, specifically on the recently implemented bus rapid transit system (BRT) MyCiTi. Cape Town can be characterized as a socio-economically highly unequal society. Its fragmented and highly segregated urban form and structure can be traced back to its apartheid history when spatial planning aimed at racial segregation. Recently, the city has directed towards promoting an integrated and compact city. In this context, the city implemented a smart mobility project, consisting of a bus rapid transit (BRT) system through which it hopes to create a sustainable transport system that provides access to urban resources and economic opportunities across social groups. This goes along with the development of mobile applications providing real-time information on public transport routes and traffic conditions (such as MyCity), including for informally run minibus taxis (WhereIsMyTransport). The BRT system is gradually being expanded throughout the city and its surroundings. Simultaneously, like in many other cities globally, Cape Town is being exposed to digitally based mobility platforms providing individual, on-demand transport, including Uber and Taxify. As such Cape Town provides a case where various dimensions and forms of digitally based mobility come together: 1) smart mobility services for the users, 2) new real-time / big data for monitoring traffic and bus lines, and 3) opportunity for developing new/alternative e-hailing taxi services for the private sector.

The rising importance of digitalization in realizing urban mobility in Cape Town as well as the opportunities it offers however generate many important ethical questions. Our contribution to the conference investigates how digitalization in urban transport in Cape Town addresses Cape Town's social and spatial inequality and what its social and economic impacts for citizens in different communities inside and outside the city boundaries are.
More specifically, in this paper we ask:
1. How do goals of reducing spatial and social-economic inequalities of Cape Town feature in the ambitions, plans and implementation process of the BRT?
2. How is digitally based mobility changing Cape Town's urban transport system: business models, formal and informal forms, within and outside of the immediate city, frequency/reliability and pricing?
3. How does this change people's practices and perceptions with regards to using public transport?
4. What kinds of social and economic costs and benefits does this development produce for citizens across the city and beyond the city boundaries to include peri-urban and rural communities.

Data for this study are drawn from diverse research projects done in Cape Town in 2017-2018, including with data collected at the micro-level representing individual perspectives. The qualitative methodology included in-depth interviews with policy makers, content analysis of policy documents, interviews with and observations of BRT users of selected communities across (wider) Cape Town. Through the qualitative data analysis, we unpack to what extent different social groups and spatial communities benefit from digitally based services in terms of convenience of use, labour and income opportunities and access to other urban amenities. In addition, we want to highlight the relevance of

analogue services in creating the necessary flexibility as digitally-based mobility services require having a cell phone, Internet or 3 G connectivity.

Apart from the empirical evidence about the consequences of digitally based mobility (i.e. how costs, benefits, risks and opportunities of a digitally based networked systems are distributed), our paper stresses the importance of bringing forward the daily practices of different users in relation to their social and economic constraints and opportunities. This helps to understand what digitally-based services mean for different communities across the city and beyond the city boundaries with regard to goals of reducing spatial and social-economic inequalities and allows inclusion of social-ethical issues in their design and evaluation.

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