

Geographies of Digital Urban Platforms Alternative Urbanism in Milan and Amsterdam

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Letizia Chiappini

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Promotiecommissie

Promotor:	Prof. dr. R.C. Kloosterman	Universiteit van Amsterdam
Promoter:	Prof. dr. S. Vicari	Università degli Studi di Milano- Bicocca
Co-promoter:	Dr. J. De Vries	Universiteit van Amsterdam
Co-promoter:	Prof. dr. E. Mingione	Università degli Studi di Milano- Bicocca
Overige leden:		
	Prof. Justus Uitermarkt*	Universiteit van Amsterdam
	Prof. Rivke Jaffe*	Universiteit van Amsterdam
	Dr. Virginie Mamadouh*	Universiteit van Amsterdam
	Prof. Ugo Rossi*	Università di Torino
	Prof. Adam Arvidsson*	Università di Napoli

Faculteit der Maatschappij- en Gedragwetenschappen, University of Amsterdam

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Alternative Urbanism in Milan and
Amsterdam**

Autore:

Letizia Chiappini

Supervisors:

Prof. Serena Vicari

Prof. Robert Kloosterman

Co-promotors:

Dr. Jochem de Vries

Prof. Enzo Mingione

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Ma solitude me tue,

j'avoue que je con continue de croire.

— Alexandre Dumas (1846) *Le Comte de Monte-Cristo*

My loneliness is killing me,

I must confess I still believe

— Britney Spears (1999) *Baby one more time*

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Co-edited publications

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1. Introduction

The long, dark night of the end of history has to be grasped as an enormous opportunity. The very oppressive pervasiveness of capitalist realism means that even glimmers of alternative political and economic possibilities can have a disproportionately great effect. The tiniest event can tear a hole in the grey curtain of reaction which has marked the horizons of possibility under capitalist realism. From a situation in which nothing can happen, suddenly anything is possible again.
— Mark Fisher (2009) *Capitalism Realism: Is there no alternative?*

As a millennial I have been growing accustomed to the power of consumerism and capitalist realism, individualism moral, globalization process and neoliberal doctrine. The pervasion of social media, technologies and digital devices, and all the sadness that brings along, has become a dominant part of my socialization phase. In facts, we all live in a moment of drastic transformation, a historical conjunction characterized by profound economic crisis, global recession, widespread popular authoritarianism and climate change. The financial crisis and subsequent recession that shook global capitalism in 2008 not only harmed the most vulnerable urban dwellers but also originated in ruthless financial speculation over urban real estate (Harvey, 2012). Decades of neoliberal urban policy regimes (in various guises) have produced a situation in which the course of urban development is more often plotted by capital than by urban inhabitants. With capital at the helm cities become instruments for the generation of profits rather than places where people live. At the same time, urbanity is still haunted by the persistent ghosts of colonialism, racism, sexism, and other forms of discrimination that hamper the possibility of urban life forms that are truly inclusive, dignified, and just.

Thus, humanity is currently confronted by an extraordinary array of social, economic, political, and environmental challenges. On top of this, the digital-urban-era has begun. New technologies are rattling the industrial context and the tertiary sector (Degryse 2016). This technological upheaval is increasingly based on digital platforms as new productive paradigm, more than a simple infrastructure (Kenney and Zysman, 2016). Global corporate platforms, like Google and Facebook are dominant in monitoring, collecting and mediating any kind of information. While those platforms can be defined as social networks platforms, instead Airbnb, Uber and Foodora are inherently *spatial* in their manifestations. Those platforms operate in different urban sectors, such as mobility, accommodation, delivery. Most, if not all of these, have a significant urban dimension (Artioli, 2018). Without cities and users/dwellers there is nothing to deliver, nobody to accommodate, and anyone to pick up and drive around the city.

Nowadays, there is so much interest in transitions at the interface between the urban and media technology. My PhD research discusses what these transitions mean for our understanding of urban societies. As Noortje Marres (2017) claims, this transformation is commonly captured by the use of the suffix 'digital', which simply reflects the significant

investments in digital technologies and strategies applied in many sectors, such as governments, business, universities, and social and cultural organizations. Meanwhile, the 'digital' has produced new interfaces between urban life and social research.

1.1. Sharing Economy Hype and Digital Platforms

The development of the research field on digital platforms finds its origin in the sharing economy epithet. The sharing economy is an emerging global phenomenon that is affecting some traditional economic sectors, including tourism, housing and transport, modifying the economic imaginary among individuals, who exchange goods and services through mutual promises (Botsman, 2013). The novelty is that this exchange takes place thanks to the use of digital platforms and the business model that supports them, used in order to establish virtual markets able to mediate between supply and demand. Although the use of technology is a decisive criterion in the definition of these new instances of collaboration between peers, not all practices have the same impact in economic and social terms. Tracing the boundaries of this social and economic phenomenon means identifying the constitutive elements that characterize it and delimiting the field of research investigation. The economic imaginary that sharing economy evokes is composed of discourses and narratives skillfully constructed in order to modify the economic, social and cultural imaginations of our society. Beyond the imaginaries and dynamics of market forces that support the growth of the sharing economy at a global level, the first effects of this change are visible primarily in the local sphere. The challenges that the sharing economy poses are first and foremost welcomed by cities, which have always been places of innovation and change in which the crucial mechanisms of politics and society can be closely observed.

Within the public debate, sharing economy (SE) is often represented by venture capitalist forces, the two tech-giants Airbnb (house-sharing) and Uber (ride-sharing) both born in Silicon Valley (Botsman and Rogers, 2010; 2013). Although, in a recent article on the Economist Airbnb is preparing for IPO (i.e. to go public), the main concern of this platform enterprise is to point out how it differs from Uber. To be precise, Uber is indeed part of the so-called gig economy, which presents an array of problems for the lack of fair working conditions and precarious social contracts for their drivers. Deliveroo is indeed another gig-economy platform enterprise for delivery, in which labour conditions are threatened and it has been creating legal precedents for the conditions of workers. In practice, sharing economy's initiatives require both socio-economic functions that could have different impacts on the urban fabric and local economy. In principle, the SE offers not only new business opportunities, it also promises to re-create the social ties that have been lost with modernization and the expansion of market society, and to inject economic initiatives with new civic virtues (Arvidsson, 2017).

The ambiguity beyond the notion of *sharing* is reflected also in the strategies and policy-goals by local governments. SE might restructure social relationship (Light and Akama,

2014) that can be referred as a kind of care (i.e. the slogan 'sharing is caring'), intertwining in highly networked economic relations. Thus, the majority of the existing researches about SE focus on the motivations of participants in the platforms (\$), as well as on the taxonomy of different kind of providers, exchanges and transaction (\$). The notion of SE in itself presents contradictions and dilemmas between social inclusion rhetoric (i.e. bottom-up solutions), and top-down market strategies or micro and self-entrepreneurship narrative. Despite the global rhetoric and narratives about sharing economy which emphasize concepts such as people's well-being, urban innovation, sustainable job creation and so on, looking at most popular Silicon Valley' firms (i.e. Airbnb and Uber), we see centralised enterprises that seem to be not concerned with social cohesion issues. Sharing economy' firms might offer new models of collaborative consumption and co-production that are co-opted by private interests and venture capitalists, and increasingly geared towards affluent middle-class types or so-called "bourgeois bohemians", but they often exclude those on low incomes resulting in a less equal society (Morozov, 2013). Considering the extractive and exploitative tendency of digital global platforms, is there any alternative forms of urbanism? Against the motto of TINA "there is no alternative" proclaimed by Regan and Thatcher, this research stimulates a critical and radical thinking that goes beyond the traditional epistemology in urban studies, which is stuck on one side on a hypercriticism and the other on a normative vision on how cities should look like. As a response to the so-called platform capitalism model (Srnicsek, 2017), the term platform cooperativism (Scholz, 2018) goes into the direction of a more cooperative model for digital platforms. However, as Evgeny Morozov (2018) writes:

"Efforts at platform cooperativism are worthwhile; occasionally, they do produce impressive and ethical local projects. There is no reason why a cooperative of drivers in a small town cannot build an app to help them beat Uber locally. But there is also no good reason to believe that this local cooperative can actually build a self-driving car: this requires massive investment and a dedicated infrastructure to harvest and analyse all of the data. One can, of course, also create data ownership cooperatives but it's unlikely they will scale to a point of competing with Google or Amazon".

The main issue is that although digital platforms and sharing economy rhetoric may appear configured within a more inclusive governance model and based on cooperative and social principles, it is not taken for granted that our cities will be more inclusive and just in terms of citizen rights and public participation. Hence, relatively little attention has been given to 'other' urban digital platforms oriented to non-profit and bottom-up practices, social economy and common goods, such as platforms for citizen participation, grassroots mobilization and urban regeneration interventions.

1.2. Digital Platforms and the City

More than a decade after the rise of global digital platforms, such as Facebook, Amazon, and Airbnb, it is still surprisingly difficult to define them. The common feature amongst these emerging technologies is the digital connectivity (Ash, et al. 2016; Ash, et al. 2018; Srnicek, 2017), which rely on networks and resources mostly located in cities (Leszczynski, 2015). The digital turn in geography plays out as trailblazer for my PhD research. A legitimate starting point can be unpacking the terms ‘digital’ and ‘platform’. If we stick to the literal meaning, a platform is a raised level surface on which people or things can stand, like a railway track where passengers get on and off trains at a station. Elsewhere, in computer science terms, a platform is a standard for the hardware of a computer system, which determine what kinds of software it can run, the so-called ‘Stack’ (Bratton, 2016).

“The etymology of platform refers to a “plan of action, scheme, design” and, from the Middle French, *platte* form, or, literally, a plateau or raised level surface. As Benedict Singleton writes, this conjoined with the plot, which itself first implies a plot of land. Once situated on the platform of the stage, the ‘plot’ becomes a more abstract structure that situates characters into the forgone conclusion of its unfolding, even as they suffer the choices that aren’t really theirs to make.” — (Bratton, 2016: 43)

Hence, the etymology of the word platform refers to a *flat-scape*, both like the grid for hardware or the grid-map of a city. This point is crucial to understand the difference between any digital platforms, like Facebook or Amazon, and platforms with an explicit relationship with the urban. If we narrow down our focus on digital platforms such as Airbnb, Deliveroo and Uber, one might observe that most, if not all of these, have a significant urban dimension (Artioli, 2018). Without cities and users/dwellers there is nothing to deliver, nobody to accommodate, and no-one to pick up and drive around the city. Digital platforms clearly entail certain sectors of urban life. They offer ostensibly innovative solutions such as short-term rent (Airbnb), unconventional mobility systems (Uber), on-demand delivery (Deliveroo). In other terms, the digital layer of platforms facilitates any type of socioeconomic activity and mediate relations through digital connectivity amongst users; as well as organize exchange of services, goods, capital and labour.

Within the public and the academic debate, there is burgeoning interest in transitions at the interface between media technology and the urban, but still little research has been conducting to investigate closely the intermingling of digital platforms and constitutional foundations of the urban. Louis Wirth (1938; 1948) defined the city as a relatively *vast*, *dense* and lasting settlement of socially *heterogeneous* life. The central arguments revolve around these three characteristics of ‘urbanism’, the morphology of the city is one of the most important aspects since the beginning of the urban studies tradition. Notwithstanding, the concept of ‘platform urbanism’ is gaining traction to illustrate new dynamics and spatial

outcomes of corporate digital platforms. Sarah Barns (2018: 5) defines platform urbanism as such: “Platform urbanism concerns the reshaping of city infrastructures and services through platform-driven business models”. The dominant tendency of global digital platform is to impose a top-down governance model which heavily affect important urban sectors, such as housing, mobility and retail.

In this new notion, there is a certain emphasis on data-driven forms of urban governance (e.g. Barns, 2018b; Kitchin, 2014; Leszczynski, 2016; Shelton et al., 2015). Urban geography and digital geography contributions are crucial in order to carry out an analysis of the interface between digital platforms and urbanism patterns. It starts from the assumption that global digital platforms play out as critical infrastructure of urban societies (Barns, 2018, 2018a; Leszczynski, 2019), it addresses crucial issues such as processes of data-driven commodification and value extraction in the business model of platform economy, as demonstrated by the growth of global platforms such as Google, Facebook, and Amazon. How do we think about digital platforms and their manifold applications in urban life, from allocation of goods and services to its potential for local connectivity and social action? How essential is the urban context for a specific subset of digital platforms which deal with local initiatives, public participation and complementary welfare measures? What is inherently urban in digital platforms oriented to non-profit and grassroots mobilisation? The extensive fieldwork and empirical results offer an insightful analysis, which responds to these crucial research questions.

This PhD research advances a deductive typology, partly based on classical urban geography literature and recent contributions from digital geography. What we observe is that in the current literature there is a discussion on the larger population of corporative digital platforms and a blind-spot on a subset of urban platforms. Hence, relatively little attention has been given to ‘other’ digital platforms oriented to non-profit and bottom-up practices, social economy and common goods, such as platforms for citizen participation, grassroots mobilization and urban regeneration interventions. From now on, those digital platforms are referred in the text as *urban platforms*. The key difference and contrast between platform urbanism and urban platform revolve around their different governance arrangement, the organisational set-up and socio-spatial outcomes. The former is global in scale, profit-driven large tech-corporations, while on the other, local and small-scale, bottom-up initiatives driven by, at least in the initial phase, by more civic motives. The theoretical stance behind derives from classical urban studies and digital geography. Moreover, it conceives the binomial between digital and space as mutually constituted, which is produced through one another, and affect differently existing socioeconomic arrangements in cities.

Considering all the different attempts to define digital platforms and how those platforms influence economic and social structures in the city, from the relevant contribution within the literature abovementioned, a possible step point for defining an urban platform is the intrinsic relations with the city. Nowadays, digital platforms are becoming the *de facto*

public infrastructures in cities (Barns, 2018; Rossi, 2018, 2019). Civic initiatives, community support, mutual aids, place making often infused of market values. Platforms declined in the urban realm have often to do with a mixture of functions, complementary provision of services and alternative allocation of urban goods. For instance, we have urban platforms for care and education, place making and community building, complementary welfare, mutual aid, and solidarity. With urban platform we see a merging of the social and the economic, namely the former and the latter above. What it is not an urban platform then? In our analysis, urban platforms are the technological reflection in which urban density and a certain degree of physical proximity of networks (viz. users of the platform) come into play to facilitate the exchange of goods and services. In fact, the opposite of urban platforms is the Amazon Mechanical Turk, which is completely detached from the space. Amazon, as well as Airbnb and Uber, are not urban *per se*. An Airbnb accommodation can be anywhere, in a forest or in a remote island. Likewise, Deliveroo does not work in the sprawled urban periphery, if there are no restaurants as providers and users that order food.

1.3. Research Questions

The core of this research are the empirical analyses of localized initiatives which deploy digital platforms and where technology appears as a set of potential tools to ensure, in principle, socially beneficial outcomes in the city. This PhD research is a contribution to the debate on digital platforms and the urban, through an in-depth empirical analysis of two selected digital platforms which operate exclusively at an urban scale. Giving the characteristics presented above, I come up with the following research questions.

Descriptive:

Who is involved, where are they located, when were they set up, how many are there, what is their size, how are they organised with users and content? How do they function and how do they relate with existing urban communities? (i.e. bottom-up initiatives, role of the public sector)?

Analytical:

How do urban platforms are articulated in the existing urban geography? What is the relationship between platforms and morphology, density and everyday life in the city? To what extent do these platforms depend on these constitutional features of the urban?

The urban platform is not a grid; it is a digital interface at the crossroads between systems, networks and infrastructures. The digital layer plays out as a container in the existing urban geography, which aims at centralizing and keeping together different items, resources, and fragmented pieces of city. Urban platforms present themselves with a clear standard design, they are used to hold goods or services, diverse kind of resources, or even urban communities and areas of the city represented on the platforms. In other

words, what is the relationship between digital platform and production of urban space. An urban platform is a network in which different groups/networks can interact and exchange various kinds of resources, both material and immaterial. It implies a social production of space, social relationships which are digitally mediated and relapse on the space.

Firstly, the urban space is represented and digitally mediated by the platform, for instance there is an extensive use of maps and geolocalisation of users, goods and services. Geolocalisation is an *à priori* not an option, information about space mediated by technology – map in the interface as an option for the service or goods that you are looking at. Without a critical mass of users, platforms will not work (i.e. lock-in effect)¹. Ultimately, urban platforms have similar design, their appearance is increasingly standardised (i.e. civic crowdfunding, welfare platforms). Secondly, urban platforms need citizens, namely users that are active on the platforms. These digital networks are composed by urban communities that partake in different activities. For instance, civic crowdfunding platforms in order to function need critical mass and reciprocal exchange in terms of content, funding, as well as to deliver goods and services in urban space. With digital platforms, we witness a translation from systems to networks, platforms need a crowd, a critical mass to function in the urban space. Hence, platforms not only represent a new business model, predicated on the capacity to build and mobilise networks, they also need to connect producers, distributors, and consumers to facilitate the production of exchange value.

An illustrative example is how civic crowdfunding platforms function. The value is generated by the content (e.g. description on the projects) which are located in the urban space. Lastly, urban platforms work as facilitator for the intermediation of digital economic circulation and organised in bottom-up flows, orchestrated by central command-and-control systems. These flows often mediate everyday life/mundane activities, in which recommendation and reviews matter. For instance, digital platforms for shopping recommendations (e.g. Treatwell and OneFit) propose a different spatial pattern within the city. In other words, urban platforms direct and target information and knowledge in a specific way. In both cases of profit and non-profit platforms, the platform that is inherently urban lists and directs users to specific locations in the city. It uses maps, it geolocalises the provider and the users, to do so those urban platforms are fuelled with local knowledge and therefore local data. Urban platforms are thus producers of social structures at an urban scale. In those terms, a platform synthesises and mediates flows of information, relations, everyday life, and economic activities.

¹ On the contrary, a smart city project, such as surveillance and smart lamppost work even without users. Over the past two decades, the smart city before has been a trope for built infrastructure, for instance the smart grid which entails mainly ICTs or electricity systems. Indeed, corporations such as IBM and Cisco sold smart city products, like lampposts, to urban governments. Smart city products do not strictly need citizens to function, they are often purchased by local authorities without any involvement of urban communities.

The inductive analysis shows how urban platforms work as container of social relations which might entail a relational or a market transaction, or a mix of those. The social is here conceived as a network, where digital connectivity replace the principle of self-organization, through those relational transactions. Users of the platforms are used as leverage and local initiatives are digitally mediated through maps and fancy design of the platform. Local projects and welfare initiatives, such as time-banks are to a certain extent commodified through the accessibility and findability of the platforms. Urban platforms operate as provider of goods and services that the state or the market no longer produce, implying that most of non-profit platforms are state-market hybrids in terms of governance arrangements, as well as in the allocation of services and mixed public and private goods. An example, it is the interplay of public sector and local organization within civic crowdfunding and welfare platforms that I have been analysing in my four years of PhD research. In other terms, the scale in the two examples of civic crowdfunding and welfare platforms results urban and interfere with local arrangements. The core of the urban platform concept lies in the ambiguity and the tension between global top down forces and bottom-up local solutions. This results in an uneven urban geography and 'digital' urban politics in which the public urban arena is distorted in the gatekeeping and consequential agency of changing the built environment. To conclude, the two concepts of 'platform urbanism' and 'urban platform' work in tandem, they are not mutually exclusive but they refer to different dynamics and mechanisms that occur in the urban realm. They both highlight diverse urban facets of digital platforms. The former deals with the extractive and exploitative processes undertaken by global digital platforms in many cities across the globe, whereas the latter shed light on the local arrangements and social structures of the urban space. Where the local (i.e. social *milieu*, everyday life, local culture) is digitally mediated through the platform.

1.4. Methodological Note

I started this tough research journey in January 2015 at University of Milan-Bicocca. I must say that has been quite a challenge to conduct four years of research on the relationship between digital platforms and the urban. Whereas, sharing economy is the hype and an epitomized version of platform economy model. We are not dealing here with two simple buzzwords, digital platforms and the urban. Buzzwords and hype create nuisances. As a young scholar it is difficult to get rid of all the noise around epitomized terms such as sharing economy, smart city, platform society, platform urbanism and alike. In order to take an eagle's eye view of the most significant change in urban societies imputable to this transformation, I had to fail numerous times. At the beginning I was all busy with the term sharing economy, in which global corporate platforms result the unique protagonist. Cities and their local authorities can indeed accommodate or regulate some of the technical aspects of those platforms. Back then, at the beginning of 2015, global platforms such as Airbnb and Uber were not considered as the usual suspects in disrupting the urban fabric and the labour market, especially in Western countries. Yet in 2019 the dispute between

sharing economy unicorns and cities is still zealous. Super-star cities, like Amsterdam, Barcelona, and Milan are still struggling to find a compromise to regulate tech-giants like Amazon, Airbnb, Uber and Deliveroo at an urban scale. The novelty is that within this legal and regulation-policy interstices there are now evidence of a counter-tendency such as the notion of platform cooperativism (Scholtz, \$) and the romanticized view of commons-seekers (Rossi, 2019).

One of the persistent challenges of conducting research in sociology and urban studies is the use of innovative research methodologies that make justice to the diversity of contexts and data that we encounter in social and urban life. From researching new phenomena, under studied regions or diverse networks of complex urban actors, using and creating methodologies that could enlighten our research questions and fit our fieldwork is still a complex process. Innovative methodologies of urbanity would have to address and move beyond the use of traditional qualitative and quantitative research methods in sociology and to engage with other techniques of data collection, representation or interpretation. A fresh approach to research methods could engage with techniques borrowed from other disciplines in the social sciences and humanities, including mapping, GPS tracking, visual and audio-visual methods, reporting tools or platforms, or a combination of these. In this research I employ mixed methods, which combine qualitative and quantitative techniques. I utilize a range of different procedures: interviews, participant observations, secondary analysis, match-pairing of practices, and digital ethnography. As an overarching methodological guide, I deploy the comparative urbanism approach by Tilly (1989) in order to maintain a systematic research design. Thus, every single chapter is itself comparative and the practices that we compare have a similar 'weight' in the two cities, therefore I proceed with match-pairing techniques. In this lies the heuristic and explanatory value of the research. I hope that this approach will encourage reflexivity on how research questions are formed through methods, how empirical material arises from the field and in which ways our informants or participants collaborate or co-investigate with us. This reflexive approach could also open up discussions about the generation of ad-hoc methodologies, according to specific localities. I believe that experimentation with traditional and mixed methods and techniques could enhance our inquiry into social and urban life, in particular for phenomena such as digital objects and subjects that are constantly on the move and mobile target. In this research, we do not look at a large-scale urban project or a zoning intervention in cities, rather urban platforms and forms of alternative urbanism are mobile target and as such they require flexible and innovative theoretical and methodological approach.

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2. Digital Platforms in Urban Studies Domain

*You take delight not in a city's seven or seventy wonders,
but in the answer it gives to a question of yours.*

— Italo Calvino (1993: 25) *The Invisible Cities*

Platforms are what platforms do. They pull things together into temporary higher-order aggregations and, in principle, add value both to what is brought into the platform and to the platform itself [...] As organizations, they can also take on a powerful institutional role, solidifying economies and cultures in their image over time.

— Benjamin Bratton (2016: 41) *The Stack*

2.1 – Introduction

The purpose of this chapter is to introduce the theoretical fields within which this thesis is grounded, intertwining insights from urban and digital geography², media theories and critical urban studies on digital platforms. The aim of combining these fields is to highlight a blind spot within urban studies domain, to suggest that digital platforms can be approached from a classical urban theory perspective and, more particularly, to call for a focus on a specific process and relationship between digital platforms and the city. Elaborating on this relationship, the urban comes into play as a fundamental pre-condition for digital platforms. In the background of these arguments lies the rise of what will be referred as ‘digitally-mediated socio-economic activities of digital platforms’ and, more specifically, digital platforms that are located in the urban setting. Elaborate on this, the logic of this chapter aligns with Scott and Storper’s (2015: 12) more general argument that “a viable urban theory should enable us to distinguish between dynamics of social life that are intrinsically urban from those that are more properly seen as lying outside the strict sphere of the urban, even when they can be detected as a matter of empirical occurrence inside cities.” Based on a literature review drawing on key contributions across the abovementioned fields, this chapter tentatively conceptualise a different subset of digital platforms which operates exclusively in the urban realm, introducing important analytical elements to distinguish them from any global digital platforms. The subset of digital platforms appears to be non-profit, bottom-up in their initial vocation and urban and in their spatial manifestation. In other words, the composition of actors who is involved is mostly urban and local, as well as the services and goods exchanged on the platforms are primarily delivered at an urban scale. The current debate on digital platforms usually refers to hyped phenomena like the “sharing economy” (Sundarajan, 2018) and “gig economy” (Friedman, \$; Graham, \$), as well as key firms in the sector: Airbnb, Uber, and Deliveroo. According to the literature digital platforms are playing out different roles in the urban realm, as *institutions* (Van Doorn, 2019) *structures* (Gillepsie, 2010; 2013) and

² Digital geography studies often tackle problems concerning urban knowledge and information about space which are digitally mediated by any kind of technologies, such as mapping, geolocalization, and social media activities. The significance of this strand is about possible suggestions on conceptual, methodological and empirical questions which address the ‘digital turn’ across geography’s many sub-disciplines (Ash, et al. 2018).

infrastructures (Bratton, 2016). Airbnb, for instance, plays out the role of new urban institutions transforming relations between market, state, and civil society actors (Van Doorn, 2019\$) and re-shuffling public and private values, as well as democratic processes (Van Dijck, 2018). Digital platforms are conceived as new urban institutions which disrupt regulatory regimes at different scale. As Berg (2016: 8) points out, that while “platforms are not regulated by governments”, rather in Karatzogianni and Matthews (2018: 4) terms “this does not mean that they are not regulated, or that there is a free exchange of services between independent parties. Platforms regulate the market.”

In Srnicek’s (2018: \$) frame they are defined as “multi-sided markets”, in which the value is extracted by the production of relational transactions, like in Airbnb. This global digital platform matches the guest and the host, Airbnb is a private, corporative company that maximises the profit, also known as “the unicorn model of platform economy” (Morell, 2018). Corporate digital platforms, such as Amazon and Airbnb can be seen as structure and as new productive paradigm, rather than just infrastructures (Kenney and Zysman, 2016). Unlike ordinary websites and apps, platforms are operating at a meta-level because they bring together different players in which the relations between the parties becomes the service itself (Kenney and Zysman, 2016; Langley and Leyshon, \$). The primary function of this structure is to enable the formation of networks and ways of measuring and monetising activity across these networks in which the value is extracted, resulting in the so-called ‘platform capitalism’ (Srnicek, 2016). Platform economy model is creating a technological upheaval in governance arrangements and in the social fabric of our cities, which might disrupt urban development patterns and exacerbate existing inequalities (Rossi, \$; Frenken and Schor, \$).

Digital platforms also play as digital infrastructure within cities. Software and media design theorist Benjamin Bratton (2016) refers to the ‘stack’, a shorthand originating in programming work, as a fundamental layer of what he defines as planetary-scale computation based on cloud-based platforms, which might represent a new form of geopolitical sovereignty. This ‘sovereignty’ results in the management of networks which are not strictly linked to formally recognized territorial boundaries³. Following Bratton’s reasoning, computational technologies are smart grids, cloud platforms, smart cities, Internet of Things, and automation, defined as ‘accidental megastructures’, which are not analytically separable. All those elements compose ‘the stack’. One the layer of the stack is the city layer, where diverse practices play out in multiple and overlapping assemblages of everyday life in recursive relationships (Bratton, 2016). The ‘city layer’ theorisation is indeed an attempt to overcome the dualistic view on the relationship between technologies and physical space, namely between virtual networks and territorial boundaries. Bratton implies that those levels are now mutually constitutive elements of the city itself. Digital platforms, in particular, the notorious global tech-giants, such as Amazon, Uber, and

³ There are many precursors such as physical logistics networks, etc. – the research on Wal-Mart in the 1990s and more recently (*The People’s Republic of Wal-Mart*) gets at this.

Airbnb use the city as a distribution center to circulate goods, services and data. In these terms, cities are local branches for global distributor. Still, the connection between digital platforms and the urban remain implicit in Bratton's reasoning. Global digital platforms, such as Airbnb and Uber, adjust functional properties to accommodate diverse form of local attributes and regulatory frameworks. Platform-based activities, ranging from Uber and Airbnb to grassroots community activism, are spatially concentrated in cities and build upon existing uneven geographies while feeding into wider urbanization dynamics of economic development, environmental action, and everyday life (Evans et al. 2019\$). In this proposition, those platforms are not urban *a priori*. An Airbnb accommodation can be anywhere, as long as there are users on the platform that are interested in this offer.

What we observe is that in the current literature there is a larger population of corporative digital platforms and a subset of urban platforms. Hence, relatively little attention has been given to 'other' digital platforms oriented to non-profit and bottom-up practices, social economy and common goods, such as platforms for citizen participation, grassroot mobilization and urban regeneration interventions. From now on, those digital platforms are referred in the text as *urban platforms*. Urban platform can be seen as an analytical category and as a theoretical lens to distinguish global digital platforms and other forms of urban platforms. This also touches upon the question on urban platforms as a potential alternative to global digital platforms. Hence, the urban platform is not a rigid grid in urban planning terms; it is a container at the crossroads between structures, networks and infrastructures. An urban platform can be define by three main characteristics: (1) the urban fabric works as a structure for the intermediation of digital economic circulation, in relation to the morphology of the city (*viz.* size, proximity and density); (2) digital networks are conceived as the infrastructure that work in tandem with the territory, in which collectivity is replaced by connectivity of bottom-up flows, orchestrated by top-down central command-and-control systems; (3) platform cooperativism model in relation to everyday life and mundane activities within cities.

The first section provide a discussion on constitutive urban foundations, such as morphology, density and proximity, emphasising what is inherently urban in digital platforms. More recently, it has been argued that digital geography should be consider as a distinctive field of research (Ash, et al. 2015; 2018). The second section explores the heuristic value of this new theoretical field has crucial empirical outcomes, namely it addresses the geographies *of* the digital (i.e. infrastructure, software and hardware); geographies produced *by* the digital (i.e. software for mapping); geographies produced *through* the digital (i.e. users content generated, media platforms, geolocalisation, smartphone and data infrastructure). Notwithstanding, this chapter is positioned in the urban and digital geography debate to carry out an empirical analysis, on where and how these platforms are articulated in the urban space. Based on the literature, it makes the argument that theories developed around a rigid dichotomy between the digital and the space do not fully problematise phenomena such as smart city, sharing economy and ultimately digital platforms and their geographies. The role that digital platforms plays out

in the urban deserves rigorous descriptive and analytical contributions based on empirical research. Consequentially, the last section introduces the urban as digital palimpsest for platforms, where urban geographies are both produced *by* the digital (mapping) and *through* the content produced by users active on urban digital platforms. As a palimpsest, the urban is understood by the capacity to adapt and readapt, 'scratched' and re-design by different actors. The overall argument that urban digital platforms, their actors, practices, functions and local initiatives, are out of the radar of digital geographers and the new umbrella term of platform urbanism, which deal mostly with global digital platforms (e.g. Airbnb), is then justify. There is relatively underestimation of non-profit and cooperative platforms, bottom-up and civic-oriented, in which the outcomes are often local and where the public sectors have a role.

2.2. What is inherently Urban in Digital Platforms?

The Forefathers of Urban Digital Platforms: Louis Wirth and Lewis Mumford

Digital platforms are affecting cities in myriad ways; they impact on the connection between them as well as on how they function internally. The existing literature on digital platforms and platform urbanism (Barns, 2017) define platforms very broadly, namely as any digitally hosted instrument to share or enable exchange of information or services. The questions on how digital platforms affect the urban geography and how they interfere with urban governance arrangements in different cities are not arbitrary one. Yet, within the current literature the link of digital platforms to the urban is more tenuous. As an emerging research field, the paper explores the relationship between digital platform and the urban conditions, navigating in an uncharted sea in which coordinates still need to be defined.

The aim of this chapter is to move beyond the critique of the corporative side of platform urbanism, to discuss specifically what is inherently urban in digital platforms. I advance a discussion on what is an urban platform, tracing a continuum between the current literature on digital platforms, platform urbanism and this new concept. Why do we need such a concept. How does it complement 'digital platforms' and 'platform urbanism'? From a different angle, the concept of 'platform urbanism' is gaining traction to illustrate new dynamics and spatial outcomes of corporate digital platforms. Sarah Barns (2018: \$) defines platform urbanism as such: "Platform urbanism concerns the reshaping of city infrastructures and services through platform-driven business models". The dominant tendency of global digital platform is to impose a top-down governance model which heavily affect important urban sectors, such as housing, mobility and retail. In this new notion, there is a certain emphasis on data-driven forms of urban governance (e.g. Barns, 2018b; Kitchin, 2014; Leszczynski, 2016; Shelton et al., 2015). Platform urbanism can be situated inside the discussion about the built environment and data-driven strategies for planning and urban development, Airbnb, Uber and Foodora are inherently spatial in their manifestations since those platforms operate in different urban sectors, such as mobility,

accommodation, delivery. Most, if not all of these, have a significant urban dimension (Artioli, 2018). Without cities and users/dwellers there is nothing to deliver, nobody to accommodate, and anyone to pick up and drive around the city. However, it is not enough claiming that digital platforms might be new urban institutions, structure and infrastructure. Facebook or Amazon do not function exclusively in dense urban areas. To a certain degree, Airbnb and Uber benefit from density and diversity of cities, but these 'new kids on the block' are not uniquely ecosystems of value extraction and capital accumulation in cities (Barns, 2018a; Leszczynski, 2019\$). Digital platforms can be spaces of contestation, serving as site of citizen engagement, grassroots mobilization and allocating complementary resources, services and goods.

Drawing on Wirth's classical framework on morphology and density of cities, and how everyday life practices become part of the urban platform, the paper ameliorates the current debate through the narration of two instances of urban platforms which intermingle with mundane activities, collaborative practices, citizen engagement and alternative welfare provision of services and goods. Urban platforms such as welfare platforms and examples of civic crowdfunding platforms are still very imperfect, in terms of minority use with respect to global platforms. Yet they are very relevant in order to analyse whether or not they reshape urban communities and existing inequalities, if ultimately urban digital platforms might co-exist and work as complement for neighborhood associations and social functions in the city.

2.2.1. Morphology, Density and Diversity

Louis Wirth (1897-1952) defined the city as a relatively *vast*, *dense* and lasting settlement of socially *heterogeneous* life. The morphology is one of the most important aspects since the beginning of the urban studies tradition. In 'Urbanism as a way of life' and 'The City in History', Louis Wirth (1938) and Lewis Mumford (1961) proposed a theoretical distinction of the urban-rural dichotomy and about the origins and transformations of the city. The central arguments revolve around three characteristics of 'urbanism', which provided the basis of distinctive urban way of life: size, density and heterogeneity. However, it is still valid that cities are big and dense urban settlement, and socially heterogeneous places. What is relevant here is the establishment of research interests in urban morphology, communities (as networks) and social segregation (as unevenness) which have an impact on our theoretical question on digital platforms and the urban.

The urban is conceived as organizational site and materialization of business in platform urbanism view and as a social production of space and inclusion in urban platform conceptualization. In fact, the opposite of urban platforms is the Amazon Mechanical Turk, which is completely detached from any location. In the conceptualization of platform urbanism, the distinction between different digital platforms is blurred. If the urban condition is defined by its morphology, density and physical proximity. Arguably digital

platforms, such as Airbnb and Uber, exploit existing urban morphology without changing it, but do generate new communities and rework existing urban divisions. In general, digital platforms do not hover above the city but are more intrinsically interwoven in the morphology of the city itself, namely size, density and diversity. These three terms underpin important qualities of any digital platforms that have urban manifestation and spatial outcomes. Their inherent relationship is explained by this observation. For instance, food delivery platforms are severely affected by the morphology of the city, the local facilities and habits, and diverse regulatory regimes. This would be true of any business though. But there is no doubt that riding a bike in London or Amsterdam, for Foodora, Deliveroo or Uber Eats, is essentially different, both for the size of the two cities, density of providers, viz. restaurant and users, and diversity in urban culture and social milieu.

2.3. The Urban as a Digital Palimpsest for Platforms

Cities have always been palimpsests. Yet only recently the urban have been overrepresented on global digital platforms. Millions on streets, boulevards, bridges, cars, buildings are being represented in virtual spaces through corporative platforms such as Google maps, Uber, Airbnb and alike (Graham, 2013). With the advent of sharing economy and peer-to-peer platforms the engagement of citizens, together with tech-providers, associations, as well as the public sector have become part of this digital representation (source). Within urban and digital geography literature, much has been written about the ways that both social/business and material/infrastructural networks crucially matter to the development of cities (Vanolo, 2012; source), but this chapter focuses on another important questions on where and how these platforms located and organised, and consequently how multimedia contents produced by actors affect the existing urban geography. Moreover, digital platforms increasingly make a difference to how social and economic life take place in cities. We synchronise our everyday life, exchanging drill with our neighbour, looking up for yoga class, ordering food, and sharing data on our locations. But what happen when these platforms digitally mediate social needs, civic initiatives, public participation and volunteering practices, allocation of good and services in our cities?

Platforms create an arena for a variegated composition of actors and technical features, provider, users, software, website, maps, in which different socio-economic activities take place in on-demand marketplace (Kitchin, 2013). The body of literature on smart city, sharing economy and platform urbanism, have brought significant contributions to elucidates the business model and government arrangements in the new digital urban era (Kitchin and Dodge, 2011). Whereas the operations of platforms such as Airbnb, Uber, and Foodora are by no means limited to cities – not urban *a priori*, their business models are entirely dependent on dense urban settings. Platform-based activities, ranging from Uber and Airbnb to grassroots community activism, are spatially concentrated in cities and build

upon existing geographies while feeding into wider urbanization dynamics of economic development, environmental action, and everyday life (Evans et al. 2020).

2.3.1. Digital Networks and Territory

The body of literature on digital geography has been enriching our understanding of the relationship between digital platforms and their geography (Leszczyski and Elwood, 2019). The significance of this strand is to be found in possible suggestions on conceptual, methodological and empirical questions which address the 'digital turn' across geography's many sub-disciplines (Ash, et al. 2018). Digital networks, territory, augmentation of space, and diversity are discussed under the light of the digitalization of urban geographies. Though, Bratton's discussion on global digital infrastructure and city layer brings up the importance of the relationship between territories and networks. I do so by focusing on how urban platforms are shaped by and, the same time, shape this fundamental relationship.

First, the question on networks in digital geography is no longer related to accessibility to the territory in planning terms, but more about the 'findability' and the precision of algorithm to offer the on-demand match, as well as the visibility and recommendation system of the platform. Digital platform distorts the accessibility of space, "bending" certain spaces closer together. If in the past, the digital divide was measured in terms of accessibility to the web, nowadays it is seen more on the capabilities to escape from the algorithms regime. Isn't the digital divide expressed not in terms of access to technology vs. lack of access but how algorithms distribute access differentially among people who nominally have access? This seems at least as significant as the ability to "escape". Urban platforms can offer an escape from this regime and they might enhance an inclusive access to urban networks. Spaces which escape the reach of regressive software-sorting systems do and will remain. A politics of transgressing, resisting, and even dismantling such increasingly inequitable systems is possible." Some of your urban platforms may be held out as such examples?

Second, the diversity in digital platforms is different than the diversity in traditional urban studies terms. In order to be defined as an urban platform, the digital infrastructure is about the reconstitution of the diversity into new local culture. Why is this a necessary condition? For instance, digital platforms for shopping recommendations (e.g. Treatwell and OneFit) propose a different pattern of consumption within the traditional agglomeration economy and principles. In other words, urban platforms direct and target information and knowledge in a specific way. The platform that is inherently urban lists and directs users to specific locations in the city. It uses maps, it geolocalises the provider and the users, to do so those urban platforms are fueled with local knowledge and therefore local data. To sum up, density, diversity, as well as digital networks and territory are required in order to

deliver services and goods at an urban scale. However, in these terms, it is not yet conceivable as an alternative to corporate digital platforms.

To conclude, the two concepts of 'platform urbanism' and 'urban platform' work in tandem, they are not mutually exclusive but they refer to different dynamics and mechanisms that occur in the urban realm. They both highlight diverse urban facets of digital platforms. The former deals with the extractive and exploitative forces that global digital platforms perpetrate in any cities at a planetary scale, whereas the latter shed light on the local arrangements and social structures of the urban space. Therefore, the scale in the two examples of civic crowdfunding and welfare platforms results urban and interfere with local arrangements. Urban platforms mediate, indeed, social *milieu* and redistribute resources in opposition to the extractive and exploitative of corporate global platforms. The core of the urban platform concept lies in the ambiguity and the tension between global top down forces and bottom-up local solutions. This results in an uneven urban geography and 'digital' urban politics in which the public urban arena is distorted in the gatekeeping and consequential agency of changing the built environment.

2.3.2. Digital Urban Governance: Actors and Users

One of the key differences to be considered an urban platform *a priori* is related to the composition of actors and governance arrangements. In order to be consider urban, these arrangements should entail local regulation, public data ownership, de-centralized networks and citizens participation. As Berg (2016: 8) points out that "global platforms are not regulated by governments", unlike ordinary websites and apps, platforms are operating at a meta-level because they bring together different players in which the relations between the parties becomes the service itself. In other words, platforms are intermediaries that reconfigure urban infrastructures, governance models, monitoring space and civic engagement in the public arena. It suggests the importance to locate these platforms (and the projects in it) in physically, while also understanding how the constellation of actors produce their own forms of digital spatiality (Ash, et al; Kitchin, et al. 2014). A consistent body of research has been produced to study digital civics, governance models, using examples from smart cities projects to discuss how digital civics are both spatialised and corporatised (Zandbergen and Uitermark, 2019). When global digital platforms are analysed through the theoretical lens of governance, the attention is often on regulatory processes (Artioli, 2018); asking to what extent digital platforms transform the urban governance? Or how have some of these actors become major players of urban policies? Global actors, such as Airbnb and Uber, conceived the urban as organizational site and materialization of business. As we explore the recent literature, Sara Barns (2018 a,b,c) elucidates quite clearly the governance model of data-driven platforms, introducing the trope of 'platform urbanism'. However, there is still little knowledge on platforms that operate with alternative digital tools, such as civic crowdfunding or welfare platforms.

The argument proposed by Trebor Scholz (2015), the so-called platform cooperativism, offers a relevant contribution to better understand the more specific case of urban platforms and their actors. Following Scholz reasoning, one might ask: what does it mean for an urban platform to be in cooperative rather than in corporate ownership? What does it mean for an urban platform to be based on solidarity, in relation to local initiatives in cities? In order to grasp the complex constellation of actors in urban digital platforms, it is necessary to observe more closely, non-profit organizations, political leaders, policy makers, as well as community activists and software developers.

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3. Digital Urban Platform Manifestation: Civic Crowdfunding empirical investigation in Milan and Amsterdam

Introduction

In the past two decades the advent of digital technology in cities has been prominent in the urban debate. Urban sociologist Castells (1996) introduced the concept of 'network society', starting delineating the contours of what a society organized by (digital) networks would look like on a global and urban scale. He has shown how networks of various kinds are constitutive of newly emerging geographies. What this means is that (digital) networked infrastructure plays an important role in the development of the physical and social formation of the city. According to this view, networks tend to create new patterns of agglomeration, in which resources and power are concentrated in nodes that are not necessarily spatially adjacent but strongly connected (Uitermark and Nicholls, 2012). At the same time the mazes of the net, while being spatially close but unconnected to the nodes, run the risk of being left out. As a result, new patterns of unevenness are created. Urban scholars have envisioned networks, such as digital networks, as a foundational spatial logic of current societies. Research on the network society and cities has taken a variety of directions. Some focussed on the new geographies and its potentials and dangers (Artioli, 2018; Frenken, 2017). Others emphasized the opportunities offered by digital technology for solving urban problems, calling for cities to become smart (Vanolo, 2015; Rossi, 2016). More recently, scholars have become engaged with role of platforms, such as Airbnb and Uber, that transform societies in general and cities in particular (Davidson and Infranca, 2017).

The concept of the 'smart city' emphasises the potential of ICT for managing urban processes. It has been argued that the normative vision of the smart city and its technological upheaval have a significant impact on the space and the geography of the city, as well as societal implications for the urban society itself (Hollands, 2008). Besides, the notion of 'smart urbanism' represents a vision for the future cityscape, in which new technologies and infrastructures (i.e. smart grids, assemblage of software and hardware, dashboard, etc.) (Luque-Ayala and Marvin, 2015) establish a regulative regime for cities (Kallinikos, 2011). Recently, with the advent of sharing economy and global platforms (e.g. Airbnb, Uber, Google, Amazon), Srnicek (2016) coined the term 'platform capitalism'. It refers to the rise of platform-based businesses and how these are transforming the workings of contemporary capitalism, specifically of production models in the digital economy, where platforms are a new way of organizing the market. However, despite this emergent debate there is yet little knowledge about the relationship between platforms and the city.

These different strands in the literature conceptualise the relationship between ICT, as a socio-technological infrastructure, and contemporary urbanism in their own ways. In this paper, we conceive of platforms as the ‘new kid on the block’ in this debate. It is by now widely recognized that sharing-economy platforms such as Airbnb, Uber, Amazon and Foodora are changing cities and often in disruptive ways (Frenken and Schor 2017). The distinctive feature of these platforms is that they facilitate market transactions as intermediaries of digital economic circulation, at a speed and scale that were previously not feasible. As global actors they transform markets that were traditionally organised and regulated and therefore controlled on a national and local level. However, these global commercial platforms are not the only platforms that are, possible, agents of urban transformation. There has been a rise of non-profit bottom-up initiatives using digital platforms in the social and civic domain (Sennett, 2018).

One of the reasons of the rise of these latter platforms seems to be related to the retreat of the welfare states in Western-Europe. The reduction of government resources is an incentive for local governments to mobilize citizens to supply and share local goods and services otherwise not available any more (Moulaert, et al. 2007; MacCallum, et al. 2009). Crowdsourcing might be seen by local governments as an incentive to disinvest from certain services (Davies, 2015). They are seen as a way to reorganise the provision of public goods and services previously delivered by the welfare state. Platforms are conceived as an ideal instrument to bring together financiers, suppliers and users. They introduce fundamentally different mechanisms for providing public goods. Civic crowdfunding is an illustrative example of funding and delivering projects in the public domain through a platform, therefore we expect that an in-depth analyses of two civic crowdfunding platforms will shed light on how these new mechanisms impact on the city.

The main question to be addressed in this paper is therefore: How do (or might) civic crowdfunding platforms affect the provision of urban public goods and services in Milan and Amsterdam? In order to answer this question several sub-questions have to be raised. First, we look at the motives for establishing the platform. Second, it is important to grasp the mechanism – and its biases – by which the platform delivers goods or services. This requires a close look at aspects such as access, control, initiators and contributors. Third, the spatiality and the type of the services and goods produced through the civic crowdfunding platforms impact the city.

Smart Urbanism its proponents and critics

Smart Urbanism as a policy ideal

The discussion in the academic literature on smart urbanism provides clues with regard to the causal relationships, values, analogies and intentions that motivate (policy) actors to introduce digital platforms such as civic crowdfunding in Milan and Amsterdam. Partly as a result of the promotion by big tech companies, the smart city has become a popular concept among city governments. Through the pervasive use of ICT technology in

collecting information, establishing communication and facilitating decision-making, it promises to bring about an efficient, technologically advanced, green and inclusive city (Verrest and Pfeffer, 2018).

Different, sometime overlapping, lines of reasoning are used in favour of a smart city policy in general and platforms in particular. One strand of argumentation focusses on the merits of platforms as tools to revive public participation in decision making about urban questions. It has been noticed (Gillespie, 2010: 248) that platforms are seen as “typically flat, featureless and open to all. The word itself suggests a progressive and egalitarian arrangement, promising to support who stands upon it.” Platforms might provide an alternative for traditional, often waning, forms of public participation in urban politics (Neirotti et al, 2014). In this perspective smart applications could be a good means to enhance citizens empowerment and involvement in public management and contribute to the bottom-up articulation of issues for collective action. This seamlessly fits the idea “that citizens are themselves responsible for the quality of the urban environment ...[which] today [is] institutionalised through all kinds of regulatory frames” (Savini, 2018: 9).

Many favours the introduction of ICT in urban management for its promise of monitoring the city, which is a second strand in the discussion. In this view a “smart city ... can be monitored, managed and regulated in real time using ICT infrastructure” (Kitchin, 2015: 131). An element of this ‘efficiency’ view on smart city technology is its inclination towards technocratic reductionism (Kitchin, 2014). In many cases smart city technology such as platforms are portrayed as value free tech-panacea for urban problems. Related to this is the issue of data ownership and privacy, which is not always appropriately addressed in smart city projects. A core belief in this interpretation is that new technology enables the collection of information that was previously hard or impossible to obtain. In addition, it would allow for quick responses to emerging problems. A prevailing analogy is that of the city as an operating system, in which hardware – the built environment – and software – society – are tied together by an information processing system. In many cases the policy objective of a smart city is not reached through a single and coherent strategy, but on an incremental project-by-project basis (Colleta, et al. 2018). As a result, cities run the risk that smart city objectives and projects are not addressed in a prudent political debate that is based on values such as accountability and transparency. As March and Ribera-Fumaz (2014) for example point out, that the smart city program in Barcelona depoliticises urban redevelopment and environmental management by excluding citizens from the political debate. This potential lack of political and social debate is a crucial problem (Vanolo, 2014) because many smart city interventions seem to be biased both towards the narrow view of the city as ‘entrepreneurial’ (Rossi, 2016) and more generally that ICT is the driving force behind prospering cities (Hollands, 2008). In these views promoting ICT in cities, such as specifically targeted cloud platforms, are closely related to attracting the ICT-sector, attracting the creative class and building a knowledge economy (Yigitcanlar et al. 2018).

The previous arguments have in common that they are used to publicly justify the introduction of ICT-platforms in urban governance. In addition to this rhetoric in favour of smart cities, a variety of hidden motives might play a role in the promotion of platforms. Two of the most frequently mentioned are the creation of a market for products from ICT-companies (Verrest & Pfeffer, 2018; Yigitcanlar et al. 2018) - companies such as IBM, Cisco, Microsoft, Siemens, Google have become “the front-runners of the industry that led the expansion of the smart cities movement” (Yigitcanlar, et al. 2018: 146) - and the central role of data as the key resource of the current economy (Srnicek, 2016).

Digital Platforms, a new regime of urban governance and its consequences

As we have seen in the session above, the line of reasoning about the advantages of ICT and platforms stresses their potential efficiency. Platforms are celebrated as a “digital environment with near-zero marginal cost of access” (McAfee and Brynjolfsson, 2017). In general platforms are considered an efficient mode, with low transaction costs, of bringing actors together in the urban arena. These actors can engage in the production or distribution of goods and services – as in the sharing economy – or other forms of interaction (Yigitcanlar et al. 2018). Furthermore, by connecting actors around concerns of shared interest, platforms mediated social-interaction could contribute to establishing new (weak) social ties on the scale of neighbourhoods and the city as a whole. In doing so, smart city interventions are framed as a community building tool and even as a modern strategy for social redistribution. Especially in densely populated and deprived urban areas, civic crowdfunding not only serves as a financial lever but could also be used “to produce shared goods that have value to communities” (Davies, 2015: 5).

According to Bratton (2016: 18) the “contemporary Cloud platforms are displacing, if not replacing, traditional core functions of states, and demonstrating, for both good and ill, new spatial and temporal models of politics and publics”. In this view, platforms introduce a new form of societal coordination between actors. The outcome of this interaction affects the use and transformation of cities. When this new form of coordination bypasses or even replaces established ways of dealing with urban coordination problems, the question arises in which ways cloud platforms are systematically different in performing coordination than established practices? If the rise of platforms can be interpreted as hollowing out the state and shifting decision-making on the use of urban space in the direction of new mode coordination, new dilemmas arise in urban governance. How do legitimize their intervention in the urban society (Scott, 2008)?

Besides, if cloud platforms – partially – displace decision-making from the governmental realm to the societal realm, it could mean that tensions arise between ICT supported societal decision-making versus slow-moving – but hopefully prudent – governmental decision-making (Miller, 2018: 5). Governments are further challenged by the fact that the public sector is lacking behind the private sector with regard to its knowledge of ICT and the resources devoted to ICT. The asymmetrical relationship between the governmental and the private sector also contributes to technological lock-ins (Morozov, 2013). Once a

certain technology is adopted, it could lead to dependency on that technology and the inability of a government to shift to another supplier. The next section introduces the framework for the analysis of civic crowdfunding in the two cities.

Civic crowdfunding platform: framework for the analysis of the case studies

A civic crowdfunding platform is a sub-type of crowdfunding through which citizens, in collaboration with government, fund projects providing a community service, with civic and often spatial aims (Davies, 2014; Gullino et al. 2018). If civic crowdfunding platforms become important modes of coordination affecting cities, the way access to these platforms is organised obviously has a political dimension. Clearly formal requirements with regard to who is allowed to use the platform is an important dimension of access. Nevertheless, access is framed in many more often implicit ways. Besides the economic capital, such as a computer and Internet access, that is a pre-condition for being able to access cloud platforms, social and cultural capital will play a role. The skills needed or ‘media literacy’ to be effective on a platform might vary from web-design skills to using the appropriate language of the particular community of that platform (Graham and Dutton, 2014). Furthermore, by relying on relationships that bypass formal institutions, platforms would be vulnerable to discriminatory and racist practices (Frenken, 2017).

Table 1 summarises our literature review. The table is a heuristic device in which the different assumptions made in the literature function as sensitizing concepts that guide our exploration of the cases. As an emerging scholarly field, smart urbanism (Verrest and Pfeffer, 2018) is in need of empirical grounding. Because we are only at start of understanding what digital platforms do to cities, we need to keep an open mind to possible hypothesis that could be formulated. Therefore, an explorative design is chosen (Hollow, 2013). The aim is tentatively grasping what platforms do to the city and assessing what would happen if these non-profit bottom-up initiatives using digital platforms in the social and civic domain would become a dominant (which they are not now).

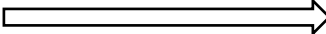

Drivers  (Which stated and hidden motives drive civic-crowdfunding platforms?)	Mechanisms  (How does the platform operate in relation to the dilemmas and values of public decision-making?)	Output (To what kind of city does the platform contribute?)
Efficiency Reviving public participation Community building Replacing public funds with private funds Business interests (market for ICT and data as a production factor)	Connection with collective decision making Role of private sector Technocratic reductionism (simplification, de-politicisation) Access to the platform (Media literacy, Rules, Who decides)	What type of goods and services and where? (Systemic) exclusion of social groups? Reinforcement of existing urban dynamics? Contribution to larger objectives for the city? Technological lock-in?

Table 1. Source: author.

In investigating the cases we used different types of data sources. We conducted interviews (Milan: 13; Amsterdam: 10) with different types of stakeholders, which can be subdivided in two main groups: those who have been promoting the crowd-funding platform and those who can be described as critical observers. The interviews mainly served to reconstruct the process of developing and implementing the platform. The publicly available websites related to the crowdfunding initiatives provided valuable factual information and allowed us specifically to determine the way – explicit and implicit – access to the platform is organised. Formal and informal policy documents provided first and foremost information on the ways in which the platforms are embedded in larger narratives of the smart city. We attended meetings and public hearings on the promotion of civic crowdfunding which offered information on the rules and the practical aspects, opportunities and challenges. Furthermore, newspapers and social networks, mainly Twitter and Facebook, were analysed in order to capture who are the main actors which promote civic crowdfunding within the online public sphere. The Milan case study covers the period between 2012 and 2017. The Amsterdam case study covers the period between 2016 and 2018.

Civic Crowdfunding platforms in Milan and Amsterdam

Milan: Civic crowdfunding as governmental strategy.

“Civic crowdfunding is a tool to fund ideas and projects from the bottom, aimed at social inclusion and cohesion, with 89% of the projects promoted by the network and over 300,000 euros collected by web users, show that today it is possible, thanks to crowdfunding, to speculate on different funding scenarios from public support to support social projects and new start-ups. Civic crowdfunding has been a sure bet. By co-financing those projects that are able to receive the first half of the initial funding from the bottom, we have supported more projects and we have been guided by the citizens in their choice.” (Interview October 2017, translation by the authors). Cristina Tajani (Alderman Labor Policies, Economic Development, University and Research)

“Thanks to the commitment of the City of Milan, among the most innovative Italian cities and Eppela, civic crowdfunding is no longer a matter of the future but indispensable tool for urban coexistence. Our experiment has opened a new way to bring citizens and local communities closer together to the public administration.” (Interview November 2017, translation by the authors) Nicola Lencioni, (Managing Director of Eppela)

After almost twenty years of right-wing administration, in 2011 the election of the mayor Giuliano Pisapia as a non-partisan left-wing candidate caused a seizure in Milanese urban politics. The right-wing administration was known for its lenience towards the real estate sector and project-developers and promoted a large scale urban-growth agenda (Vicari and Molotch, 1990; Andreotti, et al. 2012). In reaction the new coalition initiated a set of urban policies oriented towards social issues with the aim to engage citizens in the urban

political arena. For different reasons at the same time the role of ICT in urban governance was put firmly on the political agenda. EU and national funds for the promotion of ICT became available, which could be used to emphasize Milan's claim of being Italy's innovation capital. In addition, the use of ICT became the hallmark of the political protest movement aimed at empowering citizens and replacing the old political elite.

Technological innovation, social inclusion and participation became new important political goals for the Milanese municipality. In 2014, the local government actively started to build a coalition of non-profit social and cultural organisations and private for-profit organisations, with the aim of formulating and implementing a smart city agenda. Key aspect of this process is the formulation of guidelines for Milano Smart City.

In these guidelines, the municipality emphasizes the potential of ICT to solve social problems. It explicitly claims that ICT will provide social services more efficiently than the traditional bureaucratic ways of delivering services. More implicitly it implies a shift in the providers of services. Following up on these guidelines the municipality established a think-tank for public policies called '*Innovare per Includere*', formed by policy-makers, academics, politicians and journalists – and not including the private economic sector –, reflecting the wish to replace the old political elite. The organisation endorses ICT to address urban problems such as mobility, the transition to a post-industrial economy, social exclusion and the digital divide by facilitating bottom-up initiatives. These initiatives can be categorized in two main sorts: one can be described as projects aimed at revitalizing the urban economy, in particular the city as a production environment, and the other as sets of projects focussing on restructuring the provision of social services. Civic crowdfunding is an emblematic example of the latter.

Late 2014, the councillors of the *Partito Democratico* (main left-wing party in Italy) for economic and social policies Cristina Tajani and Pierfrancesco Majorino, launched the civic crowdfunding initiative. As the councillor Cristina Tajani states in an interview:

“We started from a question, how can we finance more social innovation projects, involving citizens more in their choice? Civic crowdfunding has been a sure bet. By co-financing those projects that are able to receive the first half of the initial funding from the bottom, we have supported more projects and we have been guided by the citizens in their choice.” (Interview 28 October 2017, translation by the authors).

Affected by a lack of municipal financial resources, municipality's objectives with the Milanese smart city agenda were to generate small but tangible outcomes with innovative ways of financing projects of public interests (Trivellato, 2017; Gullino, et al. 2018).

The process of civic-crowdfunding started in December 2014 with an open and competitive bidding process. It should be mentioned that only a few parties in Italy – about three– would be able to meet the requirements. The tender – worth 30,000 euros – was won by

Eppela, a web-platform owned by a private for-profit company. The precise arguments for its selection remain largely hidden. It is also unknown whether the company already discussed the project with the municipality prior to publication of the tender. As an existing Italian crowdfunding platform, Eppela was able to provide a platform straight away. In other words, there was no need to make the platform tailor-made to the Milan context. A thing that strikes the detached observer is that the municipality did not ensure that it would be the sole owner of the data collected through the platform. In the contract between the municipality and the technical provider there is no clause about data ownership. Therefore, the data gathering process was entirely in the hands of Eppela, as well as the overall use of data on the platform (Pacchi and Pais, 2017).

After the selection of Eppela, a call for the selection of the projects to be presented on the platform was launched by the municipality and the call was published on the Comune di Milano website. The selection process lasted for six months. The municipality, in practice a small group of 'smart city experts', decided on the projects that would be allowed to be promoted on the civic-crowdfunding website. Together with Eppela, the municipality identified thematic areas and criteria for the selection of projects that later on would have to be co-financed by citizens:

- “Technological innovation for the increase in connectivity, reduction of the digital divide
- Innovative projects that promote information on mobility, events and activities that promote the improvement of quality of life and social cohesion.
- Innovation of services for care that balance families and work.
- Enhancement and development of social networks that can be activated in the community for the creation of services and initiatives based on collaboration, sharing and reciprocity.⁴”

Although these criteria allow for a very broad range of projects, there is clearly an emphasis on community building, social goals and a sharing society. The criteria created a lot discretionary space for the experts within the administration. The actual selection remained somewhat of a black-box.

The second phase was the final selection of the projects to be presented on the platform. The call led to 54 proposals and 18 projects were selected. The projects that through the platform would receive crowdfunding equal to at least half of the total amount foreseen for its realization, benefit from a contribution from the municipality - co-financing - for the remaining part not covered (up to 50,000 euros). The maximum budget provided by the local government was capped at 400,000 euros. Once the 18 civic crowdfunding projects were visible on the platform website for 6 months, citizens finally came into play.

⁴ See the official document on the Municipal website: http://www.milanosmartcity.org/joomla/images/delibera_crowdfunding.pdf (accessed 10 October 2018).

The platform has the look and feel of a web magazine that covers new projects, the already financed ones, the ones with a close deadline and the winning ones. On the level of each project a money bar is shown that illustrates the progress of the crowdfunding and the percentage of the already gathered amount. There is also a timeline that counts down the days to the deadline. There is an appealing postcard image that captures the mission of the project. The platform's format implied a range of requirements to those who could post a project. For instance, it is required to post multi-media content, it only allowed for a brief description of the aim and the mission of each project, a selection of keywords and hash-tags.

What kind of projects and initiatives are promoted and supported through the civic crowdfunding platform?

Project Name	Category Type of intervention	Type of goods and services	Number of donors (Av. Don)	Money collected on the platform
Costruire l'improvviso	Improvement of an existing community centre. For example providing free-wifi, kitchen for communal use, free provision of tap water .	Public good	207 (€69)	€14,319
Le isole di Wendy	Social support for vulnerable women (single mothers, unemployed women). For example building social networks for mutual support, providing after school care for children	Public good	97 (€ 155)	€15,000
Ti facilita la vita	Providing platform for baby-sitting service. Establishment of a literary café.	Private good	69 (€145)	€10,000
Sicurezza d'argento	Provision of home care for elderly.	Private good	76 (€289)	€22,000
La casa sull'albero	Contribution to upgrading public space by realisation of a treehouse in a park as a contribution to the rehabilitation of that park.	Public good	79 (€41)	€3,250
Gallab	Community work place for small building and repair activities. Providing tools and a place to bring likeminded people together in a deprived area.	Public good	169 (€148)	€25,000
Pomodorti urbani	Urban gardening in an old parking lot.	Public good	77 (€130)	€10,000
So Lunch	App and website (sharing economy; peer to peer) providing lunches	Private good	96 (€208)	€20,000
I want CineWall	Arthouse Cinema and a mobile cinema for showings in deprived neighbourhoods	Public good	235 (€212)	€50,000
Medicinema	Promotion of 'Cinema therapy' in hospitals	Public good	59 (€593)	€35,000
CN Smart Hub	Co-working space for knowledge workers, with an emphasis on smart-mobility Web-platform on which young professionals in the area ICT, languages and technology can present themselves	Private good	84 (€357)	€30,000
Ecolab	Platform (app) for the promotion of urban gardening, building a network of urban gardening initiatives in the Milan metropolitan area.	Public good	63 (€119)	€7,500
Child Explorer	Development of a smart watch, app and platform for gps tracking of children	Private good	42 (€119)	€5,000
Facciamo Festa alla Mafia	Transformation of a mafia residence into an apartment block.	Private good	87 (€563)	€49,000
Il cantiere dell'ortica	Cultural incubator, starting artists (musicians and visual arts) can use the space to practice and develop work.	Public good	39 (€575)	€22,440
Gli altri siamo noi	Temporary event. Art exhibition against discrimination and racism made by primary schools	Public good	131 (€76)	€10,000

Table 2: Projects in Milan 2016/2017. **Source:** author.

We qualified the output of 10 projects as a public good, which means that they are providing a good or service that is not likely or impossible to be provided by the market and/or the good or service is provided for free or at a social price (not market prices). The 6 projects that deliver private goods, base their model on selling their service or good at market rates. This doesn't mean that these projects are strictly commercial. Many of them, at least rhetorically, claim to serve a social cause.

The average amount donated is rather high. Three projects collected on average more than 500 euros per donation. The three lowest average contributions are still between 41 and 76 euro, which is still a sizable amount for an average household (Pacchi and Pais, 2017). The most likely explanation is that large donations are made by non-profit organisations, companies, entrepreneurs or philanthropists. They do not allow for a detailed analysis of the origin of donations, but some relevant information can still be found. For example *Il cantiere dell'ortica* obtained 6.000 euros from a non-profit organisation (more than a quarter of money raised for the project). This seems to be in accordance with findings in other research, which concludes: "funding frequently follows a tripod model of financial support from across three parties: (1) government body, (2) for-profit or not for-profit business or organisation, and (3) individual backers (Stiver et al., 2016)

A share of the goods and services in the Milan sample seem to fill a gap that a retreating local government has left behind, mainly in the area of social care. The other share of projects addresses relatively new issues of societal concern, mainly in the area of urban nature and sustainability, and issues that traditionally have been in the domain of civil society, such as culture and political activism.

Geography of civic crowdfunding projects in Milan



Fig. 2: Civic crowdfunding realized projects. Source: authors.

Sixteen out of the eighteen projects on the platform managed to obtain enough donations. Three of the projects are located in what could be called deprived neighbourhood (e.g. *Gallab*, *Ti Facilita La Vita*, *Pomodorti*). Four projects are situated in gentrifying neighbourhoods (e.g. *Smart city Lab*; *Ti Facilita la Vita*, *CineWall*, *Gli Altri Siamo Noi*). Middle-class and upper middle-class neighbourhoods host four projects. Furthermore, there are four Internet-based projects that focus on the city as a whole (e.g. *So Lunch*, *CN Smart Hub*, *EcoLab*, *Child Explorer*).

Amsterdam: Civic crowdfunding as bottom-up practice

“We come from a time of many hierarchical systems. The government and the organizations around it are very top-down organized and I see that people around me have the need to determine more about their own living environment. Platforms allow citizens to participate and foster bottom-up actions” (Interview January 2019). Juan-Carlos Goilo (CTO Innovation team, Municipality of Amsterdam)

“It [civic-crowdfunding] is basically an insignificant collective effort. I mean if you look at small number of users on the platform. You can crowdfund your idea also if it is nor for the sake of public good.” (Interview May 2018) Anonymous (Amsterdam Civic crowdfunding project).

Civic crowdfunding has developed in Amsterdam in context in which the Smart City is promoted as a model for urban problem solving. In 2007, the city of Amsterdam came up with the ‘Amsterdam Smart City programme’ (Mora and Bolici, 2015). From the start the initiative has been based on a public-private partnership, which involves municipalities in

the Amsterdam Metropolitan Area, large companies and the non-profit-sector. The private companies are predominantly tech-firms for which the urban environment provides specific challenges and/or opportunities, such as a telecom company, the postal service, the grid company and multi-national (urban and infrastructure) design and consultancy companies. The non-profit sector is represented by universities and grassroots organisations. The collective's contribution to urban problem solving is to share knowledge and to stimulate cooperation. According to Amsterdam Smart City their initiatives can contribute to solving a wide range of urban problems. Transparency and engagement of residents are claimed to be leading values for the organisation⁵. While the narrative constructed by Amsterdam Smart City focuses on problem solving and putting citizens first, it is also clearly an exercise in selling Amsterdam to world as a technology savvy place.

The *Voor je Buurt* civic crowdfunding platform is one of the dozens of projects to be found on the Amsterdam Smart City platform. The *Voor je Buurt* is non-profit platform officially certified as a charity⁶. It receives regular subsidies, from national and local – governmental and non-governmental – funds. In addition, they request a service fee of 5 percent of the sum raised by projects that have reached their target. They welcome social projects that make 'a positive social contribution' and that are 'not primarily focused on personal gain' (but at the same time the platform does not forbid profit making). As a gate-keeper *Voor je Buurt* not only evaluates the social contribution of projects, but also assesses the change that projects will be successful in raising money. In addition to offering a cloud platform, the organisation provides practical support and advice to projects. Furthermore, the organisation acts as an intermediary between grass-root initiatives and institutional donors (both governments and charities). Although *Voor je Buurt* is a national organisation, as the name already suggests the scale of the featured projects is primarily that of a neighbourhood. As specified on the website, the *Voor Je Buurt* platform connects directly with the tasks that suit a retreating government, a growing self-organizing capacity of society and an increasing need for social cohesion.

On its website the platform provides elaborated guidance for those who want to run a successful crowdfunding campaign. It shows what the platform, based on their experience, sees as the success- and fail factors of a web based civic crowd funding campaign. Considering the fact that in their role of gatekeeper the platform assesses the change of success of projects, it is very likely that these success- and fail factors are used to decide whether a campaign makes it to the website. Considering that a large percentage (83%) of the projects are successful, one might conclude that *Voor je Buurt* is quite strict in applying their criteria. In providing a clear philosophy on what makes civic crowdfunding successful they sketch the mechanisms that determine, which goods and services can and cannot be provided through civic crowdfunding. It emphasises the workload of running a campaign, which requires the formation of a team of people. Furthermore, the existence of

⁵ See the website: <https://amsterdamsmartcity.com/network/amsterdam-smart-city> (accessed 12 June 2018).

⁶ See the website: <https://voorjebuurt.nl/nl/pages/verhaal> (accessed 21 June 2018).

community, such as a sports club or school, that can be addressed is somewhat paradoxically mentioned as a pre-condition for a successful project, while community building is an important goal at the same time. The website also sheds light on the skills and resources that are needed. Although the platform does not require a short movie, it is very clear that it is considered a prerequisite for success. The online activities should be combined with offline actions (see also Stiver et al. 2015), such as making press-releases and organising events. With regard to the characteristics of the projects that are deemed promising, there is a lot of emphasis on the appeal that the project has. The project should first and foremost provide a positive story. (“Crowdfunding works best with a positive message instead of a pathetic story” and “Don’t take pictures on a rainy day”). Preferably, it should also be innovative and ‘boring’ subjects, such as providing funds for maintenance or operational costs (electricity for example). The technology of a web platform implies that users only have a short attention span (2 minutes max, apparently). As a result, the written messages and movies should be brief and catchy. Concerning the funding it becomes clear that in almost all cases the crowd is not an anonymous mass. First, the personal network of those who start a project constitutes an important target group. Second, most campaigns on the platform are not solely dependent on small donations of the crowd, but involve a large public or private sponsor. Crowdfunding is also framed as a good way to convince larger donors that there is societal support.

Project name	Category Type of intervention	Type of goods and services	Number of donors	Money collected on the platform
Geef een box!	Social support to refugees children and asylum seekers and temporary event (i.e. a box with winter clothes. Kloffie company and T-Company sponsor the event for <i>nieuwe Amsterdammertjes</i>). Impact on health .	Public good	108 (highest 350€)	€3,870 (155%)
Amsterdam Beestenboel	Book on animals and nature (i.e. children with <i>Stadpas</i> can pick up their own copies in public libraries in their neighbourhoods, through donation of another book). Impact of nature .	Private good	305 (highest 5000€)	€21,975 (110%)
Buurtbuik Oud-West*	Volunteering activities to reduce food waste (i.e. 3-course meals at each location once a week and serves this to people from the neighborhood and everyone who wants to eat for free). Impact on community building .	Public good	112 (highest DOEN funds 5000€, VSB funds 2500€, Rotary Club Amsterdam High South 2860€)	€15,100 (101%)
Buurtbuik Noord*	Volunteering activities to reduce food waste (i.e. 3-course meals at each location once a week and serves this to people from the neighborhood and everyone who wants to eat for free). Impact on community building .	Public good	69 (highest DOEN funds 2500€, VSB funds 1000€, Donated tricycle 1995€)	€7,110 (102%)
Starter4Communities-Oost*	Enterprising neighborhood initiatives (i.e. professional skills to start bottom-up initiatives and emerging social enterprises to tackle local social issues. ShareNL as a partner). Impact on community building .	Private good	324 (highest VSB funds 1500€, S4C program social entrepreneurship in Groningen 1000€)	€15,250 (102%)

Pluk! Groenten van West	Greenhouse and kitchen garden. (i.e. collaboration between citizens and local farmers without intermediaries, Community Supported Agriculture; urban gardening with membership). Impact of nature .	Private good	83 (highest 250€)	€5,495 (110%)
International Street Orchestral Festival	Temporary event (i.e. festival night at Paradiso, with 1000€ extra we can rent a boat on which various orchestras will sail through the city on Sunday). Impact on arts and culture .	Public good	149 (highest 250€)	€5,830 (130%)
Stiltecafé in groene oase	Café-bar (i.e. in heart of Amsterdam in the green with products from own vegetables, herbs and fruit). Impact of nature .	Private good	142 (highest 100€)	€4,925 (100%)
De Groene Kaart van Amsterdam	Map and design (i.e. all parks, green roofs, petting zoos, allotments, open-water areas and other city nature in Amsterdam). Impact of nature .	Private good	124 (highest 500€)	€10,000 (100%)
Tijdelijk kerstbomenbos	Donations of 18€ to get a Serbian Spar from 1.75-2.00 meters high, in pot, suitable for planting in the green area (i.e. in Amsterdam North there is a green area, a front yard this winter comes a temporary and evergreen Christmas forest). Impact of nature .	Public good	91 (highest 36€)	€1,793 (100%)
Kruidenthee Amsterdam bouwt Kruidentuin	Herbal garden for scented herbs and bee flowers (i.e. clear the garden of soil and crops; new herbal clusters, bee ribbons, hedgehog houses, insect hotels, flower beds; a greenhouse). Impact of nature .	Private good	36 (highest Province of Noord-Holland Co-financers 5000€, 3650€ AHAM Vastgoed)	€10,035 (100%)
De Groene van Amsterdam	Temporary event 'green marathon' (i.e. support the course as a volunteer and packed lunches). Impact on sport .	Public good	310 (in one tranche, 500€ per each).	€20,781 (139%)
Doneer voor Het Roze Danspaleis	Temporary event at Pink Dance Palace (i.e. free event for the LGBTI + elderly and <i>bitterballen</i> for everyone!). Impact on health .	Public good	15 (highest VSB funds 1000€, Central City & Blue Fund 946€)	€2,896 (80%)

Table 3: *Voor je Buurt* website (re-elaborated by the authors). **Source:** author.

*Projects supported and co-financed by local and national funds, VSB and DOEN funds.

In 2017, the financed projects were 13 and 1 campaign failed. The table above lists the overview of 13 projects in Amsterdam that has been successful. Around half the projects produce pure public goods, in the sense that what is produced is freely available or at very reduced costs. For instance, the first one, the *Geef een box!* has two partners: Kloffie Kompany and T's. Kloffie Kompany has been working for the homeless in Amsterdam for a number of years by providing them with warm winter clothing. A second example would be the volunteer project *Buurtbuik*, which provides 3 course meals of residual food from supermarkets and restaurants to those in need. The other half of the projects is for a variety of reasons more hybrid, because they combine the provision of a good to individuals at more or less market rates, with a dimension of a public good. A freely accessible herbal garden that provides the herbs for commercially traded herbal tea (*Kruidentuin Amsterdam*). A children's book on urban nature that is sold at market prices, but made available for free for children from a deprived background. A Christmas tree forest, where people replant their tree after Christmas, creating public green space (A tree that is bought through the project, *Tijdelijke kerstbomenbos*). 'Starters4Communities'

(S4C) has the legal structure of a for-profit company, but in their mission statement indicate that it has social objective. It offers training programs in social entrepreneurship, at a reduced rate, for starters and, at commercial rates, for professionals. In the case of Amsterdam, around half of the projects involve larger donors and only two are exclusively based on small donations.

The type of goods and services in the Amsterdam sample seem not to fill a gap that a retreating local government has left behind, because the projects address issues relatively new issues of societal concern, mainly in the area of urban nature and sustainability, and issues that traditionally have been in the domain of civil-society, such as culture and specific additional forms of poverty alleviation.

Geography of civic crowdfunding projects in Amsterdam

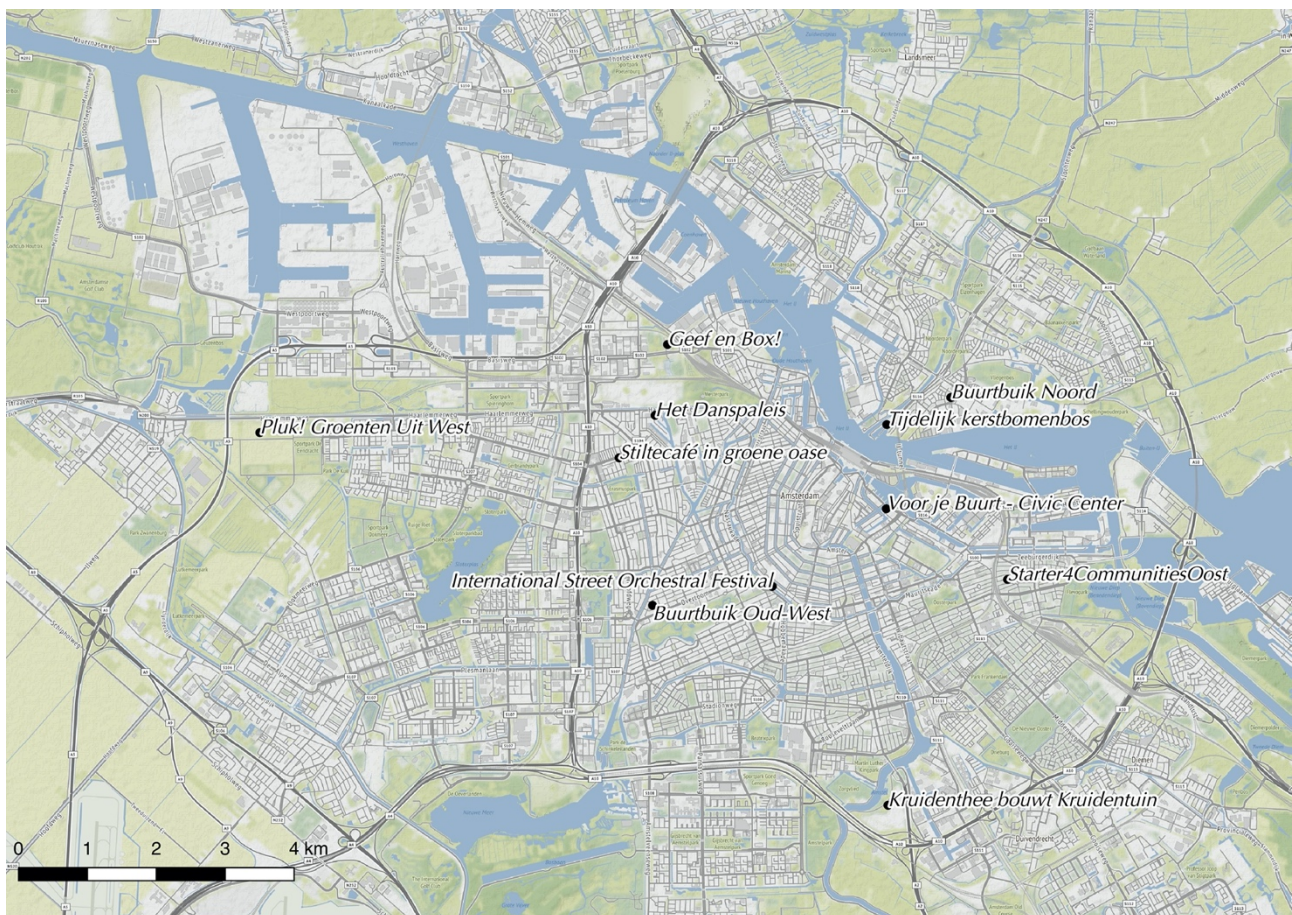


Fig. 4: Civic crowdfunding realized projects. **Source:** author..

If we observe the map above we can state the obvious that the majority (10 out of a total of 16) of the projects are not allocated in the historical city centre, but in the late 19th/early 20th century ring around it. Within Amsterdam the majority of the projects is clearly located in those areas that have been or are gentrifying.

Discussion

Table 1 provides an overview of the factors that seem relevant in assessing the role that civic-crowdfunding could play in the provision of urban public goods and services. In discussing the different dimensions of civic-crowdfunding we follow as much as possible the relationship between drivers behind civic crowd-funding > mechanism that determine the types of goods and services > consequences for cities (output).

Smart city policy and civic crowdfunding are only loosely coupled

Civic crowdfunding in both cities is driven by visions of the smart-city and self-governance as a third way of providing public goods and services. In both cities, the smart-city acts as a rhetorical backcloth to the civic-crowdfunding initiatives. The smart city in both Milan and Amsterdam mainly represents the idea of a city that is not only technologically advanced and innovative, but also very much engaged with liveability and the promise that technology will enhance public participation and improve democracy. Platform-based civic-crowdfunding fits these ideas as an example par excellence. At the same time, the connection between 'the smart-city', as a policy or as a socio-technological system, is rather weak. In Milan civic-crowdfunding initiative can be seen as a step in implementing the Milano Smart City Strategy. The Amsterdam smart-city is more incremental, it organically grows by embracing initiatives such as the *Voor je Buurt*-initiative. In both cases, the platforms operate more or less independent from other forms of technology that could be seen as the constituting parts of an (emerging) urban digital socio-technological system.

Public participation and community building are drivers, but civic crowdfunding as a mechanism, paradoxically, has a tendency to reinforce existing social networks.

From the view of civic crowdfunding as a process, in both cases the idea that civic-crowdfunding through public participation is a mode of gauging public support for a project is prevalent. This particularly comes to the fore in the fact that governments (and charities) see successful civic crowdfunding as an indicator for providing public funds. In addition, in both cases civic-crowdfunding is, to a certain extent implicitly, considered to be more than the expression of a preference through a donation. Being part of a campaign should lead to a more profound engagement with the project, for example through active, in kind, participation or a sense of ownership of the project. On the other hand, in practice in almost all cases the money raised is only partly from small donors, whereas a large number of small donors would be a better indicator of public support. Furthermore, the crowd is not anonymous. In particular the Amsterdam case shows that successful crowdfunding is assumed to be based on activating an existing community.

Does civic-crowdfunding lead to hybridization of public and private goods and services?

In both cities the platforms are clearly driven by the objective of developing an alternative mode of providing for public goods and services. For both organisations, the requirement of some social objective is the primary criterion in this decision-process. In both cities the

approach clearly does not exclude profit-making or the provision of private goods and services at market rates. And in both cities a range of projects in fact combine commercial activities with social objectives. In at least one case a project started with a social narrative and ended as a strictly commercial enterprise *Facciamo Festa alla Mafia* initiative. Furthermore, the opportunities for the gatekeepers to enforce the social objectives of projects after they have successfully raised funds (possibly after matching by government or charity) are limited. *Voor je Buurt* states reserves the right to reclaim money if projects do not deliver what they promise, but in Milan no such provision is created.

Driven by the desire to revive local democracy, while at the same time the key role of gate-keepers undermines democratic decision-making

From the perspective of the service or good that is provided, the role of the gatekeeper (in Milan the municipality and in Amsterdam the foundation *Voor je Buurt*) of the platform is pivotal. They decide who is allowed to use the platform for the promotion of projects. The key role of gate-keepers raises the question of accountability. The way projects make it to the platform in Amsterdam, is largely a black-box. The *Voor je Buurt* foundation does not account for the process by which they select projects. While the Milan initiative is embedded in local government, and therefore, at least theoretically guided by the principles of local democracy, it is not much less of a black box. In this case a black-box that is situated within the local bureaucracy. The promotion of civic-crowdfunding as a tool for enhancing democracy is based on its capacity to gauge societal support for projects once they are proposed to the public, but the argument ignores the role of democracy in proposing projects for civic-crowdfunding. In other words, it focusses on the evaluation of alternatives and ignores the process of agenda setting.

Accountability could be improved through transparency on the data. We have no indication that the data collected through the platforms are used as a production factor in other, commercial, enterprises. Nevertheless, the cases neither provide indications that data transparency is a particularly well considered subject. Maybe due to naivety or to avoid higher costs, the Milanese government chose to ignore the issue all together. In Amsterdam *Voor je Buurt* provides some information, but as a non-governmental foundation it is not subject to strict rules about transparency such as a 'Freedom of Information act for governments'.

Conclusion

As a general conclusion, we observe that there is the false promise of greater efficiency and how the need to be web-genic might undermine the effectiveness of urban social policy. In addition to the role of gatekeepers in defining access, the two platforms allow for a better understanding of issues mentioned in the literature such as media literacy and technological reductionism. The technology and the medium require projects to be 'web-genic' (attractive and well-suited to the platform and its users). The medium implies that users only have a short span of attention. This applies to the communication about civic-

crowdfunding projects and on the length of the campaign (usually months less than a year). As result it is important to make an impression in a short space of time. Originality and a positive message seem to be a *conditio sine qua non*.

This is a disadvantage for projects that aim to provide ordinary, but possible crucial, urban goods and services, that stir social conflict or that need to well-explained to become convincing (cf. Stiver et al, 2015). The medium also favours visual presentation; this implies that projects that have something to, literally, show for – something to be built, situated in a concrete place, involving real people – for have an advantage over projects that represent more abstract or real innovative goods and services. The skills needed to organise the on-line aspects of a civic-crowdfunding campaign, seem to border on the capabilities of a small-scale marketing consultancy firm. They certainly go much further than what is usually understood as ‘media literacy’ (Pais and Bonini, 2017) or the factors that cause a ‘digital divide’ in society (Davies, 2015). They at least require specific writing skills and the ability to make short clips. (In the case of *Medicinema* the video was made by the famous Italian director by Giuseppe Tornatore). It is very likely that these requirements create a bias towards young well-educated professionals as initiators of projects. Furthermore, the projects in both cities also show that on-line campaign are complemented by off-line activities, which demand a lot of time and skills from those who organise the project. This is at odds with the belief that smart applications would make urban decision-making more efficient.

We have assessed the question of how civic crowdfunding as a digital platform could affect the provision of urban goods and services, in the light of the academic debate on smart urbanism, which indicates opportunities and threats of urban digital socio-technological systems. Finally, with regard to the main question of the paper on how digital platforms, like civic crowdfunding is changing the city, we claim that in both cities the platforms are re-enforcing existing urban dynamics. The fact that civic crowdfunding is often based on activating a specific urban community and requires the skills that are only present in part of the population, makes it more likely that they emerge and succeed in certain neighbourhoods (with a young, well-educated population) and not in deprived urban areas. In our cases civic crowdfunding is not about a process in which technology, through data collection and algorithms, ‘takes over’ decision-making. It is about the way the medium – a web based platform – together with its gate-keepers, ‘determine’ what can be promoted as goods and services that might be realised through civic crowdfunding. In the light of the critical comments above, platform based civic crowdfunding might play a good role as an additional way – instead of replacing traditional ways – of providing urban public goods and services. In situations where there is potential it contributes to unleashing societal energy, it plays a strong role in connecting projects to relevant networks of actors and contributes to capacity building among social entrepreneurs. Is that the future that we envision for our cities?

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4. Digital Platforms for Capital or for People? Commonfare empirical evidence from Milan and Amsterdam

Introduction

Digital platforms are proliferating in the economy and in our everyday life, challenging traditional organization of markets, work, consumption, welfare and citizenship. Some scholars talk about the ‘platform economy’ pointing to the pervasive role of platforms in defining new work arrangements, reorganizing different market sectors, changing value creation opportunities and regimes of regulation (Schor, 2018; Frenken, 2017). Nick Srnicek (2017) coined the notion of ‘platform capitalism’ in referring specifically to platforms that organize buyer-seller relations in digitally-enabled marketplaces such as Airbnb, Uber and Foodora, and discusses the impact of these organizations in increasing the amount of precarious, dead-end, unprotected jobs that are already spreading as a result of deregulation of the job market in a neoliberal direction. At a more general level platforms are at the core of the brutality and complexity of the global economy as they result in expulsions—from professional livelihood and career paths, living spaces, and even from social life (Sassen 2014). According to Van Dijck (*et al.* 2018), the term the ‘platform society’ refers to a connective world in which platforms are disrupting social and civic practices and changing traditional democratic processes. The main question here is ‘who is or should be responsible for anchoring public values and common good in a platform society.’

In the public debate, the popular epithet ‘sharing economy’⁷ has been misleading the discussion conferring a positive acceptance to global digital platforms, such as Airbnb and Uber. According to Botsman and Rogers (2010; 2013) the phenomenon is the way to engage households, individuals and their idle resources in collaborative production, distribution and consumption of goods and services, via on-line platforms and mobile application – as the widespread and early enthusiastic definition states. Although there is no a single definition, from a social science perspective it is relevant underline some common characteristics across all the definitions of sharing economy. In principle, the sharing economy offers not only new business opportunities, it also promises to re-create the social ties that have been lost with modernization and the expansion of market society, and to inject economic initiatives with new civic virtues (Arvidsson, 2017). The ambiguity beyond the notion of *sharing* is reflected also in the strategies and policy-goals by local governments. Sharing economy might restructure social relationship (Light and Akama, 2014) that can be referred as a kind of care (i.e. the slogan ‘sharing is caring’), intertwining

⁷ The use of the term ‘sharing economy’ might be contested if there is an economic transaction implied. The positive meaning of sharing invokes, in fact, a normative, communal and social implication in the exchange. Other terms refer to ‘on-demand’, ‘peer-to-peer’, depending on the type of provider and the scale of provision of goods and services exchanged within the platform. The European Commission adopted to the term ‘collaborative economy’ in the official document: Eur. Union, Comm. of the regions, the local and regional dimension of the sharing economy (Dec. 3-4, 2015). However, the paper acknowledges these crosscurrents and use the term Sharing Economy (SE) to define the variety of collaborative practices.

in highly networked economic relations. The majority of the researches about this epithet focus on the motivations of participants in the platforms (\$), as well as on the taxonomy of different kind of providers, exchanges and transaction (\$).

However, there is a little knowledge on digital platforms and related conflicts within local dimensions of public participation, citizen engagement and digital welfare state. Public values include, privacy, accessibility, security; but they also pertain to broader societal effects, such as fairness, democratic control and accountability. Along this line of research, the concept of 'platform cooperativism' (Scholz, 2018) has been developed as a way to grasp the variety of activities that platforms enable in the social economy and in the activation of citizens for local welfare. The aim of the paper is to explore the relationship between digital platforms and citizen participation, such as civic initiatives, alternative or new welfare measure/provision of goods and services at the urban scale. First, it looks at the characteristics and mechanisms of those not for profit digital platforms engaged in providing those goods and services. Second, it develops a critical understanding on recent literature strands on platform capitalism and alternative digital platforms oriented to common goods and social economy. Social economy might regard a different allocation of material and immaterial resources, resulting in new welfare measures for urban communities and micro regeneration projects. The paper traces the transformation of digital platforms from an ideological and dogmatic vision of the term sharing economy to its radical repurposing of alternative digital platforms not for capital but for people, resulting in local cultures of re-distribution of resources and allocation of goods and services. Hence, it further analyses how platforms for civic engagement and grassroots initiatives might tackle different social issues, providing tools to strengthen urban communities. Conversely, these initiatives might encounter limits and obstacles related to the availability of financial resources, such as contracts, subsidies and grants, lack of participation, techno-biases, media literacy and more.

Many cities share phenomena or social processes which are worth thinking with, but not (necessarily) connected. Comparison might be therefore composed to reflect on the nature and range of processes involved in different cases (Robinson, \$). In this paper we follow the methodological tactics of generative shared features and differences. Cities are at the forefront for the experimentation of digital platforms as physical proximity and density of urban space play out as enhancer to the delivering of goods and services to urban communities. Moreover, existing networks of civic initiatives and local organizations become interwoven with digital platforms. Hence, we look at the illustrative example of the Commonfare platform, active both in Milan and Amsterdam, to shed light on the operation of the same platform in two different contexts in terms of citizen participation and local welfare arrangements. We believe that urban welfare platforms need to be analysed in their broader socio-economic contexts, in order to grasp the mechanisms through which they interact with existing local welfare regime and processes of spatial, economic and political restructuring of cities. We compare connections and compose a looser version of the classical comparative study, in order to interrogate concepts and practices based on

shared features. In doing so, as a starting point we have observed the shared features and differences on the use of the Commonfare concept in Amsterdam and Milan. In general, sharing and collaboration is also emerging as a model for a new urban lifestyle and new forms of social cohesion. European cities were traditionally characterized for their capacity to combine economic growth and social integration (Ranci and Cucca, 2017; Vicari, \$). In particular, Amsterdam and Milan used to function as spearheads in their distinctive national economies, they were and still are to a certain degree both embedded in transnational urban networks of global cities (Sassen, \$; Robinson, 2005; Taylor and Derudder, 2015). The emergence of an urban collaboration class and the use of technology might transform social relations between urban inhabitants and therefore should trigger a rethinking of welfare systems at the urban level. Under those similar conditions, we observe shared features and divergences in the two selected case studies.

The paper employs mixed methods, which combines qualitative and quantitative techniques. It utilizes a range of different procedures: interviews, participant observations, match-pairing of practices and digital ethnography in both cities. The discussion on the Commonfare platform is based on documentary analysis (i.e. newspapers, reports, deliverables), content analysis of digital material which results in two word-clouds (i.e. websites, forum, and social media, primarily Twitter), and 20 interviews with policy-makers, technical partners, academics, entrepreneurs and professionals active in Milan and Amsterdam. The empirical material collected is part of the fieldwork conducted between 2015-2019 within the PhD trajectory of one of the author⁸.

Digital Platforms. A theoretical framework

Digital technologies and platforms are moving target. It is indeed difficult to research something that is constantly and rapidly changing and unfolding in multiple ways in relation to different socioeconomic contexts and urban regimes. Digital platforms differ in terms of functions and structures. Hence, the platforms do not solely reflect the social structure; they are producers of social structures we live in (Couldry and Hepp, 2016). For instance, Google and Facebook offer search, browsing and social media functions, at the same time they also provide an infrastructure on which other platforms are built⁹. There are marketplace platforms such as Amazon, Etsy and eBay. It has to be noticed that Amazon Web Services provides infrastructure and tools with which others can build yet more platforms (\$). Moreover, with the recent advent of sharing economy there has been an increasing proliferation of digital platforms such as Airbnb, Deliveroo and Uber that use cloud tools to store and elaborate massive amount of information and data. However, platforms and their new business model might disrupt traditional market sectors, opening up possibilities to create and extract values in different ways (Schor, \$; Frenken, \$).

⁸One of the author, Letizia Chiappini, has also been social media manager for the platform and different accounts on Twitter, Facebook and Instagram related to Commonfare (from 2017 to 2018).

⁹One can log-in on Tinder through Facebook. Tinder date-app does not allow to use it without Facebook log-on information.

Platform Economy & Society

Within the recent academic debate, there is a plethora of notions and labels related to the platforms. One of those is 'platform economy'. Within the public debate, the rise of digital platform economy refers to the application of big data, new algorithms and cloud computing in changing the nature of work and traditional economic structures¹⁰ (Kenney and Zysman, 2018). Deliveroo, Uber, Airbnb are tech-giant actors, organized as global corporative entities and geographically dispersed as intermediaries of digitally-delivered services. Despite their global configuration, most of them are place-based platforms offering physically-delivered services in which working conditions and spatial outcomes are very depending on local regulation and institutions (cfr. Drahokoupil and Piasna 2018). In these terms, the 'platformization' of capitalism has transformed everything, and it is imperative that we have a historically and geographically precise and robust understanding of this widespread phenomenon.

The concept of 'platform economy' might be interpreted as the spearhead of cognitive capitalism, which is based on widespread knowledge, social and cooperative skills (Ardivissov, \$; Allen Scott, \$). Intangible work is the heart of value production. It is indeed based on expressive and cooperative skills not on professional skills, but more on the activities in knowledge production this is part of our everyday life. The dark side of platform economy is its extractive and exploitative tendency in the intermediation between platforms and workers. It means that in the value production process what matters is breaking down the job, into tiny simple and repetitive tasks that are offered to the communities of crowdworkers, such as data entry, content production, filing, riding, etc. In their empirical investigation on Deliveroo, Drahokoupil and Piasna (2019: \$) identify that gig economy jobs are "low-hours and low-income, performed primarily by precarious students workers". Digital platforms can indeed rely on self-employment, which brings obvious risks in terms of social protection, such as income security and social insurance for workers.

Within the existing body of literature on the platform economy, the main efforts are at understanding the new business model that those platforms bring into socio-economic systems. There is a substantial disregard for 'other platforms' that present themselves as 'bottom-up' platform, supporting collective actions and local initiatives, empowering communities and opening up spaces for political mobilization. These alternative platforms are much less investigated. What kinds of platforms are oriented to social civic/public domains? How they interact with politics and local governments? Are those platforms alternative to the platform capitalism model and, if so, on which values they operate? Even less examined is the relationship between digital platforms and social economy, i.e. the capacity of digital platforms to enable socially oriented economic organization and activities.

¹⁰ See the online source: <https://issues.org/the-rise-of-the-platform-economy/> (accessed February 2019).

The platform.coop website (2019) presents different types of alternative platforms, such as coop workers (e.g. Green Taxi and Co-rise), platforms to collect personal sensitive data and protect and own them in a collective and secure place (e.g. MIDATA and Social.coop), complementary welfare and mutual risk platform (e.g. Commonfare and SMart.be). Those alternative platforms operate in diverse urban sectors, health and care, waste collection, data entry, higher education and transport (Scholz, \$). The paradigm of cooperation differs from the profit orientation of platform capitalism in three main features. First, alternative platforms have a non-profit business model vs commercial and market purposes of capitalist platforms. The most obvious example is, what if Uber taxi drivers – instead of being considered as free-lancers – will own Uber platform and reinvest the profit amongst the other members. Second, non-commercial platforms function following principles of equal division of labour and social protection for workers. Third, the value chain governance model enhances participatory and co-design processes of services and the production of common goods for local communities where the platforms operate. The urgent question is how and to what extent these alternative platforms can alter existing governance models and traditional provision of services and goods at an urban scale? What are the (new) forms of cooperation between citizens and institutions within alternative digital platforms?

Digital platforms are potential ways to (re)organize social economy, civic initiatives and complementary welfare provision. In her last book, *Homo Cooperans* (2013\$), Tine De Moor calculates the number of civic and cooperative initiatives in the Netherlands. There is a linear growth from 1980 until 2008, but from then on growth is exponential. This has been confirmed by the observatory Oikos (2018\$) in a report for the Flanders, in which the growth is ten-fold increase in less than years, starting from 2009. As Bauwens (2018\$) noticed this blooming of civic initiatives should not be discounted and shows us an alternative pattern of digital platforms oriented to social and public domains. This alternative pattern implies a fundamental shift of value regime: instead of extracting surplus from on-demand relational transactions, as it is the case with Airbnb or Uber, cooperative platforms propose a model to meet local needs, with the aim of long-term structural change in the economy. For instance, the members take control of the production and execution of the goods or services themselves (although sometimes it is possible to call on paid service suppliers); citizens are the promoters and determine who belongs to the group, and who can use or manage the resources, goods or services; the members have a say in the form, the organization and the action lines for the future. A few examples of those initiatives are energy or housing cooperatives, food teams, transition groups with a social grocery, cooperative library of things, or community supported agriculture where consumers are closely connected to farmers, complementary provision of local welfare¹¹.

¹¹Grassroots Economic Organizing. "Building a Co-op Alternative to Local Food Delivery Platforms." geo.coop: <http://geo.coop/story/building-co-op-alternative-local-food-delivery-platforms> (accessed 30 July 2018).

In the scenario of alternative value regime, users own their data and they can analyse where their data are stored and revenues are reinvested into services for the benefit of the whole society. According to Bauwens (2018: \$), the value in the commons economy is not produced on the axiom of capital and labour, but through contributions and open knowledge that are recognised as such by "sovereign value communities". main design features of open software (e.g. Git-Hub) and decentralized systems are to a certain extent complementary and mutually inclusive to the territorial vocation of these alternative platforms. Whereas Airbnb and Uber tend to be closed and centralized systems which match global demand and extract resources from a specific locality. Alternative platforms, like Commonfare, are designed to be open and decentralized, in which density and physical proximity play out as enhancer of redistribution of goods and service for a local community. Yet, it is not taken for granted that alternative platforms are conceived as a way to enhance and increase will succeed in creating more access to local resources and meet social needs at an urban scale. In order to better understand what these potential alternative platforms are, how do they function and their relation with the urban space, we choose to investigate in depth the case of Commonfare. Through this case study, we analyze practices and initiatives that are promoted within this platform in two different urban settings, Milan and Amsterdam.

Commonfare as Alternative Digital Platform

Commonfare is a bottom-up and open platform, which adopts a cooperative approach to welfare in order to tackle different social issues. It is based on principles of re-appropriation of the commons, free access to basic resources, unconditional universal basic income and alternative financial flows.[4] Along these social justice principles there are challenges to be addressed: precarity vs security, online vs offline engagement, overcoming apathy and learned helplessness.

Commonfare platform was part of a larger project called D-CENT (i.e. decentralized citizens engagement technologies) led by Nesta, which has been awarded of €1.9 million funding from the European Union. Started in 2015, the main goal of D-CENT was to create digital tools for increasing participation, privacy awareness, direct democracy and economic empowerment¹². In 2016, the consortium and the leader Nesta created different technological solutions and digital tools designed on open source software (e.g. Git-Hub) and decentralized networks. Those digital solutions are addressed to harness digital platforms technology to enhance participative democracy, ownership on data and co-design of urban service. Four large-scale pilots were launched in different cities, with an experimentation of one year per city, involving citizens in municipal decision-making and policy design. The cities were Barcelona and Madrid with a digital platform for citizens participation in policy-making and open consultation; Reykjavik for participatory budgeting

¹²The project was part of the 7th Framework Programme for Research and Technological Development (FP7).

See the website: <https://www.nesta.org.uk/project/d-cent/> (accessed November 2018).

on how to spend part of the city budget in their neighbourhood; Helsinki for notification of municipal policy decisions, using the municipal open API and accessibility to the urban agenda. The project is still running in Barcelona under a different name Decidim¹³, which deploys the same open source software stack that was designed for Commonfare.

Part of the consortium¹⁴ that was leading the pilot phase and was behind the technological implementation of D-CENT decided to create a spin-off using the same digital tools for another project. Initially, under the name of PIE news (a.k.a. poverty income empowerment), this new project received €3 millions from the European Union within the Horizon 2020 programme. The concept and the mission behind PIE news project were quite aligned with the D-CENT political motives. In 2017, the implementation phase started in three European countries, Croatia, Italy and the Netherlands. Similarly to the first project, for each country one city was selected for initial period of experimentation (Zagabria, Milan, and Amsterdam). First, the initiators of the project started to involve non-governmental organizations, public administrations, NGOs, activists in the three cities. The process of definition and sense-making of the concept Commonfare lasted for about one year. Second, they adopted the approach of co-design services and digital tools together with the different actors in the three cities, engaging with existing and new local initiatives. The consortium and the pull of knowledge have different roles. For instance, the Madeira Technologies Institute, University of Trento and academics such as Andrea Fumagalli developed the concept of Commonfare. As one of the initiator states in an interview:

“The name of the project PIE news (a.k.a. poverty income empowerment) was a bit controversial for the Amsterdam organization who responds to the call, the word ‘poverty’ is kind of problematic and stigmatized in the Netherlands. The project was then re-named as Commonfare, with an explicit reference to ‘common’ and ‘welfare’.” (Interviewer n.2, December 2018)

According to Fumagalli and Lucarelli (2015: ?) Commonfare is “a bottom-up platform adopting a cooperative approach to social welfare based on re-appropriation of the commons, free access to basic needs in terms of rights and welfare provisions, and alternative currency”. One of the main actors is Dyne.org – a collective of hackers and software developers based in Amsterdam. They are the curators of the digital tools (i.e. codes, design, technical support, data collection, social wallet API, commoncoin). In practice, when logged-in every users receive a digital incentive of 1000 of commoncoin, which can be spend on services such as baby-sitting in Milan or Dutch lessons in

¹³As Francesca Bria - CTO of Barcelona city government - claims in the Financial Time article: “Some 40,000 people use this civic alternative to Facebook, allowing them to initiate and shape policy. We need a new social contract for the digital age”. <https://www.ft.com/content/67c52480-b51f-11e9-8cb2-799a3a8cf37bn> (accessed August 2019).

¹⁴The consortium is composed by University of Trento, Madeira Technologies Institute, Basic Income Network Italia, Fondazione Bruno Kessler, Dyne.org and Abertay University. See the website: <http://pieproject.eu> (accessed December 2018).

Amsterdam¹⁵. The respective local organization involved in the selected city functions as bridge between the consortium and the engagement of existing urban communities.

“It aims to decrease the widespread precariousness. It supports digital spaces for social transformation that leverage the possibilities of collaborative organization of important areas of economic processes, it is about socio-spatial justice. Rooted in democratic ownership, co-op members, technologists, unionists, and freelancers create a concrete near-future alternative to the extractive sharing economy” (Interviewer n.1, October 2018).

Two big pillars of Commonfare are the social wallet API and the cryptocurrency project. API is ‘An application programming interface (API) is an interface or communication protocol between a client and a server intended to simplify the building of client-side software. It has been described as a “contract” between the client and the server, such that if the client makes a request in a specific format, it will always get a response in a specific format or initiate a defined action.

The social wallet API is the interface which allows exchange of cryptocurrency, namely the commoncoin. This collective form of money is more a means of exchange which is intended to flow in alternative economic circuits, than a store of value for ordinary cryptocurrency. Other examples are babysitting, language courses (e.g. one can exchange one hour of babysitting with one hour of language class.

“A social wallet is common place to store value, which is shared and accessible by a number a people. This can, for instance, be a group or collective that have the same interests or work on the same project.” (Interviewer n.16, Dyne.org member, initiator of social wallet, November 2018)

A social wallet can, in theory, store both money and time. Although labor time is not the main value for the social wallet initiative, time is not used within the same logic of time-banking¹⁶. A time-based currency is an alternative currency or exchange system where the unit of account/value is the person-hour or some other time unit. As one of the creator of the projects remarks:

“Some time-based currencies value everyone’s contributions equally: one hour equals one service credit. The decision-making part is decentralized. Those who work for the social wallet are collective entities. The social wallet can connect with a blockchain, like faircoin, or a local complementary currency using a database like for example the commoncoin in case of the Commonfare platform. It is a generic tool that can be

¹⁵ See the example: <https://commonfare.net/en/stories/commonplace-tutorial?fbclid=IwAR3KkbTQeAVINLHV6KzfNflwuWoS98fHrouPG6MSusWuEwVvk7X5CiazWphk>

¹⁶ Give one hour of service to another, and receive one time credit.’ See: <https://timebanks.org> (Accessed December 2018).

adapted according to local needs” (Interviewer n.4, Dyne.org member, initiator of social wallet API, May 2018)

The social wallet API and the commoncoin are at the core of Commonfare platform, where you can exchange goods and services, for instance babysitting, using this currency online. Moreover, has been applied into similar urban communities of artists, one is Macao in Milan and the other one is NDSM Treehouse project in Amsterdam. Starting from the same technical design and goal of reorganizing existing social economy and welfare arrangements, in the next section we specifically look at how Commonfare operates in two different cities. However, to share any content on the platform – stories should be related to public and social domains. For instance, stories might be about how to get benefits from the local welfare if you are in precarious economic condition in Amsterdam, or how to organize a collective action for autonomous and freelance workers in Milan¹⁷.

Milan

Over the past 10 years, Milan has been facing a renewal of local welfare initiatives and civic engagement projects (Andreotti, 2019). One of those is the two editions of civic crowdfunding in which citizens can participate in funding social and local projects through a digital platforms. Although the platform is digital, the importance of events and the relational aspect is crucial to maintain the network of people and organizations active around the platform. In July 2018 in Milan, at Piano Terra, a social center managed by different Milanese collectives active on the problem of work precariousness, a dissemination event took place with the presentation of the Commonfare platform. The event was organized by Effimera network for the first presentation of the collective book “La Rivolta della Cooperazione”. The book reports the proceedings of a conference organized at Macao at the end of October 2017, where the different forms of bottom-up welfare and the experience of mutual self-management were discussed together with the presentation of the Commonfare project to the social organizations of Milan. At the beginning of October the Commonfare project had been presented to institutional stakeholders, represented by the Councilor for productive activities and work, Cristina Tajani and the Councilor of Social Policies, Pierfrancesco Majorino¹⁸.

One of the pilots is Macao in Milan. It is a collective of artists. They organize themselves in a very progressive way, for instance with distributing a basic income every month¹⁹. They

¹⁷See the website:

<https://commonfare.net/en/stories/autonomi-cc-community-sindacale?fbclid=IwAR1jw5iG-R9m1X3CmD4N1IyaQ-o20U2CGPIZRxfOeCSjissv6GdWodJKodA>

¹⁸ PIE project: <http://pieproject.eu/2018/07/10/july-5th-2018-riot-of-the-cooperation-book-presented-in-milan/>

¹⁹ In 2017, Macao asked Federico Bonelli (Dyne.org) to design a game that explains how blockchain works. The idea behind *Le Grand Jeu* is to familiarize people these new concepts, similar to Monopoly that explains how capitalism works. *Le Grand Jeu* is a great example that stands in contrast to the idea of traditional urban gamification. It is not about strengthening the existing smart city projects and therefore policies, but more about how things can be reimagined together. The purpose of the game was to simulate the future economy and play with its mechanisms. For example, in order to explain how sustainable energy works, the game

have a full social wallet API running with a particular codebase adjusted for them. They use it to distribute the basic income but also to exchange commoncoins when they organize events, they can also gain some more coins, for example by taking care of public space or by contributing to urban commons²⁰. Macao is a small artists community, which uses its own social wallet for internal purposes. This means they do not need an entire blockchain system to organize their activities. The collective has chosen to go for internal transparency.

“We need a local grid for mutual security, not a centralized model like any kind of internet architectures. Decentralized networks work better in physical spaces. In a decentralized urban network, the single citizens or citizens groups have more control over feedback. The use of technology might help people choose. In my experiences within urban design sector, a platform that is based on existing urban networks can enable people to generate the forms about which they have to make choices and co-design services.” (Interviewer n.6, January 2019).

In order to understand what kind of contents are discussed on the platform within the Milanese case, we run a content analysis which results in the below word-cloud. This analysis has been conducted during the Milanese fieldwork. Within the Commonfare platform, there is a storyboard in which any users of the platforms can upload multimedia content, organized by hashtags. The authors have downloaded all the stories related to Milan. Therefore, a content analysis has been done in order to grasp which are the main topics discussed in Milan and what kind of practices oriented to citizen engagements are promoted through the platforms. The content was in Italian, which has been translated during the analysis by the authors.

comes up with a potential choice between different technologies. The aim would be to choose between them, which is best for a future society. Another aim is to organize human activities in a sustainable way in order to imitate the process of transition. One could compare this with grassroots community projects that aim to increase self-sufficiency (in this case related to climate change). See: www.transitionnetwork.org and: <http://www.macaomilano.org/spip.php?rubrique109>.

²⁰ The interview was conducted in Amsterdam in the office of Dyne.org, 6 June 2018.



Figure 1: Word-cloud, Commonfare platform Milan. **Source:** authors.

Amsterdam

As a city of the Nordic countries in Europe, Amsterdam had benefited for long time of robust national welfare provisions in comparison to cities of Southern Europe such as Milan (\$). Particularly after the 2008 financial collapse new practices of welfare provision were introduced to compensate the roll out of the state and market in allocation and production of resources and goods (\$). The political project and compelling narrative of the ‘participatory society’ has been promoted as a solution in which individual citizens are invited to participate in the production of goods and services²¹. The idea of a more participatory society refers to an individual capacity to take part in the public arena to protect specific interests and respond to needs. It combines several features, which entails more distributed and networked forms of property and organization, direct involvement of actors; orientation to the preservation of resources in the long term.

From this general perspective and with the advent of digital platforms, Commonfare can be seen as a self-organized bottom-up service that promotes information about social provision, and benefits. According to one member of Dyne.org, in Amsterdam there are about 30 active users which partake on the production of contents within the platform. The visualisation of contents is relatively user-friendly. There are four sections dedicated to different functions. First, ‘commoner-voices’ (i.e. story-telling, events promotion of the Commonfare networks) in which hashtags creates links amongst stories located in the two cities. Second, within ‘good practices’ section, there are selected bottom-up initiatives like social innovation projects and urban regeneration activities, interventions and practices

²¹For instance, in the Netherlands there is the phenomenon of the *broodfonds*, which is a collective that allows independent entrepreneurs to provide each other with temporary sick leave. The recommended minimum is 25 people; the maximum size is 50 people.

such as digital tools to increase social protection and inclusion of vulnerable groups. One of those is the local energy cooperative in Amsterdam



Figure 2: Word-cloud, Commonfare platform Amsterdam. **Source:** Author.

The analysis of the Amsterdam storyboard within Commonfare platform has been conducted in Amsterdam. Likewise, the Milanese case the majority of the content was in Dutch. Therefore, after the content analysis of the material about Amsterdam we have translated the results in English (sic.).

The most remarkable project within Commonfare platform is the NDSM three-house artist residence project in which the social wallet API and the commoncoin have been applied. The project is located in NDSM Amsterdam Noord, a hip and cool venue in which there is an active creative community of artists. The community is “in the phase of being formed”. Delays in the making of the building created an empty shell were some actions have been successfully piloted, but the application of the commoncoin did not go yet beyond the study phase. We can have a chat about that to give you clearer data to write down.

“Although we are talking about digital platforms we still need localized strategies. Digital communities need face-to-face relationship in order to build trust, which enhance social cohesion in urban communities. The social wallet and commoncoin are digital tools that have a direct outcome in the everyday activities. NDSM is a cool place in which you can experiment that stuff”. (Interviewer n.7. NDSM Tree-house project responsible, July 2019)

Although Commonfare is intended to be and designed as a digital platform, cities are essential in offering a repertoire of mundane activities, social fabric and political milieu to transform digital incentives in physical outcomes. The urban space works like a lab – to execute the test, and the existing everyday life activities and social relationships provide the fabric and potential users for the platform.

Discussion

How can project like Commonfare prevent the precarity and expulsions of platform capitalism? The three-years Commonfare project has a target set on the promotion of a digital platform as an alternative and sustainable socio-economic model, capable of meeting the needs of vulnerable social groups whose have no access to information on public benefits and welfare measures. After one year, Commonfare platform is a simply a container of different stories and a window for good practices located in the three cities. The stories and contents are mostly user-generated, also the platform is owned by the users. You just have to log-in with your email address and create your own profile. The networks are decentralized and peer-to-peer, namely it is commission free and the contents and data produced are not mediated by algorithms and used for other purposes, like commercial and private.

In both cities, Commonfare has increased the information sharing, namely the provision of data and information about rights and content that facilitates bottom-up solutions, solidarity and mutual aid, as well as support grassroots mobilization. Our results show that there is an interaction amongst users. First, the access of users is frequent in terms of updating contents and commenting posts. Yet, there is an over-representation of who is involved as the two main organizations, Macao in Milan and NDSM in Amsterdam. They are ostensibly the more present on the platform compared to single users. What city officers might envision here is a digital public square and a draft of a new social contract, where alternative digital platforms might ameliorate the existing conditions of citizens in terms of participation in terms of decision making and access to the provision of goods and services. Besides civic-minded effort at improving the local streetscape (Douglas, 2017: 173) through Commonfare platform, the result is a jeopardized and volatile urban revitalization often in gentrified neighbourhoods (Macao in Milan and NDSM in Amsterdam). Most of the projects are volatile and temporary because the temporalities of those spatial interventions are strictly connected to the vitality of the platform.

Conclusion

In conclusion, the Commonfare platform is a relevant case study for our discussion on alternative digital platforms designed for social and public goods. Its business model is not for profit proposal, it is a concept and a prototype for policies for social goals, any members is the indeed the owner of data produced within the platforms. In these terms, data, knowledge and information distributed on the platform represent a common. The previous section sketched out the main features of technologies *viz.* digital platforms adaptable to cooperative projects and existing urban communities. This is just one of the facet of digitalization processes. What is missing is the role that territorial networks play in improving those alternative platforms. Whilst, notorious capitalist platforms capture as directly as possible the value of human cooperation and exchange of information and content of any kind, they no longer rely on labour or physical capital in cities, as much as

traditional industries used to be. Although Commonfare is intended and designed as a digital platform, cities are essential in offering a repertoire of mundane activities, social fabric and political milieu to transform digital incentives in physical outcomes. The urban space works like a lab – to execute the test, and the existing everyday life activities and social relationships provide the fabric and potential users for the platform. Consequently, we can assess that proximity and density come into play as central features for the functions of those platforms.

Our main findings remark a potential reorganization of local welfare and complementary provisions of goods and services at an urban scale, but also an uneven distribution of those resources and techno biases related to media literacy and the low number of active users on Commonfare platform. The different local political cultures in Amsterdam and Milan reveal an asymmetry in the outcome and deliveries. Bottom-up welfare solutions on digital platforms have limitations on the temporality of interventions and new welfare measures related to the socioeconomic in which those solutions are embedded. The value produced through social interactions plays out as an immaterial resource in terms of knowledge and information on public benefits. Commonfare is indeed a tech-proposal, a concept with an abstract nature. In practice, the platform enables a form of self-organized social work and an alternative immaterial welfare system. The outputs are practices related to mutual aid, solidarity and redistribution of material and immaterial resources. Those resources have to do with information, knowledge and re-appropriation of primary and public goods. Collective ownership of the platform is based on cooperative principles. Those cooperative principles imply that there is a collective management of the online platform, data and contents are not in the hand of the platform but shared amongst the users (Scholtz, 2016). The political motives behind are oriented to the idea of 'platform cooperativism', namely a critique of techno-optimism supplemented with principles of solidarity and mutual aid, aimed at reviving public participation and community building.

However, this is the tale of two cities – Milan and Amsterdam – that might hold important insights for others cities in the digital platform paradigm. Both have embraced this paradigm but reflect different visions on how those alternative platforms should be embedded in the two cities. However, in both cases the development of Commonfare platform seems to suffer of the same disease.

- Little number of users and media literacy (there is a high homophily degree in the user composition. Artists, activists and non-profit organizations which are between 30 and 50 years old)
- There is an over-representation of *delle organizzazioni che hanno trovato casa in queste piattaforme*, neighbourhoods, such as Macao (South of Milan) and NDSM (Amsterdam Noord). This uneven geography reflects the areas that might be gentrified soon in the two cities
- The promise of alternative and complementary welfare is limited to the so-called 'bourgeoisie bohemian' (Morozov, \$)

Over representation of certain projects over others. The spaces become overrepresented through the selection of projects that are visible on these platforms, control and participation (Graham, 2017). Some of the successful projects rely on existing local networks and organisations. Such as Macao and NDSM. Although, those platforms operate behind mutual aid, solidarity and cooperative principles our assumption is that they reproduce to a certain degree dynamics of exclusion and uneven geography patterns that corporate platforms perpetrate in cities. The transformative potential of platforms that are supposed to offer new welfare measures and cover social needs is still limited and very path-dependent. Based on our empirical investigation the capacity to support collective action and empowering vulnerable social groups is debatable.

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5. Coding the Urban Differently

Digital Platforms and Alternative Urbanism patterns

This chapter presents a synthesis of the interminable journey called PhD. As an urban scholar, I have been always considering cities and urban development patterns as the main analytical unit of my discipline domain. The advent of technologies, such as platforms and apps, creates an upheaval within urban development trajectories. Cities are increasingly at the forefront on the implementation of these emerging technologies. Yet, digital platforms are proliferating in the urban realm, capturing the attention of urban scholars, policy makers, public managers and local authorities. Within this momentum, smart city and sharing economy are epithets to define various phenomena which entail the relationship between cities and technology. The hype around those notions does not ameliorate the urban conditions, rather it creates self-fulfilling prophecy around smart city' initiatives and sharing practices as the panacea for solving complex urban problems. The new digital urban era just began, but its digital urban imaginary shows already side effects and implications. The state of affairs is still primarily focus on the funding of local pilots projects and the celebration of best practices in which technology define a favoured model of a more inclusive urban development (\$).

Coming from this perspective, the chapter aims to go beyond the hype and the mere critique of neoliberal policies discourse promoted by enthusiast policy makers and tech-savvy entrepreneurs on digital platforms. Given this tension, cities and their policy makers tend to promote a certain type of urban imaginary and technocracy ideology (Savini, \$; Swyngedouw, 2017), which will soon become hegemonic in terms of planning and urbanisation patterns. What if urban scholars start to envision an alternative form of urbanism (e.g. Derickson 2015, Buckley and Strauss 2016, Parnell and Robinson 2012) and a counter-hegemonic narrative against the dominant digital platform ideology (\$). Thus, I conceive of 'alternative urbanism' along three dimensions.

Firstly, alternative urbanisms might depict a focus on counter-hegemonic forms of urban living and practice that are alternative in relation to mainstream models and trends.

Secondly, it can refer to a focus on how urban spaces are configured as experimental fields for the development of new practices in response to imperatives to restructure and reconfigure economic, social and technological infrastructures.

Thirdly, alternative urbanisms might refer to a concern to broaden the scope of intellectual reference points through which urban practices can be conceptualised and investigated methodologically. Across these dimensions, it is agreed that more effort is needed to extend the canon of contemporary urban studies, urban and regional science, planning, and human geography to include insights from the humanities, natural sciences, or engineering, and also to draw on empirical and theoretical resources from beyond the Global North.

- What epistemological or political work can alternative urbanisms do?

- What are the temporalities and spatialities of alternative urban thought and practice, and how is this reflected in or distinct from local and global political, economic or cultural hegemonies?

Theoretical framework

“Getting along is identical with adjustment to the apparatus...Individualistic rationality has developed into efficient compliance with the pre-given continuum of means and ends.”

—Herbert Marcuse ii

“...what had been a corporate tagline became a governing project able to individuate a citizen and produce a global polity.”

—Orit Halpern iii

”What could be more edifying than this equilibrium emerging from the Chaos of teeth and stomachs?”

—Gilles Châtelet iv

Anti-intelligence: A Marxist critique of the smart city (Kevin Rogan 2018)

Conformity in planning, limits of urban studies (Harding and Blockland, 2014)

Experimental geographies

Coding the urban differently, in terms of knowledge and technology urban imaginary. Everyday life and mundane activities digitally mediated. Production of urban space through digital mapping locality: two tensions → uniformization of urban space in global cities and exacerbation of existing inequalities

Reference (to be finished)

Appendix

Information about data collection

The list of key informants follows the structure of the research, covering the main angles in which urban digital platforms are unfolded in existing urban geographies and within political arenas. These angles are: grassroots (i.e. entrepreneurs, makers, creative workers); economic and market (i.e. private actors, incubator founders); social (i.e. non-profit associations, cultural foundations); political (i.e. storytellers, policy-makers, activists, academics). For each chapters I deploy the empirical material that I have been collecting in these four years of fieldwork. Key informants and interviewees intersect with the four papers, which means that during the same interview I asked questions related to the overarching research question and sub-questions, as well as the specificities of diverse practices, in which the interviews partners are involved. The names of the informants are diachronically listed based on my research fieldwork and collection of data, in Milan and Amsterdam between 2015-2019. Some of the informants asked to remain anonym.

Interviews in Milano

Name	Function
Rossana Torri	Member of City Council
Ivana Pais	Professor Università Cattolica
Marta Maineri	Story-teller
Annibale d'Elia	Policy-maker
Emanuele Polizzi	Story-teller
Costantino Bongiorno	Maker
Zoe Romano	Maker
Enrico Bassi	Maker
Paolo Aliverti	Entrepreneur
Marco Lanza	Maker
Carlotta Bianchini	Social entrepreneur
Francesco Samorè	Story-teller
Emanuele Tessarolo	Entrepreneur
Valentina La Terza	Story-teller
Cristina Tajani	Main gatekeeper - Alderman
Pierfrancesco Majorino	Main gatekeeper - Alderman
Lucia Scopelliti	Member of City Council
Guido Smorto	Professor/Journalist
Roberto Nocerino	Member of Sharing City Alliance
Piero Pellizzaro	Director of Sharing City Alliance
Andrea Fumagalli	Professor/Founder CommonFare
Marianna d'Ovidio	Professor/expert makerspace

Table \$. List of interviewees Milan. **Source:** author.

Interviews in Amsterdam

Name	Function
Technologia Incognita (Vesna)	Member of the space
Laurens Ivens	Member of City Council
Federico Savini	Assistant Professor University of Amsterdam
Koen Frenken	Prof. Utrecht University
Sito Veracruz	Entrepreneur
Harmen van Sprang	Co-founder
Sebastian Olma	Researcher (Avans)
Coen Bergman	Project developer
Loes Bogers	Researcher (HvA)
Marleen Stikker	Director
Lucas Evers	Entrepreneur
Jaromil (Denis Rojo)	Founder
Martijn Arnoldus	Founder Civic Crowdfunding
Rob van der Burg	Coordinator MaakPlaat21
ZB45 (member)	Member
Frank Jan De Graff	Expert civic crowdfunding
Federico Bonelli	Founder
Aspasia Beneti	Founder
Miha Turšič	Project developer FabLab
Maurizio Teli	Professor/Founder CommonFare
Anja Groten	Critical Makers Consortium
Antje Tilstra	Starter4Communities
Marleen Stikker	Director of the Waag Society

Table \$. List of interviewees Amsterdam **Source:** author.

Digital Ethnography (content analysis of Tweets, which accounts? From 2015-2019.

GIS Mapping (2015-2017)