Future scenarios of Digital Social Innovation in urban governance. A collective discussion on the socio-political implications in Ghent

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ARTICLE INFO

Keywords:
Digital Social Innovation
Urban governance
Scenario building
Ghent

ABSTRACT

The mushrooming of Digital Social Innovation (DSI) initiatives (i.e. digitally based or digitally enabled solutions to collective social problems) in urban governance is a recent phenomenon that has been only partially investigated in scholarly research, most often in terms of e-government or e-governance. Particularly the socially progressive and regressive aspects of DSI practices in the context of neoliberal cities require special consideration. To enrich the nascent critical debate, the paper suggests that a context-oriented, collective analysis and discussion can help explore the socio-political implications of DSI in citizens’ life. To this end, the paper describes the realisation and presents the results of a scenario-building process in Ghent, Belgium, through which key-informants analysed DSI initiatives adopted in local governance, their future perspectives, and the possibilities and threats these bring about. The collective discussion shows that, while these processes can determine people empowering effects, it is fundamental to consider under what conditions and at what costs these are happening and whether their less evident consequences are always desirable for society.

1. Introduction. The need for a critical analysis of Digital Social Innovation

The relationship between the digital and the city is a widely debated issue both in and outside of academia (De Souza Silva, 2006; de Wall, 2015; Mossberger et al., 2013). Most contributions focus on e-government (Missura & Viscusi, 2014; Paskaleva, 2009) and aspects of e-governance (Simon et al., 2017b). Critical geographers have mainly investigated the transformation of public policy and decision-making domains induced by the implementation of automatic control systems (Kitchin et al., 2014; Ash et al., 2016; Leibninger, 2011), digital participation processes, and more recently the management of big-data (Kitchin, 2021). Most existing research relies on an understanding of governance as the extension of the capacity of governments to negotiate with multiple and diverse actors in performing their tasks; or vice versa, on the impact of diverse social actors on governments’ decisions. Therefore, critical researchers wondered whether, in the digital age, it is possible to advance transformative (McFarlane & Söderström, 2017) and “bottom-linked” governance initiatives (Leithiser & Follmann, 2019) that avoid technological fetishism (Kaika & Swyngedouw, 2000) or that prevent participants from being involved in top-down tokenistic participation processes (March & Ribera-Fumaz, 2014).

A more juvenile line of research focuses on the effects of digital technologies on social innovation initiatives. In the European Union (EU) research and innovation context, such a broad and diversified set of initiatives goes under the label of Digital Social Innovation (DSI) (e.g. Certomà & Corsini, 2021). The EU project Digital Social Innovation for Europe (DSI4EU) defined DSI as a “type of social and collaborative innovation in which innovators, users and communities collaborate using digital technologies to co-create knowledge and solutions for a wide range of social needs” (Bria et al., 2014). The general and all encompassing character of this definition explains why a wide variety of social innovation initiatives triggered, empowered, mediated, or even transformed by digital technologies are all referred to as DSI.

Unlike e-government, e-democracy and e-governance domains, these initiatives are not necessarily promoted by public institutions and administrations (although it may be the case). However, they are often advanced by digital innovators, social entrepreneurs, civic organisations or non-governmental associations. Although most DSI initiatives aim to make urban governance routines more participatory and citizen-empowering, their principal, unifying trait resides in being processes that lead to socially enabling simply helpful initiatives resulting from collaborative social innovation.

Initiatives using social media and web connectivity to support, complement or speed existing social innovation processes represent some of the most common examples of DSI experimented and scaled up
in the digitally-augmented space of European cities (the combination of virtual and physical urban space; De Cindio & Aurigi, 2008). Endowed with digital technologies' operational capacity, they produce significant changes in both practices and imaginaries around most pressing urban challenges (such as reducing different forms of pollutions, promoting social inclusion, supporting diversity cohesion, etc.).

Although the number of practical experimentations increased over the last ten years in Europe (TEPSIE, 2014), limited attention has been devoted to their socio-political implications. The mainstream, positivist perspective of institutional research funded by the European Commission (see Anania & Passani, 2014) and public management-oriented policy reports (REPA, 2014) provided an account of DSI initiatives that is cleaned out of their most controversial socio-political implications. Nevertheless, researchers and consultants demonstrated that DSI initiatives are alternatively mobilised to support the neoliberal, social-democratic or commons-oriented positions of different actors operating in the European public sphere (Misuraca et al., 2017).

The work reported in this paper suggests to critically discuss DSI initiatives by inviting citizens to express their opinions about them (and not merely to contribute to them). The described experiment performed in Ghent, Belgium, started from the collection of key informants' opinions, fears and hopes for drawing a collectively defined research agenda on DSI in urban governance.

In the first section, the paper addresses the multifaced character of DSI, defines the commonalities and differences with the e-government domain, and roots in the tradition of social innovation. These premises open up discussion on the polyvocal (and sometimes contradictory) character of DSI, partly determined by its connection with the neoliberal smart city program. Building upon this topical debate, Section 2 introduces a discussion amongst key informants on the alternative and potential future impacts of DSI initiatives in Ghent. The scenario building process was intended to collectively identify the main concerns regarding transformations in urban governance induced by digital technologies. Four potential scenarios were identified and commented on. Section 3 describes the methodology used and offers the results. Section 4 clusters results around three investigative lines, relating to participation, control and political neutrality of the digital dimension. Notably, research results signal the need for public administrators and civic associations to attentively consider the social and political implications of DSI initiatives before undertaking them; and to devote specific attention to the dialogical practices for understanding the potential impact of increasingly wide spreading urban technologies.

2. Background literature. The entanglement of progressive aims and regressive implications of Digital Social Innovation

In the last twenty years, social research has extensively explored the diverse expressions of social innovation (Westley & McGowan, 2017; van der Have & Rubalcaja, 2016; Cajaiba-Santana, 2014; Pol & Ville, 2009; Howaldt & Schwarz, 2010) and their applications in regional areas and urban development (Chambon et al., 1982). The digital revolution has not only triggered, enhanced, mediated or even transformed existing social innovation processes, but it has generated a new form of innovation that transforms society by transforming the digital means it adopts (Millard & Carpenter, 2014). In the European research and innovation context, this emerging domain has been termed DSI (Hennig & Hess, 2010; Bria et al., 2014; Caullier-Grice et al., 2012). Although initially considered as a special case of social innovation (TEPSIE, 2014), DSI is now recognised as a new research and application field with distinctive features (Rodrigo et al., 2019; Maglavera et al., 2019; Stokes, 2020 and Ozman & Gossart, 2019).

The urban context has proved to be the ideal hotbed for testing and enhancing DSI projects (Stokes, 2020), whose catalog includes, for example, initiatives that promote citizen participation in public life through peer-produced technologies (e.g. European Public Open Spaces; Open Ministry; Citizen Foundation); allow citizens to record, report and process environmental data to support decision-making processes (e.g. Swirl; GFoss; Future Everything; ThingsCon; Waag); or provide new welfare and work services (e.g. Creative Commons; Commons Network).

The availability of digital tools and processes for knowledge production and decision making has generally been welcomed by both policymakers and social scholars, as an unprecedented possibility to broaden the sphere of public debate and democratise urban governance processes, traditionally precluded to most of citizens (Charalabidis & Roussouris, 2014). By connecting administrations, businesses, research and citizens through digital platforms, DSI has a reputation for “increasing the capacity of civil society to formulate a problem, bring it to the fore in public arenas and engage a variety of stakeholders to jointly frame and solve [a] problem” (Ozman and Gossart, 2019). Most urban administrations have enthusiastically supported citizen-led innovation initiatives to enhance their operational capacity through public-private partnerships in the context of neoliberal development (Brenner & Theodore, 2002). Fantasies of the hyper-connected city fuel the proliferation of technological solutions to governance problems (Calzada & Cobo, 2015) planned, managed and controlled by highly integrated technological systems whose interactive character not only allows but also stimulates the participation of people (Kitchin et al., 2014; Leighninger, 2011). This last example represents a fascinatingly complex and growing area of intervention both for developing urban analytics and implementing civic technologies to engage citizens in working urban planning and governance (O’Brien, 2018).

Nevertheless, the encounter between the rapidly evolving domain of digital technologies and the social innovation domain is not frictionless and represents a vast, problematic, and still underexplored field of investigation (Amoore & Piotukh, 2015; Leszczynski, 2016). Under closer scrutiny the DSI domain itself shows that multiple differences, tensions or even contradictions exist between diverse approaches, which emerged in different geo-cultural contexts, are advanced by different social actors, inspired by different values and aim at different goals (Törnberg, 2018; Certomà & Corsini, 2021, and so forth). To disarticulate this dense and quite magmatic ensemble, seminal works (see Nicholls et al., 2015; Maglavera et al., 2019) have already showed that a constant opposition exists between social innovation initiatives feeding the neoliberal ideology and those that resist it (Marques et al., 2018). As Montgomery (2016) clearly signalled, there are two paradigms in confrontation: “The technocratic paradigm, with its neoliberal foundations, espouses rhetoric based upon the empowerment of communities but in its actions valorises the role of the expert, mobilising the technologies of governance to reduce the space for political dissent. […] The democratic paradigm advocated by those who wish to subvert and disrupt neoliberalism embraces not only the participation of communities but also perceives the knowledge produced within them as being of equal merit to ‘experts’ […] Moreover, the democratic school conceive social innovation as being a tool for politicoising the very spaces which neoliberals have sought to depoliticise, challenging the vertical distributions of power in society and seeking to disrupt and replace them with horizontal alternatives.” (Montgomery, 1997–8).

This harsh opposition is at work also in DSI (Misuraca et al., 2017) whose diverse manifestations can alternatively feed the entrepreneurial model, envisioning “the city primarily as a local service provider”, and the participatory model, which “stresses the civic character of cities” (Musso et al., 2000, p.2). Many critical scholars’ investigation of e-government and e-governance revolves around the ambiguous socioeconomic engagement of governance with digital technology (Musso et al., 2000). Whereas, DSI research engages with the governance effects that social innovation initiatives bring about thanks to the digital technologies mediation, which deploy some of the key traits of the digital revolution, i.e. connectivity, decentralisation and dematerialisation.

As is the case for e-government and e-governance, many DSI initiatives are fully functional to the creation and reproduction of neoliberal regimes through government collaborations with business and the
private sector, which imbue market-based values in urban ecosystems (Lindberg, 2011; Carayannis et al., 2012). These technocratic DSI initiatives, presented as accelerators of urban development, fully fit with the logic of public-private partnerships in which big commercial companies take part or even lead public decision-making processes. Thus, even though they evoke participation, connectivity, and democratic ideals, their intervention actually contributes to public concerns of de-politicisation through the seeming neutrality of the technology-led public management systems (Montgomery, 2016). On the other hand, digital activists, whose agency often generates what - by following Montgomery - we can define as democratic DSI, point out the need for a critical engagement with digital technologies, their socio-political underpinnings and shortcomings in the public sphere. This approach manifests in reformist initiatives proposing adjustments to existing governance processes (see for example Certoma & Corsini, 2021); or in the more revolutionary ones that contest monopolies on digital infrastructures and promote community-owned network infrastructures to extend internet connectivity via non-proprietary hardware and software. For instance, a critical opinion movement is assembling around the “technological sovereignty” issue, against the smart city rhetoric and the abuses of platform companies (like Airbnb, Uber and Deliveroo). In general, thus, DSI is a contested concept that exposes most of the critical elements of the digital revolution. A collective discussion of the socially progressive and potentially regressive implications of the increase of DSI initiatives in urban governance can shed lights on such a broad, mushrooming and impactful domain of practices.

3. Methodology and results. Debating Digital Social Innovation for urban governance in Ghent

To investigate whether and how a collective, place-based discussion can contribute to the critical debate on the potential future of DSI in urban governance, this section presents a case study realised in the city of Ghent via a scenario building process. This entailed a documentation preliminary to the subsequent elaboration of an open interview to key-informants selected on the basis of context framing. They also took part in two collective discussions. The whole process was embedded within the Marie Skłodowska-Curie titled “Crowdsourcing Urban Sustainability Governance” project, aimed at exploring how increasing ICTs interactions are transforming the governance of urban sustainability.1

The research was informed by six months of participant observation and documentation during relevant events (i.e. UGent Dag de Wetenshap; European Night of Research; Ghent Digitale Week, Science if Wonderfull), scientific and grey literature analysis, and explorative scenario building (Schwartz, 1996; Borjeson et al., 2006). The explorative scenario building method is particularly appropriate for researchers pondering the consequences of alternative events or decisions in the short time horizon when boundary conditions are known. In this research, the scenario building was intended to policy-consult with Ghent City Council and critically discuss with key informants the hopes and fears associated with DSI. Moreover, while scenario building is now consolidated in social research, the described research engages selected local key informants on the epistemic and socio-political deconstruction of this ongoing socio-technological and political transformation.

Traditional steps envisaged in the exploratory scenario building process (Meinert, 2014; Schwartz, 1996) were slightly revised in consideration of the research peculiarities:

a) Identification of the focal issues and setting of the time horizon. The focal issue has been identified from an external perspective (i.e. the researcher’s, rather than the participants’ perspective). The time horizon has been set to a short period (15 years), because the pace of ICTs evolution makes it almost impossible to foresee realistic long-term developments.

b) Identification, ranking and clustering of “driving forces” influencing the issue. Participants were asked to list influential factors; cluster them into givers and drivers; and ranked on the base of likely future relevance (sec.3.2).

c) Description of the two most important and uncertain drivers. Participants were required to select and describe the two most important and uncertain drivers (i.e. “critical uncertainties”) that provide the principal directions for articulating the scenario logic.

d) Representation of the space of alternative scenarios. On the basis of the interviews’ results, a scenarios compass was drawn from all the possible combinations of alternative critical uncertainties’ endpoints and in consideration of the contextual given characters. The labels have been assigned by the author and agreed upon by discussants on the basis of the characterising traits emerging from the description of the alternative scenarios.

e) Final discussion. During a “col-laboratium” held at the Stad University (a joint institution of Ghent University and the City administration), participants discussed provisional results on the social construction, reception and potential impact of (digital) technologies and the associated innovation processes in Ghent urban governance. This raised a broad range of critical considerations in need of further explorations.

Steps a) and b) were performed through semi-structured interviews from February to June 2018 (lasting from 20 min to 2 h, with a mean time of about 45 min). These were with 18 key-informants (see Table 1) selected on the basis of their role in locally relevant initiatives thanks to a preliminary context analysis (sec.3.1).

Interviewed key-informants were asked about the perceived level of technological readiness of the city; the existing knowledge-generation or decision-making of participatory initiatives – particularly the digital ones; and about the socio-political implications these entail.

3.1. Ghent, a social innovation-oriented city

Ghent proved to be a particularly appropriate context for the research because this dynamic mid-size city in the centre of the Flanders region, Belgium, is characterised by the inhabitants’ commitment in public participation initiatives (Bauwens & Onzia, 2017) and a strong attitude for experimenting with innovative solutions to increase social cohesion (Bacarne et al., 2014). Despite being reported as a “city of

Table 1
List of interviews by group category and affiliation.

<table>
<thead>
<tr>
<th>Sector</th>
<th>#</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researchers</td>
<td>1</td>
<td>Vrije Universiteit Brussel</td>
</tr>
<tr>
<td>Public servants</td>
<td>7</td>
<td>Gent City Council, Data and information Office</td>
</tr>
<tr>
<td>Social innovators</td>
<td>3</td>
<td>P2P foundation</td>
</tr>
<tr>
<td>Digital entrepreneurs</td>
<td>6</td>
<td>CitizenLab</td>
</tr>
<tr>
<td>Entrepreneurs</td>
<td>8</td>
<td>Digipolis</td>
</tr>
</tbody>
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1 A detailed description and documentation about the project can be retrieved at https://crowdusg.net/crowd_usg-crowdsourcing-urban-sustainability-governance/.

3
troubleshooters” (Tourist Office, 2019), remarkable stability in the City Administration, led by left-side political alliances, allowed long-term strategic planning. Ghent’s progressive character is evident in the significant use that associations, intermediary organisations, and not-for-profit entrepreneurs make of digital platforms for their coordination (e.g. Smart City, City of People, Ghent Living Lab).

The tight relationship between the city administration and citizens is backed by a multilateral and commons-oriented tradition, consolidated from as far back as the Middle Ages, with the historical development of Ghent community (interview #3). This connection is reinforced by the usual practice of embedding civil society activists as civil servant in public institutions (interviews # 14, 16, 17), and by the constant presence of civil servants in the city neighbourhoods via dedicated campaigns and initiatives for social cohesion (Sharable, 2018). While some activists signal the potentially distorting effects of the mixture between activism and public administration (interview #4), it is recognised that this makes it possible to combine social antagonism with institutional perspectives.

The city’s propensity toward citizen participation in urban governance is particularly testified by the proliferation of DSI initiatives supported by the university (e.g. the creation of the StadsAkademie), private research and innovations institutes (e.g. the Digitpolis or IMEC research and innovation institutes) as well as European-funded projects (e.g. Interactive Cities; Elis; BE.Gent; EuroCity; Refil). This was inspired by the presence of digital entrepreneurs, social innovators, start-upper and makers (involved, for instance, in the projects Timelab, Peerby, and Manouvre), local administration committed with technology-enabled social innovation projects on collaborative planning (e.g. the initiatives RuimtevoorGent, GentSintPieters, Ideeen voor MMM, Crowdfunding Gent, Dienst Beleidsparticipatie), open data (e.g. Apps for Ghent, De Community) and urban commons (e.g. Commons, CommonsWiki, Commons Transition Plan). Amongst them, the platform Mijndigitaleideevoorgent [My digital idea for Ghent] and the Ghent Living Lab project (jointly funded by the city, the Alcatel-Lucent Bell company, the European Commission and the University) focused on how ICT can improve life experience in Ghent (Mechant et al., 2011); while the online Burger-Budget process devoted part of the city budget to projects proposed, elected and realised by lay citizens (Van Noordt et al., 2018). In addition, development plans also included several digital education initiatives (e.g. digital talent points in the city, digital lending services, annual digital week and interactive fair, a digital section in the public library and digital media programs for mentally challenged people) (interview #9).

3.2. Imagining the future for discussing the present. Fears and hopes on DSI in Ghent

Through the explorative scenario building process, key informants were able to reflect, comment, and discuss the potential effects of DSI in city governance and contribute to elaborating a critical policy and research agenda about them. Participant opinion was elaborated into the following list of factors that were reputed to influence the relationship between society, the digital domain, and Ghent’s urban governance (step b, sec.3). Influential factors have been clustered into “givens” (i.e. socio-political, economic and cultural conditions and urban characters that may or may not have an impact on future development but are nevertheless certain) and “drivers” (i.e. development factors whose occurrence is uncertain), and ranked by relevance (Table 2) according to the key informants’ opinion.

Only factors reputed to have an actual or potential high relevance have been considered for scenario elaboration (Fig. 1).

Among the most relevant, two key drivers were identified by participants as crucial when considering the socio-political impacts of DSI initiatives on urban governance (step c, sec.3).

The first one is the level of digital inclusion in the city. This refers to the availability of enabling infrastructural conditions for public participation in urban governance via the expansion and diversification of DSI initiatives. This driver encompasses several further factors discussed by participants, including the presence of access points, digital education programs and reliable web infrastructures; the definition of public-private protocols that guarantee data protection standards; the public ownership or control of web platforms; and the trust between participants, administrators and process leaders.

The second driver refers to the existence and permanence of a shared vision of the city, and revolves around the capacity to draw a broadly accepted narrative of urban identity due to a constant negotiation between contrasting imaginaries and desires of different social groups. The wide spreading of digital innovation and participation processes in urban governance could work as catalysts for this.

From the combination of the outcomes of the strengthening or weakening of key drivers in the next 15 years (Fig. 2), four future scenarios emerged (step d, sec.3, see the scenario compass Fig. 3).

In the Connected City scenario, a shared vision of the city’s identity is associated with increasing citizens’ inclusion in urban governance via DSI initiatives. Digital connectivity (which relies on the activation and management of multiple communication and collaboration channels;
and the adoption of adequate languages and customised tools for gathering diverse social communities) can improve social cohesion if mobilised around a shared vision of city identity and development. Key informants agreed on the crucial role of public administration in promoting and catalysing digital social innovators' agency around crucial, shared goals and criticalities; and in avoiding ICT companies' interference in urban development strategies to keep the level of trust and transparency high. A mismatch between expectations and tangible impacts of DSI initiatives in real life may severely affect their credibility. While the *Fragmented City* is attentive to the availability and accessibility of digital tools for citizens to promote their innovative ideas, it does not provide a shared identity. This condition may determine a decrease in social cohesion and collaborative work and impact the administration's political stability. Thus, it would become trickier for weaker public institutions to harmonise divergent development plans, to make online and offline participatory processes converge, and stem private interests' and innovators dispersed agency.

Social fragmentation caused by the loss of a shared city vision and reduced cooperative ties would also characterise the *Disconnected City*. In this scenario, the DSI initiative would receive no legal or economic support and their capability and possibility to impact city governance, job market, and wealth of the city, in general, is doomed to decrease.

The *Traditional City* scenario is characterised by a shared vision of identity, and a limited increase in digital inclusion. Therefore, no significant changes in the use of digital technologies for innovation in urban governance are expected. Considering the rapid evolution of digital technologies and their fast-growing penetration in social life, this might be detrimental in terms of participation in the long run.

4. Discussion. The digital and the social: participation, control and political neutrality

During the collective discussion on future scenarios, participants signalled several critical elements (Fig. 4). In general, they suggested the need to adopt a systemic perspective to complement considerations on technological innovation with social reception; and unveil the contradictions of DSI, between neoliberal development plans and revolutionary social wishes. The tight connection between citizens and city government in Ghent might, in fact, raise the risk of instrumental co-optation of DSI initiatives and manipulation of societal behaviours by
Fig. 3. Future compass with emergent scenarios.

Fig. 4. Graphic representation of emerging issues on digital participation for Ghent urban governance. Project CROWD_USG (text by the author, graphic by Veronica Vitale- Visual Stories, 2018).
Participants identified three main clusters of concerns about the socio-political implications of DSI, revolving around the imbroglio of public participation in a digital society, the need to govern digital innovation and the alleged neutrality of the digital.

4.1. Participation: empowerment and de-politicisation at stake

Key informants signalled “participation” as the first issue deserving particular attention when considering DSI initiatives’ implications. They explained that participation is conceived of as a “social contract” in Ghent because the administration’s attention pays back citizens’ commitment in public planning and management (interview #9). As suggested by existing research on participation models (Scearce, 2011) the role of public institutions is crucial for “capturing people’s attention and focusing their efforts” (Mechant et al., 2011, p.2). However, recent experimentations in digital public governance (e.g. the EU-funded projects D-Cent, ExCiteS, Interactive Cities) pointed out the increasing role of lay people and citizen expertise in contributing or promoting urban policies and management processes; and in eventually inviting local institutions to the discussion table. Accordingly, the existence of a vibrant civil society able to independently organise social innovation initiatives (with or without the administration’s support) is considered an asset for the city in Ghent (interview #7).

Nevertheless, citizens’ propensity to participate in urban governance does not necessarily entail being willing to do so via digital means (see Fragmented City scenario). Off-line participation is still preferred by a large part of the Ghent population (as in the Traditional City scenario; interview #11, 5). Consequently, the massive shift toward online public discussion can deepen the digital divide and generate digital exclusion and cultural barriers (interview #15; 16). Moreover, using digital innovation for the common good does not merely mean providing people with access to technologies, but also providing them with a reason to use technologies: “citizens can only be engaged when they have the necessary knowledge, abilities, motivations, skills, chances and resources […]. Especially in an online or high-tech environment, access is not equal and often biased towards individuals with higher education and a younger age” (Baccarne et al., 2014, p 7). Based on key informant’s experience, moving social innovation processes to the digital sphere does not necessarily produce an increase in the number or variety of participants, nor in the quality of participation (interview #10; Baccarne et al., 2014, p.7). When citizens engage in digital participation processes, they might opt for different commitment levels (including no commitment at all, as with the Disconnected City scenario). At the same time, DSI initiatives aim at the highest possible grade of citizens’ commitment. Considerations on Ghent case signal that multiple forms of participation—from minimalist, passive forms of being informed (Simon et al., 2017a), to tokenistic forms of citizens’ consultation (Cardullo & Kitchin, 2019), up to the maximalist approach of active engagement in governance (Tuuzi et al., 2007)—are contemporarily activated. Consequently, the co-existence of diverse participation modes give rise to a “cloud” where multiple modes and grades of participation co-exist and guarantee a better fit with diverse citizens’ preferences and interests (interview #16; 8). This acknowledgement also urges us to reconsider the intrinsic value judgment associated with the traditional understanding of participation (Hague & Williamson, 2009) as a “ladder” (Arnsen, 1969) in which the more engagement, the better. It might not be the case that greater participation corresponds to greater democratisation and is inherently positive (interviews #8; 9). With the proliferation of digital participation processes, participation became a value-laden but content-free buzzword which might, in some cases, legitimise security-threatening or exclusionary initiatives that do not increase the democratic quality of society (Hague & Williamson, 2009).

Although innovative projects promoted by public institutions through digital processes are less subject to such a problem, initiatives promoted by private institutions or organisations run the risk of galvanising supporters whose agency, while made possible by the existence of democratic conditions, do not necessarily contribute to their persistence.

4.2. Control. Governing digital social innovation

Digital technologies are today ubiquitous and the internet has created a truly global public space. The apparently free, democratic and participatory character of the internet hides new geometries of political and economic dependence (Graham, 2014). The second cluster of observations emerging from the scenario building addresses this issue. Several policy reports and scholarly research affirms that DSI processes can transform traditional governance configurations by modifying the interaction routines and power geometries between social actors (Noveck, 2009; Segerscranz & Seek, 2013). However, their capability to govern DSI processes in common, and their social, economic and political consequences, are questionable (Moulacert et al., 2005; NESTA, 2015; TEPSE, 2019). Key-informants stated that governing digital innovation’s application to social challenges is crucial to make technologies easily and freely accessible for diverse social groups and be usable in efficient ways (interview #7). It is also important for a smooth integration of virtual and real-life experience (interview #11), creating content and interacting with others by pursuing their own ideals or passions while protecting personal data and digital rights (interview #14). This condition would harmonise different needs but still leave room for critiques and contestations (interview #13), connected, for instance, with the potential emergence of “filter bubbles” (Pariser, 2015) and the users’ self-segregation (interview # 14).

Nevertheless, if appropriately managed, DSI initiatives can enhance public governance reliability, increase urban connectivity toward citizens mutual support and fuel cross-sectorial exchanges in knowledge-generation and decision-making processes (interview #5; 9; 11; see Connected City scenario). All of this can produce epistemic (Watson & Floridi, 2018) and pragmatic (Smith, 2009) advantages over traditional systems. Where, as in Ghent, public administration presents characteristics of open-mindedness, efficiency and participatory vocation, it is probably in a better position to guarantee innovative processes; and to comply with legal standards, shared political vision and trust in term of accessibility, fairness and sustainability (Seltzer & Mahmoudi, 2013).

In contrast, the lack of a coordination system able to govern the proliferation of DSI processes in city life might generate confusion about who is entitled to intervene about what (as with the Fragmented City scenario; interview #7); and might fail to prevent - or at least to limit - the distortive effects of private interests over the public (interview #9). Where neoliberal rationality guides the city agenda, DSI processes can quickly turn into instruments for a progressive de-politicisation of public debate (interview #18) and the disempowerment of collective organisations and public authorities (interview #15) replaced with data-driven management systems. As Lynch correctly noted, the “consensus as to what constitutes good urban governance allows for the rise of technology—as experts are brought in to implement global ‘best practices’ and the space of democratic debate is continually constrained” (Lynch, 2020, p.665–6). In such a context, Big Tech companies benefit from DSI initiatives’ mushrooming because they can both acquire emerging technologies or act as providers of existing ones (interview #9).

Consequently, digital capitalism’s economic and political power (Cardullo et al., 2019) increases with the decrease of public control and regulation capacity. Notably, in this context, DSI initiatives can easily contribute to the exploitation of an innovators’ creative capacity to develop new socio-technological solutions that can be co-opted into mainstream urban governance processes without radical changes on the overall rationality of the political and economic system (March & Ribera-Fumaz, 2014; Townsend, 2013; Vanolo, 2013). Being small-scale and low-budget initiatives, many DSI projects often rely on off-the-
shelves technological tools produced by ICT companies, which make them available in exchange for the possibility of obtaining data and information from users (interview # 6, 8, 9).

4.3. Political neutrality. The pitfalls of a technology-driven governance

Since the elaboration of the Digital Agenda for Europe in 2010 (EC, 2014), digital innovation has been presented as the enabling factor to reshape interaction routines between institutional, business, research and civil society actors in a more democratic way (Nielsen, 2006). Nevertheless, the effectiveness of digital technology in terms of boosting the democratic quality of a society is also signalled as problematic in e-government literature (Musso et al., 2000). Social tensions resulting from the progressive erosion of the public sphere in digital capitalism expose the contradiction between digital technologies as democracy tools and as market tools producing non-democratic drifts.

Most existing critical analyses prefigure an urban future characterised by the interlocking of “neoliberal ideologies with technocratic governance and the dystopian potential for mass surveillance” (Shelton et al., 2015, p.1), produced through the implementation of digital soft and hard infrastructures which are able to organise and monitor city functioning (Kitchin, 2014; Kitchin et al., 2015; Shwayri, 2013). These analyses warn against technological solutionism (Alvarez León & Rosen, 2020) algorithmic violence embedded within data-based urban governments and planning (Safransky, 2020; Tenney & Sieber, 2016). The affirmation of technology as an ideology in urban governance (Alvarez León & Rosen, 2020) contributed to the attraction to high-technology industries and allowed their massive intervention in the public sphere (Alvarez 500).

The negative and potentially disempowering effects of DSI in urban governance (Floridi, 2016; Lutz & Hoffmann, 2017) were extensively discussed by key informants in Ghent based on their personal experiences (interviews # 4, 9, 15, 17). They signalled problems including power imbalance associated with the monopolistic appropriation of technological solutions and infrastructure control (interview # 9; Caprotti, 2014); data and opinions manipulation - and the subsequent effect of steering public debate in the digital sphere (interview # 11; Nielsen, 2006); limitations imposed to the expression of social disensus (interview # 8, 10; Loukis et al., 2017; Caulier-Grice et al., 2012). These considerations motivated, for instance, the Ghent administration to commit to the creation of Hallo.gent, a federated social network through which citizens can have their personal web sites at their own domain (interview # 11); and in supporting the development of in-house technological competencies (notably the Digipolis public agency) in order to become - at least partially - independent from the Big Tech consultancy (interview #10; 8). In fact, despite the alleged neutrality of algorithms and web infrastructures, it is clear that these “shape our engagement with digital space (by) producing modes of representation with complex entanglements to systemic privilege and oppression. The complicated interrelations between systemic inequality and digital space highlights how categories of race, gender, disability, class, and location differentiate experiences within the geographies of technoscience” (Keamich, 2019).

Acknowledging the existence of constant tension between a depoliticised method for technocratic control and a strategy for social change (Athanasiou et al., 2015), some of the key informants elaborated an inspirational model of socio-technical urban assemblages called the City of People (2019; interview #7, 11, 15). In dissonance with the powerful paradigm of the hyperconnected city (Soderstrom et al., 2014), it sits in-between the Traditional and the Connected City scenario. It claims that “innovation in itself [...] is not as important as complying with [citizens'] vision of sustaining their co-creation model of a city regardless if this is online, off-line, or through new or old fashion means” (Van Noordt et al., 2018, p.40).

5. Conclusion. Insights from a critical debate on Digital Social Innovation in Urban Governance

The paper investigates how to trigger critical discussions about socio-political implications of DSI in urban governance. It suggests that a collective, place-based reflection can provide novel insights, often resonant with emergent scholarly contributions. To this end, the research proposed an exploratory scenario building process in Ghent, where key informants proposed and discussed alternative visions and issues associated with the rapid diffusion of digitally-enabled social innovation initiatives. From the results of the scenario building process, it emerged that the technocratic perspective, building upon the technological solutionism model, may hide the complex nature of digital processes, the subterraneous flows of power they entail, and their potentially regressive effects – notably in terms of democratic quality and social justice (Communia 2019). DSI initiatives are embedded in the reproductive processes of neoliberal cities, and only a critical consideration allows us to understand how these – while operating locally - fit and feed the dynamics of global digital capitalism.

City governments can thus benefit from these considerations in drawing the urban digital agenda. Being responsible of public governance, they should also take care of the public and common good when setting up public-private partnerships with ICT and digital companies whose main concern is not public but rather private interest. Therefore, stimulating and exercising the citizens’ critical gaze on technological innovation is crucial for responsible access to digitalised city life.

Against this backdrop, civil society has a leading role in the ideation of DSI initiatives so that these can actually be “grassroots innovations” (Smith et al., 2014), because they “use digital technologies, community engagement and collaboration, co-creation strategies and bottom-up approaches to solving societal needs, in opposition to the centralized proprietary solutions owned by a few companies” (Cangiano and Romano, 2017, p.3546). Nevertheless, DSI initiatives are by nature multi-actoral and multi-scalar. Success emerges from the “public-private partnership based on an active role of citizens and the use of state-of-the-art information technology […] to multiply the potential effect of grassroots initiatives” (Anania & Passani, 2014, p.1).

Ghent scenarios’ collective elaboration signalled that it is fundamental to shift the focus of critical inquiry from the technological solutions per se to the social and political issues connected to DSI processes’ fast pace. Notably, key informants’ comments made clear that it is not technological readiness but rather the attentiveness for cooperative dialogue between citizens and institutions and the knowledge of local needs that marks a difference in the reception and upscaling of DSI initiatives that are social both in means and in ends.

Digital social innovators play a crucial role in creating social communities able to generate “detailed discussions about the type of cities we want to live in and [...] a shared understanding of [...] urban projects” (Devolder & Block, 2015, p.3270). However, it is still largely unexplored how their agency produces new social, economic, and political configurations that affect the city’s traditional forms and functions. The biggest challenges for contemporary cities include:

- the capacity to allow multiple forms of participation while avoiding de-legitimising democratic principles and institutions;
- the capacity to govern digital innovation without hampering their disruptive potential but limiting the distortive effects of business’ interest in the public decision-making sphere; and
- the capacity to avoid digital technologies-based processes to turn into society normalisation, control, and direction (Rajagopal, 2014; Ash et al. 2018).

Although context-specific characters might influence DSI initiatives’ practical performances, scholarly research documented similar hopes and concerns. Place-based discussions in different cities are re-framing the neo-liberal ideology of the hyperconnected urban project.
(Cardullo & Kitchin, 2018; Swyngedouw, 2018) with the aim to reappropriate the “urban governance arrangements and principles [that] are increasingly seen outside of the realm of democratic politics” (Leitheiser and Folmann, 2019, p.6). From being the laboratory for neoliberal experiments of market-led technocratic solutions, the city becomes first and foremost an abacutor of citizens' critical engagement, which can detect and defuse the unwanted consequences of DSI. Based on the retrieved results, the public administration seems to be the actor best equipped to create the conditions for an effective, efficient and appropriate implementation of digital technology processes in urban governance; and to manage the interplay of heterogeneous, multilayered and multi-scalar agents in the augmented city space.

CRediT authorship contribution statement

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgments

The research presented in the paper has been funded by the European Union’s Horizon 2020 research and innovation program under the Marie Skłodowska-Curie grant agreement No 740191. Ethical approval has been provided by the Commission de la protection de la vie privée, Bruxelles, reference number 1510821612816, 16.11.2017.

References


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