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Sharing cities and citizens sharing: Perceptions and practices in Milan

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1. Introduction

Over the last decade, tens of municipalities worldwide committed to the implementation of urban strategies based on 'sharing'. At the end of 2012, the Seoul Metropolitan Government triggered the global trend for cities in this direction, which eventually coalesced in networks of 'sharing cities'.[1] Sharing has become a global phenomenon (Schor, 2014); business models, social innovations and technological developments enable an escalated number of uses for a given asset, resulting in reshaped urban dynamics, practices and morphologies (Salvia, Morello, & Arcidiacono, 2019), namely with respect to inhabiting the domestic space (Alexander, 2018), working in shared environments (Akhavan, Mariotti, Astolfi, & Canevari, 2018; Durante & Turvani, 2018), or moving in town through shared means (Jin, Kong, Wu, & Sui, 2018; Vecchio & Tricarico, 2019).

Major environmental, social and business benefits are frequently envisaged in sharing-based urban initiatives and programmes (Botsman & Rogers, 2010; Gansky, 2010; McLaren & Agyeman, 2016; Rifkin, 2000). Urban implementations based on assets sharing maximise the idling capacity of existing resources and thus they may reduce the overall material throughput. Therefore sharing may support cities to address contemporary challenges of natural resource depletion (Krausmann et al., 2009) namely caused by global urbanization, with more people living in cities rather than in rural areas (UNDESA, 2014, 2018). Considering the potential benefits, sharing has represented a possible route towards the creation of an 'ideal' city (Khan & Zaman, 2018). Nevertheless some scholars expressed scepticism towards the effectiveness, sustainability, inclusivity, equity and social impact of this type of implementations (Jin et al., 2018; Leismann, Schmitt, Rohn, & Baedeker, 2013; Schor & Fitzmaurice, 2015). Diverse and contrasting are the framings of the sharing economy and their initiatives, namely driven by monetary advantages or social impact (Martin, 2016; Voytenko Palgan, Zvolska, & Mont, 2017). Initiatives based on sharing may evolve along alternative routes with respect to the ideal ones envisaged by their developers or the optimistic researchers. Unintended consequences emerge occasionally, with negative impacts for society and the environment, including higher footprint (Parguel, Lunardo, & Benoit-Moreau, 2017), social discrimination (Edelman, Luca, & Svirsky, 2017; Ge, Knittel, MacKenzie, & Zoepf, 2016) and inequality (Schor, 2017).

Only limited work explicitly relates the sharing economy to urban studies (Jin et al., 2018), although this phenomenon is considered quintessentially urban (Ageyman, McLaren, & Schaefer-Borrego, 2013; Cohen & Muñoz, 2016; Davidson & Infranca, 2016; McLaren & Agyeman, 2016). On-the-field interventions and collection of primary data are still limited (Cohen & Muñoz, 2016), especially with respect to the ways sharing is perceived and experienced by citizens. Understanding the socio-cultural-economic context in which consumption activities take place is of fundamental importance to identify ways for the development of sharing and other consumption practices towards environmentally sound patterns (Mazzucotelli Salice & Pais, 2017; Mont, 2004; Salvia & Piscicelli, 2018).

Envisaging how the phenomenon may develop in order to limit unintended negative consequences requires, first, to understand how sharing and collaborative practices are performed, and second what makes them attractive to their participants (Fraanje & Spaargaren, 2019). This paper intends to add knowledge in this direction, i.e. the identification of key dynamics and elements of main urban practices when recent forms of sharing are engaged. Theories from sociology including social practice or socio-technical studies are beneficial to understand the change generated at the urban scale by technical innovation; they revealed fundamental insights in understanding the role of artefacts and their reciprocal shaping with society (Brand, 2009; Davies, Selin, Gano, & Pereira, 2012; Krasny et al., 2015). Nevertheless the explicit applications of these theories in the realm of sharing economy or the overlapping phenomenon of collaborative consumption are quite limited, with some recent exceptions (Fraanje & Spaargaren, 2019; Huber, 2017; Kera & Sulaiman, 2014; Philip, Ozanne, & Ballantine, 2019; Piscicelli, Cooper, & Fisher, 2014; Retamal, 2019).[2] This study investigates the co-construction of society and technology

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[1] Most notably the 'Sharing Cities Network' (https://www.shareable.net/sharing-cities-network, which connects 74 city contributors to share mapping across four continents) and 'Sharing Cities Alliance' (https://sharingcitiesalliance.com/).

[2] The limited use of these theories is also reflected in the limited number of 19 records resulting from the access to Scopus publications database with the query ("socio-technical studies" OR "social practice") AND ("sharing economy" OR "collaborative economy" OR "collaborative consumption"); additionally, the records are particularly recent, dated from 2013, with the majority of them (15) published between 2017 and 2019. (Last access 29/10/2019; https://tinyurl.com/yyssu5oy)

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with respect to the implementation of sharing-based strategies in urban practices. To this end, two fundamental research questions are addressed:

- How is contemporary sharing actually embedded in citizens' ways of living and in urban practices?
- Which elements of engagement or disengagement in practice should be considered in plans for the implementation of sharing?

These questions are framed within social-practice theory, according to which practices (including eating, moving around, showering) are 'routinized types of behaviour' (Reckwitz, 2002) which people perform connecting some elements, such as material artefacts, competences and meanings (Shove, Pantzar, & Watson, 2012). The core element of the diverse practice theories is the conception of 'practices as embodied, materially mediated arrays of human activity centrally organized around shared practical understanding' (Schatzki, 2001, p. 2). The answers provided in this paper are inferred from a set of qualitative research activities, which involved citizens and other key actors of urban practices based on sharing carried out between 2016 and 2018 in a fast-developing area of the Italian metropolitan city of Milan. In 2014, the municipality undertook the path towards a 'sharing city' (Milan Municipality & Giacomo Brodolini Foundation, 2016), thus becoming a frontrunner both at the country and continental scales (D'Acunto et al., 2016; FPA, 2016, 2017). Milan hosts numerous and diverse sharing economy services, with hospitality, mobility, food and catering covering less than one third of the whole number of initiatives of this type (Mazzucotelli Salice & Pais, 2017). Shared mobility is an asset of excellence in this respect, with 22 free-floating shared cars (each one rented about 6 times per day on average), about 10 bikes and a scooter every 1000 residents (Ciuffini et al., 2018). The city hosts the country wide highest number of co-working businesses (Durante & Turvani, 2018) and headquarters of collaborative platforms (Maineri, 2016).

Milan is one of the three lighthouse cities of the research project informing this paper called Sharing Cities[3] and funded by the European Commission to trial a local ecosystem in which citizens benefit from sharing-oriented technological innovations (e.g. vehicles, smart-lamp-posts), through an online platform for data collection and exchange (Fig. 1).

The project actions are undertaken in a demonstration area under complete redevelopment, called Porta Romana-Vettabbia. The area extends 14 sq. km from the historic centre to city agricultural belt and covers several geographically, economically, and socially diverse territories.[4]

The redevelopment plan includes the conversion of abandoned urban railway yards (216,614 m^2) into a city area, with a functional mix of private and social housing units, the multimodal integration of transportation systems around a new station, and a large park; the redevelopment of lots in the 100,000 m^2 demonstration centre of recovered, but not yet functional, industrial areas; the renewal of two farmsteads for co-housing purpose; the finalization of a major museum for contemporary arts (Prada Foundation) and of the headquarters of a main internet provider (Fastweb) (Eurocities, 2017).

According to the most recent country-wide census,[5] in the censed cells which form the demonstration area live about 141 thousands citizens, representing the 11.6% of the city population. The foreign population constitutes the 13.4% (against the 14.2% city-wide), mainly from Asia (37%), America (21.7%) and Asia (21.3%). Similarly, to the city scale, the local population is mainly aged 40 to 59 (29%) and 20 to 39 (24.1%). Level of education is remarkably lower than the city-average, by a factor of about half per each type of education achievement.

The urban daily practices investigated within this project include energy production and savings, food production and transformation, urban mobility, and assets sharing within local communities (e.g. goods, spaces, skills and time). These practices are significant for the local municipality and citizens engaged in the research activities as well because of their environmental impact in urban contexts; in fact, they largely overlap with the equivalent ones resulting from the intersection between key focal areas of sustainable consumption and production (see Tukker et al., 2008) and the applications of sharing economy models (Cohen & Muñoz, 2016).

Fieldwork-informed literature on sharing in Milan mainly addresses working spaces (e.g. Akhavan et al., 2018; Armondi & Bruzzese, 2017; Mariotti, Pacchi, & Di Vita, 2017; Pacchi, 2017) together with – yet to a definitely limited extent – accommodation (Cesarani & Nechita, 2017) and mobility (Arcidiacono & Pais, 2018). This paper aims to contributing likewise to the resulting research gaps. We argue that the development of a strategy aiming to set a sharing city should build upon citizens' understandings and practices, as these determine the actual implementation and impact of sharing in their context. To this end, a participatory process was conducted, the main outcomes of which are reported in this paper. In the following Section 2 'sharing' is defined by drawing on literature; the methodology for data collection is described in Section 3, while Section 4 elaborates on the emerging dynamics related to urban sharing, including factors of levels of knowledge and expectations, trust to and connections with others, preferences for digital means and scale of actions.

The discussion of the results compared to other international studies and the conclusions are addressed in Sections 5 and 6 respectively. The insights, results and approach of this study are expected to inform the related disciplines of urban studies, socio-technical studies and sustainable transitions.

2. What is sharing?

Definitions of 'sharing' span widely in literature plausibly for the incoherence of products and services to which different researchers often refer with the same terms (Frenken & Schor, 2017). Conversely, an extensive nomenclature is generated, although to refer to similar phenomena, which are recurrently gathered under the umbrella term of 'sharing economy'. The abundance of names reflects the multifaceted interpretations and framings of sharing economy and related phenomena (Martin, 2016). This variety is the result of the adaptable boundaries that may be defined for the investigation of sharing in a number of disciplines. 'Sharing economy' (Frenken & Schor, 2017), 'Collaborative economy' (Stokes, Clarence, Anderson, & Rinne, 2014), 'Access based consumption' (Bardhi & Eckhardt, 2012), 'Access economy' (Rifkin, 2000) and 'The mesh' (Gansky, 2010), for instance, focus on the implications of the sharing trend in market dynamics and reshaped forms of product or service provision for which companies or individuals provide temporary access to goods generally characterised by high levels of ownership. 'Collaborative consumption' (Botsman & Rogers, 2010) and 'connected consumption' (Schor & Fitzmaurice, 2015) mainly refer to the reconfiguration of interconnections between users through a network of geographically distributed and connected assets. Similarly, 'Commons-based peer production' (Benkler & Nissenbaum, 2006) emphasises the novel forms of societal innovation in which groups of peers coordinate and cooperate to achieve shared goals without the intervention of paid professionals.

Multiple groups of sharing may be classified according to the main dimension of interest, including the item shared (e.g. goods or services), market structure (e.g. centrally managed forms of B2B and B2C, or peer

[3] http://www.sharingcities.eu

[4] More information on the recent urban development and characteristics of the demonstration area in Milan, together with the technological measures implemented through the Sharing Cities project may be found in Eurocities, 2017.

[5] https://www.istat.it/it/censimenti-permanenti/censimenti-precedenti/popolazione-e-abitazioni/popolazione-2011

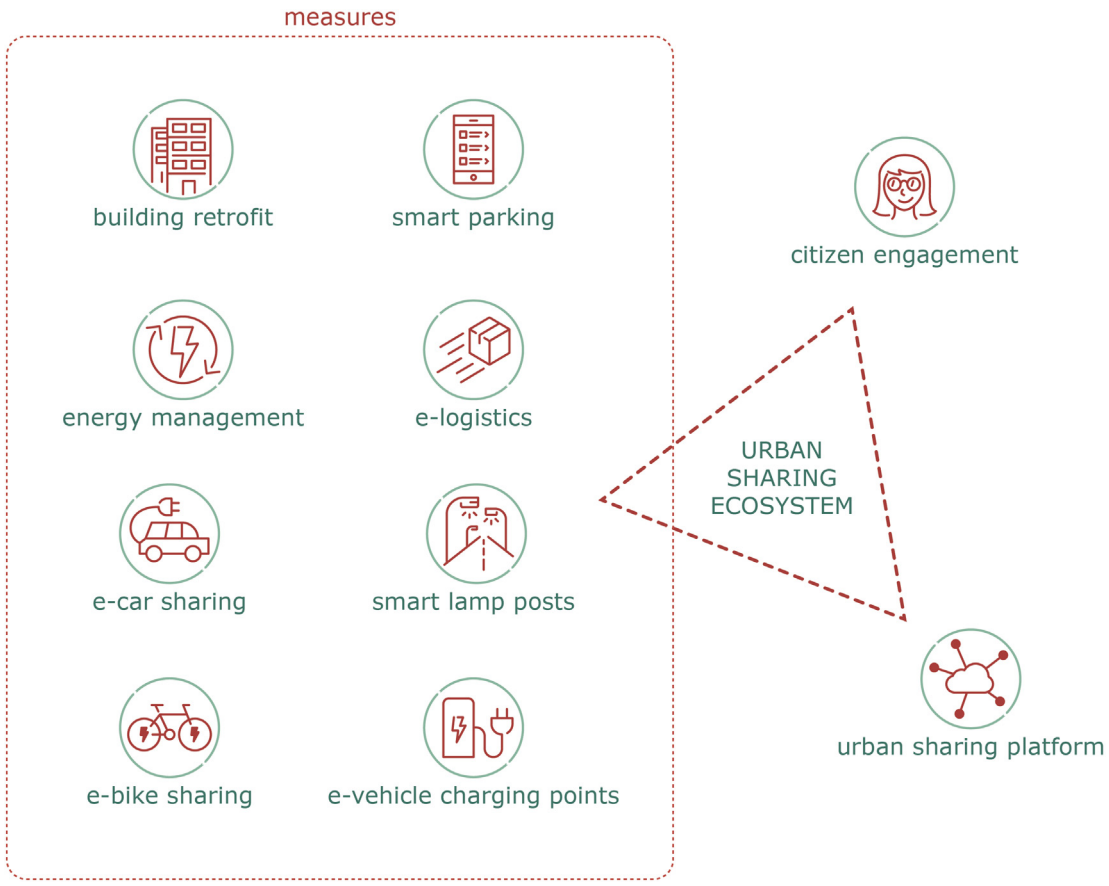

Fig. 1. 'Sharing Cities' projectecosystem diagram of novel urban services, connecting citizens (top right), the measures (on the left) and data (bottom right) through online technology.

to peer transactions), market orientation (e.g. for profit or no-profit) (Plewnia & Guenther, 2018).

Independently from the dimension of interest, these approaches to sharing refer to new ways of provisioning goods and services, which maximise the idling capacity of – tangible and intangible – assets and which rely on peer-to-peer relationships rather than existing market actors to mediate exchanges, typically through the ubiquitous Internet (Schor & Fitzmaurice, 2015; Stokes et al., 2014) and possibly through platforms for matchmaking (Evans & Schmalensee, 2016). In fact, it is not the practice of sharing on its own to be new (Frenken & Schor, 2017; Price, 1975; Schor & Fitzmaurice, 2015), but rather an enabler or characterising element of novel or normalised practices and ways of doing (Salvia & Piscicelli, 2018), which no longer rely on previously formed relationships with sharers (Cohen & Muñoz, 2016, p. 88). The network of interactions is expanded from typically family members – the size of which has been decreasing over the last decades at least in Italy (Istituto Nazionale di Statistica, 2017) – to the geographically distributed 'strangers' (Schor, 2014).

The complexity of such connections is generally enabled by the mediation of information technology, in particular the considerable diffusion of smartphones, which incorporate internet connection and location-based technology in a pocket-size device. These features unlock sharing and collaborative consumption for being coordinated through community-based online services (Hamari, Sjöklint, & Ukkonen, 2016).

In this research, we intend to shed light on how the current forms of sharing connecting strangers through the ubiquitous internet are shaping the way people arrange their routines and as a consequence the impact on the urban environment; in this view, the effects of a distinction most notably between centrally- or peer-to-peer managed services remain limited, although relevant in other respects. Therefore, the authors frame sharing as an 'umbrella construct', i.e. a 'broad concept or idea used loosely to encompass and account for a set of diverse phenomena' (Hirsch and Levin, 1999, cited in Acquier, Daudigeos, & Pinkse, 2017).

In this paper we argument how elements characterising the contemporary ways of sharing are or may be rearranged by citizens of the analysed context. To this end a participatory citizen-centred research approach is used and described in the following section.

3. Methods

Regional differences occur in the application of urban sharing economies, with implied socio-economic specificities (Mazzucotelli Salice & Pais, 2017). A methodology based on participatory approach and tools was set to unpack local conditions and dynamics which may not become evident otherwise. As stressed by Ehn (2008, p. 93), participatory design and related approaches "try to meet the challenge of anticipating, or at least envisioning, and designing for use before it actually has taken place". The intended impact is to identify the critical elements for leveraging the reduction of environmental impacts of and upon cities, as witnessed in diverse studies and projects based on the engagement of the private sectors and civic society in urban planning (Farinosi, Fortunati, O'Sullivan, & Pagani, 2019; Linnenluecke, Verreynne, de Villiers Scheepers, & Venter, 2017), most notably through a collaborative rather than a confrontational approach (Cloutier, Papin, & Bizier, 2018).

The research is designed as a multiple step process (scheme in Fig. 2), engaging key actors, i.e. local citizens and expert stakeholders, in several activities ranging from expert roundtables to co-design sessions, which are briefly described below and summarised in Table 1.

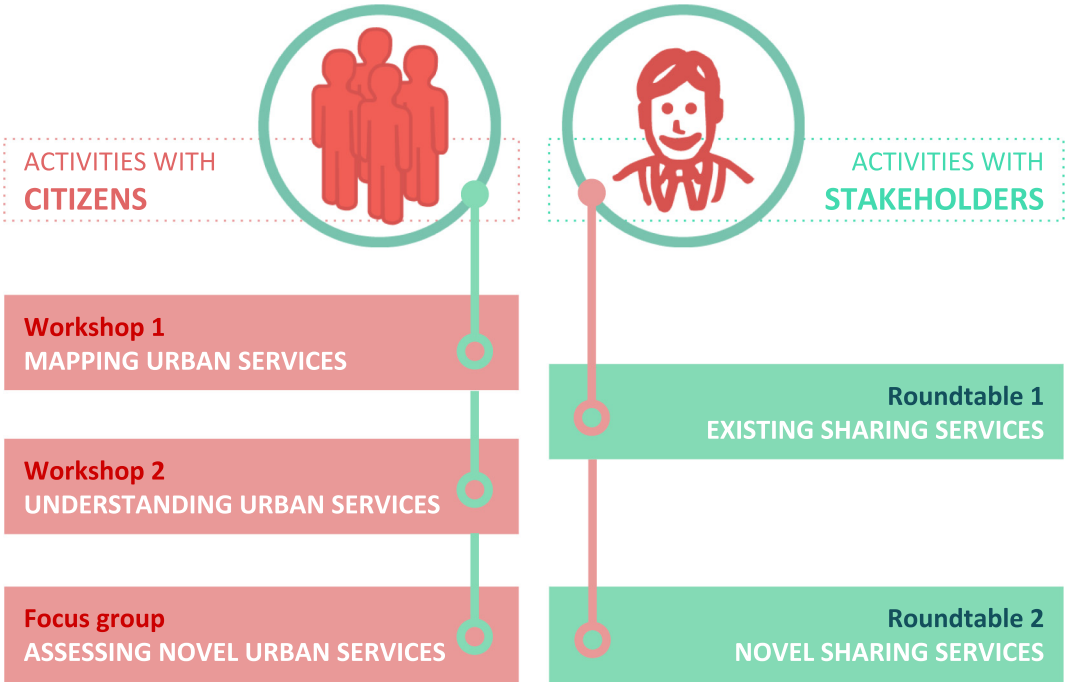

Fig. 2. Scheme of the participatory process including activities with both citizens and stakeholders.

Table 1
Details of the fieldwork activities carried out with citizens and stakeholders. Each activity is coded (e.g. ca1, sa2) for facilitating referencing throughout the paper.

Participants	Citizens (c)			Stakeholders (s)	
Activity code	ca1	ca2	ca3	sa1 (series)	sa2
Objective Format	Map Workshop	Understand Workshop	Assess Focus group	Confront Roundtable	Confront Roundtable
Attendees	29	18	10	37	24
Date	01/2017	04/2017	06/2017	02-04/2017	06/2017

3.1. Participatory activities with citizens

37 citizens living or working in the Milanese demonstration area and its immediate surroundings were involved in at least one of the three participatory activities (Table 1) with the aim of approaching the expected main beneficiaries of the technological innovations of the Sharing Cities project.

The convenient sample was recruited on a voluntarily basis through multiple channels, including an online/offline scoping survey (unpublished) and dissemination activities in the demonstration area; these were conducted through random sampling approach, with nearly 500 local residents and workers of appreciable representativeness who responded to the survey. Nearly half (n = 15) of the sample members participated to at least two of the three activities, with five participating throughout. Although higher participation may be desired, each activity was developed as stand-alone and participation in previous or following steps was neither required nor fundamental for the provision of relevant information to research.

The participants to the activities were aged 29 to 78 years old (with an average of about 55), mainly male (about two-thirds) and relatively highly educated (generally owning a high-school diploma). The sample is not fully representative of the population of the demonstration area nor of the whole city, with a slight over-representation of male, older and educated population. Age uneven representation is partly recovered if the Milanese population younger than 18 is excluded, as these could not participate to the research activities. Although the representation is limited, the study constitutes a pioneering attempt to identify and define perceptions, needs and practices for local citizens of a fast evolving district. Studies investigating practices and approaches in the sharing city of Milan are still limited. Furthermore, the engagement of an older population sample may be insightful also for those exploring strategies for inclusivity in sharing cities programmes, namely due to the digital divide.

The three activities engaged citizens in mapping, understanding and assessing how sharing is or may be integrated in their daily practices. The first two activities were arranged as a workshop, i.e. a participatory research method that in design explorations is targeted at “gaining an understanding of the user's world and establishing design implications” (Hanington & Martin, 2012, p. 62). Workshops are considered a common tool for creating spaces to collaboratively define value (Kpamma, Adjei-Kumi, Ayarkwa, & Adinyira, 2017); they proved beneficial in enabling stakeholders' involvement and in providing insights into their needs and priorities, as demonstrated for instance in a project in the construction sector (Storvang & Clarke, 2014).

The first activity, *mapping*, intended to identify local practices, services and initiatives that participants associated to sharing and eventually those that they desired to experience in the near future – in other words their ‘desiderata’. More specifically, workshop participants were asked first to indicate which initiatives take place in the demonstration area and immediate surroundings that they were aware of (Fig. 3a) and pinpoint them on large printed maps (Fig. 3b). This task enabled the researchers to better assess the level of participants' knowledge of the area and the local sharing-based services. Eventually, participants made explicit their wishes for possible sharing services to be activated.

The resulting desiderata are reported in Fig. 4, grouped according to the main themes originally set in the project, i.e. mobility, energy and community. The citizens abundantly reported initiatives related to the not-yet covered theme of food and food-waste, to the extent that the researchers added this in the subsequent activities.

The second activity, ‘*understanding*’, intended to comprehend how people conduct daily practices involving measures emerged in the previous activity and how sharing may be integrated into them. The objective was achieved through a participatory workshop structured

Fig. 3. a) Close up of a diagram used in the mapping activity where participants reported the local initiatives and services that they associate to sharing (pink post-it notes, in the inner circle) and the ones the wish to see in the local area in the future (yellow post-it notes, in the outer circle), according to types (energy, mobility, community); b) Close up of participants of the mapping activity interacting with the map of the Milanese pilot area for the identification and location of known and desired sharing urban services. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

Fig. 4. Services claimed to be desired by the citizens participating at the first activity, grouped according to the main theme (inner and first circle: Mobility, Energy, Community) and related subthemes (second circle). The additional coloured area (fourth and outer circle) indicates the existence of sharing platforms or services which may satisfy citizens' desiderata (third circle), as per desk research carried out by the researchers. (For interpretation of the references to colour in this figure legend, the reader is referred to the online version of this chapter.)

upon three main tasks, namely:

1. Mapping participants' habits and practices related to one of the four themes addressed, through a self-reflective activity;
2. Discussing current habits and practices collectively through the facilitation of the researchers for highlighting where and why sharing is already or not yet integrated in them;
3. Responding to the facilitators' stimuli of integrating initiatives and measures based on sharing into previously mapped practices.

The three tasks were accomplished in groups addressing one of the four themes. Each participant was allowed to select the thematic table to join, namely on the basis of personal interest; a minor number of participants was allocated to a table determined by the facilitators to grant a quantitatively even distribution across the four themes. All the three tasks were accomplished in each table following identical rules and structure. Participatory tools were developed by the researchers to enable the access to multiple levels of participants' knowledge, deeper into the latent one (Sanders, 2002). Tools included thematic boards and cards, the interaction with which was facilitated by the researchers (Fig. 5a). The content of the cards and the structure of the board were adapted according to the thematic table; the structure of the activity and rules were consistent throughout the tables. The results of the interaction of the participants with these tools were schematised eventually to facilitate the analysis task (Fig. 5b). More details on this specific activity are provided elsewhere (full paper under publication). The pair of researchers facilitating each table discussed the notes and the results of the activities, with the aim of identifying also elements of commonality and differences across the themes.

The last activity, '*assessing*', intended to propose and collect feedback upon the concept of a novel urban sharing service, which may enable citizens to accomplish or implement their daily practices. This activity was replicated with the stakeholders with the same objective. Detailed information on its objective and outcomes is reported in the Subsection 3.3 The assessing activity.

3.2. Roundtables with stakeholders

Stakeholders were engaged in two roundtables to provide an informed opinion on key aspects of the sharing urban services and

a

b

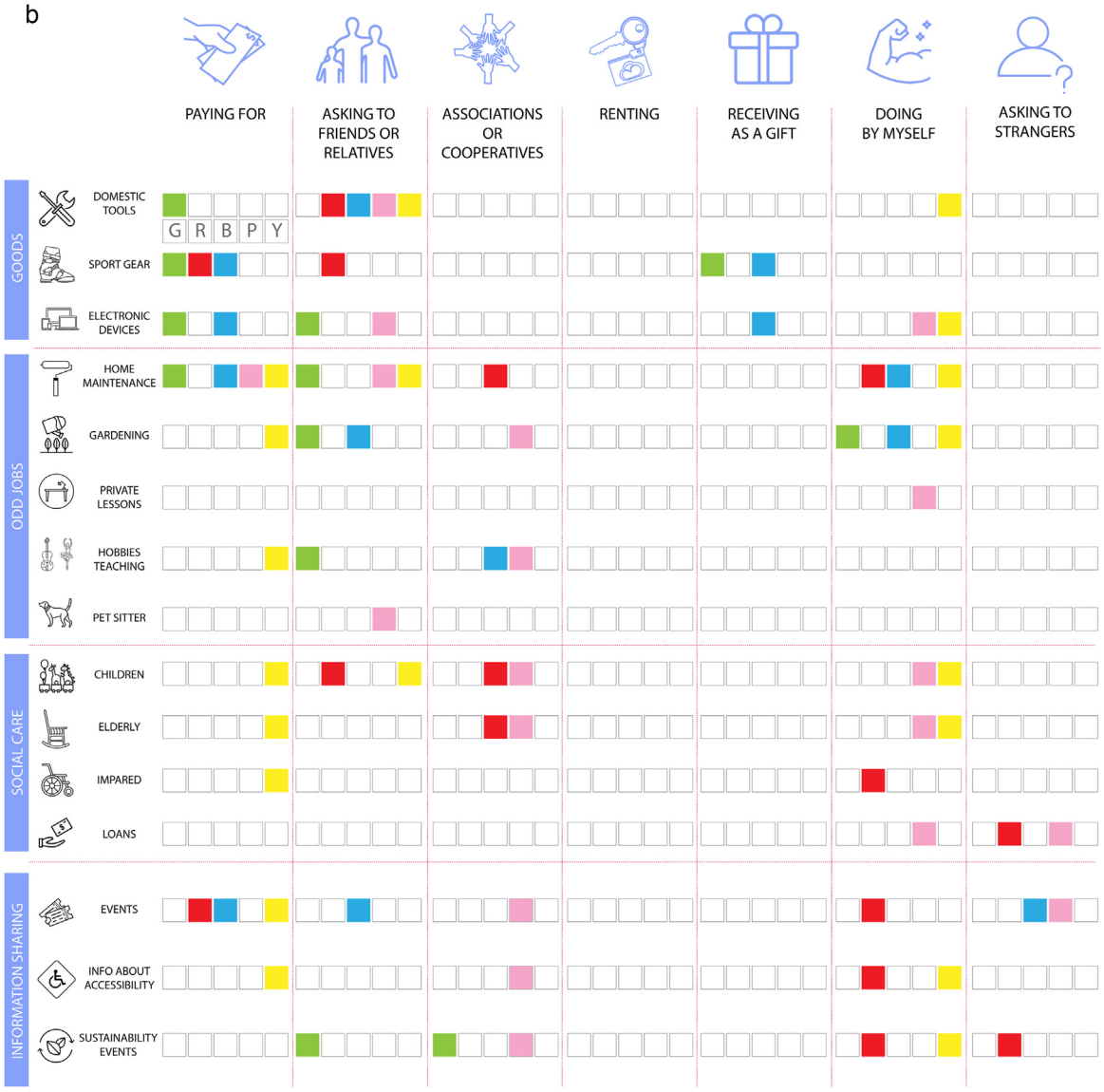

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Fig. 5. a) Thematic board and cards while in use (on the left, taken from the food and food-waste table); and b) the schematization of the results of the activities (on the right, community and assets theme); the colours of the cards identify different participants at each thematic table. (For interpretation of the references to colour in this figure legend, the reader is referred to the online version of this chapter.)

eventually on the project's outcomes.

They represent professionals from different sectors and a variety of legal entities, including companies, cooperatives, associations and public administration (Fig. 6), which provide online or analogic services in the investigated fields.

The stakeholders were recruited by approaching the services mentioned by the citizens, formerly known by the researchers or identified in literature, through personal contacts and snowball technique. 49 stakeholders attended at least one of the two roundtables.

At the roundtables:

1. key aspects of (especially online) sharing services were discussed with 37 experts, affiliated to 31 organizations, in a series of four parallel sessions on the main practices addressed by the project; a couple of stakeholders participated to more than 1 thematic session due to the transversal nature of their field of work;
2. the concept delivered by the researchers (described below) was assessed collectively. The 24 stakeholders participating to this activity do not fully overlap with the first one. However, the participation to the first activity was not required for the scope of this second one.

3.3. The assessing activity

As mentioned above, the assessing activity was carried out with both citizens and stakeholders separately and intended to collect feedback upon the concept of a novel urban sharing service, which may enable citizens to accomplish or implement their daily practices.

The concept was elaborated by the researchers building upon the insights gained from the previous research activities. The delivered concept overcomes the boundaries of an individual service as per original plan in favour of a collaborative platform, which enables citizens and other local actors to gather and share assets (e.g. money, skills, time, places) for the development of a project of common interest. A detailed description of the concept is reported elsewhere (Salvia & Morello, 2018), while in this paper the focus is on reflections and information revealing perceptions of sharing and related practices that emerged during the last activity.

4. Results of the activities

Seven main topics emerged from the analysis of the results of the fieldwork activities, predominantly drawing from the first two citizen activities and the two stakeholders' activities. These are abbreviated with initial ‘ca’ and ‘sa’ respectively, followed by the corresponding number of the activity, i.e. 1 or 2. The thematic analysis (Bryman, 2008) addressed elements of continuity and disruption that the introduction of sharing-based socio-technical tool (e.g. product, platform, service, group of interest) generates in practice according to the involved citizens or to the stakeholders in their field. More specifically, in the attempt to answer the research questions, the analysis is focused on artefacts and dynamics which do or do not engage the citizens in the introduction of sharing in the considered practices (i.e. energy production and saving, food production and transformation, urban mobility, and assets sharing within local communities).

4.1. Limited knowledge and familiarity with contemporary sharing

Sharing urban services are relatively little known and used by the citizens who participated in the fieldwork activities. This clearly emerges by comparing the citizens' desiderata of sharing initiatives (ca1) with a desk-based (non-exhaustive) investigation of existing online platforms and offline services that provide the desired service (Fig. 4). A number of initiatives desired by the participants are operative, although for some reasons they are unknown to them.

Platforms for sharing information and reviews appear quite familiar to ca2 participants, especially those regarding food, eating out and cooking (including TripAdvisor, The Fork, Zomato), yet not equally appealing on the theme regarding community and vulnerable people.

Schemes for shared bicycles and cars (e.g. BikeMi, Enjoy, Car2go) are known although not necessarily used. This finding is consistent with a recent survey (Ciuffini et al., 2016), in which a fraction of Milanese respondents (4.5%, N = 1000) declared to use shared mobility means, with a predominant 70% declaring to have heard of them but never actually used them. Such a relatively limited use of shared vehicles may be related to the preference for walking for some ca2 participants'; in fact, they expressed appreciation towards possible practices and services intended to sharing suggestions of routes for pleasant walks.

At the roundtables, the stakeholders stressed the need to increase the visibility of sharing initiatives and encourage routinized participation. Developers of initiatives enabling the collaborative production of services and peer-to-peer exchange may still need to compensate the insufficient participation of citizens and self-organized groups to run a sharing service effectively. This is the case of Socialstars, i.e. a repository of events with explicit social impact, which may be uploaded on an online platform by their members, allegedly the organisers of the event. Although conceived as a platform for peer-to-peer sharing, in the sa1 their representative revealed that a top-down approach is still needed, with platform staff members uploading information on behalf of the actual organisers of the events. The initiative ceased few months afterwards.

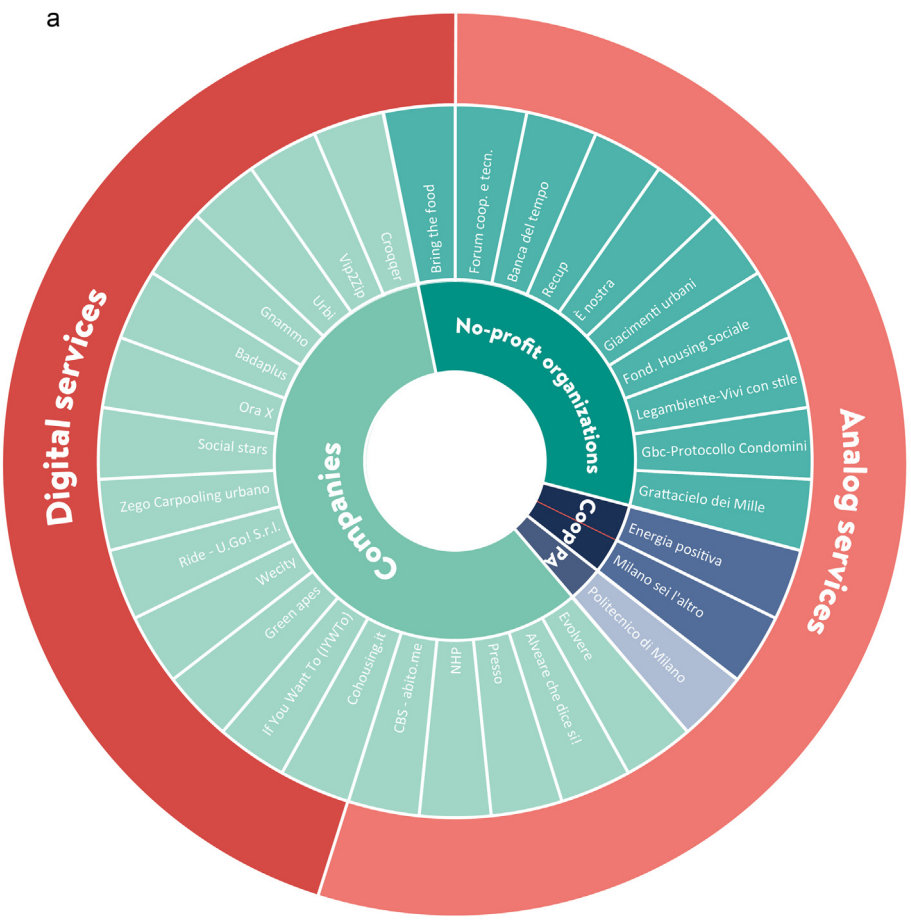
Setting synergies and promotion initiatives on social media are proposed by participants across the activities as crucial for spreading the word about the benefits and dynamics of sharing services, consistently with literature (Cabitza, Scramaglia, Cornetta, & Simone, 2016; Rowe, 2017); furthermore the engagement of local ‘champions’, i.e. particularly active members who may mediate with other members to sustain the community, was reported by some as a potentially fruitful channel for recruiting new members. Nevertheless, some other stakeholders – in the energy field in particular (sa1) – experienced how champions and highly committed users in general may tend more likely to be also particularly meticulous and less adaptable in constrained situations, therefore less aligned and supportive with similar smaller organizations occasionally.

4.2. Scepticism towards sharing and mismatch with expectations

Assumptions and presumptions on the experiences of the proposed practices and initiatives may affect the participation in sharing urban services, as emerged in particular in ca2. At the mobility table, for instance, one of the participants reported disinterest in the use of electric shared cars because of the allegedly low performance of their battery. This was assumed to be insufficient for most of journey occurrences, yet mistakenly, as pointed out by another participant.

At the food table, a participant declared to have been interested for a while in trialling social dining events arranged by peers through online platforms (especially the Italian network Gnammo); this intention was never realised because of a perceived excess of frivolousness and narcissism of the members joining these initiatives. Nevertheless, the potential for a similar experience to turn into an opportunity for cultural exchange was acknowledged by the same participant, typically when travelling abroad or hosting foreigners.

In the two examples above, the participants were aware of the



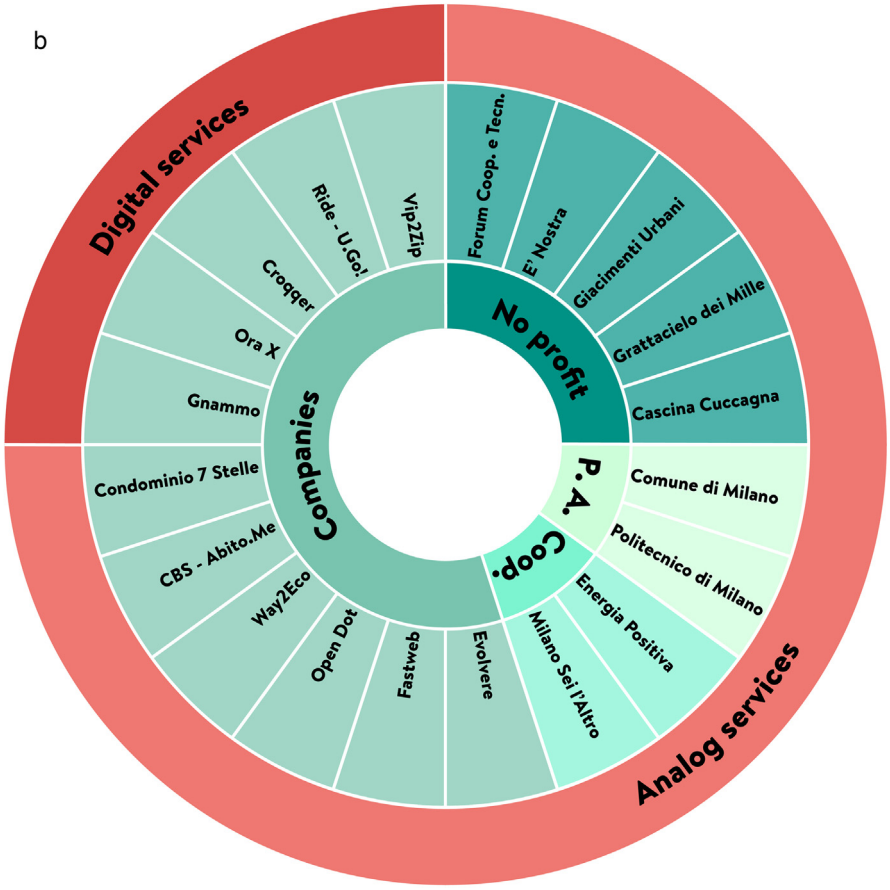


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Fig. 6. a) Diagrams of the engaged stakeholders (names in the middle circle) to the first series of roundtables (on the left) and the second roundtable (on the right), grouped according to the type of provided service (outer circle), i.e. digital and analog; and b) their nature (inner circle), i.e. no profit, public administration (PA), cooperatives (Coop), limited companies.

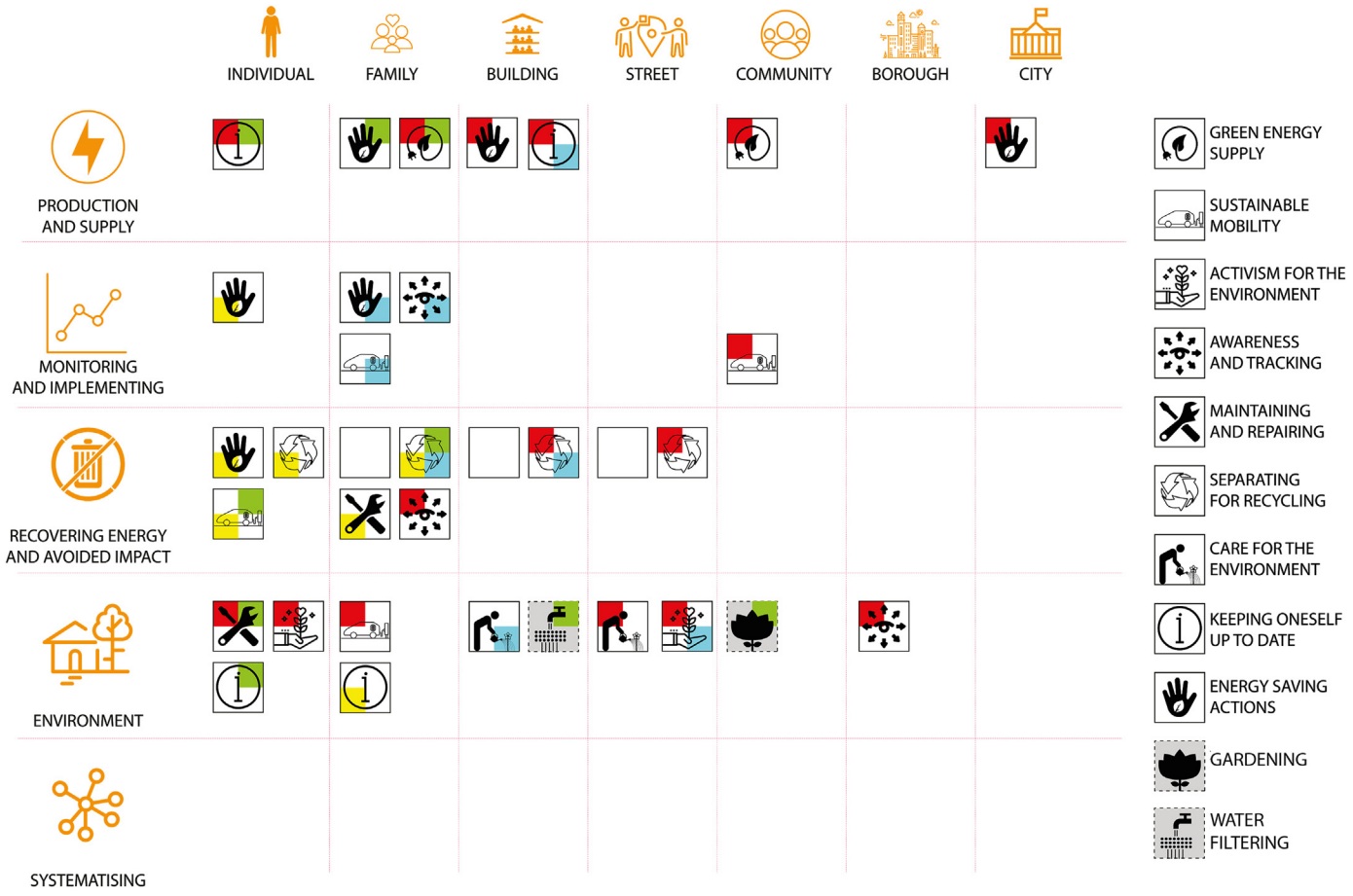

Fig. 7. Representation of the results of the activity at the energy and environment table; icons in each quadrant represent the card selected by participants, who are identified by a different colour. The abundance of cards applied along the first three columns from the left reflect the preference for the discussed sharing urban practices at the smaller scale (i.e. individual, household, condominium). (For interpretation of the references to colour in this figure legend, the reader is referred to the online version of this chapter.)

existence and in some cases of the dynamics of sharing services, to the extent of informing each other in the case of incorrect details provided during the activity, namely on the short working life of electric car batteries.

Information travels and is processed in multiple ways, which may generate even inconsistent preconceptions and may project the citizens into possibly undesired situations in practice (e.g. driving a short-lived battery car or dining with unpleasant strangers).

4.3. The twofold perception of convenience and time-saving

Citizens appear to experience the convenience of sharing in twofold contrasting ways.

Sharing may be inconvenient with respect to owning the enabling good, because more time may be required to accomplish the same task through shared means. The terms and conditions of sharing services may not fit with personal needs; for instance, a citizen reported that the bounding areas of use set by some car-sharing providers were not convenient for those who need to reach the outskirts (ca2).

Emerging communities of practice for food acquisition in closer contact with producers – as reported by stakeholders (sa1) – appear disadvantageous with respect to the convenience that conventional intermediaries of food provisioning generate in urban life (e.g. supermarkets longer opening times), as stressed by a citizen at the food table (ca2).

On the other hand, sharing urban services are considered convenient by some other citizens, namely using shared bikes for the 'last mile' journey from the closest stall to a metro station or destination (ca2). At a stakeholders' roundtable on mobility (sa1) it emerged that sharing initiatives meet novel urban needs, most notably mobility for vulnerable people (e.g. ladies at night or older people with mobility difficulties). While absent from home, parcels may be collected on behalf of local residents by a shared porter designated by multiple users or condominiums, possibly synergistically with local services and shops.

4.4. Digital means and online dynamics as either enabling or disabling

Contrasting approaches to sharing emerged among citizens also in relation to digital means of interaction. On the one hand, the Internet and smartphones enable people to reach geographically distributed assets and to approach also strangers with relative confidence, namely by consulting reviews provided by peers or by overcoming shyness in first in-person encounters.

On the other hand, digitally based dynamics disable some other interactions. The recruitment in online sharing urban services may be obstructed by both digital illiteracy and willingness to spend time

online limitedly. Digital divide is a recurrent topic of social (un-)sustainability in this field. However, initiatives for instructing digital illiterates neither necessarily meet citizens' consensus nor always achieve the intended goal because the task may turn into an excess of effort, as stressed by participants of the community table in ca2. Conversely, the digitally illiterates' chance of taking part in sharing urban initiatives through alternative devices or physical environments was considered more appealing.

In addition, preferences for offline operating environments are relevant. Some ca1 participants regretted the perceived overload of time spent online in daily life and expressed preference for experiencing goods and gatherings in person.

Some stakeholders, including online platforms developers, agreed on the importance of keeping the digital as a means rather than as the goal of sharing urban services, namely to enable people to reciprocally connect offline likewise (e.g. social dining) (sa1, sa2).

4.5. Small(er) scale preferred for sharing

Citizens (ca2) appeared more interested to urban sharing services taking place at the neighbourhood scale, rather than citywide or larger ones. For instance, accessing to (either free or pay per use) shared kitchens and spaces intended for hosting social events with relatives and friends is not particularly appealing unless they are set in the condominiums where participants live. Similarly, caregivers for older people serving multiple families of the same condominium or block, or shared cars at the same scale are preferred. Additionally, at the ca2 table on energy and environment, citizens showed more active participation in practices taking place on a smaller scale, from the individual to the condominium ones, including energy saving behaviours, waste separation, keeping up to date, sustainable mobility (Fig. 7).

Citizens' stated preference for services which are tailored to specific communities of practice generally associated to a smaller scale (e.g. people living or working in the same building or block) resonates with the potential envisaged by stakeholders (sa1) in the provision of incentives to the whole community (e.g. discounts for households of large condominiums) rather than to the more conventional approach which targets individuals.

4.6. Trust as a key component

Trust is often reported as a key element by both parties and especially by citizens addressing the sharing of spaces and commodities (ca2). How to be sure that the shared goods will be lent or returned in optimal conditions? How to trust the stranger willing to help?

Contemporary forms of sharing connect people who may not know each other, thus leading to what Schor (2014) defines the ‘stranger sharing’. This entails a higher level of perceived risk for the workshop participants (ca2) with respect to interacting with an already familiar person. This eventuality requires the setting of forms of ‘distributed trust’ (Botsman, 2017), namely rating systems and peer reviews.

Nevertheless, according to the participants (also for Grosso, 2016) on the one hand this type of information is unavailable occasionally; on the other hand, trust towards peer reviewers is not granted. A formal approval (e.g. label, certification) provided by a trustworthy organization (e.g. municipality) is proposed by both citizens and stakeholders as a potentially effective solution. Incidentally, citizens proposed the development of shared systems for sustainable energy provision (e.g. setting a community of purchase for delocalised photovoltaic panels) (ca2). The engagement of the local municipality or a similarly renowned institution is considered useful to handle the more complex tasks in a trusted manner for the participants (e.g. admin, monetary guarantees, providing installation area over the roof of public buildings). Nevertheless, stakeholders at the energy table (sa1) confessed some scepticism on seeking the approval of larger organizations, also for its marginal relevance towards a comprehensive understanding of energy efficient behaviours. Counterproductive effects that the guarantor is incapable to anticipate or limit could occur. Accompanying guidelines and instructions about how to behave efficiently also within a community of purchase are proposed by some stakeholders as an additional potentially effective strategy.

4.7. The uncomfortable feeling of the social debt when sharing

Both citizens and stakeholders reported that many may feel uncomfortable when something is received for free or bartered in an asynchronic way (i.e. without compensation), for the perception of being in debt, in duty bound. At the sa1 on community, assets and vulnerable people, a member of the local timebank community – i.e. members reciprocally providing services that can be measured in a time unit – reported the striking excess of offered skilled time with respect to the requests in their database. At the sa1 on food and food-waste, the founder of an initiative for the redistribution of produce excess from local markets shared the difficulty for some people to accept food donations, either because of the self-perception of not being sufficiently in need of food; or, conversely, because accepting food donation would manifest the condition of being in need, which is characterised by considerable levels of ‘stigma’.

Forms of immediate compensation seem to unravel apparently contradictory situations in which donations imply debt conditions; likewise, social interactions may be unwelcomed and therefore avoided. Some citizens stated their preference for paying in alternative to borrowing or asking for help; they consider inappropriate to complain to the donor if the conditions of the shared items or the terms of the exchange are unsatisfactory. Some at the ca2 on community and assets reported the unease of managing situations when the good shared with others has been broken or damaged during its last use. Renting instead is less popular than the other two forms among the participants, except for the case of expensive gear, namely for skiing.

5. Discussion

The program of activities carried out with both citizens and stakeholders revealed the ambivalent and conflicted fashion in which the current sharing urban services and practices may be experienced in Milan. The reported topics derive from a qualitative investigation in a defined context with a convenient sample. In spite of these limits and set boundaries, some results appear consistent with literature or may inform on counter-dynamics, as the authors summarise in this section.

Sharing urban services are spreading in Milan and in other major cities globally. Possibly, the pace of this societal and technological innovation exceeds the interest, capacity and speed for citizens to integrate its constituting elements into daily practice, starting from the awareness of the existence and the working dynamics of sharing services. We ascertained that local citizens may be hardly aware of these services, even with inconsistent information and expectations occasionally. The limited knowledge and familiarity of ‘sharing’ as emerged in this investigation is aligned with findings of quantitative studies, based on surveys in Milan (Grosso, 2016),[6] Italy (Cabrerizo et al., 2016) and abroad (PwC, 2015).

Similar dynamics appeared evidently at the mobility table of ca2, in which participants were aged 60 years on average, i.e. about ten years older than the average age of the population residing in the Milanese demonstration area. They often preferred walking to other – also shared

[6] In this study carried out by the Italian consumers' association Altroconsumo, 306 Milanese residents aged 45–70 were interviewed to assess their level of knowledge and use of sharing services, with a focus on temporary accommodation and ridesharing. Nearly half of them (47%) have never heard of ‘sharing economy’ and only 1 out of 10 (11%) of the other half actively participates, more likely as users rather than providers.

– means; driving or using public transport becomes less appealing or physically doable with aging, as also emerged in other studies (Böcker & Meelen, 2017; Stokes et al., 2014).

The unbalanced engagement of the older population in urban sharing services feeds the debate over the alleged inclusivity and democracy of sharing phenomena (Schor, 2017; Schor, Fitzmaurice, Carfagna, Attwood-Charles, & Poteat, 2016). Digital illiteracy may prevent people – especially older ones (Grosso, 2016) – from interacting with the online platforms and digital devices, i.e. fundamental elements of contemporary forms of sharing, as per definition for some scholars (Belk, 2014; Hamari et al., 2016). This generates an apparent paradox for online and digital means resulting into instruments of separation rather than proxies of connection to other people and their assets.

Governmental agendas are set in place to enable the acquisition of digital skills, namely in the UK (UK department for Digital Culture Media and Sport, 2017) and across the European Union (European Commission, 2016). Nevertheless, digital illiteracy is not the sole factor underpinning the occasional avoidance of the Internet. Our activities highlighted that citizens may prefer offline interactions also in response to the perceived excess of time spent online nowadays. Some stakeholders are in fact pursuing mixed environments strategies, with online interactions enabling offline encounters between users.

Other cultural factors are involved in the negotiation of perceptions and expectations of sharing services, including representations of their users, trust and social interaction. Some citizens are potentially interested in sharing urban services, yet common representations of their users (e.g. obsessed, hippies) and maybe the fear of being judged likewise hinder the actual engagement; this is consistent also with the results of a study on car sharing in the USA (Bardhi & Eckhardt, 2012).

The avoidance of closer interactions in similar services is evidently influenced likewise by negotiations of trust to others, especially if sharing with strangers. Unsurprisingly maybe, trust is a key element in international studies on attitudes and barriers towards sharing (Gullstrand Edbring, Lehner, & Mont, 2016; Rowe, 2017; Schor, 2014; Stokes et al., 2014).

Peer review mechanisms are widely and well-established in online transaction platforms in order to enable the attribution of trust, with reputation becoming a coordination mechanism (Harvey, Smith, & Golightly, 2017, p. 367). Interestingly, reputation-based mechanisms of coordination emerged in the activities as subjected to trust negotiation, due to perceived unreliability for some citizens. In fact, occurrences of deceptive opinion intended to inflate personal reputations have been reported (Schor & Fitzmaurice, 2015).

The provision of trust appeared to be facilitated if established organizations acknowledged as trustworthy by the wider community, namely municipalities, are engaged as guarantors. As a result, a tension arises between different forms of trust, in favour of either more conventional institutional organizations or peers in a more recent distributed fashion, similarly to the findings of a workshop in the UK with comparable intentions and approach (Boyko et al., 2017). Nevertheless, multiple antecedents of trust play their role in sharing economy, deserving further research and investigation (ter Huurne, Ronteltap, Corten, & Buskens, 2017).

The results regarding the connectivity with others – engaging also the online means and negotiation of trust – are enriched by the insights on the potential uncomfortable effects in duty-bound or forced relationships when sharing. Sharing is often entrenched with the practice of gift-giving (see Belk, 2010); yet “the social indebtedness inherent in the gift-giving process can produce negative feelings, embarrassment, and a sense of dependence” (Marcoux, 2009, p. 671). In fact, “escaping to the market is a form of social divestment and can become a means of preserving autonomy”, according to some researchers, especially the anti-utilitarian (Marcoux, 2009, p. 673).

Sharing implies a significant social dimension resulting into a dualism between the need of feeling connected and the unease of being forcedly connected when not desired. This dualistic nature of sharing may be negotiated through online sharing platforms, which “create sufficient trust to facilitate discrete exchanges. But they do so while maintaining enough separation that participants do not feel obliged to interact again with people on the other side of those exchanges” (Davidson & Infranca, 2016, p. 238).

The community and caring dimension driving the act of sharing as envisaged by some — most notably Belk (2010) – may not always meet the actual experience, which is sometimes driven by personal convenience and negative reciprocity (Bardhi & Eckhardt, 2012).

Convenience is the final main topic emerged in the fieldwork activities discussed in this paper. In this study, convenience in sharing is framed in a twofold way. On the one hand, sharing services – mobility in particular – may enable city users to meet the accelerated rhythms of urban life. According to the US based research by Bardhi and Eckhardt (2012), car sharing enables their users to participate in lifestyle spaces that they could not otherwise, thus becoming a ‘lifestyle facilitator’, as inferred by Bernthal, Crockett, and Rose (2005). Ridesourcing facilitates mobility whereas public transport is limited (Jin et al., 2018). Joining sharing services and initiatives often follows pragmatic reasons rather than mere ideology, namely for free online reuse of goods (Foden, 2015) and cooking groups (Rowe, 2017). Bardhi and Eckhardt (2012, p. 15) inferred that “consumers engaging in this type of access-based consumption, such as car sharing, are not politically motivated by anticonsumerism sentiments but rather by a downshifting of the obligations associated with ownership or sharing”.

On the other hand, the reduction of intermediaries through strategies of sharing namely within communities of practice may result inconvenient, particularly in the food sector. Also Gullstrand Edbring et al. (2016) reported a controversial perception of sharing and accessing to (or renting) furniture items in Sweden, in between flexibility (namely because maintenance is delegated to the service provider) and impracticality (namely when sharing goods with other people on a longer distance).

Reframing initiatives of sharing for the hyper-local scale resulted more convenient and preferred by many citizens. The perceived impracticality of sharing goods between the involved parties at longer distances emerged also in other studies (Gullstrand Edbring et al., 2016). The convenience and interest of being connected to residents of a closer area possibly underpins the fast spreading phenomenon of the Social Streets, i.e. networks of neighbours usually living in the same street or area to share assets or suggestions by communicating through social media, typically Facebook (Cabitza et al., 2016; Mosconi et al., 2017). These hybrid forms of sharing contribute to limit the undesired effects for some of overload of time spent online, which may prevent from some forms of sharing enabled by the Internet platforms.

6. Conclusions

This paper attempted to identify dynamics of urban practices carried out by citizens of a rapidly transforming area in a ‘sharing city’, i.e. Milan, where sharing-based initiatives and technological measures are planned. Framed within social practice theory, a participatory process was setup to identify key elements and dynamics of sharing in the selected urban practices, which are intended to inform plans for the development of local novel services and policy programmes.

The limits of the used methodology include:

- the engagement of a convenient sample which is not fully representative of the wider urban context (i.e. generally older and with a higher level of education), although the engaged population represents a sensible target to foster inclusivity in sharing programmes;
- the wider boundaries of the interpretation of sharing, which may embrace a multitude of approaches and sectors; however, this may provide a relevant outlook for the first time to authors' knowledge on practices and sharing in Milan to inform future research.

The main conclusion that may be inferred from this investigation is that the engagement of relevant actors (most notably citizens) in urban sharing implies the negotiation of a multitude of elements, including citizens' digital literacy, perceived convenience, trust and willingness to be engaged in social interactions. Notably, these elements are not necessarily related to the main unit of service, i.e. the satisfaction of the need; diverse – non-utilitarian – elements constituting the experience of sharing with others are accounted for. These elements operate in synergetic or contrasting ways in practice, rather than in isolation; they are dynamic, evolving across people, locations and time.

Urban sharing services are means rather than goals, i.e. a set of possible ways to accomplish existing or novel daily practices, which have to interlink or replace set dynamics hopefully in more sustainable ways, rather than encouraging the escalation of consumption (Salvia & Piscicelli, 2018). Some of the implied changes are major as they relate to interactions and meanings which are not currently established in society. Therefore, strategies and programs for the development of urban sharing services in declared or forthcoming sharing cities may increase the chances of effective uptake by building on a deeper understanding of daily routines, habits, meanings involved; consequently, novel elements may be identified for their integration and connection by the citizens to existing ones. Participatory approaches and tools for the development of these strategies appear beneficial to this end.

Building on the above insights, three key elements are identified for the spreading of urban sharing practices in the Milanese demonstration area on a short term scenario, which may mediate the often contradictory nature of sharing.

The types of urban sharing services which are known and spread on a wide scale (e.g. nationally or globally) are more likely to be familiar and their replicability in several locations (e.g. major cities) may facilitate the perpetuation of the practice, when practitioners move in different contexts. Nevertheless, such a service must meet also the local and hyper-local needs, by delivering functions that fit and are possibly customised with the related features. For instance, shared mobility services are structured upon similar rules in different cities globally; however measured and perceived distances, urban configurations and infrastructures availability, together with habits and occurrences for moving, preferences to vehicles ownership and sharing, sense of identity and sign value, extension of perceived convenience, norms of proper use and cleanliness vary considerably across cultures (Bardhi & Eckhardt, 2012; Firnkorn & Müller, 2011; Jae-Hun Joo, 2017; Nijland & van Meerkerk, 2017), thus determining how the sharing service may be integrated in daily practices.

Upscaling and replication initiatives could be applied through geographically circumscribed circles of actors (e.g. city, district or even building), thus enabling the connections between location peers, who have higher chances of reciprocal knowledge and may initiate a trustworthy relationship.

Hybrid forms of interaction, merging online and offline dimensions, will play a key role in reaching citizens, both for informing (i.e. spreading the word and limiting the mismatch with expectations) and recruiting (i.e. enacting on the preferred virtual or physical dimension) purposes.

Operatively, as argued by Mosconi et al. (2017, p. 961, emphasis in original),"local social collectives might enhance their efforts to bring about positive change in urban neighbourhoods by utilising *hybrid forms of community engagement* that are enacted through *a constant back and forth between online and face-to-face interactions*."

Building on these insights, the concept of a hybrid online-offline platform through which multiple city users may liaise by sharing their assets for the achievement of a common goal has been produced, discussed with relevant stakeholders[7] and presented in the scientific realm Salvia & Morello, 2018. The concept attempts to provide space for the coexistence of both 'bottom-up' and centralised initiatives, generated typically by citizens, local associations, municipalities and business.

The insights produced by this study and presented in this paper may represent a fundamental basis to inform:

- research approaches based on social practice theory and on participatory methods and tools for shedding lights on practices and elements of engagement in socio-technical innovation; and
- policy and programmes for the development of socio-technical innovation based on and for sharing, by highlighting the loci of potentially critical elements for the engagement of citizens and stakeholders in the corresponding implementation.

CRediT authorship contribution statement

Giuseppe Salvia:Methodology, Investigation, Writing - original draft.**Eugenio Morello**:Conceptualization, Investigation, Writing - review & editing, Project administration, Funding acquisition.

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