Report from the EU H2020 Research Project Ps2Share:
Participation, Privacy, and Power in the Sharing Economy

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1. Introduction: The Sharing Economy

A recent Eurobarometer (2016) survey found that a majority of Europeans are aware of sharing platforms, yet only about one in five (17%) report having taken advantage of a sharing service personally. While sharing platforms are still a relatively recent phenomenon, a number of sharing services have grown beyond the start-up stage and have matured sufficiently enough to be considered relevant industry players.

Corporations such as Uber or Airbnb report billions of Euros in revenues. Accordingly, ride- and accommodation-sharing services are among the most frequently used sharing platforms. However, the diversity and richness of the sharing economy, as well as its potential, can be fully appreciated only if we look beyond the few players currently dominating public perception. Over the last decade, the 'sharing economy' has gained traction as an umbrella term describing a cultural, technological, and economic transformation, triggered by innovations in information and communication technologies (Botsman & Rogers, 2010; Schor, 2016; Sundararajan, 2013). The basic idea of the sharing economy is rooted in the 'sharing paradigm' (Belk, 1985, 2010, 2014) or 'sharing turn' (Grassmuck, 2012), whereby individuals, instead of buying, borrow or lend goods from others.

Digital platforms have accelerated the diffusion of these sharing processes by acting as mediators, thereby reducing transaction costs between providers, who offer their personal goods, and consumers, who are looking to use these goods (Botsman & Rogers, 2010; Gansky, 2010; Grassmuck, 2012). Cars, clothes, food, accommodation, and many other commodities are no longer simply bought and rented at regular stores and commercial outlets, but are instead provided by a multitude of individuals. In a profound way, the sharing economy has the potential to alter the way people access, use, and (co-) own such goods (Belk, 2014; Grassmuck, 2012). We locate this process of mediated sharing at the center of the sharing economy, defined here as '*a reciprocal exchange process, whereby individuals share their personal goods with others for use through a digital platform*.'

Other than conventional commercial exchange processes between sellers and buyers, peer-to-peer mediated sharing does not occur between professional organizations and renters. Peer-to-peer mediated sharing is rather an exchange process between two private individuals, facilitated by a digital platform (Grassmuck, 2012). The provider, often an amateur, acts in a private capacity to offer goods to other individuals for use. In fact, a major appeal of the sharing economy is the experience of authenticity that the individuality of providers and their goods is associated with (Liu & Mattila, 2017; McNamara, 2015). With individuals sharing their goods, consumers often experience a different offering than with goods provided by professional, established, or institutionalized market actors (Liu & Mattila, 2017; McNamara, 2015).

The process of mediated sharing appears in many forms, with the variation depending on the platform characteristics, the consumers, the providers, the goods, and their use-cases. Today's sharing economy encompasses a wide variety of platforms and services, differing significantly in size, scope, and their level of professionalization. Recent years have witnessed the increasing commercialization of some platforms, alongside an increasing degree of professionalization among providers (Belk, 2014; Eckhardt & Bardhi, 2015). Some consider this to be a deviation from the core idea of 'sharing', wresting control from amateurs and empowering transnational corporations. At the same time, with increasing maturity, commercialization, and pro-

fessionalization, sharing services have become more available, more accessible, and thereby have continued to grow their user bases. They have also become more relevant as an economic and political factor.

Regulatory bodies, accordingly, are increasingly faced with the question of how to interpret, categorize and handle sharing services. Through a number of studies and analyses, the European Union currently strives to create a well-founded understanding of the sharing phenomenon and its implications. A number of policy initiatives on digitization, growth, education, and social standards are affected by the emergence of the sharing economy. Also, an increasing number of European companies are currently establishing sharing services – creating opportunity for growth and employment, but also challenges in terms of user participation, privacy and power.

Based on this observation, this study will focus on user participation in the sharing economy. It presents the findings of a thorough, international, and interdisciplinary literature review, addressing questions such as: Who currently participates in the sharing economy? Who still refrains from participating? What characterizes active sharers? What are dominant motives or attitudes driving some to participate and others to abstain? What levels or forms of participation can be distinguished? What are the relevant outcomes of participation in the sharing economy?

This report forms one part of a European Union Horizon 2020 Research Project on the sharing economy: **Ps2Share 'Participation, Privacy, and Power in the Sharing Economy'** (www.ps2share.eu). We aim to foster better awareness of the consequences which the sharing economy has on the way people behave, think, interact, and socialize across Europe. Our overarching objective is to identify key challenges of the sharing economy and improve Europe's digital services through providing recommendations to Europe's institutions.

The initial stage of this Research Project involves a set of three literature reviews of the state of research on three core topics in relation to the sharing economy: participation (this report), privacy (Ranzini, Etter, Lutz, & Vermeulen, 2017), and power (Newlands, Lutz, & Fieseler, 2017).

This study will proceed with some initial thoughts on the importance of participation in the sharing economy, deriving an analytical framework. It will then discuss the sociodemographic characteristics of sharers and non-sharers. Next, current findings on the motives and attitudes driving participation will be analyzed, followed by a differentiation of sharing behaviors and outcomes. This overview will conclude with some key findings as well as an outlook on critical questions for future research on participation in the sharing economy.

2. On Participation

Digital media have long been associated with hopes of greater participation. Social media, in particular, have been termed 'participatory media', due to their facilitation of the creation and sharing of content by lay audiences (Correa, 2010; Hargittai & Walejko, 2008; Schradie, 2011). In most cases, however, digital media are not conceptualized as the objects of participation, but rather as means of participation. In other words, users employ digital media to participate

in a cause or an action that goes beyond creative work. Recent reviews of online participation literature, for instance, have shown that most studies focus on participation in political causes. However, digital media also facilitate or permit participation in a range of other social domains, such as education, culture, or economic affairs (Literat, 2016; Lutz, Hoffmann & Meckel, 2014).

While some early observers were quite optimistic about the potential of digital media to facilitate participation, subsequent analyses have put forth perspectives that are more skeptical. Today, a number of conflicting theses on the participatory potential of digital media can be distinguished, with most focusing on political participation. While the 'mobilization thesis' holds that, due to their ease of access and use, digital media will increase the participation of the overall populace (Krueger, 2002), the 'displacement hypothesis', instead, suggests that Internet use would undermine meaningful participation, as people dwindle away their time surfing the Net (Putnam, 1995).

Finally, a third perspective, the 'normalization thesis', posits that the Internet would not change participation patterns in either direction, but rather reinforce established power structures, as those already engaged will benefit most from the participatory affordances of digital media (Jennings & Zeitner, 2003).

Of course, such discussions raise the question of what participation in the digital sphere actually means. In a political context, Verba, Schlozman & Brady (1995, p. 7) define participation as an *"activity that is intended or has the consequence of affecting, either directly or indirectly, government action*." Similarly, Park and Perry (2008, p. 191) define civic participation as "*individual and collective engagement in public affairs*."

Focusing more on cultural or creative contexts of digital media use, Jenkins (2006, p. 7) highlights the key role of content creation and sharing in online participation, which is associated "*with relatively low barriers to artistic expression and civic engagement*" and "*strong support for creating and sharing one's creations with others*", thus facilitating the generation of social capital ("where members feel some degree of social connection with one another"). Based on these notions, Lutz et al. (2014) define online participation as "*the creation and sharing of content on the Internet addressed at a specific audience and driven by a social purpose."*

Recent discussions have focused on the performative nature of online participation, with some critics speculating that various forms of online content creation and sharing may not be driven by conviction or affiliation with a cause, but rather by a wish to be perceived by peers as being engaged (Morozov, 2009). This, of course, questions the necessary qualities of an action for definition as 'participation'. Lutz and Hoffmann (2017) point out that online participation may be more or less active and voluntary, as some participants in an online cause may remain quite passive, while some may even be drawn into a cause by other users without their initial intent.

In political literature, participation is occasionally likened to a ladder, with the lower rungs signifying lower levels of engagement and/or power. In this vein, Arnstein (1969) differentiates 'nonparticipation', where individuals are being engaged (i.e., for education), from 'tokenism', where individuals are given the opportunity to collect information or give feedback (consultation), and finally from 'citizen power', where decision power is being shared or actually delegated to citizens.

In addition to the quality or 'levels' of engagement, the causes or domains of online participation can be differentiated. While the bulk of the available literature focuses on the political domain (Literat, 2016; Lutz et al., 2014), online participation also occurs in the context of economic or business transactions, as in the case of the sharing economy.

Many studies in the business domain focus on corporate perspectives and are characterized by analyzing asymmetric relationships between companies and stakeholders. For example, analyzing improvements to customer service or potentials for customization facilitated by online media (cf. Hoffmann & Lutz, 2015). Some studies, however, explore forms of online participation that imply a sharing of power. Terms such as 'co-creation' or 'prosumer' indicate that, in an online environment, individuals may evolve beyond a passive consumer role to adopt a degree of responsibility and ownership for the good being exchanged (Chaney, 2012; Ramaswamy, 2008; Sawhney, Verona & Prandelli, 2005). The economic or business context may therefore allow for higher levels of engagement and participation in the digital sphere.

As is well established in political literature, not all citizens desire heightened levels of engagement or participation, though. Many citizens may be satisfied with a rather passive consumer role, consciously avoiding the participatory opportunities afforded by digital media. Recent analyses have therefore questioned the normatively affirmative bias of much of the online participation literature (Casemajor et al., 2015; Lutz & Hoffmann, 2017).

Beyond the political domain, higher levels of participation are commonly conceptualized as preferable to lower levels of participation, as indicative of initiative, responsibility, and voice. In many cases the social valence of a cause is, however, far from uncontroversial and most are characterized by challenges as well as opportunities. When discussing the participatory effects of digital media, it is therefore necessary to refrain from hasty value judgments and critically balance the advantages and disadvantages of both participation and nonparticipation. Participation studies need to take user intent, motivation and attitudes into consideration when evaluating differences in participation intensity.

Of course, a critical point when discussing the advantages and disadvantages of participation is the question of who actually participates and who does not. As discussed above, theoretical perspectives differ on how digital media affect overall levels of participation: whether increasing them, decreasing them, or leaving them largely unaffected.

The digital divide literature has come a long way in exploring the antecedents of online participation and differentiating participatory media effects on distinct segments of the population. A sizeable stream of research focuses on the socio-economic antecedents of online participation, mostly finding that male, younger, higher educated, and higher income individuals tend to be more engaged online (Correa, 2010; Hargittai & Walejko, 2008; Schradie, 2011). Commonly, this is framed as a disadvantage to older, female, lower educated, and lower income citizens, thus rendering the 'participation divide' a salient socio-political challenge. More recent analyses, however, have called for a careful and differentiated understanding of the 'participation divide', as socio-economic effects may differ by form and context of participation, while participation may not always be deemed beneficial (cf. Blank, 2013; Casemajor et al., 2015; Hoffmann, Lutz & Meckel, 2015; Lutz & Hoffmann, 2017).

Given the state of research, it would be inaccurate to refer to either 'a' or 'the' digital or participation divide, as studies have effectively found a range of divides among the population.

In an influential model, Van Dijk (2005) differentiates various levels of access necessary for online participation to occur: motivational, material, skills, and usage access. As pointed out in the context of the valence of participation, not all individuals may wish to participate actively; some may simply lack the motivation to do so. In other cases, individuals may wish to participate but lack the material resources necessary to do so. The importance of resource availability for participation has long been stressed in the political literature. The 'resource model' of participation (Brady, Verba, & Schlozman, 1995) postulates that participation necessitates the availability of resources such as time, money, and skills. Van Dijk´s model (2005) accordingly incorporates a number of skills necessary for effective or constructive online participation.

Several studies have pointed out that socio-economic and psychological antecedents of online participation are closely related and frequently difficult to distinguish (Hargittai & Hinnant, 2008; Van Deursen & Van Dijk, 2010). Lower levels of education, for example, may be associated with motivational divides, while gender and income may be related to skills divides. Cultural context can also be held to play a crucial mediating role in these relationships, as local cultural settings affect how socio-economic properties translate into motivational, attitudinal, skills, or resource divides. To date, there is insufficient comparative digital divide research to estimate with a degree of reliability the effect of cultural antecedents on the socio-economic stratification of online participation.

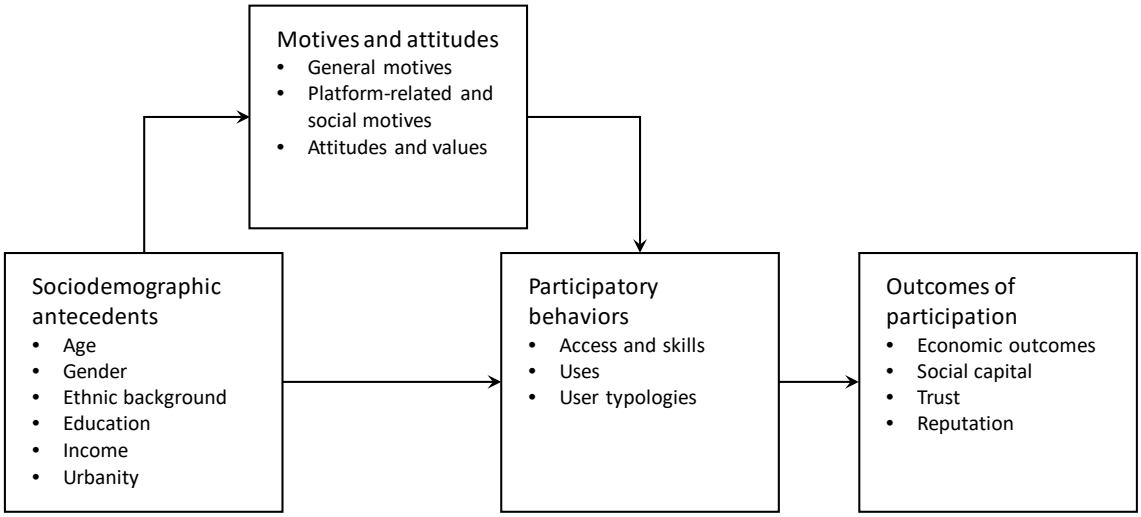

Figure 1: Analytical framework

In this review, we will focus on socio-economic and socio-psychological antecedents of (non-)participation and take local differentiations into account (see Figure 1). The purpose of this literature review is to compile the state of research on the socio-economic stratification of participation and nonparticipation in the sharing economy, as well as to provide an overview of current findings on motivational and attitudinal divides. We will differentiate participatory behaviors and briefly touch upon the question of social valence by taking research on the outcomes of participation in the sharing economy into account.

3. Sociodemographic Antecedents of Participation

In this segment, the literature review will provide an overview of the current state of research on the sociodemographic stratification of (non-)participation in the sharing economy and the key sociodemographic antecedents in this context (see Figure 2).

Age

In large-scale systematic surveys such as Smith (2016) and Eurobarometer (2016), as well as surveys conducted by consultancies such as PwC (2016), ING (2015), Deloitte (2015), and Vision Critical (2013), age is shown to be roughly inversely correlated with participation in the sharing economy. In a Eurobarometer (2016) study, the 25-29 age group is the most likely to have heard of the sharing economy. Similarly, in the Pew Survey presented by Smith (2016), a third of respondents in the 18-45 age group had used a sharing economy platform in the past. Non-academic literature confirms this relationship (see ING, 2015; PwC, 2015). A qualitative study by Schor et al. (2016) on a food-swapping platform also found that participation was almost exclusively by younger women.

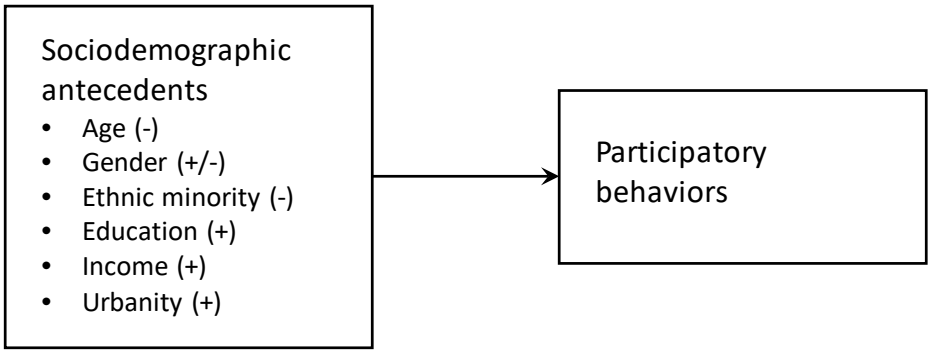

Figure 2: Key sociodemographic antecedents of participation

Gender

Gender emerges as a more complex antecedent of participation in the sharing economy. A Eurobarometer survey (2016) found that men (21%) are more likely than women (15%) to have heard of sharing economy platforms. Men (43%) are, accordingly, less inclined to say that they have never heard of these platforms than women (48%). On the other hand, Smith (2016) found that men and women have the same intensity of use.

Although there seems to be no profound gap in access to the sharing economy, men and women have been shown to participate in different ways, frequently in accordance to traditional gender roles. Schor et al. (2016), for instance, found that men are overrepresented in both the makerspace CraftWork, a platform for artisanal working, and in the education initiative Wintrepreneur, which provides education courses for (micro-)entrepreneurs and start-up founders. Women, however, participate more on food swap platforms to trade and share homegrown and homemade food and in time banks, where time is an object of trading and sharing.

Ethnic Background

In studies from the US, much of the available literature on participation in the sharing economy discusses ethnicity as an antecedent of participation in the sharing economy. Access to the sharing economy shows a degree of overrepresentation among the white population, as Schor et al. (2016) found in their analysis of different platforms, such as time banks, food swaps, makerspaces, and education initiatives.

Edelman, Luca & Svirsky (2016) provide data that African-Americans active on Airbnb have a 16% smaller chance of receiving a positive answer on an apartment request, independent of characteristics of the provider, the object of request, or its location. Participating as providers on Airbnb, African-Americans also earn around 18 Dollars per less than other providers, independent of the facilities, the pictures of the apartment, and user ratings (Edelman & Luca, 2014). Similar results are shown by Cansoy and Schor (2016) who, in an analysis of US-Census-areas, showed that aggregated offers on Airbnb show lower quantity and lower numbers of reviews, but higher prices in areas with a greater proportion of white population.

According to another study (Rosenblat et al., 2016), racial discrimination might be taking place on Uber, particularly in terms of users' rating of drivers. *"Consumer-sourced ratings (…) are highly likely to be influenced by bias on the basis of factors like race or ethnicity. If a platform bases material employment determinations on such ratings, these systems – while appearing outwardly neutral – can operate as vehicles through which consumer bias can adversely impact protected groups"* (p. 7).

Education

Level of education appears to be one of the most crucial determinants of participation in the sharing economy. Both Eurobarometer (2016) and Smith (2016) state that people with a higher level of education are more likely to engage in the sharing economy, either as providers or as consumers. In the Eurobarometer (2016) study, 23% of people with 20 or more years of education report that they had used sharing economy platforms. Conversely, use was only reported by 13% among respondents with 16-19 years of formal education and just 4% among respondents with less than 15 years of formal education. Still, according to Eurobarometer (2016), education is a strong predictor of both paid usage (having paid money on a sharing economy platform) and strong usage (regular use of one or more sharing economy platforms). Smith (2016) provides more fine-grained data. However, results are very similar as college graduates are found to be more likely to use car-sharing platforms (29% compared to 6% of high school graduates) or home-sharing platforms (25% compared to 4%).

ING's (2015) survey also finds a strong correlation between education and the use of sharing economy platforms. In the study conducted by Schor et al. (2016), time bank and makerspace users were characterized by higher education levels. Users of time banks tended to use their higher education only as informal entrance to the sharing platform, while preferring to try out simpler, non-professional activities in their offered amount of time.

On the makerspace CraftWork, users are supposed to work creatively towards self-fulfillment and on their own projects. Those who came in with a more instrumental idea of using CraftWork to solve only temporary problems and those with lower practical knowledge

were discouraged. The study of Cansoy and Schor (2016) gives some hints that there is an educational gap in success within the group of participants of sharing platforms. Looking at the average educational level of census-areas on Airbnb, areas with higher education levels correlated with a broader variety of offers, a larger amount of user reviews, and larger prices demanded. Schor (2017) estimates that the sharing economy reproduces inequality in that better educated participants gain more from those platforms by offering non-professional labor, instead of leaving it to those with lower educational levels. By doing this, they can affirm themselves in the light of social and environmental sustainability.

Income

Analogous to education as a key indicator of social status, the aforementioned literature also indicates that the sharing economy is used primarily by employed and wealthy people. Pew's survey (Smith, 2016) explicitly considers household income, whereas Eurobarometer (2016) does not. However, Eurobarometer (2016) does consider employment status which may serve as a rough but powerful proxy in this regard.

In both studies, higher income (or higher employment status) correlates with participation in the sharing economy. In Smith's (2016) study, individuals living in households with an income of more than 75,000 USD are more likely to use both car-sharing and home-sharing platforms. One fourth of American adults in the highest income (75,000+ USD) and education (college graduate) brackets had used home-sharing services. However, only four percent in the lowest income (< 30,000 USD) and education (high school graduate or less) brackets had done so. In Eurobarometer's survey (2016), employees (26%) and self-employed individuals (25%) are more likely to use sharing economy platforms than manual laborers (14%) or unemployed persons (11%). Based on qualitative interviews, Schor (2017) concludes that quite a few providers active on Airbnb, RelayRides, and TaskRabbit use these platforms for extra income.

In the way that education appears to be a door opener for the sharing economy, income and wealth – especially the availability of lettable capacities – seems to be a necessity to gain access to profit-oriented participation. Those who do not possess a car or free living space cannot provide it on sharing platforms. Consequently, those with less income and wealth migrate to other areas of the sharing economy, such as crowdworking, where requirements in terms of economic capital are lower, as are the economic gains. At this point, it appears that the sharing economy tends to reinforce existing economic inequalities. On an aggregated level of analysis, the results of Cansoy and Schor (2016) confirm that those census-areas with higher median income provide a lower amount of offers, but generate higher prices.

Urbanity

Urbanity also seems to be strongly correlated to interest in the sharing economy. Smith's (2016) survey finds that, in the US context, individuals residing in an urban environment are more likely to use both car- and home-sharing services. A Eurobarometer study (2016) finds a strong correlation between living in an urban area, knowledge of sharing economy platforms, and willingness to provide on those platforms. Give these premises and previous sociological

literature, it can be hypothesized that the causal path connecting urbanity to an increase in sharing economy participation is twofold.

On one hand, it makes sense for platforms (especially of the for-profit variety) to concentrate on urban areas, given the abundance of demand. On the other hand and more interestingly from a sociological standpoint, dense urban areas may be of strategic value because of their ability to sustain fiduciary networks (cf. Storper & Venables, 2004). While algorithms may supplement ordinary trust and reputation building, it could be possible that people living in dense urban areas may be more familiar with the act of trusting a stranger. They have been exposed to an urban renaissance in the past 20 years, built exactly on the same foundations but without a third party platform mediating trust with reputational 'scores'.

Enlarging the picture outside urban borders, future research should consider how areas (urban or otherwise) with a higher supply of social capital correlate with participation in the sharing economy. While there is a lack of literature on these matters, Manzo and Ramella (2015) present some preliminary findings by mapping how a strongly connected topic (the diffusion of fablabs) correlates with locally available social capital.

As discussed above, the sociodemographic stratification of participation in the sharing economy highlighted in a number of empirical studies paints only a rough picture of possible causes of participation and nonparticipation. To gain a better grasp of root causes of participatory behaviors, user considerations – their motives and attitudes – need to be taken into consideration.

4. Motives and Attitudes as Antecedents of Participation

Generally, there is relatively little research expressly addressing motives for participation in the sharing economy or their role in mediating socio-economic effects on (non-)participation. A number of surveys focus on the consumer end of the sharing relationship, analyzing perceived benefits of using sharing services. A Eurobarometer (2016) study found that sharing benefits are largely based on convenience and monetary benefits, "*When asked about the main benefits of collaborative platforms, around four in ten respondents of those who are aware of collaborative platforms (41%) say that access to services is organized in a more convenient way. Around a third mention the fact that it is cheaper or free (33%), and around a quarter identify the ability to exchange products or services instead of paying with money (25%) and the fact that these platforms offer new or different services (24%) as the main benefits of collaborative platforms"* (p. 15).

A study conducted by Deloitte (2015) on the state of the sharing economy in Switzerland found that 65% of the surveyed population considers lower costs a key benefit of sharing services, while 63% believe it may offer more sustainable consumption. 49% of the population welcome an increase in choice and 40% welcome an increase in convenience. A Pew study (Smith, 2016) of the US population found that 86% saw convenience (i.e., less time and stress) as a major benefit of ride hailing services, followed by job opportunities (80%), mobility for the elderly (73%), affinity to chosen drivers (70%), and lower costs (68%). Home-sharing services were judged as family-friendly (87%), a convenient source of income (85%), and inexpensive (73%). A US study by consultancy PwC (2015) found similar results, with low costs (86%), con-

venience (83%), community (78%), and sustainability (76%) as the most widely perceived advantages of sharing services in general. Similarly, based on a survey of Lithuanian millennials, Grybaitė and Stankevičienė (2016) identify a number of key benefits of various sharing services, including monetary incentives, altruism/mutual support, social connections, and entertainment.

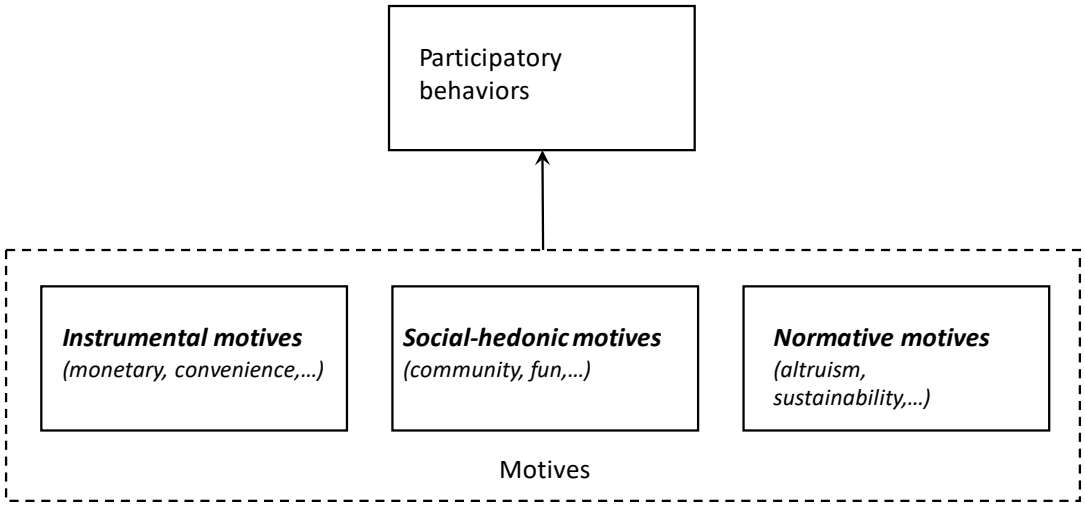

Figure 3: Key general motives for participation

In a conceptual piece on sharing and collaborative consumption, Belk (2014) points out that sharing is characterized by both functional and altruistic motives. In other words, individuals engage in sharing because they require an object or service. At the same time, sharing implies social quality, bonding, and reciprocity, whereby sharing can be understood as a communal phenomenon. Accordingly, altruistic motives for sharing tend to complement functional ones. Norms of caring, generosity, and kinship play an important role in sharing. In this vein, Möhlmann (2015), based on two quantitative surveys of German users of Airbnb and B2C car sharing service Car2Go, finds that community belonging and utility are key drivers of repeatedly employing a sharing service. In a survey of US users of accommodation sharing services, Tussyadiah (2016) finds that enjoyment and economic benefits are the strongest predictors of repeat use.

Based on qualitative interviews of both consumers and providers active on a range of sharing platforms, Bellotti et al. (2015) identify eight distinct use motives: value/morality (including community-orientation and sustainability), social influence (reciprocity and social norms), status/power (social capital, self-improvement), social connection, intrinsic motives (enjoyment, flow), safety, and instrumental motives (cost, convenience). The authors find that while providers frequently cite social, moral, and altruistic motives, consumers are primarily geared towards instrumental motives.

Bucher, Fieseler & Lutz (2016) conducted both a qualitative and quantitative survey of active sharers, recruited from users of Amazon Mechanical Turk. They identify three key motives for sharing: a monetary motive (generating income or saving on costs), a moral motive (altruism, sustainability, community support), and a social-hedonic motive (bonding, community participation). Social-hedonic motives are shown to have the strongest effect on positive attitudes

towards sharing, followed by moral and monetary motives. Unsurprisingly, the monetary motive has a more pronounced effect among users geared more towards the commercial use of sharing platforms.

Böcker and Meelen (2016) conducted an insightful survey among Dutch Internet users to analyze three distinct use motives for a number of sharing services among both users and providers: economic, environmental, and social motives. They find that economic motives gain in importance the more valuable the good shared. Social motives tend to be relatively important for accommodation- and meal-sharing, whereas environmental motives are more important for ride-sharing. The authors also explore socio-economic antecedents of sharing motives and find that older users tend to be less economically and more socially motivated. Environmental motives are found to be more important for women than for men. Economic motives also tend to be more important for lower-income individuals, with ethnicity and household type showing no significant relationship to sharing motives.

Hellwig et al. (2015) attempt to differentiate sharing consumers based on motives and socio-economic traits, using survey data collected from among Swiss and German citizens. The authors differentiate integrated motives (primarily joy, fun, and social-oriented motives), extrinsic motives (such as utility or financial motives), and introjected motives (feelings of responsibility and guilt). While framed somewhat differently, these findings are in line with studies focusing on economic/monetary, social-hedonic, and moral/sustainability motives. Based on socio-economic status (SES) and a number of other traits, the authors identify four clusters of 'sharers'. They are termed 'idealists' (intrinsically motivated, largely female, high sociability), 'normatives' (high introjected motivation, medium SES), 'pragmatists' (primarily economically motivated, largely male), and 'opponents' (relatively high-SES, generally low motivation).

To summarize, three motives tend to dominate the state of research on motives for participating in the sharing economy (see Figure 3): instrumental motives (economic/monetary, sometimes in combination with functional motives, such as convenience), normative motives (primarily geared towards sustainability, but also altruism), and social-hedonic motives (including enjoyment as well as community/social motives). Studies highlight that the respective importance of these motives (or clusters of motives) depend on the sharing service in question as well as on personal characteristics of the users, the latter indicating the mediating role of motives in socio-economic distinctions of participation.

Platform-related and Social Motives

When framing sharing platforms as media platforms, uses and gratifications theory (UGT) could be applied to gain a more fine-grained understanding of salient motives. Uses and gratifications theory proposes that media users actively choose to employ specific media to gratify certain needs (Blumler, 1979; McLeod & Becker, 1981). McQuail (1997) proposed five distinct media uses, each providing specific gratifications: information/education, entertainment, social interaction, identity promotion, and stress relief. Distinct uses thus affect the level of media usage. Motives, such as entertainment and stress relief, can be found in the hedonic motives for participation on sharing platforms (cf. Bucher et al., 2016). Similarly, social or community motives have been discussed in a sharing context. Interestingly, no studies on the im-

portance of information motives for the use of sharing platforms were found in the course of this review.

The importance of social or community motives in the context of sharing platforms is unsurprising given the affordances of these platforms. Since online media facilitate communication between users, Internet uses can be directed both at service providers or at other users (LaRose & Eastin, 2004). Studies focusing on social media usage found that gratifications received from other users play an especially important role in this context. These include connection and belonging, self-presentation, gaining attention and affection, and information seeking directed at other users (Chen, 2011; Leung, 2013; Nadkarni & Hofmann, 2012; Seidman, 2013).

As opposed to earlier online services, such as message boards or chat rooms, social platforms are predominantly 'nonymous' in nature. Their purpose is to allow self-expression (Zhao, Grasmuck & Martin, 2008), interpersonal connections, and the generation of social capital (Ellison, Steinfield & Lampe, 2007; Kane et al., 2014). Therefore, the benefits of social platforms can be gathered as long as users maintain an identifiable, as opposed to anonymous or pseudonymous, online-presence (Nosko, Wood & Molema, 2010; Vitak, 2012). Personal profiles are conscious self-presentations as they are based on users' considerations of how they want to be perceived by others (Ellison et al., 2006, Ellison, Hancock & Toma, 2011; Zhao et al., 2008). Managing an online profile, therefore, constitutes an act of impression management (Goffman, 1959; Rosenfeld, Giacalone & Riordan, 2001).

In an experimental study of Airbnb user profiles, Fagerstrom et al. (2017) point out the importance of online self-presentation in that providers' facial expressions were shown to affect buying behavior. Similarly, Ert, Fleischer & Magen (2016) analyze trust inferences based on Airbnb user photos. These findings touch upon the challenge of discrimination in the sharing economy, as studies find that ethnic minorities may find it harder to connect to consumers, resulting in reduced income opportunities (cf. Edelman & Luca, 2014).

Hamari (2017) conducted an experimental study based on a peer-to-peer trading service platform. In the vein of gamification, the platform introduced 'badges' for core activities such as logging in, posting proposals, transactions, and comments. As a result, all incentivized activities rose significantly. This finding also indicates that self-presentation and impression management may play an important role in use motivation. Pera, Viglia & Furlan (2016) analyze user profiles on an accommodation-sharing site, identifying archetypes used in storytelling approaches employed by users for purposes of self-promotion.

In addition to providers, impression management may also play a role for consumers in the sharing economy. In a qualitative study of car-sharing users, Bardhi and Eckhardt (2012) point out that usage is associated with symbolic capital. Users of car-sharing position themselves as modern, savvy, and responsible consumers. Participation in the sharing economy may therefore be perceived as *"a cool, trendy, hip, green consumption alternative to ownership"* (p. 890).

Attitudes and Values

Symbolic capital will strongly depend on local or communal social norms. For example, in a Deloitte (2015) study of the Swiss population, only 32% of the surveyed German-speaking

population said that they were in favor of the sharing economy, with 50% being not in favor, whereas in the French-speaking population, 65% found themselves in favor, with 9% being not in favor. A Pew study (Smith, 2016) of the US population found that attitudes differed in terms of the necessity to regulate sharing services, particularly of ride- and accommodation-sharing, with conservatives seeing less of a need for regulation than liberals.

A UK study found that the main concerns regarding sharing were personal safety (34%) and property damage (29%), with 41% of respondents saying that they were generally unwilling to share their possessions with strangers (Veridu, 2016). A Eurobarometer (2016) found that 41% of respondents worried about personal accountability in sharing transaction, while 28% did not trust Internet transactions in general.

Finally, a study by IPSOS (2017) found that Italians associate the sharing economy with descriptives such as 'convenient' (23%), 'temporary answer to the economic crisis' (23%), 'innovative' (21%), 'useful form of barter' (20%), 'environmentally sustainable' (16%), 'modern' (16%), 'ethical' (14%) and 'good for meeting new people' (12%). However, the choice of descriptives was limited in the study and the level of assent was generally relatively low.

User attitudes also appear to play a role in the relationship between motives and sharing behavior, that is (non-)participation. Based on the theory of planned behavior, Bucher et al. (2016) conceptualize motives as antecedents of positive attitudes towards sharing. Hellwig et al. (2015) employ both attitudinal traits and motives in their differentiation of sharing clusters. Similarly, Lamberton and Rose (2012) examined attitude-based subjective utilities as predictors of car-sharing intentions. They found that neither moral, social utility, nor anti-industry attitudes had any significant effect. Instead, only monetary and instrumental considerations predicted sharing intentions.

Based on a survey of users of the sharing platform Ecomondo, Piscicelli, Cooper & Fisher (2015) analyze individual values common among this sample of sharers. They find that, relative to non-users, the surveyed sharers scored high on universalism and openness to change, while scoring relatively low on self-enhancement and conservation values. In part, this pattern may explain users' general openness towards new online platforms. Yet, it may also contribute to the subjective importance of social or community as well as to moral or sustainability motives among sharers.

In an analysis of press coverage of sharing platforms, Martin (2016) points out that conflicting frames dominate the public discourse on sharing, with some stressing economic opportunity, decentralization, and sustainability, while others focus on the lack of regulation and reinforced neoliberalism. It can be speculated that these conflicting frames find an equivalent in common attitudes towards the use of sharing services. John (2013) argues that narratives in the sharing economy are based on values of equality, mutuality, openness, or care, similar to intimate interpersonal relationships (cf. Belk, 2014 on sharing and pseudo-sharing). Banning (2016) proposes the term 'entanglement' to critique how sharing services employ affectively affirmative frames to lure users into participation in the sharing economy.

Mikołajewska-Zając (2016) recounts a case in which an accommodation-sharing platform professionalized its services, turning from a non-profit to a for-profit business model. She describes how users geared more towards communal and altruistic values strongly opposed this change, while others, driven more by pragmatic and instrumental attitudes, did not find the

change problematic at all. Hwang and Griffiths (2017) present an experimental survey in which a student sample was surveyed regarding their attitudes and use-intentions of a car-sharing service. The study finds that hedonic and utilitarian values predict positive attitudes towards the sharing platform, while symbolic values had no significant effect. This finding would question the importance of impression management, at least for the consumptive use of sharing platforms.

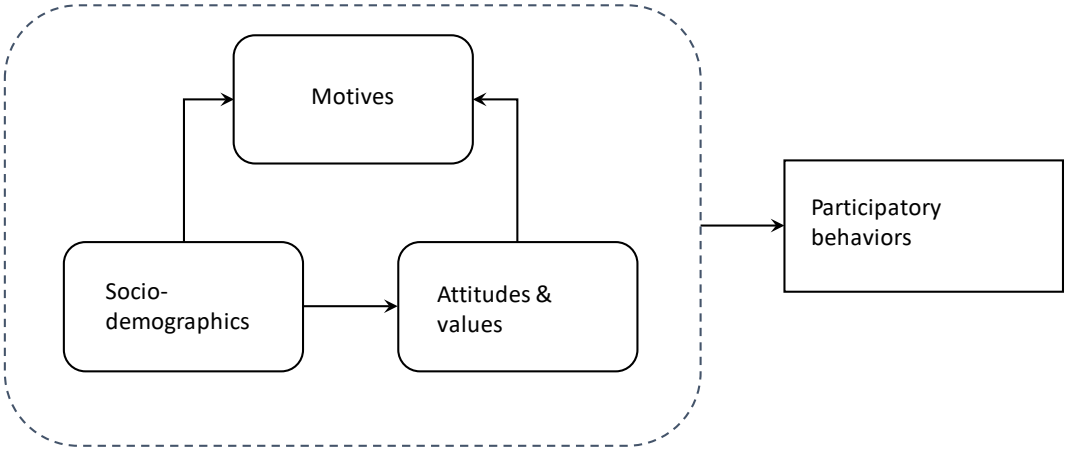

Figure 4: A social milieu perspective on participation

To summarize, personal values and attitudes can be assumed to affect the relationship between motives and (non-)participatory behavior. Again, socio-economic variables may be associated with distinct attitudes or value sets. Accordingly, the mediating role of motives between socio-economics and (non-)participation may be partly explained by attitudes or norms distinctive to socio-economic groups. Social and symbolic capital may play a key role in the salience and valence of various potential benefits of sharing services. Attitudes and norms could also moderate the effect of socio-economics on use motives, as the salience and valence of these motives may differ systematically by social milieu.

5. Behaviors: Degrees of Participation

To participate in the sharing economy, citizens need to have access to and be able to use the respective digital platforms. In some instances, these uses can be quite complex, requiring significant skill sets. Previous research on the digital divide comes in handy to understand and conceptualize the different levels of participation within the setting of sharing platforms. As many scholars in the field have pointed out, the digital divide is not simply a dichotomous difference between 'Internet haves' and 'Internet have-nots'. Digital inclusion is a multifaceted concept that incorporates access, skills, uses, and outcomes of Internet use (Blank & Lutz, 2016; DiMaggio et al., 2004; Hargittai, 2002; Helsper, Van Deursen, & Eynon, 2015; Van Dijk, 2005).

TA number of authors frame the digital divide as "digital inequality" to stress its multifaceted character, as unequal participatory behavioral patterns affect socio-economic benefits de-

rived from relevant fields of society such economics, politics, culture, spatial mobility, social institutions, social networks, and communities. Hence, the digital divide might also have a meaningful impact on the levels of participation in the sharing economy. In this segment, the concept of participatory behavior(s) is differentiated to take account of the complexity of the phenomenon (see Figure 5). Such a differentiated understanding is required for in-depth analyses of the benefits and challenges associated with (non-) participation in the sharing economy.

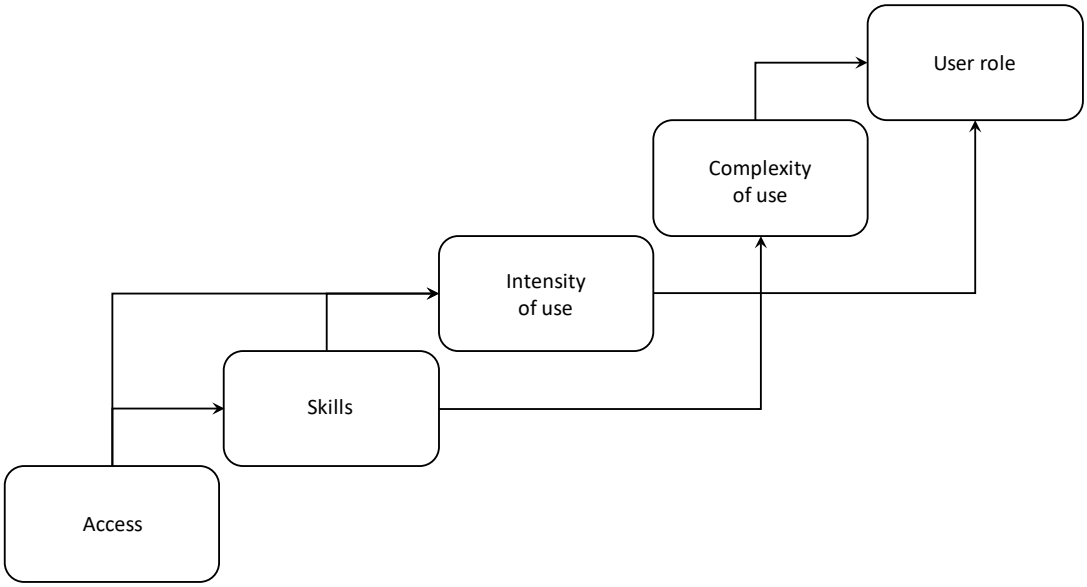

Figure 5: Behavioral cascade (based on Van Dijk, 2005)

Access and Skills

Scholarship on the digital divide claims that Internet access is, in itself, a multidimensional concept. For example, Van Dijk (2005) distinguishes between 'material access' and 'motivational access'. Whereas 'physical access' is ownership of the technologies necessary to go online, 'motivational access' is expressed through attitudes favorable to accessing to the Internet.

Differences in 'physical access' are related to an unequal distribution of resources (temporal, material, social, and cultural) that in turn can be accounted for by ascribed categories such as age, gender, intelligence, personality, ability, and position in society (labor, education, and household position). Motivations for non-use might include a lack of interest, lack of perceived need for usage opportunities, lack of time, negative attitudes towards the medium, or perceived lack of skills.

In Western countries, technology non-use is often the result of individual choice by people that do not consider ICT relevant in their life (Dutton & Helsper, 2007; Selwyn, 2006). However, non-users are often vicarious Internet users who rely on friends, family members, or coworkers to go online. They experience the Internet 'second-hand' (Selwyn, 2006). In Switzerland, for example, a representative survey of the population showed that 88 out of every 100 people use the internet, while 5 more benefit by asking relatives or friends to do something for them online (World Internet Project, 2015).

Overall, digital inequality scholarship has stressed the relevance of social support, such as help from family, friends, and other people in the extended network, as crucial for being able to make effective use of information communication technologies (Bakardjieva, 2005; Courtois & Verdegem, 2016; DiMaggio et al., 2004; Yuen, Jae Park & Cheng, 2016). Although data is not yet available, both vicarious Internet access and social support may well contribute to extended participation in the sharing economy.

A second important dimension of digital inequality comprises digital skills. As soon as Internet use became widespread, scholars showed that digital skills were distributed unequally among the population, along traditional sociodemographic variables. That meant that the digital divide was not closed, even if online access was very common (Hargittai, 2002). Having the essential know-how for using digital media effectively and efficiently is indeed a precondition for benefiting from what the Internet has to offer. At the same time, it is a precondition for protection from the harms or negative consequences of the Internet.

The necessary skills for using the Internet are constantly changing as new types of platforms develop and become dominant. Drawing from the literature, it is possible to identify different types of skills. For example, Van Dijk (2005) differentiates between 'medium related' and 'content related' skills. The first type includes 'operational' and 'formal' skills, those that are the most basic and are necessary to be able to use the computer and navigate online. The second type includes 'informational' and 'strategic' skills that imply being able to locate, critically evaluate, select information online, and use the web effectively to reach particular goals. Young people are more proficient than adults in 'medium related' skills. However, adults seem to be more savvy than youth in terms of information skills (Van Deursen, Van Dijk, & Peters, 2011).

While these skills certainly matter for effective participation on sharing economy platforms, further types, conceptualized more recently, such as privacy-related Internet skills or online content-creation skills, might also have a prominent role. Several studies examine privacy-related skills (Bartsch & Dienlin, 2016; Hoofnagle et al., 2010; Litt et al., 2014; Park, 2013), with some even developing measurements related to a specific platform. For example, Litt et al. (2014) created an index to measure perceived Facebook skills in which respondents had to rate their level of understanding of eight Facebook activities (such as 'hiding a post from your profile'). So far, however, no studies have assessed skills for the use of sharing platforms. Regarding skills for online participation, Jenkins et al. (2006) have proposed the concept of 'new media literacies'. However, his framework was not tested empirically (for an exception see Literat, 2014), and so far there is limited research specifically on skills for online participation through content creation (e.g. Van Deursen, Helsper, & Eynon, 2015).

Uses

Internet uses constitute the third dimension of digital inequality. Usage is the final stage and ultimate goal of the process of technological appropriation. However, significant variations exist according to type of online activities habitually performed online, breadth of use (i.e., range of diverse activities), and engagement through online content creation and sharing. In this regard, scholars have identified a 'usage gap' between people in differing social classes and education that was compared to the phenomenon of the 'knowledge gap' observed in the 1970s

for information conveyed by mass media (Bonfadelli, 2002; Cho et al., 2003; Park, 2002; Van Dijk, 1999, 2005).

Users from more privileged socio-economic and cultural backgrounds use the internet more for capital-enhancing purposes (Bonfadelli, 2002; Zillien & Hargittai, 2009), such as looking up economic information or political news, whereas less advantaged users prefer entertainment uses. This finding has been compared to the 'San Matthew effect'. Internet usage offers more resources to those who are already in privileged positions and this could further improve their societal positions. This dynamic might holds for both intensity and complexity of use, and may also present itself in the use of sharing platforms (frequently capital-enhancing activities).

Sharing economy platforms do enable online participation, in the sense of content creation and sharing, not just information consumption (Blank, 2013). Overall, however, researchers concur that only a minority of Internet users habitually engage in online content creation such as managing a blog or a YouTube channel. Only a section is active in interest-driven online networks or other sophisticated forms of online participation. In a study among young people, for example, Ito (2009) identified three levels of participation as 'hanging out', 'messing around', and 'geeking out'. The latter, the more advanced, was performed only by a tiny minority of users.

A similar trend has been found for sharing platform use. Eurobarometer (2016) data point out how 'occasional use' is the predominant mode of engagement, with only 4% of users engaging regularly (every month). Smith's (2016) survey reports similar figures for ride-sharing apps, with 'occasional use' covering 56% of all use. Overall, the prevalent type of engagement is occasional (characterized by low commitment and low contribution), with the presence of a small niche of 'hard-core' users habitually engaging with the platform.

This pattern is verified by ethnographic accounts. Arvidsson et al. (2016) find similar patterns in their study on commons-based peer production projects and maker spaces (cf. Anselmi & Chiappini, in press). Only a small dense core of members engaged in maintaining the lab. However, as actual empirical accounts are rather sparse, evidence should be regarded as preliminary at best. For example, Arcidiacono and Pais (2016), while surveying the ride-sharing app BlaBlaCar, found that 'heavy users' cover 45.1% of the sample. It may be a platform-related effect or evidence that things are somewhat more complex than in the case of previous accounts. However, there remains a relevant need for new research on this area.

Types and Profiles of Participatory Behaviors

When taking access, skills, use intensity and complexity into account, it is possible to derive typologies of participants in the sharing economy. Such typologies and distinctive use(r) profiles best account for the various dimensions or levels of participatory behaviors in a digital context. In contrast to most types of online participation, sharing economy platforms are distinctive in that they naturally enable three different user roles and forms of participation:

1. as a 'consumer' (users who consume a good that others have made available),
2. as a 'provider' (users willing to provide a good),
3. as a 'shareholder' (users able to appropriate part of the revenues produced by a sharing economy platform).

The only accounts available for 'shareholders' are largely critical (cf. Morozov, 2014; Scholz, 2016a) and deal with the consequences of the concentration of control and power in the hands of a technological elite. Furthermore, Langley and Leyshon (2016) point out that corporate sharing platform shareholders behave as rent-seeking agents without participating in profit sharing or other horizontal forms of participation. An alternative would be user-owned platform-cooperatives (Scholz, 2016b). However, no relevant empirical accounts exist and future developments in this area are needed. This is especially the case given the diffusion of platform-cooperatives (Scholz, 2016b) which hold the promise of diffusing shared ownership of digital platforms.

The ratio between 'consumers' and 'providers' is clearly in favor of the former. Eurobarometer (2016) distinguishes between 'generic users', that is, users who seek services on sharing platforms, and 'providers', that is, users who provide services. Overall 17% of the Eurobarometer (2016) respondents declared themselves to be sharing platform users either as consumers or as providers, while 5% are providers. Among platform users, 9% of respondents state that they have offered their services once on sharing platforms, 18% declare that they have offered services occasionally (once every few months), and 5% say that they have continuously offered services (every month).

According to PwC's (2016) survey for ride-sharing platforms, 8% participate as 'users' and only 1% as 'producers'. In the case of home-sharing, the figures are 6% and 1.4% respectively. Although these data seem to suggest a 'user-provider divide', the value of this ratio is not comparable across different platforms. Indeed, 'provider' signifies different things on different platforms (Schor, 2016). For example, on Airbnb, providing means being able to use an immobile asset to increase personal income, in Relay rides providing means another way of selling labor on the market, and in the case of Taskrabbit providing means something in between selling your labor and engaging with your DIY skills in a playful way (Schor, 2016).

In the literature, some distinct profiles of users were identified in order to indicate distinctive cultural meanings that the Internet has for different groups and segments of a society. Dutton and Blank (2015) identified five profiles, taking into account attitudes and beliefs about the Internet, in a representative sample of the UK population. The profiles are: 'e-Mersed', 'Pragmatists', 'Cyber-savvy', 'Moderates', and 'Adigital'.

Each profile is associated with different patterns of use: the 'e-Mersed', which are only 12% of the population, are the most likely to use the Internet for a great variety of purposes and engage in online content production. They are followed closely by the 'Cyber-savvy' (19%). 'Pragmatists' (17%) are more oriented to information retrieval. 'Moderates' are the biggest group (37%) and this "*underscores the degree to which a large proportion of Internet users do not fit into the stereotypes of enthusiasts"* (p. 24). Using multinomial logistic regressions, the study shows that cultural dispositions are more effective than sociodemographic variables in explaining the profile to which an individual belong to. Most importantly they found that "*openness to learn new things" (which is independent from other variables) explains taking advantage of the Internet. Open to learn, indeed, explains falling into the "e-Mersed" group and, together with self-perceived skills, the Pragmatic group. This shows that the Internet is "an experience technology", the more is used the more is valued and "(e)xperience is a prerequisite for sophisticated and effective use"* (p.22).

Similarly, Hellwig et al. (2015) delineate clusters of sharing profile users based on motivational, perceived socio-economic, and behavioral variables. They assume that sharing correlates with mindsets and dispositions, not just purely demographic variables. Differences in sharing behavior are explained with individual dispositions towards sharing such as intrinsic, extrinsic, or introjected motivation, subjective perception of socio-economic resources, or perceived resource scarcity. The type with the highest actual sharing behavior ('Sharing idealists') have a strong intrinsic motivation and are the least likely to perceive themselves as being short on resources. Interestingly, among those with the lowest sharing behaviors, 'Share opponents', there is the highest number of social media deniers with 55.1% having no Facebook account.

In-depth case studies of single platforms also came up with typologies of user profiles according to degrees of participation. For example, Arcidiacono and Pais (2016) considered purposes of use together with actual use for the ride-sharing platform BlaBlaCar. They identify different types of users: 'experienced travelers' and 'young explorers'. The first type, besides being 'veterans' of the platform and being mainly composed of 'heavy users', tends to use the platform for work-related travels. The second type is focused on leisure-trips and use the services less frequently.

In another example, Ozanne and Ballantine (2010) develop a fourfold taxonomy for toy library users according to level of interaction with other members. They suggest the following types: 'Socialites', 'Market avoiders', 'Quiet anti-consumers', and 'Passive members'. 'Socialites' use toy libraries to engage in social interaction with other users and thus fully participate to the community. 'Market avoiders' and 'Quiet anti-consumers' are respectively less interested in connecting with other users and more willing to use the toy library as a way to circumvent market prices on shareable goods. 'Passive members' don't show any significant level of involvement with the community.

The importance of differentiating degrees of participation and types of use(r)s becomes most obvious when considering the consequences of active participation. Besides allowing for cheaper ways of consuming services and given that we have preliminary evidence of the sharing economy contributing to economic inequality both vis-a-vis platform shareholders (Scholz, 2016a) and within the 80% (Schor, 2016), it is necessary to explore whether or not sharing economy platforms can provide added benefits besides an increased level of consumption. More specifically, can active participation translates into forms of collective action that can be mobilized either to counter income inequality or generally to improve quality of life? To address this question, this review will conclude by considering economic and social outcomes of participation.

6. Outcomes of Participation

he literature on outcomes of participation in sharing economy practices (and platforms) highlights two types of outcomes: economic and noneconomic, frequently differentiated by the level of observation (see Figure 6). Economic outcomes mainly refer to saving money or making money at the individual level. By the aggregation of this outcome, the literature puts forward the idea of a more sustainable society. Referring to touristic platforms like Airbnb, different studies have also stressed the gentrification of some neighborhoods as an outcome of the

use of this platform, or at least some transformations in resident demographics and prices. Noneconomic outcomes mainly refer to the creation of social capital, trust, and reputation by participating in sharing practices at the micro-, meso- and macro-level. Data on the outcomes of participation in sharing practices are still lacking, however. This paragraph proceeds by reviewing studies on economic and noneconomic outcomes, and then by focusing on the noneconomic outcomes, in particular the creation of social capital, trust, and reputation.

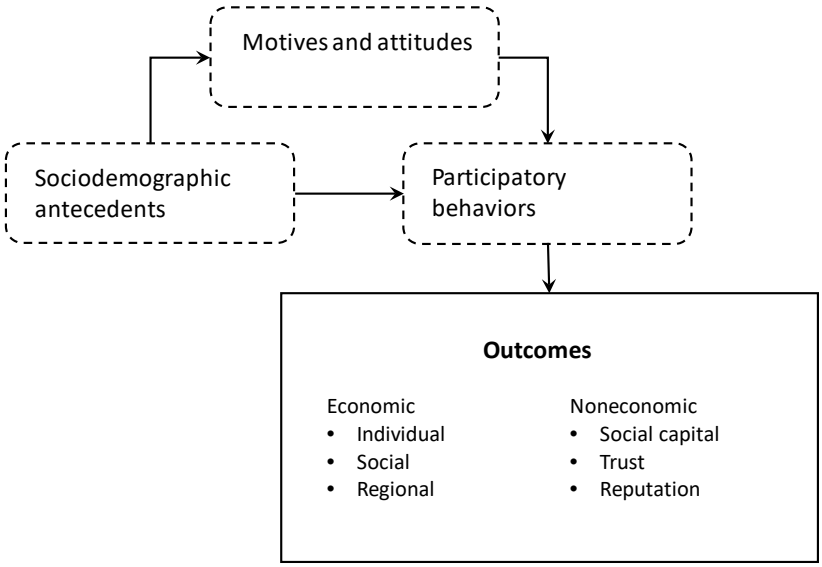

Figure 6: Typology of outcomes

Economic vs. Noneconomic Outcomes

Despite an original emphasis on social and environmental issues (Botsman & Rogers, 2010), empirical studies show that sharing platforms are used massively for their economic gains. A US-based survey authored by PwC (2015) finds that 86% of respondents state that the sharing economy makes life more affordable. Social and environmental outcomes come respectively at 78% and 76%. With a value of 80 billion EUR in the EU (PWC, 2016), it may be the case that the sharing economy is massively contributing to job creation and micro-entrepreneurialism.

Literature on these sources is rather unstructured, though. In the case of service provider compensations, the commercial prowess of the platforms, linked to the 'hot topic' nature of the issue, leads to conflicting viewpoints. When surveying monetary outcomes of the sharing economy, we may identify three different strands, organized by the nature of the participating subject.

First, we have literature relating to consumers in the sharing economy and how their desired outcome from participation may be of a monetary (i.e., saving money) or non-monetary nature (i.e., meaningfulness, upholding core sharing values). Secondly, there is some data on providers in the sharing economy and how monetary outcomes may (or may not) compensate them for their participation. Thirdly, at the neighborhood and industry level, additional outcomes can be observed, namely positive or negative externalities deriving from widespread adoption of sharing economy platforms.

In the case of consumers, the literature seems to suggest that saving money by forgoing the acquisition of durable goods (i.e., a car) seems to be one of the most significant outcomes (Belk, 2007, 2014; PWC, 2015; Rogers, 2015). Sharing economy platforms seem to deliver a better economic deal when compared to traditional services because they dramatically reduce intermediation costs (Sundararajan, 2017). This state of things might be particularly beneficial for working class urban neighborhoods, provided that sharing economy initiatives may gain a foothold in disadvantaged communities (Dillahunt & Malone, 2015).

On the other hand, the literature also stresses how non-monetary outcomes may be sought after by consumers. Studies of shared hospitality (Dredge & Gyimóthy, 2015; Lalicic & Weismayer, 2017) point out how connections with the hosts, as well as the ability of Airbnb to deliver on their claim of authentic hospitality, as opposed to the hotel chain experience, is indeed a desired outcome of platform participation amongst users.

Ozanne and Ballantine (2010), by examining toy libraries, find that the desired outcomes of users include a mix of economic rationales (i.e., avoiding market prices for shared goods), to engaging in 'meaningful' social exchanges while simultaneously participating in a moral economy driven by frugal values or ecological concerns. Benkler (2006), while surveying peer-production initiatives, claims that because participants in 'sharing based' initiatives are motivated by a wide array of rationales, the main desired outcome is irreducible to simple monetary compensation.

More or less in the same vein, but with a critical twist, Arvidsson et al. (2016) find that peer-to-peer projects have the ability to sustain a moral economy in which the main desired outcome (as reported by participants) is to further a given cause. However the same authors also point out that the prestige acquired by participating in sharing circuits may be a stepping stone to acquire monetary benefits (for example for career building).

In the case of providers 'working' for/on a large scale platform (e.g., Uber, Airbnb), an important outcome to consider is their compensation. Unsurprisingly, conflicting accounts exist on this issue. In a study authored by Uber (Hall & Krueger, 2016), the authors claim that Uber drivers enjoy better levels of compensation when compared to US-based taxi drivers (cf. O'Donovan & Singer-Vine, 2016 for independent validation). On the other hand, there are a number of insights (Hill, 2015; Scholz, 2016a; Slee, 2016) claiming the exact opposite, as authors claim that the sharing economy as a whole is negatively impacting on worker salaries.

According to these accounts, when compared to traditional work, the sharing economy may be conceived as a 'gig economy' (De Stefano 2015) in which precarious working conditions and low pay are a stable feature. Nonetheless, attributing these effects to platforms may be rather difficult, considering the effects of the recent economic downturn on salaries and working conditions (Mason 2015, Scholz 2016a). On these issues, Schor (2016) offers a more nuanced perspective as she is able to distinguish the effect of different platforms on different providers, finding a 'tiered structure' in which some platforms (relay rides, for example) correlate with lower mean and median earnings, while others (Airbnb) correlate with higher compensations. However, Schor (2016) also finds that employment on sharing platforms may contribute to aggravation of inequality and that social class and superior networking competence may have a 'crowding out' effect in the blue collar job market as, in the case of Taskrabbit, educated professionals participate to increase their earnings while effectively reducing work in that sector.

While the literature on large scale platforms is increasing, there is only tentative work on measuring the level of economic outcomes in smaller scale initiatives (i.e., fablabs). Fuster Morell, Salcedo and Berlinguer (2016) report quite dismal results in that reported earnings from participation in small scale sharing initiatives are quite low. In some cases, economic outcomes are not enough to cover basic needs, leading to phenomena of self-exploitation.

A related topic, discussed in an economic context, is the nature of working conditions, as it has become increasingly difficult to categorize, for example, Uber drivers as workers as opposed to independent contractors (cf. Hall & Krueger, 2016; Rogers, 2015). In the case of the US and European countries, in which employment status is a strong condition to access welfare provisions, while providing an ad hoc category of employment may help (Cohen & Sundararajan, 2014), without strong intervention the diffusion of the gig economy, this may lead to harsh consequences in the workforce.

Economic outcomes may also be categorized according to externalities produced. Essentially, the literature discusses two distinct phenomena: industry disruption, namely outperforming traditional players in hospitality and mobility sectors and, in the case of Airbnb, gentrification, meaning a sizable contribution to the expulsion of working class people from a given neighborhood due to rent increases.

In the case of Uber, Cramer and Krueger (2016) demonstrate how the ride-sharing platform is considerably more efficient when compared to the traditional taxi industry, leading to higher occupancy rates and, hence, lower costs for consumers. Sundararajan (2017) makes a similar case, albeit in a more theoretical fashion, by pointing out how platforms may achieve higher efficiency by cutting down transaction costs. Focusing more on the socio-economic costs of market disruption, Scholz (2016a) claims that Uber, by making taxi companies obsolete, may be reducing economically sustainable entry-level jobs. In the case of Airbnb, Zervas, Proserpio, and Byers (2016) claim that the advent of Airbnb has led to a measurable decrease in hotel revenue. While this definitely benefits consumers, it also has a higher impact on low-end accommodations which, given time, may lead to issues of economic sustainability in that particular branch of the sector.

On the outcomes of Airbnb for neighborhoods and their gentrification, there are multiple sources (Gant, 2016; Lee, 2016; Schor, 2016) claiming that Airbnb is fueling a rent spike (cf. Sheppard & Udell, 2016). Airbnb seems to allow homeowners to realize sizable gains by the means of short-period rentals, effectively reducing offers on the mainstream rental market.

However, the effect may not be so straightforward as Levendis and Dicle (2016) show by surveying New Orleans. These authors find no evidence of a correlation between increased rents and Airbnb presence. Despite the sizeable debate in the popular press, actual empirical proof of Airbnb's contribution to gentrification is limited, at least in the academic literature, although with relevant exceptions (Gant, 2016). Given the variegated effect that city level variables (e.g., homeownership rate, regulation styles, local GDP, or 'touristic value' of an area) may have on Airbnb-fueled gentrification, this seems to be a rather interesting gap in the literature.

Overall, most of the empirical literature agrees on the fact that economic outcomes are amongst the most important effects of participating in the sharing economy. However, they are not enough to fully explain their success. What makes the difference is the fact that, while

having economic outcomes, they can produce as a byproduct social outcomes such as social capital, trust, and reputation, which, in turn, further contributes to easier economic transactions.

Social Capital as an Outcome

Social capital (SC) is a catch-all-concept that is often used to indicate social networks, trust, reputation, and cooperation. At least two streams of research are noteworthy in the context of this review. One focuses more on the micro-level and the other focuses more on the macro-level. At the micro-level, Coleman's definition is the most quoted defining it as "some aspect of a social structure [facilitating] certain actions of individuals who are within the structure" (1990: 302). In essence, social capital may be conceived as a feature of the relationship binding two or more persons, allowing them to enact collaborative actions to reach an aim. At the macro-level, Putnam defines social capital *as* "features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit" (1995: 67).

The existing literature on the sharing economy claims that sharing practices can foster communities (Belk, 2007, 2010) and, in general, contribute to the creation of social capital (Botsman & Rogers, 2010). However, actual empirical evidence on how participation in the sharing economy contributes to the creation of social capital is rather sparse at the micro-level and almost non-existing at the macro-level.

At the micro-level, some evidence exists on sharing economy experiments, whether they are organized as digital platforms or local non-digital initiatives (e.g., food and time banks), showing that they can enhance social connectivity. For example, Parigi and State (2014), studying Couchsurfing, found that sharing hospitality increases the likelihood of reciprocal ties between host and guest.

On the same topic, Molz (2013) relates couchsurfing use and shared tourism accommodation to a higher level of intimacy. Albinsson and Yasanthi Perera reach similar conclusions while addressing non-platform local sharing 'marketplaces', claiming *"that a sense of community is both a driver of participation and an outcome"* (2012: 303). Ozanne and Ozanne (2011), surveying time banks, find that these initiatives may act as catalysts of collaborative action within the respective communities through two main strategies. Reciprocal action is highly valued as the core of time banks, thus enabling collective action within the respective geographical contexts. On the same topic Pais and Provasi (2015) claim that reciprocity is the core goal of time banks and similar initiatives as "*their purpose is the refunding of a community in a specific area*" (p.368) by this way social capital would be created.

Schor et al. (2015) have developed a more nuanced perspective and highlighted the limits of social capital creation within sharing economy initiatives. While studying small scale sharing initiatives, Schor et al. have found that repeated interaction in a sharing context does lead to the creation of reciprocating social relationships within a subset of the group. However, the empirical analysis from the same study also finds that class and social status limit reciprocation within homophilic networks, leading to significant exclusion of participants from working class backgrounds. On the same track are contributions from Schor and Fitzmaurice (2015) as well

as Dredge and Gymothy (2015), which claim that reciprocal interaction is usually confined within the bounds of cultural capital rich middle class individuals. On the other hand, Pais and Provasi (2015) notice how on 'market based' platforms (i.e., Uber), while relying upon the social interaction of customers and providers to function, the simple act of evaluating a performance does not entail reciprocity or the creation of any tangible amount of social capital.

Besides studies focusing on the creation of social capital, there are a few studies focusing of the detrimental effect of sharing economy platforms on social capital. Bardhi and Eckhardt (2012), surveying a large scale car-sharing service, find that Zipcar members felt little attachment to their community as they "*engage in opportunistic behaviors toward the company and one another; they look out for their own interests at the expense of the object as well as the other users*."(p. 894)

Dubois, Schor, and Carfagna (2014) find that, even in the case of small scale initiatives, people may be unwilling to use their most prized skills within a time bank as they feel they could fetch a bigger payoff on the market. As a matter of fact, the longitudinal analysis by Parigi and State (2014) find that, as a consequence of the diffusion of Couchsurfing as a platform and its increasing reliance upon digital intermediation, relations between users may have become progressively weaker.

Trust as an Outcome

The concept of trust is complex and not easy to define. Referring to sharing practices, trust can refer to individuals, society in general, sharing platforms, or the entire Internet system.

At the interpersonal level, trust may be defined, with Coleman (1990), as the willingness to accept a given amount of risk in social interactions because the other part is perceived as reliable due to a previous history of interaction. In the wider social body, however, trust may be an outcome of a lively civic network of associations, ensuring a diffused stock of trust and thus enabling market and political institutions to function efficiently (Putnam, 1995). Another interesting definition that is worth mentioning, in relation to the sharing economy, is trust in (and as an outcome of) the wide adoption of expert systems (Giddens, 1990; cf. Beck, 1992; Simmel, 1988). Namely, trust in the smooth functioning of socio-technical apparatuses that, just like algorithms, are able to coordinate social activity without being transparent to either individuals or the wider social system.

Some of the literature on the sharing economy (e.g., Belk, 2010; Botsman & Rogers, 2010; The Economist, 2013) does have a strong emphasis on trust both as a precondition for the sharing economy to flourish and as an outcome of the adoption of sharing economy practices. Yet, not much clarity exists on causes and outcomes; more empirical research is needed on this nexus.

Botsman and Rogers (2010) define the sharing economy as 'trust between strangers', a catchy definition but nonetheless paradoxical as it ignores the value of interpersonal connections and is not entirely clear when it comes to defining the engine of this trust. In fact, there is a noticeable need for understanding if and how participation in the sharing economy produces trust. A review of the available literature reveals three main strands: the effect of sharing

economy on trust on an interpersonal level, trust in the functioning of sharing economy platforms, and negative effects of sharing economy platforms on trust.

Regarding trust on an interpersonal level, there is some preliminary evidence from smaller scale projects. For example, Ozanne and Ozanne (2011) find that participation in time banks generates a sizable amount of trust at an interpersonal level. Schor et al. (2016) reach the same conclusions while surveying different small-scale barter networks, although they find that class divides between participants heavily segregates networks of trust and reciprocity.

In the case of larger scale initiatives, Miralles, Dentoni and Pascucci (2017), while surveying neo-rural food production networks in Spain, find that the connection between surveyed producers is able to produce interpersonal trust between different producers, thus allowing the whole network to function. Scaling up the size of the initiatives, Parigi and State (2014) find that, while this is not the case anymore today, originally, Couchsurfing usage was related to the creation of long-lasting ties between guests and hosts. At the same scale, there is some evidence by Airbnb (2015) that participation in the network has a positive outcome on interpersonal trust at both the individual and neighborhood level; however these claims could not be verified by independent researchers.

Literature on the topic of how interpersonal trust is produced by participating in the sharing economy is rather sparse. More than one author (Pais & Provasi, 2015, Westerbeek et al., 2016) has found a distinctive lack of empirical accounts in the current literature. Also, the amount of trust generated by the sharing economy on a neighborhood or city level, as an effect of horizontal association of citizens, remains to be further researched.

On the other hand, the literature does seem to consider trust as a direct byproduct of the widespread adoption of distributed rating systems. For Botsman and Rogers (2010), participation in the sharing economy means placing trust not in 'strangers' *per se* but in both the functioning of the rating system as well as the platform and the wider platform ecosystem.

Hawlitschek, Teubner and Weinhardt (2016) also seem to conflate the concept of trust with a specific form of trust (i.e., trust in the ability of the platforms to act as effective information brokers). Thus, trust is conceived not as an outcome of repeated interactions or horizontal relationships mediated by the correct institutional milieu, but as a product of the proper functioning of a complex socio-technical system. Möhlmann (2015) also emphasizes how trust in the functioning of platforms relates to satisfaction.

Trusting platforms and their algorithms essentially means being sure of the reliability of the collective judgment and, despite tremendous challenges on the privacy side, about the screening process of providers (Belk, 2014). Furthermore, in some cases, what participants seek (and platforms attempt to deliver) is not a context in which they can trust a generic partner but a strong governance system allowing for smooth commercial transactions (Belk, 2014, Philip, Ozanne & Ballantine, 2015). However, the effect of strong governance and 'big brother' (Belk, 2014) rules on horizontal trust building, especially if they lead to null or negative outcomes, remains to be empirically investigated.

Regarding negative effects on trust building, there is some empirical evidence at an interpersonal level. However, algorithms and their capacity to deliver effective trustworthiness remains at center stage. According to Ert et al. (2016), the Airbnb algorithm, as it promotes posi-

tive reviews on a disproportional scale, fails to build effective interpersonal trust between hosts and guests.

Gandini, Pais and Beraldo (2016) find that, while algorithms are rather good at producing individual reputation, they perform poorly at building professional trust, as past interactions with a given customer are a worse predictor of economic success than overall algorithmically created reputation.

Parigi and State (2014) have authored the only longitudinal study on trust in the sharing economy. Their conclusion is that the commercial twist of Couchsurfing, as well as its success, has significantly damaged the trust building potential of the platform at an interpersonal level. As it turns out, in stark contrast with the previous phase, algorithmic reputational systems may not be very effective when it comes to generating interpersonal trust.

Reputation as an Outcome

According to Burt (2010), reputation may be defined as a way to subject people to diffused social control, in essence "*reputations are defined by people monitoring and discussing individual behavior and by doing so mutual friends and colleagues constitute an adaptive control on behavior*." (p. 156) Closure of social networks is traditionally (e.g., Coleman, 1990) associated with an increase of reputation as a metric for reliability of a given individual, as mutual face-to-face interactions seem to be the key ingredient in maintaining a reliable informational exchange (cf. Richman, 2006). However, the creation of social networking sites in general and sharing economy platforms in particular seem to have given a different twist to the concept.

While platforms are mainly based upon reputation metrics to function (Zervas et al., 2016), they are not so much driven by face-to-face interaction and traditional network closure as by algorithms funneling a myriad of interactions between strangers into a single coherent 'score' by means of collaborative filtering. However, algorithms as reputational tools are inherently opaque and often operated by third party commercial actors (Morozov, 2014). Moreover, they have only recently been included in social research as objects worthy of study. There is significant need for further studies assessing algorithms' impact on reputation within the wider sharing economy arena.

The most widespread thread in the literature, exploring reputation in a sharing economy setting, deals with the potential of a disembedded reputational systems to reduce transaction costs in sharing (Belk, 2014, Koopman, Mitchell & Thierer, 2015). Reputation systems provide a way of reducing information asymmetries (Cohen & Sundararajan, 2014; Einav, Ferronato & Levin, 2015; Thierer et al., 2015), thus enabling commercial transactions for potential 'lemons' (Akerlof, 1970), that is, goods with uncertain quality within a market characterized by heterogeneous supply and demand (Codagnone & Martens, 2016). As a consequence of the widespread use of reputational platforms, market activity (and thus, hopefully, economic inclusion) may expand even in niches which, previously, governmental intervention was needed to ensure market functioning (Sundararajan, 2017).

Furthermore, as reputational gains mediated by sharing platforms no longer need to rely upon face-to-face network, entrance costs for entrepreneurial activity are lowered. Gandini et al. (2015) have examined how the reputational system of crowdsourcing platforms has affect-

ed economic sustainability (cf. Gandini, 2016). Pais and Provasi (2015) further sustain this point as they report how the value of reputation within sharing economy platforms is related to the number of participants, thus equating participation with a positive network effect and enhancing individual reputational scores.

A similar case could be made by surveying the activity of crowdfunding or sharing giants such as Uber and Airbnb on how the activity on these platforms may be linked to a micro-entrepreneurial trend. Shifting from entrepreneurs to workers (e.g., Uber drivers or freelancers willing to find a stable occupation), the quantization of reputation by sharing platforms may be more mobile than compared to traditional forms of reputation. For example, Arvidsson et al. (2016) emphasize how the reputation acquired by participating in the collaborative economy may be valued on the job market.

The case of Uber drivers (cf. Codagnone & Martens, 2016) could help in clarifying this point. As reputational ratings on sharing platforms are, by definition, public, they may be shown to potential employers, thus allowing for positive recommendations even in the absence of social closure in the vein of Coleman (1990). All of these consequences could be magnified by the attempt to bridge the different reputational systems and converge towards one larger reputation economy (Arvidsson & Peitersen, 2013; Belk, 2014), enforced by super-platforms aggregating reputational scores.

However, recent research on algorithmically produced reputation on sharing platforms underlines some issues. Namely, the reliability of algorithms when assessing reputation and how they may be 'gamed' by inflating scores, either by participants or by platforms. Zervas et al. (2016) and Ert et al. (2016), by surveying Airbnb, found that scores are systematically biased towards positive outcomes as reviews on Airbnb are constantly higher than their counterparts on Tripadvisor and Expedia (Mayzlin, Dover, & Chevalier, 2014).

Since Airbnb algorithms are based on a dual review system (hosts evaluating guests and vice versa), it is possible to understand how the threat of retaliation may lead to inflated reviews. Moreover, Airbnb guests or Uber drivers, for example, may engage in emotional labor. In this case stressing emotional attachment to guests by being servile (Rogers, 2015), to plead good scores. It is immediately understandable how this impacts upon the value of reputational scores as a measure of the quality of shared goods.

As all these issues will become public knowledge in the foreseeable future, it may be relevant to know how platform users cope with the increasing unreliability of platforms' reputational outcomes. Ert et al. (2016) may have uncovered a very interesting issue in this context. They have experimentally surveyed how Airbnb users are skeptical about how the reputation system may 'default' towards evaluating user photos in an attempt to derive, from these, the same information that the platform algorithm, in their eyes, cannot provide.

7. Conclusion

The available data on participation in the sharing economy, in Europe and the US, paints a clear picture in terms of the sociodemographic stratification of (non-)participation in the sharing economy. The emergent patterns are roughly in line with previous findings on the digital or

participation divide. In particular, previous studies have shown that young users, higher income, and higher educated users are more likely to participate in the sharing economy. Thereby, there is some evidence of a 'participation divide' and 'digital inequality' in the sharing economy. However, the sharing economy, as understood in the context of this review (i.e., as mediated sharing), emerges as a complex phenomenon that cannot be analyzed in simple binary terms. There is no easy distinction between participation and nonparticipation in the sharing economy, as the sharing economy encompasses, at least, three distinct participatory roles (consumers, providers, and shareholders), a wide variety of sharing services and platforms, and numerous positive as well as questionable outcomes.

It appears that sharing services provide additional choices to wealthy, educated citizens, particularly on the consumer side. Consumers are frequently motivated by instrumental gratifications, such as saving money or convenience. As one outcome of the sharing economy, in some industries, where prices are falling, many consumers happily welcome the disruption brought about by sharing platforms.

Lower income individuals may also benefit from lower prices. However, those employed in the service industry may also feel the pressure from increasing competition. Also, lower income individuals are less likely to benefit from the increasing availability of shared services. At the same time, lower income individuals may be more attracted to provide goods on sharing platforms in order to generate additional income. Then again, a minimum level of wealth or income is frequently required for active participation in the sharing economy, as providers need to own shareable property.

The complexity of the sharing sector can further be witnessed in terms of gender divides in sharing participation. Male and female users appear to be geared towards different kinds of sharing services. This opens interesting avenues for future studies of the gendering of digital media or platform use. Analyzing use intensity alone cannot take account of these phenomena.

Another interesting antecedent of (non-)participation in the sharing economy is urbanity. Previous studies indicate that the sharing economy is largely an urban phenomenon. This is for several reasons, namely that urban areas are more densely populated, making it easier to recruit sharers and to share objects in a relatively convenient radius. Also, urban areas are characterized by a lack of space, making joint usage of goods more feasible and attractive. Urban areas are commonly higher income areas, thereby constituting more attractive markets. Finally, urban areas are frequently more anonymous environments, increasing the need for mediating platforms and reputation mechanisms.

Given these initial insights into the (non-)participation in the sharing economy, we can derive a number of research gaps, providing some inspiration for future analyses. In terms of the **sociodemographic antecedents** discussed above, the *urbanity* factor remains the least explored and clearly understood.

It is known that dense urban networks (cf. Storper & Venables, 2004) enable the diffusion of innovative social practices and that locally available social capital (Manzo & Ramella, 2015) affects the adoption of sharing practices. However, there is still a significant dearth of research or in-depth qualitative investigations into the interaction between urban density and sharing.

Future investigations may explore either the point of view of platforms choosing to anchor in a given locale or the point of view of local stakeholders willing to develop sharing alternatives.

At the same time, the role of gender, in terms of selective (non-)participation, also deserves closer attention, as there is little theory on why women would decide to employ different platforms from men. Future research should also strive to take account of the complex role of socioeconomic status in sharing participation, with high income or education encouraging some forms of usage, but discouraging others.

The literature has established that, among the variety of **motives** driving individuals to participate in the sharing economy, three appear to be most dominant. These are instrumental motives (monetary, convenience, etc.), social-hedonic motives (community, fun, etc.), and normative motives (altruism, sustainability, etc.). These motives are especially interesting as mediators in the sociodemographic stratification of (non-)participation in the sharing economies, as some sociodemographic characteristics may be associated with distinct motives.

Again, the participation phenomenon needs to be differentiated to further explore these relationships, as some motives may be more salient to particular participatory roles and behaviors. In this context, it would be worthwhile to differentiate social milieus beyond distinct sociodemographic variables, as different milieus are characterized by specific values and attitudes, each forming a distinct habitus in terms of (mediated) sharing (cf. Bourdieu, 1977). This could also affect how individuals choose to (not) present themselves on sharing platforms, privacy practices, and boundary management. In other words, research on the social stratification of (non-)participation in the sharing economy should move beyond mere sociodemographic variables and incorporate motives, **attitudes and norms** to explain emergent behavioral patterns based on a sound theoretical understanding.

As we have seen, research into (non-)participation in the sharing economy must rest on a clear and differentiated understanding of **levels or forms of participation**, as the sharing economy is a complex domain of very different roles and behaviors. Future research should investigate to what extent digital inequalities mediate participation in sharing economy platforms. Internet access and smartphone ownership are prerequisites for access to these services and, although extremely widespread in Europe, Southern and Eastern European countries still do not have the same high penetration rates of Northern and Western countries. Many differences also exist within countries (rural vs. urban areas, north vs. south).

Research could consider vicarious access to sharing economy platforms through relatives and friends, and the role of social support to boost use of these services. Secondly, Internet **skills** might also be an important factor for participation. So far, no research has investigated the necessary skills to use these services effectively and safely and whether these are distributed equally among the population, leading to non-use or risky experiences.

When surveying degrees of participation on sharing platforms, dividing between provider and consumer roles may be simplistic. Participation dynamics are multifaceted and varying, for example, with the amount of engagement in social relations within the sharing community (Ozanne & Ballantine, 2010) or the different purposes (i.e., work vs. leisure) driving demand for services (Arcidiacono & Pais, 2016). Even if there are some empirical descriptions of different participation strategies within different platforms, there still is no comprehensive **taxono-**

my, enabling researchers to operate comparisons across different platforms. In this regard, Pais and Provasi (2015) may have developed a first attempt (albeit just a theoretical one) to categorize different 'universal' roles for users, according to the amount of reciprocity embedded in different types of platforms. This development may allow researchers to operate meaningful comparisons in a field that, to this date, has still too little comparative research.

Finally, much research needs be undertaken into the **outcomes** of (non-)participation in the sharing economy. This is an especially worthwhile field of inquiry as, without a sound understanding of outcomes, the normative valence of participatory behaviors cannot be judged. Given that sharing economy platforms may function both as a way of lowering the cost of goods and as means to achieve collective action on selected social or environmental topics, surveying the outcomes of participation becomes of paramount importance.

Literature on **economic** outcomes of participation on sharing platforms emphasizes how users are employing sharing alternatives to save money (cf. Belk 2007, 2014). However, literature on externalities as consequences of intense use of sharing economy platforms in a given area is not so well developed. For example, there is literature on the effect of Airbnb on hotel pricing (cf. Zervas et al., 2016) or on the effect of Uber on taxi industry (cf. Cramer & Kruger, 2016). However, given the multiple social and economic factors that can affect the transport and hospitality industries, this strand of inquiry is worthy of future in-depth investigation and may benefit greatly from comparative case study methods. In the case of Airbnb-fueled gentrification, a similar case in point may be made, as pieces of literature claiming the existence of such phenomenon (Gant, 2016; Lee, 2016) stand side by side with contributions claiming its non-existence (Levendis & Dicle, 2016).

Relevant gaps in the literature exist on the **social** outcomes of participation, in particular whether and how participating in sharing practices produce social capital, trust, or reputation. At the micro level, there is some (small) evidence of its production within homophilic networks (Schor et al., 2015). On a more macro scale, there is some evidence of its disruption as a consequence of the dis-intermediating effect of algorithms (Parigi & State, 2014). Still at the macro level, there is no relevant research on incremental (or detrimental) effects of sharing economy platforms on social capital in a given area.

In the case of trust, despite some claims in popular literature, at the micro level we can also find a definite lack of evidence on the positive effect of participation on interpersonal trust between users (cf. Pais & Arcidiacono, 2016 for an exception). On a more 'macro level', trust building has been conceptualized as institutional trust towards algorithms and brands/companies (Botsman & Rogers, 2010). As it happens with social capital and still at the macro level, there is no evidence, neither positive nor negative, on the effect of sharing platforms on trust within a given geographical area.

Moreover, reputation within the sharing economy seems to be a concept in need of unpacking. Sharing platforms allow for a quantization of reputation through the operations of algorithms. However, as the commercial algorithms driving Uber, Airbnb, and other platforms are not transparent by design (Ert et al., 2016; Zervas et al., 2016), this leads to their problematic interpretation by users, for example, when dealing with an excessive amount of positive reviews by users. Given the importance of algorithmically generated reputation as a capstone of the sharing economy, it may be necessary to expand research in this area, surveying three

main points: how algorithms produce user reputations, how users may employ strategies to 'game' algorithms in order to ensure better scores, or the amount of trust given by users to intrinsically problematic rating systems.

To better monitor and assess the ongoing development and growth of the sharing economy, research should strive to further explore the complex role of sociodemographic antecedents of participation, analyze the mediating effect of motives and attitudes on distinct participatory behaviors, gain a more fine grained understanding of differing levels and forms of participatory behavior, and achieve a better grasp of both beneficial and critical outcomes of sharing behaviors. These insights will provide the necessary footing for future regulatory and entrepreneurial initiatives – to ensure that beneficial effects of the sharing economy may grow while averse outcomes are avoided.

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