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**Silvia Sanasi\*, Antonio Ghezzi, Angelo Cavallo, Andrea Rangone**

Silvia SANASI\*

Department of Management, Economics and Industrial Engineering,  
Politecnico di Milano – Via Raffaele Lambruschini, 4/b 20156 Milano Italy  
Tel: +39 02 2399 2807,  
[silvia.sanasi@polimi.it](mailto:silvia.sanasi@polimi.it)

Antonio GHEZZI

Department of Management, Economics and Industrial Engineering,  
Politecnico di Milano – Via Raffaele Lambruschini, 4/b 20156 Milano Italy  
Tel: +39 02 2399 9553,  
[antonio1.ghezzi@polimi.it](mailto:antonio1.ghezzi@polimi.it)

Angelo CAVALLO

Department of Management, Economics and Industrial Engineering,  
Politecnico di Milano – Via Raffaele Lambruschini, 4/b 20156 Milano Italy  
Tel: +39 02 2399 9538,  
[angelo.cavallo@polimi.it](mailto:angelo.cavallo@polimi.it)

Andrea RANGONE

Department of Management, Economics and Industrial Engineering,  
Politecnico di Milano – Via Raffaele Lambruschini, 4/b 20156 Milano Italy  
[andrea.rangone@polimi.it](mailto:andrea.rangone@polimi.it)

\*corresponding author

# **Making sense of the Sharing Economy: a Business Model Innovation perspective**

## **Abstract**

The emergence of a sharing revolution is leading to a new societal system of collaboration enabled by digital technologies. Although sharing-based initiatives are re-shaping established organizational practices and innovating traditional business models (BMs), existing research fails in grasping the phenomenon's multiple facets. This study aims at making sense of the Sharing Economy (SE) by shedding light on how startups embed the social trend of sharing and leverage digital technologies to develop innovative BMs. We attempt to solve the current theory-practice misalignment by proposing an original framework, definition, and classification of SE startups. The study presents a cluster analysis on 196 SE startups. We argue that SE startups group into five clusters: (i) pseudo-sharing; (ii) gig economy; (iii) crowd-based economy; (iv) pooling economy; and (v) P2P rental. This study contributes to positioning the SE from both a conceptual and an empirical perspective, interpreting the SE phenomenon from the theoretical lenses of BM Innovation, and classifying it through the unit of analysis of startups, intended as empirical vehicles and manifestation of the phenomenon.

**Keywords:** Sharing Economy, Business Model Innovation, Digital Innovation, Cluster analysis

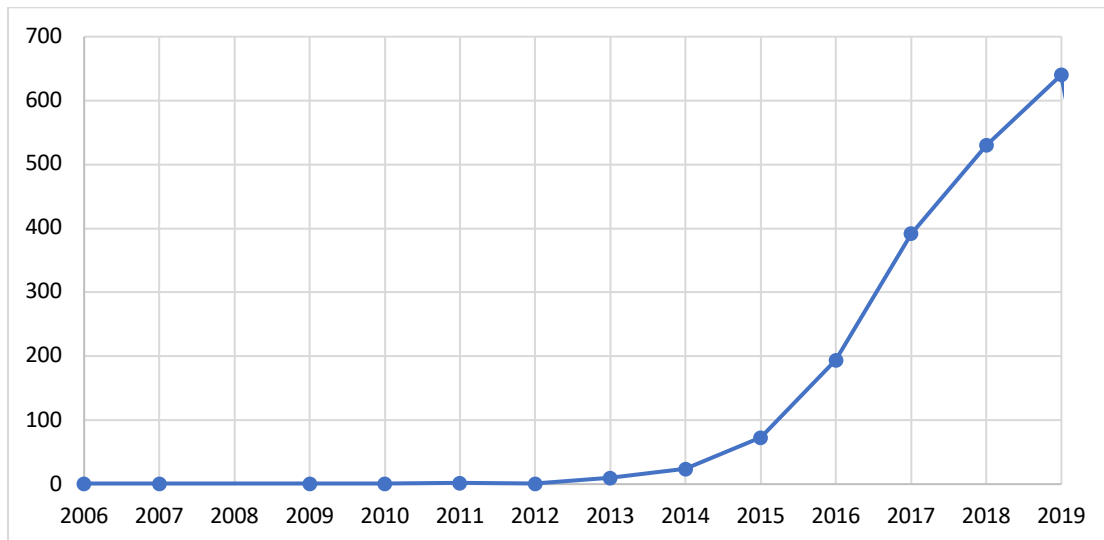
## 1. Introduction

Emerging technologies have profoundly reshaped a wide array of competitive scenarios, disrupting established industries and opening up opportunities for innovation, especially when promoted by new ventures (Autio et al., 2018; Cavallo et al., 2019; Magistretti and Dell’Era, 2019). The rise of digital platforms has ignited numerous initiatives that are strictly coupled with the sociocultural phenomenon of sharing between strangers. As a matter of fact, three of the top five companies in the Global Unicorn list<sup>1</sup> (i.e., Uber, DiDi – respectively, the American and Chinese ride-sharing giants – and Airbnb) operate in the so-called “Sharing Economy” (SE), a phenomenon describing the emerging trend of sharing between strangers, mediated by digital platforms that facilitate the exchange. Companies in the SE have given shape to a variety of initiatives that have harnessed the internet to reinvent their value architecture (Ghezzi et al., 2013), gaining particular momentum within the tourism, hospitality, mobility and staffing industries. This “new breed of company” (Sussan and Acs, 2017) has disrupted industries on a global scale: companies such as Airbnb have revolutionized traditional industries, starting from the lower-end of the market and gradually taking over the higher-end (Dogru et al. 2019) following the typical pattern of disruptive innovation (Christensen and Bower, 1996). SE operators have hence innovated traditional business models (BMs) by creating digital multi-sided platforms, introducing shifts in the value capturing and value creation mechanisms through new revenue streams and cost structures (Hagiu and Wright, 2015), while offering novel ways to deliver value to profoundly heterogeneous customer groups. These companies are small, nascent ventures with an inherently digital value proposition (Cusumano, 2015) which embed the social trend of sharing to develop innovative BMs, whose unconstrained growth and undisciplined strategy resemble those of Big-Bang Disruptors (Trabucchi et al., 2019a). These new ways of organizing innovation are reshaping the overall competitive landscape (Mair and Reischauer, 2017) driven by resource complementarities in supply and demand (Jacobides et al., 2018). More importantly, sharing enabled by digitalization has profoundly reshaped traditional sharing forms, placing companies as as transaction enablers and bridges between the different sides of the interaction (Amit and Han, 2017). Building on this premise, we contend that we can foster the scholarly understanding of the SE and its different configurations by directly looking at its practices.

Considerable academic effort in this direction is further witnessed by the exponential growth in publications on the topic in the past five years (Figure 1). Scholars who have undertaken the challenge of characterizing the SE phenomenon (e.g., Belk, 2010; Mair and Reischauer, 2017) have contributed to extremely diverse research domains, spanning from sociology to management studies, igniting the debate and leaving ample room for further research. As result, the existing body of literature has not yet been able to grasp the multiple facets of the SE, particularly failing at expressing a comprehensive overview of the SE able to explain its heterogeneity. We deem that future studies on this topic may face the significant difficulties related to the “semantic confusion” (Belk, 2014a) surrounding the phenomenon.

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<sup>1</sup> CB Insights. 2018. “*The complete list of unicorn companies*”. <https://www.cbinsights.com/research-unicorn-companies>



**Figure 1: Number of documents per year on the Scopus database by searching the term “Sharing Economy” in title, abstract and keywords**

Furthermore, extant studies (e.g., Trenz et al., 2018) largely disregard the opportunity to holistically look at the SE from a BMI perspective: studies which have linked the SE literature with multi-sided platforms have done so driven by extant literature (e.g., Trabucchi et al., 2019b), rather than comprehensively observe existing empirical manifestations of the phenomenon. Finally, SE companies are often studied in their most prominent application fields, such as the hospitality, mobility and staffing sectors (e.g., Dogru et al., 2019).

This study is devoted to solving the misalignment between scholarly understanding of the SE and its empirical manifestations. We address the issue of making sense of the variety of SE initiatives by screening the extant knowledge on the SE, BMs, multi-sided platforms and digital entrepreneurship to inform a cluster analysis based on an original set of variables and a sample of 196 startups operating in the SE domain.

In this, this study attempts to contribute to both theory and practice, by (i) positioning the SE phenomenon in the BMI and innovation management discourse from both a conceptual and an empirical perspective; (ii) classifying the variety of SE startups, intended as empirical vehicles and manifestations of the phenomenon; (iii) providing a comprehensive definition of the SE term and an original set of variables explaining and enclosing the broad action-space of SE initiatives; (iv) highlighting the existence of a series of practices that are not bounded to the tourism, mobility and staffing sectors, hence extending the competitive environment of the SE; and (v) informing managerial decision-making in designing innovative BMs to face potential upcoming “sharing shifts”. We have tackled these goals by means of an exploratory cluster analysis (e.g., Lawson et al., 2016), building a dataset of SE startups with the objective of building a taxonomy of the SE phenomenon (Hair et al., 1998).

## 2. Theoretical background

### 2.1 Sharing Economy: definitions and practices

The social movement identified as “Sharing Economy” has made a collaborative system of consumption a real possibility for individuals (Weber, 2014). However, contributions in this field of research have often referred to such initiatives using a variety of different terms. This definitional fuzziness is referred to as “semantic confusion”, that has driven the dominant definitions in the SE discourse to employ the term “collaborative consumption” (e.g., Belk, 2014a; Botsman and Rogers, 2010). Other relatively equivalent terms have been used, such as “connected consumption” (Schor et al., 2016), “access-based consumption” (Bardhi and Eckhardt, 2012), “gig economy” (Friedman, 2014), “peer-to-peer economy”, “collaborative economy” (Botsman, 2014), “on-demand economy” (Cockayne, 2016), “the mesh” (Gansky, 2010), “platform economy” (Kenney and Zysman, 2016); “commercial sharing systems” (Lamberton and Rose 2012). In practical terms, the terms “collaborative consumption” and “sharing economy” are used interchangeably, although the second has now become predominant (Martin, 2016).

A common definition has also not been agreed upon by extant literature. Some scholars (Botsman and Rogers, 2010; Richter et al., 2017) argue that the scaling opportunities offered by digital technologies (Magistretti et al., 2020) enable a new social and economic system where strangers share any kind of underutilized assets. Indeed, SE practices involve a supply and a demand side, as well as a platform that serves as a matchmaker between the two (Benoit et al., 2017).

On the other hand, others (Belk, 2010; 2014a; 2014b) adopt a narrower view on the phenomenon, as “people coordinating the acquisition and distribution of a resource for a fee or other compensation” (Belk, 2014a, p. 1597). Some further specifications have been made, investigating how SE practices are characterized by access as opposed to transfer of ownership (Trenz et al., 2018), as well as the special cases of sharing of intangibles (e.g., time, skills), often involving human labor in the so-called *gig economy* (Friedman, 2014), or seen as part of an *access-based consumption* phenomenon (Bardhi and Eckhard, 2012).

These definitions emerge from the comparison between different consumption prototypes: pure *sharing* and *economic exchange*. Marketplace exchange is characterized by individual ownership and the use of money as a medium of exchange between strangers trading or bartering commodities. Sharing, instead, is an alternative way of consumption that involves all voluntary activities that do not encompass a transfer of ownership and reciprocity, such as lending, pooling, and resource allocation, and excludes contractual renting and leasing (Belk, 2010). However, scholars (Belk, 2014b; Frenken and Schor, 2017) have distinguished initiatives where the shared asset is not idle, but supply is stimulated by the user side (e.g., well-known ride-sharing platforms, such as ZipCar), as closer to marketplace exchange and therefore constituting a sort of *pseudo-sharing* phenomenon.

These considerations highlight how comprehensive the umbrella term “Sharing Economy” is: it occupies the entire grey area resting in between sharing and marketplace exchange, with elements of both (Belk, 2014a), almost representing a continuum (Habibi et al., 2017).

## 2.2 SE Startups, Multi-sided Platforms and Business Model Innovation

Digital technologies and the rise of multi-sided platforms (Hagiu and Wright, 2015) have functioned as enablers for the newly-found phenomenon of sharing to grow and disrupt a number of established industries, facilitating companies and individuals to exchange resources across markets (Tura et al., 2017).

Indeed, the majority of SE companies are based on platforms (Trabucchi et al., 2019b), involving a matchmaking platform, a peer service provider and a customer (Benoit et al., 2017). Multi-sided platform configurations connect different customer groups, creating value for customers through the interaction between upstream and downstream stakeholders (Eisenmann et al., 2006). In the case of the SE, these interactions enable virtual and seamless transactions between strangers, rebuilding the concept of trust and sharing by means of digital technologies (Botsman, 2017).

Digital technologies enable new resource configurations by positioning firms as bridges between needs and resources (Amit and Han, 2017) where firms act as matchmakers (Holzmann et al., 2014). This phenomenon can be better described as Business Model Innovation (BMI): as the BM embodies the firm's architecture to create, deliver and capture value (Ghezzi and Cavallo, 2018; Teece, 2010), its innovation is the introduction of new logics of the firm and ways to deliver and capture value (Casadesus-Masanell and Zhu, 2013; Rosa et al., 2019). Extant literature recognizes BMI as an inherently digital trend, enabled by the dot-com revolution and rise of digital-native ventures (Amit and Zott, 2001). Startups, thus, enact original reinventions of traditional value architectures through heavy leverage on innovative trends (Hahn et al., 2019; Sansone et al., 2019), adopting platform BM configurations to create value through economies of scope in supply and demand (Gawer, 2014).

As they constitute the vehicles of BMI, startups can be seen as the empirical manifestation of the phenomenon. BMI constitutes a theoretical lens to interpret SE both conceptually and empirically, providing an angle to investigate the phenomenon while grounding it within an established and relevant research stream (Massa et al., 2017). However, the link between SE and BMI is still largely neglected; and the connection between SE and startups still requires proper investigation (Richter et al., 2017).

## 2.3 Research Objectives.

Most studies focus on the conceptual dimension of the SE, disregarding its empirical manifestations, setting a gap between theory and practice. Our study aims at clarifying what the Business Models in the Sharing Economy are and how they can be classified.

Starting from startups, as vehicles of the phenomenon, we try to make sense of the empirical manifestations of the SE, by synthesizing a series of characterizing variables stemming from extant literature that inform an exploratory cluster analysis on a sample of 196 SE startups based worldwide and building a SE taxonomy.

To better frame the analysis, building on the extant literature, we extend the definition of SE as *the socioeconomic system enabled by digital platforms, where businesses or individuals share and exchange access to tangible and intangible assets; and receive a monetary and/or non-monetary compensation in return.*

All initiatives identified with the phenomenon do not contemplate a transfer of ownership but involve a reciprocal relationship between the sides that is not necessarily quantitatively defined.

### 3. Methodology

This research performs an exploratory cluster analysis (e.g., Lawson et al., 2016), particularly recommended to tackle a dataset with the objective of building a taxonomy of the SE phenomenon (Hair et al., 1998).

#### 3.1 Sampling and data collection

The sample was built extracting a sample of startups operating worldwide from the online database Crunchbase<sup>2</sup>, which records demographic and funding information on 689,561 companies worldwide (e.g., Alexy et al., 2012), supplemented by information from the proprietary database Alba, populated with 777 hi-tech startups based in Italy that received equity financing between 2012 and 2018. The extractions have been performed in March and September 2018.

The search was limited to startups founded no longer than five years prior to the time of this research (after 01/01/2013), and that received a round of financing at least in the two years prior to this research (after 01/01/2016), considering external funding as signal of quality, consistently with previous literature (Cavallo et al., 2019). In combination with these criteria, a series of keywords (see Table 1) has been used to perform extractions applying the criteria both among the categorical tags and the startups' descriptions. The startups extracted from each query performed on the *Crunchbase* database were merged into a single database of 715 startups, then repeated in the *Alba* database, identifying 50 additional unique startups.

Three independent researchers have then analyzed the resulting 765 startups, populating the database to exclude those not directly associated to the SE phenomenon. Two phases of screening led to the exclusion of startups that did not comply with our SE definition, as those (i) operating in the blockchain and file sharing domains; (ii) involving transfer of ownership; and (iii) not based on a digital networked infrastructure (platform). This process led to a final sample of 196 startups.

<b>Keyword</b>	<b>Exclusion / Inclusion</b>	<b>Criterion</b>	<b>N° of entries (not unique)</b>
Sharing Economy	Inclusion	Tag / description	192
Sharing	Inclusion	Tag / description	495
Peer-to-peer	Inclusion	Tag / description	216

<sup>2</sup> <http://www.crunchbase.com>

P2P	Inclusion	Tag / description	70
Collaborative consumption	Inclusion	Tag / description	20
Photo sharing	Exclusion	Tag	-

**Table 1: Exclusion and inclusion keywords**

### 3.2 Measures

The variables have been identified deductively (Ketchen et al., 1993), operationalizing relevant design themes of SE platforms starting from the existing body of literature in two-sided markets and multi-sided platforms, BMI, consumer behavior, and information systems. Such search allowed for the identification of five characterizing ordinal variables (Table 2). In particular, the variable *sharing vocation* depends on two characteristics: whether the platform is peer-to-peer (i.e., each of the sides may take the role of both demand and supply in the sharing exchange) or not, and whether the platform owns the shared asset or only serves as a matchmaker. The variable *type of actors* categorizes the platform's customers on a scale from C2C to B2C, assuming that configurations where both supply and demand side are of the same nature are the closest to pure sharing. *Pricing structure* classifies the platform from the least to the most binding relationship for the platform's users, starting from a fixed subscription model, the most binding for platform users, with its counterpart being the *free* model. *Tangibility* measures the object of sharing from tangible to intangible. Finally, *number of sides* describes the number of sides involved in the exchange.

The variables serve the operationalization of each platform's characteristics. Every variable's value for each item in the database has then been independently attributed by three researchers and results have then been put in comparison. Out of the 196 entries and 5 variables involved in the score attribution (totaling 980 observations), one of three independent researchers gave a score that differed from that given by the other two in < 1% of the cases (i.e., 9 observations), confirming the robustness and objectivity of the variables employed in the analysis (Hallgren, 2012).

Variable name	Possible values	Description
<i>Tangibility</i>	Low (services); Medium (bundles); High (goods)	Whether the asset shared is tangible (a good) or intangible (a service), or a combination of the two (a bundle)
<i>Sharing Vocation</i>	Low (not P2P, one-to-many); Medium (not P2P, many-to-many); High (P2P, many-to-many)	Whether platforms are peer-to-peer (exchange can happen in both directions) and whether the numerical relationship between the sides is one-to-many or many-to-many.
<i>Type of Actors</i>	B2C; C2B; B2B2C; B2B; C2C	The type of actors involved within the sharing endeavor.
<i>Pricing Structure</i>	Free, Sale of complementary services; Freemium; Consumption fee; Subscription with threshold + Consumption fee beyond threshold; Subscription + Consumption fee; Flat subscription fee	The pricing structure of the platform as seen from the customer, considering flat subscription fees as the most binding form of pricing.
<i>Number of sides</i>	2 (sharing); 2 (sharing) + 1 (receiving); 3 (sharing)	Number of sides involved in the exchange, including sides sharing and those only receiving the service.

**Table 2: Summary of variables.**



### 3.3 Measurement model

The clustering variables have been standardized to avoid the effects of scale differences (Hair et al., 1998). The variable *number of sides* turned out to be not distinctive across clusters and was consequently eliminated from the analysis (Hair et al., 1998). A split-half test was then performed to assess the model's reliability (Hambrick, 1983), confirmed with Chronbach's alpha = 0.784 (Nunnally, 1978). External validity could not be assessed due to the unavailability of a holdout sample comparable to the target sample (Ketchen & Shook, 1996), however, the sample can be deemed as representative of the population (Bohrnstedt, 1983). One of the variables, *type of actors*, (Table 3) appeared not to have a statistically significant impact in the generation of the clusters.

The K-means clustering technique was selected for the analysis, as it provides optimal within-cluster homogeneity and between-cluster heterogeneity (Ketchen & Shook, 1996) and lower exposure to risks related to the use of irrelevant or inappropriate variables (Hair et al., 1998). The optimal number of clusters was set to five to minimize marginal between-class variance; cluster seeds were selected through a randomized process (Hair et al., 1998). Criterion-related validity was assessed by submitting the five-cluster solution to a MANOVA, whose overall F-statistics ( $p < 0.0001$ ) provided evidence of criterion validity (Hair et al., 1998).

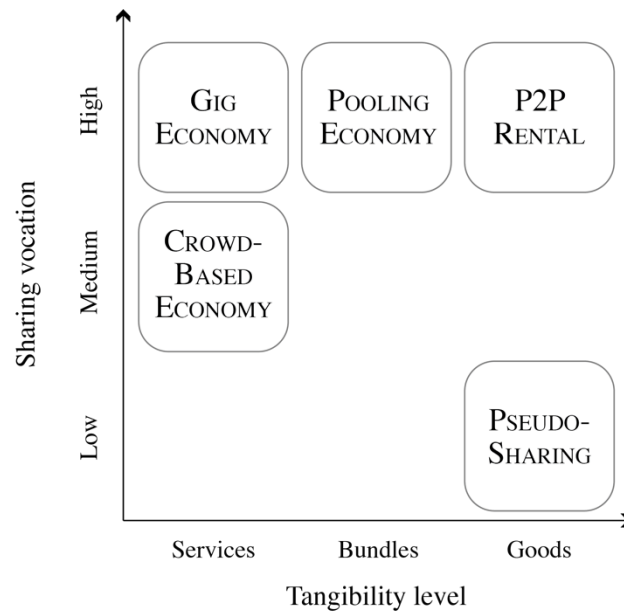
	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	F (p)
<i>Tangibility</i>						1957.784
Cluster mean	9.69 (2,3,4)	0.00	0.22	5.00 (2,3)	10.00 (2,3,4)	(< 0.0001)
<i>Sharing Vocation</i>						201.841
Cluster mean	9.22 (2,3,4,5)	0.00	5.43 (2,4,5)	0.48	0.63 (2,4)	(< 0.0001)
<i>Type of Actors</i>						1.347
Cluster mean	5.62	4.65	5.04	4.92	4.97	(0.254)
<i>Pricing Structure</i>						114.187
Cluster mean	9.38 (2,3,4,5)	0.35	4.59	0.43 (2)	0.60 (2,4)	(< 0.0001)

Note: The numbers in parentheses show the group number(s) from which this group was significantly different at the 0.05 level of significance based on the Tukey pairwise comparison tests.

**Table 3: Variable means by cluster.**

## 4. Findings

The cluster analysis identified five clusters as the most interpretable in terms of practical relevance and the most appropriate according to within-class variance and between-class variance (Hair et al., 1998). The resulting clusters, (1) *Pseudo-sharing*, (2) *Gig Economy*, (3) *Crowd-based Economy*, (4) *Pooling Economy*, and (5) *P2P Rental*, were labeled based on their characteristics and correspondence with existing literature. Differences between clusters were assessed by means of MANOVA tests and Tukey pairwise comparisons indicated significant differences between segments (Table 3). Figure 2 represents a simplified, two-dimensional representation of the five clusters.



**Figure 2: Two-dimensional simplified representation of the five clusters**

*4.1 Pseudo-sharing.* Startups in this cluster are characterized by centralized models where sides cannot exchange: a business actor offers – by means of a digital platform – access to a pool of tangible resources it owns. Their BM is generally configured as B2C, gathering revenues from a pay-per-access fee for the usage of a resource. This cluster includes widely diffused initiatives, such as ride-sharing platforms operating in urban areas: they are similar to traditional rental, however they rely on digital platforms which allow on-demand operations with a high level of flexibility and automation. Consumers often engage in such practices in search of alternatives that are more economically sustainable and flexible compared to resource ownership. This lack of sense of shared ownership holds a strong conceptual resemblance with pseudo-sharing (Belk, 2014b).

*4.2 Gig Economy.* These SE platforms act as matchmakers between users, enabling a many-to-many configuration. They provide intermediation between users offering each other services (e.g., running errands) in exchange for economic compensation. The peer-to-peer relationship between supply and demand side plays a key role in the interaction: providers and consumers can potentially exchange roles and use both sides of the platform. Because of these characteristics, this cluster resembles the forms of temporary employment resembling the *Gig Economy* (Friedman, 2014). This cluster includes low-skill services such as on-demand delivery, on-demand grocery shopping, and collaborative learning platforms.

*4.3 Crowd-Based Economy.* This cluster groups all platforms allowing professionals and/or companies to request or provide services that require specific skills. On the supply side stand both companies and individuals, giving shape to a many-to-many configuration that resembles some instances of crowdsourcing platforms. As opposed to the previous cluster, the tasks are executed by qualified providers, making the role of the two sides non-exchangeable. These practices include, for example, technicians, as well as on-demand highly-skilled professionals. This cluster is lacking recognition among academic contributions, as they

constitute a hybrid between the gig economy (Friedman, 2014) and a crowdsourcing platform (Kohler, 2015; Ghezzi et al., 2018).

*4.4 Pooling Economy.* This group of C2C initiatives is characterized by a peer-to-peer relationship and a many-to-many configuration – i.e., users can take part in the exchange either as providers, or consumers. The object of the sharing interaction is a bundle, a combination of a physical good and a service. Platforms act as intermediaries for consumers sharing the capacity of an unsaturated resource as a service. These initiatives are often marketplaces that are widely identified with the SE phenomenon, such as short-term vacation home rentals or carpooling services.

*4.5 P2P Rental.* These platforms intermediate a peer-to-peer relationship between users exchanging a tangible resource for a limited period of time and in exchange for monetary compensation, gaining revenues from transaction fees. Users of the same nature (i.e., C2C, B2B) saturate their resources by renting to other users who avoid the economic burden of ownership by paying a one-time consumption fee for their use. Examples of these startups are marketplaces for short-term object or equipment rentals, as well as money lending between peers, in a similar fashion to P2P Lending and P2P Rental (Fraiberger and Sundararajan, 2016).

Table 4 summarizes the five resulting clusters, the values of each variable that characterize them, and their link to extant theory.

#	Name	Sharing vocation	Dominant Actor Configuration	Dominant Revenue model(s)	Tangibility level	Theoretical references
1	Pseudo-sharing	Low	B2C	Consumption fee; flat subscription (or a combination of the two)	High (goods)	“Pseudo-sharing is a business relationship masquerading as communal sharing. It may not be altogether unwelcome and it may be beneficial to all parties as well as friendly to the environment. But it is not sharing, despite promoters often employing a sharing vocabulary.” (Belk, 2014b, p.11)
2	Gig Economy	High	C2C	Consumption fee; flat subscription	Low (services)	“[in the Gig Economy] workers are hired on the spot for the job without regard for their past employment, with no promise for future employment, legacy pay, or deferred compensation” (Friedman, 2014)
3	Crowd-Based Economy	Medium	C2B; B2B	Consumption fee; flat subscription	Low (services)	<p>“Crowd-based businesses enable organizations to harness the collective energy and creativity of a large number of contributors. Through different crowdsourcing processes, companies reach out to a large, unknown population by inviting users to create value. They capture a share of the value created as profit and, depending on the platform model, share revenue with the crowd.” (Kohler, 2015, p.63)</p> <p>“A crowdsourcing request may involve anything that the company is in need of, ranging from the simple execution of repetitive tasks (...) to R&amp;D problems, involving sourcing new ideas or introducing innovative applications for existing concepts (...).” (Ghezzi et al., 2018, p.344)</p>
4	Pooling Economy	High	C2C	Consumption fee; flat subscription	Medium (bundles)	<p>“Collaborative consumption is people coordinating the acquisition and distribution of a resource for a fee or other compensation” (Belk, 2014a)</p> <p>“[Collaborative Consumption] occurs within a triangle of actors: a platform provider, a peer service provider and a customer. The platform provider's main role is matchmaking, so that a customer can access assets of a peer service provider.” (Benoit et al., 2017, p. 219)</p> <p>“We define access-based consumption as transactions that may be market-mediated in which no transfer of ownership takes place.” (Bardhi and Eckhardt, 2012)</p>
5	P2P Rental	High	C2C, B2B	Consumption fee	High (goods)	“Peer-to-peer rentals enabling short term rental of durable goods between consumers.” (Fraiberger and Sundararajan, 2016)

**Table 4: Cluster descriptions and theoretical definitions.**

## 5. Discussion

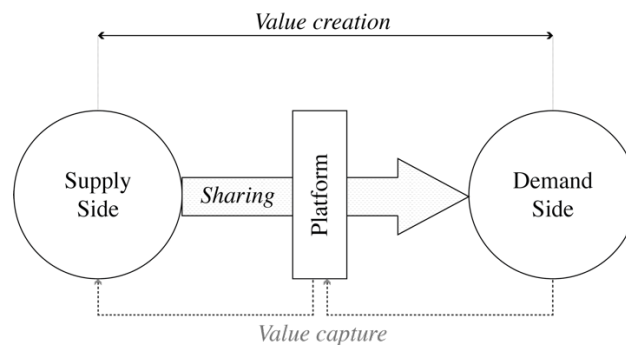
The exploratory cluster analysis led us to identify an original set of variables that characterize SE practices, offering useful insights in defining the five different types of Sharing Economy Business Models: (i) *Pseudo-sharing*; (ii) *gig economy*; (iii) *crowd-based economy*; (iv) *pooling economy*; and (v) *P2P rental*. Our study underlines there is no such thing as a univocal “Sharing Economy Business Model”, but rather a complete range of potential configurations of value capture, value delivery, and value creation mechanisms that stems from the combination of different factors that are independent of the reference industry, as opposed to the majority of classifications on SE practices (e.g., Belk, 2014b; Botsman and Rogers, 2010; Friedman, 2014). Both scholars and practitioners should hence pay careful attention to the dimensions deriving from the categorization variables proposed by this study to design and understand BMs in the SE.

This multiplicity of practices also debunks the widespread belief that SE only concerns mobility, hospitality and “running errands”: the belief that there is one unique BM that fits all SE initiatives can hinder the advancement of such models in managerial and entrepreneurial practices (Muñoz and Cohen, 2018). We confirm Andreassen et al.’s (2018) claim that BMs in the SE have impacted several different business sectors, spanning from equipment marketplaces, to service industries, such as the insurance and credit sectors. Furthermore, not only did the new SE configurations permeate through different industry sectors (e.g., Belk, 2014a), they also spanned across different customer groups: practices in the crowd-based economy and P2P rental demonstrate how consumers are not the only type of actor exchanging goods and services, but companies are eagerly engaging in sharing interactions with other businesses or individuals, too.

The categorization of SE initiatives proposed in this paper may aid researchers willing to carry out quantitative (as well as qualitative) analyses by means of grounded variables and a well-defined array of sub-categories within the phenomenon. Consistently with extant research (Amit and Han, 2017), we observe how innovative resource configurations put firms in a position of intermediation, either bridging or filtering the interactions between different customer groups. Given the role of digital platforms in revolutionizing the value creation process, we highlight the existence of BM architectures where the demand side of a platform can trigger value creating processes by stimulating direct and indirect network effects for both sides (Eisenmann et al., 2006). Following Hagiu and Wright (2015), firms now face a choice in their BM design: to adopt a multi-sided platform configuration or to stick with the traditional vertical integration model. However, consistently with Gawer and Cusumano (2014), platform owners that are able to strategically design and manage their platform can significantly increase their competitive advantage. Extant literature (Tura et al., 2017) suggests that design choices can drive the value creation potential of a given platform, and that value creation and capture on the demand side are critical for doing business on the internet (Massa et al., 2017). We conclude that SE initiatives are representative of how value creation processes do not only take place upstream at the firm level, but rather also take place at the consumer and user level (Priem, 2007; Priem et al., 2018).

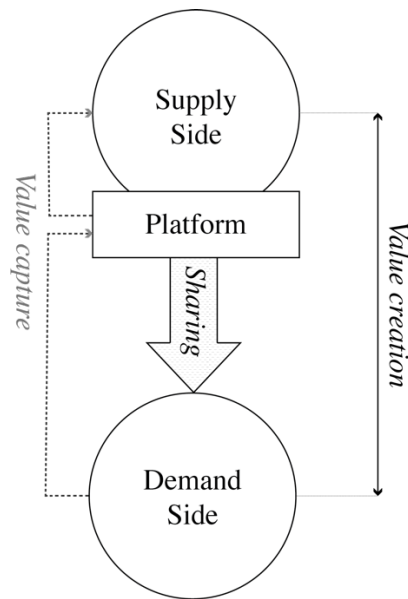
Value is created in the interaction between different stakeholders standing on either side of the exchange (Dreyer et al., 2017), as well as by the platform provider (Pellizzoni et al., 2018). Extending Kohler’s (2015)

argument on the value appropriation processes taking place in crowdsourcing platforms to SE practices, we confirm that once value is created on the user side, it is captured by the platform that will share it with the supplier(s), triggering a virtuous loop of value creation. This is also consistent with Priem’s (2007) argument that consumer benefits can increase the capability to create and capture value for the entire value system. This particular aspect is applicable to the whole sample, as most of the platforms involved in the analysis capture value by charging one or both sides of the platform with either a usage fee, or its supply-side counterpart – i.e., revenue sharing – with no apparent effect on the total service’s price (Rochet and Tirole, 2003). Consequently, value co-creation between consumers and suppliers is a key feature for SE initiatives and, consistently with Priem et al. (2018), seems to be a key determinant for firm success. In two-sided models with an intermediary platform (Andreassen et al., 2018), value is created for both suppliers and customers by reducing transaction costs thanks to intermediation, consistently with Eisenmann et al. (2006). Such a BM design creates a win-win situation that benefits both the platform and its users (Richter et al., 2017). In several of the configurations identified through this study, the demand and supply side are exchangeable: digital platforms with a high sharing vocation act as facilitators in value creating processes while providers and users engage in the value creation equation between the sides, as represented in Figure 3. In these models, value flows horizontally between providers – i.e., the supply side – and users – i.e., the demand side.



**Figure 3: Value creation and capture mechanisms in platforms with a high sharing vocation.**

Platforms with low sharing vocation such as those in the pseudo-sharing cluster, on the other hand, engage in different value capturing mechanisms generated by same-side network externalities, i.e., the possibility of different users to use, leave and pay resources as they need and like, saturating an otherwise underutilized resource and eliminating the necessity to own one. Therefore, these initiatives involve vertical, rather than horizontal, value flows. In these configurations, platforms adopt a facilitating role in fostering value appropriation in the interaction between providers and users. These practices present distinctive value capture mechanisms, as well as a potential shift in the consumption paradigm as we know it, challenging those established companies whose value capture model revolves around the single purchase of durable goods.



**Figure 4: Value creation and capture mechanisms in platforms with a low sharing vocation**

Finally, crowd-based initiatives, discarded by extant literature, emerged from the observation of SE startups. Consistently with open innovation initiatives, where matchmaking provides significant value gains for the different parties involved (Holzmann et al., 2014), these startups leverage the power of the crowd to share tangible or intangible resources for a common benefit.

Our research sheds light on the multitude of SE practices, connecting its empirical manifestations with literature on BMI, Multi-sided platforms, and demand-side value creation. Our findings suggest that, among a series of characterizing variables, the so-called *sharing vocation* of a platform drives the configuration of its BM and the way sharing is integrated within value creation, capture and delivery mechanisms. Furthermore, we formulate a taxonomy of SE startups, building on extant literature and extending the current understanding of such phenomenon.

## 6. Conclusion

This study links innovation management with BM theory by considering SE startups as vehicles of BMI. We attempt to address the theory-practice misalignment by presenting an original framework and categorization of SE initiatives. Addressing such misalignment may lead both scholars and practitioners to a better understanding of the SE phenomenon and its potential impact on several industries.

The value of this research lies in four main contributions. First, building on previous research, we provide an original set of characterizing variables explaining and enclosing the broad action-space of the SE, along with a comprehensive definition of SE. Second, by leveraging on BMI theory, we shed light onto the value creation and value capture mechanisms of SE initiatives and their novel value configurations that give rise to innovative BMs. Third, we propose a categorization of SE practices stemming from a comprehensive analysis of startups

operating in the SE domain. Finally, we highlight the existence of a series of innovative practices that are not bounded to the tourism, mobility and staffing sectors, thus extending the competitive environment of the SE. Practitioners can also benefit from understanding what factors drive innovation in BMs introduced by SE operators. We deem that our study may serve in guiding managers to detect potential signals of a shift to the “sharing paradigm” in their sector while getting ready to face what it may bring with. Established companies must keep in mind the challenges brought by startups in the SE to keep serving their customers (Botsman, 2014), designing innovative BMs and solutions that better adapt to the on-demand and hustle-free logics that SE operators have brought as a real possibility to the market. Sharing BMs taught us that value is no longer created upstream, but it is generated in the interaction of different stakeholders (Amit and Han, 2017; Priem et al., 2018). Companies have to learn how to orchestrate such interaction so to maximize the value created in the exchange and then appropriate it. To reach full command of BMs where value is created collaboratively, an understanding of the existing configurations and on the factors driving them is necessary for managers willing to survive and strive in this new potential paradigm shift. Our research suggests that BMI, especially when enabled by digital technologies, can serve as the key to successfully organize and facilitate these collaborative forms of consumption.

This study, however, is not free from limitations. For example, the exploratory analysis only holds descriptive power. Indeed, future research may focus on analyzing the relationships between companies in the five different clusters have on factors – e.g., financial performance, attractiveness on the VC market. Furthermore, the study only focuses on startups: future studies may focus on established players in the SE domain.



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