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Incumbents and business model innovation for the sharing economy: Implications for sustainability

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ABSTRACT

In addition to fostering the rise of new players in various sectors, the sharing economy has attracted the attention of established companies, the so-called 'incumbents'. Some incumbents have joined the sharing economy to both reap its emerging opportunities and tackle newcomers' competition. The entry of incumbents comes at a time in which the sharing economy, still in its initial stages, is the 'battlefield' between actors defending its original sustainability promise, based on the efficient use of resources, social bonding, non-monetized relationships and power of the communities, and those supporting the need to compromise on the principles, to ensure the sharing economy's expansion. Given incumbents' size and power, their entry is likely to significantly affect the shape of the sharing economy. Our study explores the implications for environmental, social and economic value creation of the different ways in which incumbents are changing their existing business models to join the sharing economy. We develop a typology of business model innovation for sharing, which stems from the literature on sustainable business models in particular, and present illustrative cases of incumbents' entry in the sharing economy. For every type adopted by incumbents, the sustainability dimensions are subsequently explored, considering both the benefits and drawbacks of incumbents' entry in the sharing economy. The final section concludes, and discusses implications for research, practice and policy.

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1. Introduction

The rise of the sharing economy has raised both bewilderment and enthusiasm among incumbents, i.e. "profit-seeking actors that are 'established' and 'positioned' in markets" (Steen and Weaver, 2017, p. 1073) with 'traditional' business models (Hannon, 2012; Schaltegger et al., 2016). On the one hand, they have seen their existing way of operating disrupted by newcomers, which entered the market with a business model based on the sharing of goods and services between peers and on the replacement of ownership with access. On the other hand, incumbents have recognized an array of opportunities brought by the sharing wave, including higher value creation for existing customers; the acquisition of new customers; the reduction of costs of internal processes; and the possibility to gain a reputation of being more 'sustainable' organizations. These factors have driven some of these established companies to embrace the sharing economy, in a variety of ways. Interestingly, Murillo et al. (2017) even characterized the urgency for incumbents of dealing with the sharing economy by using the expression 'share or die'.

Given incumbents' size and power, and the infant stage of the sharing economy, their entry will inevitably affect the shape of the sharing economy. It also raises the question as to whether this entry will be coherent with sharing's original sustainability promises. Indeed, the sharing economy was framed and welcomed as a transition towards a more environmental, social and economically just system. It was assumed to promote an efficient use of resources, social bonding, equal access to goods and services, new and flexible employment, non-monetized interactions and the power of 'peers' and of communities. However, several scholars (Acquier et al., 2017; Dreyer et al., 2017; Frenken and Schor, 2017; Martin, 2016; Murillo et al., 2017; Schor, 2014) have highlighted emerging distortions in the sharing economy's evolution, which are engendering a mission drift against the attainment of sustainable goals. What role incumbents (may) play in this regard has remained unclear thus far.

Indeed, although the relationship between incumbents and the

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sharing economy has raised some attention among management scholars, they have mainly focused on the impact of the sharing economy on incumbents and on how they should respond to it (Cusumano, 2015; Kathan et al., 2016; Matzler et al., 2015; Zervas et al., 2017). Underexplored have been the implications for environmental, social and economic value creation of the different ways in which incumbents are changing their existing business model(s) to embrace the sharing economy. Our study aims to address this gap by developing a typology of business model innovation for sharing (introduced in section 2), which stems from the literature on sustainable business models. We then explore whether and how incumbents tend to adopt the approaches identified in the typology, and present illustrative cases. For every type for which we found examples of adoption by incumbents, we reflect on the potential sustainability-related benefits and drawbacks, both for the sharing economy's trajectory and for the incumbents themselves.

This work makes several contributions to the literature on the sharing economy. To start with, it provides insight into different ways in which a prominent but understudied actor in the sharing economy, i.e. the incumbent, can integrate sharing economy approaches in its business model(s). In addition, we explore how incumbents' engagement in the sharing economy may affect its trajectory from a sustainability perspective, considering both the societal and business dimensions. The paper has also relevant implications for practice; we elaborate in particular on the lessons for incumbents, newcomers and policymakers. Contributions and implications for research and practice, as well as limitations of our study, are included in section 6. This is preceded by sections on theory (2), material and methods (3), results (4) and discussion (5).

2. Theoretical framework

As such, the "use of temporary access non-ownership models of utilizing consumer goods and services" (Belk, 2014a, p. 1595) is not new to the literature. It was introduced in management research over 20 years ago through the concepts of 'servitization' and 'product-service system', and the sharing economy has been identified by scholars as a 'sub-field' of this body of knowledge (Annarelli et al., 2016; Tukker, 2015). As companies offering product-service systems have encountered significant barriers in gaining acceptance among consumers, the growth of the sharing economy has been seen as "a window of opportunity that can be exploited to favour the acceptance of S.PSS[(sustainable.product-service-system)]-oriented solutions" (Vezzoli et al., 2015, p. 4). Drawing on product-service-systems research (Tukker, 2015), benefits have also been identified for the sharing economy, which we will present in section 2.1, embedded in a broader discussion on the pros and cons in terms of sustainability. In this respect, the (potentially negative or positive) role of incumbents has raised controversy, which is analysed further in section 2.2., in relation to business model innovation for sharing and the literature on sustainable business models.

2.1. The sharing economy and sustainability: opposing views

The rise of the sharing economy has been celebrated with an emphasis on its significantly positive impact on the economy, the environment and society (Plewnia and Guenther, 2018). From an environmental perspective, the sharing economy has been argued to promote a more efficient use of resources by substituting ownership with access and fostering the use of under-utilized assets (Acquier et al., 2017; Botsman and Rogers, 2010; Heinrichs, 2013; Martin, 2016; Plewnia and Guenther, 2018). Goods such as cars or drills often stay idle and unused for most of the time (Frenken and Schor, 2017). Sharing existing goods among those who need them enables a more intensive and efficient use. In addition, by preventing purchases of new goods, it helps address overproduction and resource exploitation (Acquier et al., 2017). Also, in particular business-to-consumer sharing business models may induce firms "to prolong the service life of products, to ensure they are used as intensively as possible" (Tukker, 2015, p. 76).

Significant benefits have also been underlined from a social point of view. The core social value of the sharing economy resides in the fact that it upholds communal forms of consumption and it fosters trust, solidarity and social bonding among individuals (Acquier et al., 2017; Belk, 2010; Benkler, 2017; Habibi et al., 2016; Palgan et al., 2017). Moreover, it creates social value by giving access to products for individuals who cannot afford to buy them (Acquier et al., 2017). Additionally, the so-called 'gig' or on-demand work platforms, which connect independent workers with individuals/companies in need for specific tasks to be performed, have been posited to contribute to the creation of employment, by offering access to new, flexible jobs (Murillo et al., 2017).

Finally, the sharing economy has been argued to create economic value by establishing a new economic system which is an 'alternative' to capitalism. This novel system relies on collaboration between peers, on non-monetized relationships and on the 'empowerment of ordinary people' (Schor, 2014) who can become micro-entrepreneurs and obtain extra income by offering their goods and/or skills (Dreyer et al., 2017; Palgan et al., 2017). As stated by Acquier et al. (2017, p. 2), the sharing economy gives the "opportunity to break through the limitations of centralized economic and political institutions controlled by bureaucracies and professions by harnessing the power of trust, decentralized peer-to-peer networks and markets".

Based on this assessment, business models in the sharing economy have been labelled as sustainable business models (Bocken et al., 2014), i.e. business models which, beside financial value, also create social and/or environmental value. However, with the growth in number and size of companies adopting so-called sharing business models, the idealistic picture of the sharing economy has been confronted with the surfacing of numerous cracks and grey areas. These have raised doubts about the effective contribution to sustainability by sharing platforms (Frenken and Schor, 2017; Martin, 2016; Murillo et al., 2017; Schor, 2014).

The environmental value creation has been questioned particularly on the basis of the so-called 'boomerang effect' (Murillo et al., 2017). This phenomenon affects in particular the car industry, where the low prices of access to shared vehicles may drive customers to increase their use at the expense of greener mobility options, such as public transportation, bikes and walking (Murillo et al., 2017; Schor, 2014). It has also been highlighted that sharing business models may differ as regards the extent to which they lead to a more efficient use of resources. While, for example, some types of ('free') accommodation sharing may allow for a reduction of the individual consumption of electricity and heating when owner and guest share the same spaces, this impact is more contested for situations, often incited through rental platforms (Palgan et al., 2017), in which the guest rents an entire house and does not share it with the owner.

In addition, scholars have also denounced the detriment to social value caused by the diffusion of 'pseudo-sharing' business models. In this respect, Belk (2014b, p. 7) refers to "a wolf-in-sheep's clothing phenomenon whereby commodity exchange and potential exploitation of consumer co-creators present themselves in the guise of sharing". It has in particular been argued that, when financial compensation is introduced, "it is no longer sharing at all" (Eckhardt and Bardhi, 2015, n.p.), because the presence of money corrupts the communal sharing experience. According to Plewnia and Guenther (2018), business-to-consumer sharing models can

be seen as contributing the least to the creation of social value. Habibi et al. (2016) have portrayed this type of tension into a 'sharing-exchange' continuum, to indicate that social value creation should not be taken for granted but depends on the features of a specific sharing business model.

The questioning of social value creation also extends to gig platforms. They have been accused of concealing short-term work without job security and basic rights behind the flag of flexibility and independence (Fieseler et al., 2017; Plewnia and Guenther, 2018; Schor, 2014) and "of exploiting people rather than empowering them" (Dreyer et al., 2017, p. 89). In addition, it has been noted that particularly rental accommodation sharing platforms often do not contribute to creating a more inclusive society. Instead, they may foster income inequality, as those home owners who can afford to rent attractive houses in the city center usually already have a relatively good income (Palgan et al., 2017). The social shortcomings can be particularly harmful for vulnerable groups and individuals (Dreyer et al., 2017) if business models are not adjusted to fit the local context in the sense of 'reaping' the assumed benefits of sharing.

Finally, the initial enthusiasm for a new economic order epitomized by the emergence of numerous, innovative sharing 'Davids' (as opposites to 'Goliaths', cf. Hockerts and Wüstenhagen, 2010) has been replaced by the observation of the progressive concentration of power in the hands of a few large sharing platforms (Murillo et al., 2017; Schor, 2014). Frenken and Schor (2017, p. 3) refer to a "predatory business model that will ultimately appropriate value to investors and founders" in this regard.

Overall, an important factor which has been signaled as a potential contributor to bring the sharing economy on an unsustainable trajectory is the entry of traditional companies, the so-called 'incumbents'. Murillo et al. (2017, p. 69) have highlighted how incumbents' attempts to operate in the sharing economy "render[…] the distinctive nature of the SE [sharing economy] and its social impacts highly problematic". Schor (2014) warned about the fact that the more sharing platforms are supported by and incorporated within incumbents, the more the sharing economy will be turned into a monopoly, with lower value allocated to the people. Despite the relevance of this topic, it has received scant scholarly attention, however. Indeed, although researchers have addressed the relationship between incumbents and the sharing economy, they have mainly examined how the sharing economy may affect incumbents and the way in which the latter could and/or should react (Cusumano, 2015; Kathan et al., 2016; Matzler et al., 2015; Zervas et al., 2017).

2.2. Incumbents and business model innovation for sharing

Extant literature has illustrated how incumbents may engage in business model innovation for sustainability, defined as "innovations that create significant positive and/or significantly reduced negative impacts for the environment and/or society, through changes in the way the organization and its value-network create, deliver value and capture value (i.e. create economic value) [and/]or change their value propositions" (Bocken et al., 2014, p. 44). The business model innovation journey may face a number of challenges related to the existence of a prior (unsustainable) business model (e.g. Bohnsack et al., 2014; Halme et al., 2012; Schaltegger et al., 2016). These relate to path dependency and the presence of an existing dominant logic, assets and structures, the pressure for short-term financial results, and the risk of cannibalizing the existing business model(s) (Bohnsack et al., 2014; Halme et al., 2012). In addition to challenges, however, scholars have identified a set of factors which facilitate innovation among incumbents, including organizational slack and complementary assets (Bohnsack et al., 2014; Fuentelsaz et al., 2015; Roy and Sarkar, 2016; Schaltegger et al., 2016). Two important questions to be addressed by incumbents that are willing to engage in business model innovation for sustainability are *what* to innovate and *how* to innovate. We will deal with these two consecutively, as they represent the two dimensions of the typology developed for the purpose of this paper (displayed in Table 1 and explained below).

The first, the '*what*', is a core question as it concerns the 'content' (Wirtz et al., 2016) of the existing business model that is going to be changed. To reveal this dimension of business models, extant literature has engaged in "enumerating and clarifying its essential components" (Massa et al., 2017, p. 87). Among the many classifications (cf. Morris et al., 2005; Wirtz et al., 2016), Osterwalder and Pigneur's (2010) categorization into nine components is most commonly adopted among practitioners. For the sake of simplicity (Bohnsack et al., 2014), scholars have compiled the nine components into a smaller number of business model elements (e.g. Bocken et al., 2014; Bohnsack et al., 2014; Boons and Lüdeke-Freund, 2013; Gallo et al., 2018; Urbinati et al., 2017). Our study draws on the consolidation of the nine components into four business model elements proposed by Boons and Lüdeke-Freund (2013) and Schaltegger et al. (2012) (business infrastructure, customer interface, value proposition, and financial model), but we have adjusted and applied it to the sharing context (see below, and the specification explained in section 3).

Building on Schaltegger et al. (2012), we conceptualize 'business infrastructure' as comprising key activities, resources and relationships with suppliers, i.e. the infrastructure that the company needs to manage in order to create value for the customer. The 'customer interface' describes the customer segments targeted by the firm, i.e., "how downstream relationships are structured and managed" (Boons and Lüdeke-Freund, 2013, p. 10) and the channels

Table 1
A framework for analyzing incumbents' approaches in the sharing economy. (each of the 12 boxes indicated by a number and a label for each type discussed in the text).

		CONTENT OF BUSINESS MODEL INNOVATION FOR SHARING			
		Adaptation of individual business model element			Addition of an entire 'new' sharing business model
		Value proposition	*Customer interface*	*Business infrastructure*	
MODE OF BUSINESS MODEL INNOVATION FOR SHARING	Internal development	[1] Sharing value proposition developer	[4] Sharing customer interface developer	[7] Sharing business infrastructure developer	[10] Sharing business model developer
	Partnership	[2] Sharing value proposition co-creator	[5] Sharing customer interface co-creator	[8] Sharing business infrastructure co-creator	[11] Sharing business model co-creator
	Acquisition(s)	[3] Sharing value proposition integrator	[6] Sharing customer interface integrator	[9] Sharing business infrastructure integrator	[12] Sharing business model integrator

through which the value proposition is delivered to the customer. The 'value proposition' includes the products and services offered by the firm to the customers and the value embedded in them (Boons and Lüdeke-Freund, 2013; Schaltegger et al., 2012). The financial model, which consists of the resulting costs and revenues and the way in which they are shared among business model participants (Boons and Lüdeke-Freund, 2013; Schaltegger et al., 2012), is not included separately in our framework. As there is a frequent lack of transparency on this subject in the publicly available data, due to the sensitivity of the information, we found it was not possible to fully and correctly capture the innovations undertaken by incumbents in their financial model. This is thus something to be explored in another study (see section 6).

Also important for our typology is the insight from the literature that business model innovation for sustainability may encompass different degrees of innovation (Schaltegger et al., 2012; Urbinati et al., 2017). In an applied piece, Matzler et al. (2014, n.p.) mention that firms can "respond to the rise of collaborative consumption" by, among others, 'aligning with collaborative consumption to target new customers', 'sell the use, not the product' and 'find new business models based on the sharing economy'. Drawing on existing research, we posit that business model innovation for sharing can range from the adjustment or change of a specific element of the existing business model to the change of all the elements. The latter results in the design of a sharing business model that is new for the incumbent and replaces or adds to the existing business model(s). As we explain further in section 4, this is entirely new for the incumbent but there is often a link to prevailing assets, which is why we have placed the novelty characterization between quotation marks ('new'). Hence, as shown on the horizontal axis of Table 1, incumbents may thus decide to change the value proposition, the business infrastructure or the customer interface, or they may engage in the design of an entire 'new' sharing business model.

The second question, regarding the '*how*', is also important, as it relates to the mode of business model innovation for sustainability. From the literature we have derived three main options: internal development, partnerships, and mergers and acquisitions, which are also positioned in Table 1, on the vertical axis, and explained next.

Internal development requires a strong commitment to overcome the internal challenges inherent to the nature of a 'traditional' incumbent, which has usually designed a business model with relatively low ambitions for environmental and/or social value creation. An internal development towards more sustainable business models may result from the incumbent's or from individual managers' creative efforts (Bohnsack et al., 2014; Halme et al., 2012), but it may also entail so-called mimicry, i.e. the imitation of new entrants' sustainable business models (Schaltegger et al., 2016). Mimicry is, however, not necessarily beneficial to the diffusion of sustainable business models in a market. Indeed, Schaltegger et al. (2016) have highlighted how the incumbent may try to mimic a new entrant's sustainable business model or parts of it instrumentally and only superficially, merely to tackle external pressures or to reap additional profits, rather than to fulfil environmental or social goals.

As indicated by a number of scholars, partnerships can form another path through which incumbents can pursue business model innovation for sustainability. An incumbent may use partnerships to complement a business model that remains under its full control or to develop a joint one of which the management is shared between the partners (Dahan et al., 2010; Wadin et al., 2017). Extant literature has shown how incumbents may establish partnerships with different kinds of actors, such as social enterprises (Seelos and Mair, 2007; Yunus et al., 2010), non-governmental organisations (Dahan et al., 2010) and new entrants (Wadin et al., 2017).

Mergers and acquisitions have emerged as a third trajectory through which incumbents engage in business model innovation for sustainability. This often entails, as illustrated by Schaltegger et al. (2016), building on Hockerts and Wüstenhagen (2010), the acquisition (by the 'Goliath') of a 'David', i.e. a new (small) entrant with a sustainable business model. In that sense, this usually involves acquisitions, not so much mergers. While this approach may allow the sustainable business model to thrive, thanks to the competences and resources of the incumbent, it may also engender some risks for its survival. Indeed, the David's model may end up being crushed in the incumbent's profit-driven mechanisms and thus be deprived of all its sustainability-related features (Schaltegger et al., 2016).

In view of their importance, we used these two dimensions, 'content' and 'mode', derived from the literature and explained above, to develop a typology of business model innovation for sharing (see Table 1). As mentioned in section 2.1, a connection has been established between sharing business models and sustainable business models (Bocken et al., 2014), although scholars have also noted that sharing business models are not sustainable business models 'per se' (Dreyer et al., 2017). Despite this observation, however, to our knowledge, we lack studies on how the different ways in which incumbents innovate their business model to join the sharing economy may shape the sharing economy's trajectory, if they may contribute to its mission drift by fostering the diffusion and dominance of business-as-usual business models 'wrapped in a vocabulary of sharing' (Belk, 2014b), or if, instead, they may facilitate and accelerate a trajectory grounded on environmental, social and economic sustainability principles. As this article aims to contribute to the literature by addressing these aspects, we will address two core aspects. First, we explore how incumbents have engaged in business model innovation for sharing to date, by examining which ones of 12 'types' identified conceptually (see Table 1) have been actually adopted by established firms and in what way(s). Second, we assess the implications for sustainability. Before moving to the presentation and discussion of the results, we will explain the methodology.

3. Material and methods

As our study aims to explore whether and how the types of business model innovation for sharing represented in our framework (see Table 1) and drawn from the sustainable business model literature are actually adopted by incumbents, we use a qualitative method. More specifically, an 'exploratory empirical analysis' (Urbinati et al., 2017) has been conducted, in keeping with studies with a comparable purpose (e.g. Bocken et al., 2014; Muñoz and Cohen, 2017; Urbinati et al., 2017). The identification of incumbents is based on Steen and Weaver (2017, p. 1073) who, as indicated in section 1, define them as "profit-seeking actors that are 'established' and 'positioned' in markets. Incumbent firms have vested interests, historically accumulated capabilities, established supply chain linkages and institutionalized ways of operating".

The first objective consisted of compiling a list of cases of incumbents' engagement in the sharing economy. As stated by Bocken et al. (2014, p. 47), "in some cases, industrial practice appears to be ahead of academia in exploring and developing novel business models". Our research thus uses publicly available qualitative data, following the approach adopted by previous studies (e.g. Urbinati et al., 2017). The ultimate goals were then to position the identified cases into our framework (see Table 1) and deduce their likely/expected sustainability impacts. To attain these objectives, we followed the seven steps presented in Fig. 1.

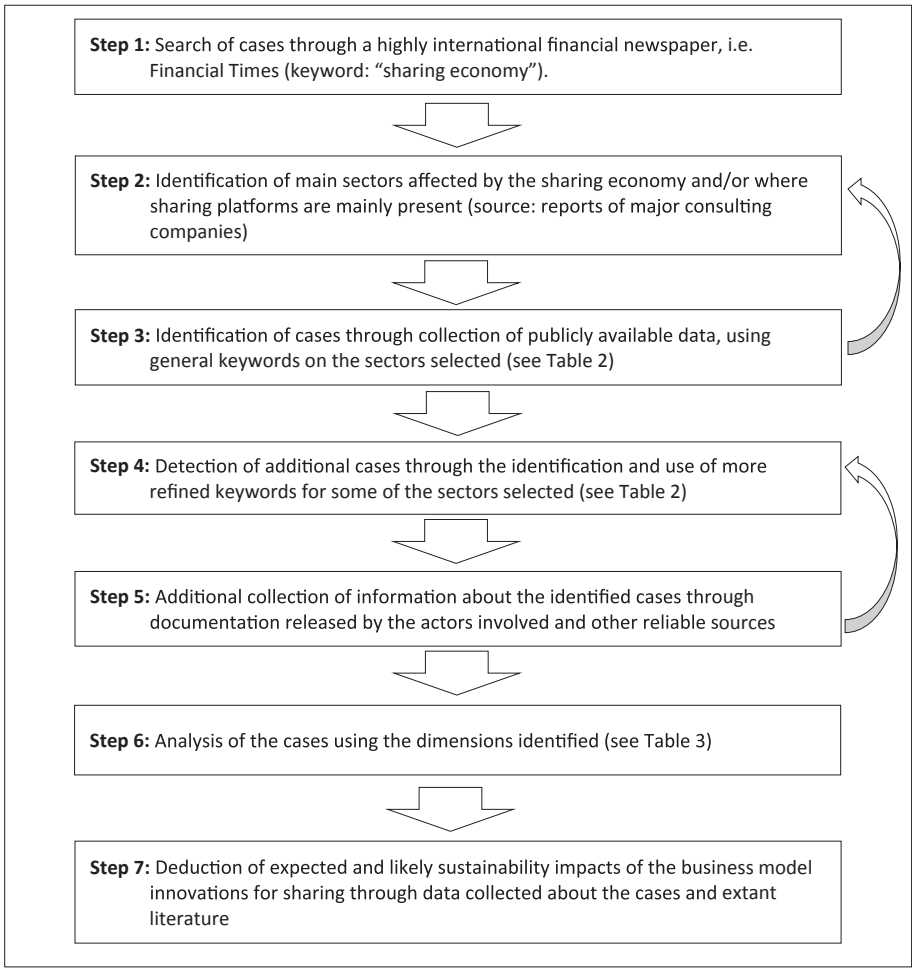


Fig. 1. Methodology for data collection and data analysis.

We first collected secondary data from a highly regarded international financial newspaper, the Financial Times (step 1). The aim was to identify major cases of incumbents entering the sharing economy that had raised attention in the international financial/business community. By using 'sharing economy' as keyword and 2013–2017 as time frame, articles referring to incumbents and business model innovation for sharing were collected. However, as the results were limited, we extended the search to other sources. More specifically, we identified, from reports on the sharing economy released by major consulting companies, i.e. BCG (2017), PwC (2016; 2017) and McKinsey (2016), the main sectors affected by the emergence of the sharing economy and/or in which sharing platforms are mainly present (step 2). The sectors identified were, in alphabetical order: automotive, fashion, finance, hotels, industrial machinery/equipment, labour services and logistics. We then conducted a wider data collection, using google.com as search engine, to identify cases of incumbents entering the sharing economy from/in the focal sectors, using the keywords included in Table 2 (step 3). During the data collection, there was an iteration between this step and step 2, as it turned out that insurance incumbents showed activities different from finance in general and/or banks. We therefore identified insurance as separate sector and adopted it accordingly as new keyword for the sector-related search.

While the search started with more general keywords (e.g. the name of the respective sector + sharing), these were refined and made more specific for some of the sectors, i.e. automotive and machinery, labour services and logistics,[1] due to the difficulty in capturing existing cases (step 4). The more specific keywords (cf. Table 2) were used to facilitate the identification of cases, but the inclusion in the list was not limited to the incumbents directly sought for. Indeed, in a number of occasions other incumbents were mentioned in the search results of the companies originally used as keywords. Data was thus also collected for these incumbents, in order to identify whether they represented additional cases to be

[1] For the automotive sector, we used specific brand names of the 15 largest car manufacturers (following OICA, 2016), in addition to the term 'car', for two main reasons. First, 'car' (+sharing) yielded too many results which made it challenging to extract relevant cases of incumbents. Second, according to the consulting firms' reports, the automotive sector is one of the most disrupted by the sharing economy, and therefore we considered it relevant to narrow down the search to capture business model innovation for sharing undertaken by the largest car manufacturers. For the machinery sector, given the difficulty in finding relevant cases, we used a set of keywords drawn from the consulting firms' reports next to 'machinery'. More specifically, as BCG (2017) refers to 'B2B' (business-to-business) sharing and to the sharing of 'construction equipment', we added these terms to the keywords. For labour services all the work performed in the so-called 'gig economy' was sought for, covering both 'crowd work' and on-demand services (De Stefano, 2016). Since, as indicated by McKinsey (2016), key on-demand platforms include food delivery and home services platforms, we used as keywords the names of the 10 largest incumbents in the food services and in the household and personal products industries, drawing on Fortune 500's 2017 ranking. Similarly, for logistics, to the general keywords we added the companies listed in the "mail, package and freight delivery" category of Fortune 500's 2017 ranking.

Table 2
Focal sectors and search keywords.

Sector	Keyword(s)
Hotel	'hotel + sharing'
Automotive	'car manufacturer + sharing'
	'Toyota + sharing'
	'G.M.+ sharing'
	'Ford + sharing'
	'Nissan + sharing'
	'Honda + sharing'
	'FIAT + sharing'
	'Renault + sharing'
	'PSA + sharing'
	'Suzuki + sharing '
	'SAIC + sharing'
	'Daimler + sharing'
	'BMW + sharing'
	'Changan + sharing '
Finance	'bank + sharing economy'
	'finance + sharing economy'
	'bank + peer-to-peer lending'
Industrial Machinery/Equipment	'machinery + sharing'
	'machinery + sharing economy'
	'construction + sharing economy'
	'equipment + sharing economy'
	'B2B + sharing economy'
Fashion	'fashion + sharing economy'
	'apparel + sharing economy'
Labour services	'incumbent + gig economy'
	'corporations + gig economy'
	'manufacturer + gig economy'
	'retail + gig economy'
	'corporations + crowdwork'
	'McDonald's + gig economy'
	'Starbucks + gig economy'
	'Darden Restaurants + gig economy'
	'Yum China + gig economy'
	'Yum Brands + gig economy'
	'Chipotle+ gig economy'
	'Bloomin' Brands + gig economy'
	'Brinker + gig economy'
	'Cracker Barrel Old Country Store+ gig economy'
	'Panera Bread + gig economy'
	'Unilever + gig economy'
	'P&G + gig economy'
	'Procter & Gamble' + gig economy'
	'L'Oreal + gig economy'
Logistics	'logistics + sharing'
	'US Postal Service + sharing"
	'DHL + sharing'
	'UPS + sharing'
	'FedEx + sharing'
	'La Poste + sharing
Insurance	'insurance + sharing'

included in the next step.

This next step (step 5) consisted of finding more targeted information for each case. In order to provide an additional data triangulation (Denzin, 1978), information was collected from the website of the sharing platform related to the specific case, from communications about the business model innovation for sharing by the actors involved and, if not present or sufficient, information on the business model innovation produced by other reliable sources. This search led to an iteration with the previous step, as sometimes the targeted information collected for each case also referred to other, potentially relevant incumbents. In such a situation, we checked these incumbents as well to assess whether they could be indeed considered as new, relevant cases. The aim was to have as much information as possible to be able to verify, for each case, whether it indeed entailed business model innovation for sharing and if so, to identify its core features. Overall, our data collection activities resulted in a list of at least[2] 106 cases of incumbents engaging in the sharing economy (see further section 4, and the appendix for the full list of cases).

We analysed these cases using the dimensions adopted (see section 2 and Table 1). More specifically, we assessed the 'content' and 'mode' of the business model innovation for sharing undertaken in each case. Through the data collected for each case, we thus examined whether the incumbent had joined the sharing economy by adapting its value proposition, its customer interface, its business infrastructure, or by adopting an entire new sharing business model. In addition, we determined whether the business model innovation for sharing was pursued by the incumbent

[2] We mention 'at least' because it was not possible, with the information at our disposal, to assess the exact number of construction companies partnering with the equipment-sharing platforms Dozr and EquipmentShare to access machineries. Therefore we counted only the very minimum number of possible partnerships per platform, i.e. one (and thus two in total).

Table 3
Data analysis logic.

Content and mode of business model innovation for sharing	Categorization logic
Value proposition	The incumbent adds a sharing service to the offer of products/services it currently offers to its existing customers
Customer interface	The incumbent offers its products and/or services to a new segment, i.e. customers of sharing platforms or a sharing platform itself. The products and services offered are either existing ones or new ones, but do not include sharing services.
Business infrastructure	The incumbent utilizes sharing platforms for the supply of labour or of production equipment, machinery and tools.
Entire sharing business model	The incumbent adopts an entire sharing business model, which consists of a value proposition focusing on a sharing service and concurrent changes in the customer interface and business infrastructure.
Internal development	The incumbent enters the sharing economy through internal development
Partnership	The incumbent enters the sharing economy through partnership(s)
Acquisition	The incumbent enters the sharing economy through acquisition(s)

through internal development, partnership or acquisition. Table 3 illustrates the logic adopted to assign the cases to both dimensions. In keeping with the outcomes, we assigned each case to the corresponding conceptual type (step 6). Prior specification of key dimensions for analysis is an accepted strategy for strengthening the focus of the analysis, strengthening construct and internal validity (Eisenhardt, 1989) (see Table 3).

We report the indicative number of cases per box in section 4. We consider these numbers to provide an illustration of the phenomenon but to not be representative of the whole context, in line with the purpose of the study which is to identify and explore the phenomenon of the entry of incumbents in the sharing economy. From the cases identified for each box, we selected those that seemed to most clearly illustrate a specific type, to use them as illustrative examples in the results section below. Finally, using the data collected about the cases, as well as extant literature on the sharing economy, we inferred and deduced expected or likely sustainability impacts of the business model innovations for sharing undertaken by the incumbents (step 7). We did so by considering the sustainability-related promises and distortions of the sharing economy highlighted by prior studies (e.g. Dreyer et al., 2017; Murillo et al., 2017) and discussed above, in light of the defining features of incumbents (e.g. size, financial resources, complementary assets) identified by existing literature (Bohnsack et al., 2014; Hockerts and Wüstenhagen, 2010; Schaltegger et al., 2016; Steen and Weaver, 2017). For each case, we thus reflected on whether the core characteristics of an incumbent would likely help realize the sustainability-related promise that the sharing business model should attain or would rather amplify existing drawbacks or engender new ones. The adoption of this approach was due particularly to a lack of tools for a reliable and valid assessment of a business model's actual environmental and social effects (Kurucz et al., 2017).

4. Results

In this section, we present the results, using the typology introduced in the theory section (2). We distinguish respectively, following the columns of Table 1, the adaptation of elements of an existing business model concerning the value proposition (4.1; boxes 1, 2 and 3), the customer interface (4.2; boxes 4, 5 and 6), the business infrastructure (4.3; boxes 7, 8 and 9) and then the addition of an entire 'new' sharing business model (4.4; boxes 10, 11 and 12). In each of these four subsections, a brief description of the overall developments is given considering the three modes identified in the rows of Table 1. Subsequently, we give some illustrative examples, which are listed in relevant boxes of Table 4, and then proceed to logically deduce the implications for sustainability. In section 5 we will discuss the results in relation to the literature reviewed in section 2 as input for further theorization.

Before moving to the subsections, we first give some indicative numbers regarding the findings of our study. Overall, our data collection activities yielded at least[3] 106 cases of incumbents' engaging in the sharing economy (see appendix for full list of cases), distributed over the Table as follows. In the first column, adaptation of the value proposition, we found 23 incumbents (19 in box 2, partnerships, and 4 in box 3, acquisitions). Another 42 incumbents adapted their customer interface through partnerships (box 5); and only one through internal development (box 4). Regarding the business infrastructure, partnerships (box 8) are most prevalent as well, as there are at least[4] 11 cases, and one that adopted the internal development mode (box 7). Finally, 28 incumbents adopt an entire new sharing platform, including 13 through internal development (box 10), 10 through partnerships (box 11) and 5 through acquisitions (box 12).

4.1. Adaptation of the value proposition of existing business models

4.1.1. Description

Some incumbents have found that specific sharing services could be valuable complements to the products and/or services they already offer to their target customers. The incumbents thus do not adopt an entire new sharing business model but strengthen the value proposition directed at their existing target customers by adding a sharing service to their core offer (cf. Table 3). The sharing service consists of "sharing underutilized assets from spaces to skills to stuff" (Botsman, 2013, n.p.). The cases show that this sharing service is delivered (a) within the core value proposition, in combination with the existing product/service to increase its value for the customer, or (b) as an alternative to the core value proposition, to provide a wider range of options to incumbents' existing target customers. In 4.1.2 we will give illustrative examples for both approaches.

4.1.2. Illustrative examples

In the cases that we studied, incumbents seem to adopt more often the "sharing value proposition co-creator" than the "sharing value proposition integrator" type, as they adapt their value proposition to the sharing economy largely through partnerships and less through acquisitions (respectively boxes 2 and 3). Key examples of combining a sharing service with the existing offer through partnerships are those between restaurant chains and platforms offering a delivery service performed by independent contractors (box 2). This is epitomized by the partnership between McDonald's and Uber Eats. Uber Eats is one of the largest on-demand meal delivery platforms, matching self-employed couriers with

[3] See footnote 1.

[4] See footnote 1. Eleven is the minimum number of cases as we counted only two partnerships for the two sharing platforms for machineries (i.e., the minimum number of partnerships per platform, i.e. one).

Table 4
Illustrative examples of the types of business model innovation for sharing adopted by incumbents.

		CONTENT OF BUSINESS MODEL INNOVATION FOR SHARING			
		Adaptation of individual business model element			Addition of an entire 'new' sharing business model
		Value proposition	Customer interface	Business infrastructure	
MODE OF BUSINESS MODEL INNOVATION FOR SHARING	Internal development	[no cases]	[1 case] BMW (BMW Car & ride sharing lease)	[1 case] PWC (Talent Exchange)	[13 cases] Daimler (Car2Go)
	Partnership	[19 cases] McDonald's-Uber Eats; RBS-Funding Circle	[42 cases] Jaguar Land Rover-Lyft; Allianz-Car2Go; Zurich-Airbnb	[11 cases] Samsung-UpWork; VDL Groep-FLOOW2	[10 cases] BMW-Sixt (DriveNow)
	Acquisition(s)	[4 cases] Ikea-Task Rabbit	[no cases]	[no cases]	[5 cases] Ford (Chariot); Accor (Onefinestay, Squarebreak, Travelkeys)

restaurants and final customers. McDonald's wants to offer home delivery of food to its customers and Uber Eats' network of deliverers allows the fast-food multinational to offer this additional service. A similar partnership has been established in the US between Yum! Brands, owner of KFC and Taco Bell, and GrubHub, a food delivery platform reliant on independent drivers.

Ikea's acquisition of Task Rabbit, a platform connecting independent 'taskers' with people in need of their services, is another example of an incumbent adding a sharing service to its core value proposition (box 3). Ikea was confronted with some customers who were not enthusiastic about having to assemble the furniture themselves. In 2016, the company therefore launched a pilot with TaskRabbit in its stores in London "to enable furniture-assembly services by Taskers to IKEA customers" (Ikea, 2017, n.p.). Following the success of this pilot, Ikea acquired Task Rabbit in 2017. With its array of 'taskers' eager to assemble the furniture purchased by Ikea customers, Task Rabbit thus allows the retailer to offer its current customers a sharing service that is complementary to its existing value proposition. The recent partnership between Walmart and Handy, another platform connecting independent workers with people needing household services, had the same purpose. As explained by Walmart (2018, n.p.), the partnership "provides Walmart shoppers with quick, affordable access to Handy's high-quality in-home installation and assembly, as interested shoppers can purchase Handy services while checking out in store".

The partnerships established by Royal Bank of Scotland (RBS) with Funding Circle and with Assetz Capital, two peer-to-peer lending platforms, are instead examples of adopting a sharing service as an alternative value proposition to the core one, with the aim to extend the value creation options for existing target customers. Small businesses represent a significant share of RBS' target market, but a portion of those asking for a loan do not fulfil the bank's requirements. The goal of this partnership was thus, for RBS (2015, n.p.), "to expand choice for customers whose loan applications do not meet the bank's criteria", by referring them to Funding Circle or Assetz Capital.

4.1.3. Implications for sustainability

The adaptation of the value proposition through the inclusion of a sharing service may have both positive and negative implications for sustainability. Combining a sharing service with a company's core products may have a negative environmental impact if the sharing service is employed instrumentally for the growth of a traditional business model based on product sales. Indeed, the goal for the incumbent continues to be the maximisation of products sold and the addition of a complementary service aims to incentivize customers to increase purchases and consumption. An Ikea customer, relieved from the concern of having to assemble the furniture him/herself, may be induced to buy more furniture, as the price to pay for a 'tasker' is relatively limited. This contradicts the sharing economy's environmental promise of reduced resource use (Schor, 2014), with the impact on resource exploitation being negative in this case.

The social and economic impacts may be both positive and negative. By enabling sharing platforms to access its considerable volume of customers, an incumbent may facilitate the growth of sharing platforms and increase social connections and employment opportunities in the sharing economy. For example, the partnership with McDonald's means a substantially higher number of customers for Uber Eats' self-employed couriers. Fitzmaurice et al. (2016) illustrated the social benefits of Taskrabbit for workers on the platform, in particular in terms of creating new social ties. The partnership with Ikea, by opening significant chances of interaction for the 'taskers', strengthens this advantage.

The effect could also be larger and go beyond the specific sharing platform associated with the incumbent. Indeed, the legitimacy of the incumbent would help the sharing economy to be understood and accepted also among customers who were not aware of it or were hesitant to be part of it, thus fostering their use of other sharing platforms as well. Customers may also profit from it in another way, as shown in the finance example. The adoption of a value proposition comprising a sharing service helps to satisfy a demand for funding that could not be fulfilled through a bank's traditional value proposition, while still benefiting from the bank's competences. This was highlighted by the UK Chancellor of the Exchequer who argued, when the RBS-Funding Circle partnership was signed, that it would help "to ensure that small British companies have the best access to funding" (RBS, 2015, n.p.).

However, there may also be negative economic and social effects, as the incumbent's adoption of sharing services may amplify their drawbacks. This can, for example, occur when an incumbent adds 'gig' services into its core value proposition, as in the case of Ikea, Walmart, McDonald's and Yum! Brands. The alternative for these incumbents, in order to satisfy their customers' needs, may have been to directly hire employees in charge of the assembly (Ikea and Walmart) and delivery (McDonald's and Yum! Brands). The use of on-demand, self-employed taskers and couriers may thus contribute to the precariousness of the job market. If the incumbent is located in an emerging or developing country, this

negative impact may be exacerbated, as suggested by Dreyer et al. (2017), because of the high vulnerability of the workers who already suffer from a lack of resources and power and from institutional voids.

4.2. Adaptation of the customer interface of existing business models

4.2.1. Description

Another approach that we found is that incumbents identify the users of sharing platforms as a promising new customer segment that they can target. These incumbents thus do not add a sharing service to their value proposition, but adjust and adapt their 'traditional' products and services to cater to the needs of sharing platforms' users and of sharing platforms themselves. The most prominent mode used to pursue this goal is a partnership with sharing platforms ("sharing customer interface co-creator" type - box 5). Internal development is also adopted but still to a very limited extent ("sharing customer interface developer" type - box 4). As regards the partnerships, the sharing platform allows an incumbent to access both its users and knowledge of this segment; this enables the incumbent to easily connect with sharing economy users and to effectively tailor products and services to their needs. The incumbent may also design a product and service to be acquired by the sharing platform itself. Through internal development, an incumbent mainly targets 'potential' users of sharing platforms, i.e. customers who would like to share the product they purchase from the incumbent. The incumbent thus may add, to the core offer, complements which facilitate or enable its existing and potential customers to share the good on sharing platforms.

4.2.2. Illustrative examples

Multiple partnerships were found in the insurance sector. We encountered collaboration with sharing platforms but not (as in sections 4.1 and 4.4) to add sharing (i.e. temporary access to underutilized assets, goods or skills) in the firms' value proposition, as that continues to consist of insurances that are sold to the customers. The insurance incumbents have instead adjusted their traditional value proposition to respond to the needs of sharing platform users. An example is the partnership between Allianz Worlwide Partners and Car2Go. As stated by Allianz-Partners (2017, n.p.), "[w]ith car2go we have found a strong partner with whom we can expand the range of insurance solutions which we offer in the field of car sharing". Another example is the partnership between Airbnb and Zurich Insurance Group. Airbnb's 'host protection insurance', issued by Zurich, provides coverage in case of damages to the property or injuries suffered during the stay. Allianz Partners and Zurich have not added a sharing service to their value proposition, which remains a 'traditional' one, i.e. offering an insurance that customers purchase. The incumbents have modified the features of their insurance products in order to cover the activities performed by a new customer segment, i.e. the users of sharing platforms/services.

Other relevant examples of partnerships can be found among car manufacturers that collaborate with car sharing or ride-hailing companies to supply drivers with their vehicles and to test (and supply) innovative products, such as self-driving cars. This is epitomized by partnerships of both Ford and Jaguar Land Rover with Lyft, a ride-hailing company, or the ones that Volvo and Daimler have set up with Uber. As stated by Jaguar Land Rover (2017, n.p.), the partnership with Lyft will provide the car manufacturer "with the opportunity to develop and test its mobility services, including autonomous vehicles, and to supply Lyft drivers with a fleet of Jaguar and Land Rover vehicles".

An example of adaptation of the customer interface through internal development is BMW's 'Car & Ride Sharing Lease'. This is a lease solution offered by BMW to its customers, which gives them "the right to participate in car and ride sharing services" (BMW, n.d.). Customers choosing Car & Ride Sharing Lease are thus authorized to share their BMW car on their preferred peer-to-peer platform or to use it for ride-sharing platforms such as Uber or Lyft.

4.2.3. Implications for sustainability

By selling their products to a new customer segment, i.e. the participants of the sharing economy, incumbents may contribute significantly to the scaling up of sharing business models. In particular, the offer, by insurance companies, of insurance solutions to users of sharing platforms may have positive environmental implications, as people will perceive a lower risk in accessing or sharing a good, thanks to the protection from the insurance. It should be noted, however, that this is based on the assumption that sharing leads to better, more efficient or longer use of goods. In the framework of peer-to-peer sharing platforms, a key factor preventing an owner from sharing her/his goods is the fact that they are "exposed to potential user opportunism" (Van Huurne et al., 2017, p. 485), which drives a lack of trust and the fear that they will be mistreated, damaged or destroyed (Frenken and Schor, 2017). Users of goods may also be afraid of the consequences related to claims of damages by the owner. By offering insurance products tailored to the new customer segment of participants in the sharing economy, insurance incumbents may help reduce the risk they experience and incentivize them to share and access goods.

Another issue, specifically related to peer-to-peer car sharing, is that customers increasingly turn to lease when they get a new car (Leaseurope, n.d.). If the lease agreements do not allow them to share their cars, they are a serious hurdle to a more efficient, and thus environmentally sustainable, use of underutilized cars. Incumbent car manufacturers can play a key role in facilitating the growth of car sharing between peers by offering their customers a lease solution which authorizes them to make their car available when they do not need it.

In addition, selling products that will be shared, such as the cars in our examples above, may also have relevant environmental impacts. These potential benefits become larger if the goods are environmentally sustainable. Thus, for example, if the partnerships between car manufacturers and ride-hailing companies focus on electric vehicles, this would have positive environmental effects. Although the sharing economy provides an optimal context to test and foster the adoption of new, greener solutions, it fully depends on the willingness of both the incumbent and the sharing platform to pursue this environmentally sustainable path.

4.3. Adaptation of the business infrastructure of existing business models

4.3.1. Description

Incumbents have also started to embrace the sharing economy in their business infrastructure, but so far only to a limited extent. This adaptation of their business models affects, in particular, the supply of production equipment and of labour. Indeed, incumbents may bring the sharing economy in their business infrastructure by shifting from purchasing machinery and tools from producers to renting them from fellow companies or from other departments in the same company through, respectively, business-to-business and internal sharing platforms. Adapting the business infrastructure to the sharing economy may also encompass the replacement of permanent labour with on-demand labour, accessed via freelance labour platforms or via their own platform. Under this heading we mainly found partnerships ("sharing business infrastructure co-

creator" type - box 8), with only incidentally the internal development mode ("sharing business infrastructure developer" type - box 7).

4.3.2. Illustrative examples

A set of incumbents has partnered with sharing platforms to rent equipment for production activities from their peers, rather than buying it. One example relates to companies operating in the construction industry. Before the emergence of sharing platforms, contractors were very often forced to purchase the machinery they needed for a project, even if it was expensive and bound to be under-utilized. Some of them have started to use peer-to-peer sharing platforms, such as EquipmentShare.com or Dozr, to rent excavators, rollers, cranes or other equipment for their construction project from fellow contractors.

We also found incumbents that are implementing 'internal' sharing platforms, to enable the sharing of production equipment between subsidiaries and/or departments. An example is VDL Groep, a large Dutch company, which has created an internal sharing platform "to visualize the available capacity: machinery, supplies, tools and to exchange these between the branches" (ABN Amro, 2017, n.p.). To this end, VDL Groep has partnered with FLOOW2, a Dutch start-up specialized in the development of sharing marketplaces for businesses and organizations, to establish the internal sharing platform.

Incumbents have also started to access the skills offered by freelance work platforms. An example is the partnership between Samsung and Upwork. Samsung's partnership with the gig platform was caused by the decision of Samsung's headquarters to set a two-week delivery time for projects. Samsung's project leaders were facing a shortage of employees which would prevent them from meeting deadlines as traditional staffing agencies needed approximately six weeks to identify the freelancer(s) needed. Samsung started with a "three-month pilot program […] with two research teams using the platform and ended with 13 teams using it, including software development, finance, accounting, and human resources" (Upwork, n.d., n.p.). P&G is another example of a large established firm collaborating with Upwork to access freelance work. PwC instead developed its own 'gig' platform, named 'Talent Exchange', to access directly freelance workers when needed. According to PwC (n.d., n.p.), the Talent Exchange platform gives freelancers "direct access to PwC teams seeking experienced independent talent for their projects".

4.3.3. Implications for sustainability

Companies often have idle capacity. When incumbents, rather than buying production equipment, access it from other firms or from other business units, this will have a positive environmental impact as the sharing contributes to an efficient use of resources and to an optimized exploitation of under-utilized assets. Furthermore, the use by incumbents of business-to-business sharing platforms helps these sustainable sharing business models to scale up and diffuse, amplifying the environmental value they create.

The use of on-demand labour seems to have more complex sustainability implications. If the incumbents use on-demand labour on an irregular basis to address unexpected events or to support their employees in particularly busy circumstances, this may have positive social and economic effects in terms of employment creation as well as working conditions, as it allows flexibility and autonomy. If, instead, the on-demand work is accessed on a stable basis to replace permanent work, this has negative implications on the job market, due particularly to the size of the incumbents, and may affect working and employment conditions and the overall situation regarding more permanent jobs. Key drawbacks, from a social perspective, are related to the fact that the work is largely performed online, thus playing a role in workers' isolation and in the "perceived dehumanisation of their activity" (De Stefano, 2016, p. 4).

From an economic perspective, the increased use of on-demand labour by incumbents may induce higher economic insecurity and precariousness among workers and lower protection. The incumbents may thus end up being complicit of the platforms' 'sharewashing' practices, consisting of hiding the burden of risk and instability loaded on the workers behind a sharing 'façade' (Schor, 2014). The sustainability impacts that derive from an incumbent's use of on-demand labour are significantly affected by the social and economic setting in which this occurs (Dreyer et al., 2017). If it takes place in a context in which workers are already vulnerable and in precarious conditions the economic and social harms are likely to be severe (Dreyer et al., 2017).

4.4. Adoption of an entire 'new' sharing business model

4.4.1. Description

Over the last few years, some incumbents have decided to embrace the sharing economy by adopting an entire 'new' sharing business model. While in the examples illustrated in sections 4.1, 4.2 and 4.3, incumbents implement changes only to one business model element, the adoption of an entire sharing business model entails modifications to all the elements of the existing business model. At the same time, the sharing business model is often connected to incumbents' existing assets, which are likely to be leveraged in order to gain a competitive advantage in the sharing economy. It is therefore that we have added 'new' to the heading, as there is certainly novelty but also some relation or familiarity with what the company already had.

4.4.2. Illustrative examples

The adoption of a sharing business model has been pursued through all three modes and interesting examples were found in particular in the car and hotel sectors. The sharing business model adopted by these incumbents has not replaced their existing, traditional business model but has been added to it, to capture new opportunities and address the growth of sharing start-ups. The adoption of a sharing business model by car manufacturers implies changing all the elements of their traditional business model. Indeed, the value proposition shifts from enabling ownership of a car (or exclusive long-term access to it through leasing) to offering its short-term, 'temporary' access. The customer segments are likely to differ from those traditionally targeted by car manufacturer in terms of age, income, needs and location. The business infrastructure is also modified as the car manufacturer needs to put in place an infrastructure to manage and maintain the fleet of shared cars.

Examples of the adoption of an entire 'new' sharing business model through internal development ("sharing BM developer" type - box 10) are Car2Go, created by the German car manufacturer Daimler and e-share mobi, developed by the Japanese automaker Nissan Car. Manufacturers have also adopted car sharing business models through partnerships ("sharing BM co-creator" type - box 11). This includes the case of DriveNow, that started as a joint venture between the car manufacturer BMW and the rental company Sixt. Another example is Emov, a car sharing company operating in Spain and Portugal, which is the outcome of a joint venture between the car French producer PSA Groupe and EYSA, a Spanish regulated parking company. We also found cases of acquisitions ("sharing BM integrator" type - box 12), for example the takeover by Ford of Chariot, a ride-sharing start-up.

Likewise, the adoption of an entire sharing business model by hotel chains also encompasses modifications to all the elements of

their existing business model. Accor is the hotel chain that has adopted the most aggressive approach towards the sharing economy by acquiring, between 2016 and 2017, three private peer-to-peer home sharing companies, namely Onefinestay, TravelKeys and Squarebreak. The new business model includes a different value proposition in the sense that it offers to travellers "distinctive private homes, with made-to-measure, personal service" located in many different parts of the city, and to homeowners the possibility to make revenues out of their property with "peace of mind, convenience and flexibility", as the company can take care of all the activities related to the short-term rent (Accorhotels, 2016, n.d.). The customer interface is modified, as Onefinestay targets travellers which have different needs and profiles than Accor's traditional customers, and adds another type, i.e. homeowners. The business infrastructure also changes, as the company needs to develop activities which allow to 'handpick' (Accorhotels, 2016), secure and manage a portfolio of multiple, 'diffused' luxury accommodations which it does not own.

4.4.3. Implications for sustainability

The adoption of sharing economy business models by incumbents can help these business models to scale up and diffuse in the market, thanks to the incumbents' technological and marketing capabilities and, more importantly, to their financial resources. This is, as posited by Schaefers et al. (2016, p. 5), the case for the "car sharing market [which] has grown and gained momentum from the market entry of car manufacturers". The environmental implications of this growth may be positive and/or negative. On the one hand, customers are incentivized to prefer access over ownership, reducing overproduction and allowing a more efficient use of cars. Indeed, some studies have found that car sharing reduces GHG emissions and the purchase of cars (Martin and Shaheen, 2011; Nijland and Meerkerk, 2017). Moreover, the fact that car sharing often relies on electric vehicles leads to the use of greener cars. On the other hand, however, the availability, easiness, comfort and convenience of car sharing may lead customers to prefer cars over public transportation, resulting in pollution and/or higher electricity consumption and traffic congestion (Murillo et al., 2017). The impacts of incumbents adopting an accommodation sharing business model is also controversial. While these platforms do not seem to prompt an increase in travel and thus higher GHG emissions compared to what it was before (Palgan et al., 2017), the impact in terms of resource efficiency is less clear, as the business model adopted by incumbents offers only the rental of entire properties, which leads to an increase in energy consumption.

From a social perspective, the adoption of sharing business models by incumbents may lead to a dominance of 'pseudo-sharing' (Belk, 2014a, 2014b) or 'pure exchange' (Habibi et al., 2016) models in the market. Indeed, incumbents tend to either adopt a business-to-peer business model or, if they adopt a peer-to-peer business model, they are likely to eliminate the social contact between users as that is what they 'absorb'/take over. The cases of car sharing business models adopted by car manufacturers indicate the preference for a business-to-peer business model which, as suggested by Bardhi and Eckhardt (2012, p. 889), is more likely to foster a relationship of "instrumental utility rather than connection" and shared ownership. Similarly, the example of hotel chains shows that incumbents' engagement in peer-to-peer sharing tends to prioritize efficiency and a business-as-usual approach, resulting in a business model devoid of the social value that is expected from a sharing experience.

The economic impact engendered by incumbents also seems to be controversial. What may be positive is that a manufacturer adopting a business-to-consumer platform, as in the case of Daimler and BMW, allows customers with a lower income to access a good that they need but would be very onerous for them to buy. By adopting a business-to-consumer sharing business model, incumbents can thus help democratize the access to products and services. A negative implication may be, however, that this type of business model, which is centred around the incumbent as provider of the goods and as owner of the platform, strengthens its power and financial resources, impeding a distribution of benefits among multiple actors.

The adoption by established firms of a peer-to-peer business model, as in the case of the hotel industry, allows instead to shift from a centralized value capture to a more distributed one, as individual owners can get extra income from their good (Palgan et al., 2017). The fairness of the economic value created depends, however, on the type of goods involved. For example, as incumbents in the hotel industry tend to focus on offering 'distinctive private homes and villas' (Onefinestay, n.d.), their sharing business model is likely to not contribute to the creation of equal opportunities and to inclusive prosperity. Instead it seems to boost 'wealth inequality' (Palgan et al., 2017) by increasing the financial returns for a niche segment of the population, i.e. medium or high-income homeowners who can afford exclusive properties in central locations. Finally, the adoption of a sharing business model by incumbents is opposite to the "democratiz[ation of] the ownership and governance of the platforms" which Schor (2014, n.p.) describes as necessary for fulfilling the sharing economy's social and economic promise.

5. Discussion

Our study builds on two key ongoing business model-related transformations which have raised increasing attention and debates among management scholars: (1) the exponential growth and diffusion of sharing business models and, (2) the increasing engagement, by multiple organizations, in business model innovation for sustainability. According to scholars (e.g. Frenken and Schor, 2017; Martin, 2016; Murillo et al., 2017; Plewnia and Guenther, 2018), these two trends do not necessarily overlap, as sharing business models may present shortcomings which hinder sustainability. We contribute to the debate on the sustainability of sharing business models by focusing on a crucial but understudied actor, the incumbent. Our paper does so by (1) using two key dimensions, i.e. the content and the mode of business model innovation for sharing, to construct a typology of business model innovation for sharing, (2) exploring whether and how the conceptual types have been adopted by incumbents to date, and (3) logically deducing implications for the sustainability of the sharing economy's evolution.

The results of our study allow us to capture the multifaceted nature of incumbents' engagement in the sharing economy, suggesting that they have started to enter the sharing economy by making different kinds of changes to their business model. In a number of cases, incumbents appear to selectively adapt one of the business model elements, i.e. the value proposition, the customer interface or the business infrastructure. Incumbents thus adopt 'pieces' of sharing business models as complements if they see a potential to improve their existing business models. Extant literature has highlighted the implications in terms of environmental/social value creation when incumbents adapt elements of their business model to integrate sustainability (Schaltegger et al., 2012; Urbinati et al., 2017). Yet, our results indicate that, in the specific context of this study, the role of incumbents is more complex, as the adoption of sharing business model elements is not necessarily positive in environmental, social and economic terms (e.g. Dreyer et al., 2017; Frenken and Schor, 2017; Martin, 2016; Murillo et al., 2017). Indeed, the illustrative examples suggest heterogeneous

effects on the trajectory of the sharing economy and its sustainability.

On the one hand, the sharing economy feature included in a business model element may be absorbed to serve the incumbent's 'dominant logic' (Bohnsack et al., 2014) and to support its traditional business model. This is likely to be engendered, as noted by Hockerts and Wustenhagen (2010, p. 487), by incumbents' existing resources and capabilities, which "anchor [them] in a business as usual thinking". If the incumbent adds sharing services to strengthen its existing 'conventional' value proposition and thus to increase product sales and consumption, it is unlikely that this business model innovation leads to higher environmental value creation. Instead, this prompts resource exploitation and overconsumption. In addition, the sharing economy's mission drift may increase and incumbents' sustainability may deteriorate if they bring in parts of sharing business models of which the environmental and/or social impact is controversial, as in the case of gig business models (De Stefano, 2016).

On the other hand, there may also be positive sustainability implications if incumbents' business models are reshaped in line with original promises of the sharing economy, for example, the optimal use of underutilized assets, such as production equipment and tools. In addition, thanks to the incumbent's visibility, legitimacy and size, a proper inclusion of sustainable sharing features in its business model may help institutionalize sustainable sharing practices, paving the way for their diffusion. Our study shows that some incumbents have even started to adopt entire 'new' sharing business models, separate from/in addition to their traditional approach(es). If this sharing business model is sustainable, it can create a significantly positive impact on the evolution of the sharing economy. This is particularly due to the fact that incumbents can rely on "a stable source of income from old business models that can cross-subsidize new business models" and support their growth (Sosna et al., 2010, p. 403).

However, as explained in section 2, incumbents may engage in mimicry. Schaltegger et al. (2016, p. 277) in particular refer to incumbent value propositions that "just look similar" to the ones of new entrants, "in spite of being produced quite differently". Our illustrative cases indicate that incumbents may try to exploit the opportunities offered by the sharing economy and/or to "internalize the threat" (Bidmon and Knab, 2018, p. 908) it exerts, by adopting business models which seem similar to 'pure sharing' business models (Habibi et al., 2016). This occurs, for example, if they are designed around goods not owned by the incumbent but by individuals, to which their peers get temporary access, or if the value proposition consists of giving short-term access to a product, optimizing its utilization (Acquier et al., 2017). These business models, which leverage incumbents' existing assets do, however, not create the social value that a 'pure' sharing business model is expected to produce, in terms of a 'feeling of community' (Belk, 2014b) and social bonding between participants (Acquier et al., 2017; Habibi et al., 2016). This risks to fuel the mission drift that, according to multiple scholars, the sharing economy is undergoing. Indeed, it may contribute to the convergence, in the mainstream market, towards pseudo-sharing (Belk, 2014b) or pure exchange (Habibi et al., 2016) business models, with pure sharing business models being (further) constrained in a niche.

With regard to the modes of business model innovation for sharing, our study yields a diverse picture, but partnering with a sharing start-up is most common. Some scholars (e.g. Schaltegger et al., 2016; Wadin et al., 2017) have highlighted how incumbents, by adopting different modes of business model innovation, may significantly impact the retention and diffusion of sustainable business models. This literature however focuses on business models which are originally sustainable, while, as mentioned previously, sharing business models are not sustainable 'per se' (Dreyer et al., 2017).

For example, in keeping with Schaltegger et al. (2016), if an incumbent acquires a start-up with a sustainable sharing business model, it may amplify the environmental and social value created thanks to its financial resources and complementary assets; but the incumbent can also have a negative influence by 'diluting' the original sustainability features into 'business as usual'. Our results indicate that incumbents may also acquire sharing business models which are subject to sustainability-related disputes, e.g. business models facilitating on-demand work (De Stefano, 2016; Dreyer et al., 2017; Fieseler et al., 2017), in which case the negative environmental and/or social effects may be amplified, not just the positive ones.

Concerning partnerships, we also inferred positive as well as negative implications. By partnering with new entrants having sharing business models, established firms are likely to help these business models to scale up and become a 'dominant design' (Bidmon and Knab, 2018). Sharing start-ups may indeed benefit from the incumbents' legitimacy, complementary assets and organizational slack. If the sharing business model is sustainable, this will have positive environmental and/or social effects; if, instead, the sharing business model has sustainability-related drawbacks, the partnership with the incumbent will fuel this mission drift. It is also important to consider the purpose of the incumbent when engaging in the partnership with the sharing start-ups. We found examples in which collaboration with a sharing platform served the incumbent's 'dominant logic' (Bohnsack et al., 2014) and was instrumental to sustain its conventional business model focused on product sales.

The cases found for internal development showed that this mode, as highlighted by extant literature (Bohnsack et al., 2014; Halme et al., 2012), is particularly challenging due to structural and cognitive barriers, which may limit the degree of experimentation in favour of changes that are 'closer to the status quo' (Bohnsack et al., 2014). However, as shown for example in the case of car sharing, the new business model may benefit from sustainable innovations developed by the incumbent and may leverage them, contributing thus to drive the sharing economy towards a more sustainable trajectory.

As Table 4 reveals, cases have been found for all the types except three, i.e. "sharing value proposition developer" (box 1), "sharing customer interface integrator" (box 6) and"sharing business infrastructure integrator" (box 9). We argue that these conceptual types, although not found in practice to date, could be adopted by incumbents. As incumbents' engagement is still at the initial stages, we consider that further developments, including cases of adaptation of the value proposition through internal development and of the customer interface and business infrastructure through acquisition may well emerge in the next few years.

6. Conclusions

This article examined the entry of incumbents in the sharing economy by shedding light on different types of business model innovation for sharing that they (may) adopt, and by exploring the implications for social, environmental and economic sustainability. We explained and discussed, through illustrative examples, a framework which comprises 12 types of business model innovation for the sharing economy. We distinguished two dimensions in this regard: on one axis, the elements of the business model that the incumbents adapt and, on the other, the modes that they follow to pursue their business model innovation for sharing. Our study contributes to the literature on the sharing economy (see section 6.1) and has implications for incumbents, new entrants and

policymakers (6.2). We also indicate limitations and areas for further research (6.3).

6.1. Contributions to research

Our article contributes to the literature in several ways. To start with, it sheds light on the engagement in the sharing economy of an often overlooked but very important and powerful actor, i.e. the incumbent. Extant research has mainly focused on new entrants, with incumbents merely being considered to examine how the sharing economy impacts them or how they should respond to it (Cusumano, 2015; Kathan et al., 2016; Matzler et al., 2015; Zervas et al., 2017). Our study is fully focused on how incumbents may bring the sharing economy in their business models. We develop a framework with 12 types of business model innovation for sharing, illuminating the different ways in which both the mode and the content of incumbents' business models may change as a result of the emergence of the sharing economy. Through our empirical research we highlight whether and how each type has been implemented by incumbents to date. This thus also adds to existing literature on business model innovation, especially those studies that have explored whether and how incumbents change their business model towards sustainability (cf. Roome and Louche, 2016; Rajala et al., 2016; Schaltegger et al., 2012).

In addition, building on existing literature, and through the use of illustrative examples, we explore the potential impact of incumbents on the evolution of the sharing economy from a sustainability perspective. Thus far, studies (e.g. Bohnsack et al., 2014; Hockerts and Wustenhagen, 2010; Schaltegger et al., 2016) have highlighted how incumbents may affect the retention and diffusion of sustainable business models and, more generally, the 'sustainability transformations of markets'. While these perspectives are very valuable, our study suggests that, as sharing business models are not sustainable 'per se' (Dreyer et al., 2017) and incumbents may enter the sharing economy in different ways, the implications for the further development of the sharing economy deserve separate and specific attention. We thus also add to this body of knowledge by considering how different incumbent approaches to the sharing economy may have different, and sometimes mixed, implications for environmental, social and/or economic value creation.

6.2. Implications for practice and policy

Our work has several managerial implications, for both incumbents and new entrants. First, it shows incumbents that there are different approaches that they can adopt in relation to the sharing economy. Incumbents may use the framework developed in this study both to position their current practices and to explore the options at their availability to enter the sharing economy. In addition, our study suggests to incumbents that their engagement in the sharing economy does not automatically lead to higher environmental or social value creation, but may have differentiated, positive or negative, impacts on the sustainability transformation of firms and the market(s) in which they operate. This paper may help to increase managers' awareness of the potential role and influence of their firm when adopting elements of a sharing business model.

Furthermore, for start-ups in the sharing economy, the entry of incumbents may represent both an opportunity and a threat. Partnering with an incumbent or being acquired by one may allow sharing start-ups to thrive in the market. Yet, an incumbent entering the sharing economy may also threaten a start-up's market share, spur mission drift or, due to the incumbent's bargaining power, create unbalanced relationships that can harm the growth and/or survival of the start-up. Our study provides start-ups with a framework to map the actions adopted by incumbents in their sectors and to identify possible benefits from the incumbents' activities as well as major potential threats.

There are also implications for policy. The sharing economy is still a relatively new phenomenon, and its dynamics and effects are not fully clear yet. Our study contributes to uncovering a trend that is currently taking place in the sharing economy domain and that deserves policymakers' attention. Indeed, due to their size and financial and economic power, incumbents may significantly affect the sustainability of the sharing economy.

6.3. Limitations and further research

It should be noted that our work has several limitations, which, concurrently, also pave the way for interesting avenues for future research. We did not collect data on the actual sustainability effects of the incumbents' entry in the sharing economy; rather, we explored, through logical deduction, potential implications from illustrative cases and existing literature. This was particularly due to the absence of valid and reliable tools for the assessment of business models' environmental and social effects (Kurucz et al., 2017). Further research could consider the actual, effective impacts of incumbents' role in the sharing economy, preferably by also doing cross-checks with external experts and firm representatives to increase external validity. Such studies might also be helpful to obtain insights into the financial model, something that we could not do in the current paper. Also, as our aim was to map approaches to business model innovation for sharing, the research did not provide insight into the factors driving specific approaches and their performance. It would be interesting to investigate which variables affect an incumbent's decision to enter the sharing economy through the different approaches that we identified and the implications for its financial performance.

Furthermore, our research focused on incumbents in the sharing economy. We thus did not make comparisons with business model innovation undertaken by incumbents in other sustainability-related contexts or markets, or with new entrants in the sharing economy. Such comparative studies are interesting avenues for further investigation. Finally, our work did not examine the evolution of business model innovation for sharing over time. It would be valuable to monitor the process of entry into the sharing economy longitudinally, in order to shed light on dynamics, changes and outcomes. This might include, for example, a longitudinal study of incumbents that adopt an entirely new sharing business model to examine the implications for the existing business model over time. Despite these limitations, this article has helped to provide more insight into an emerging phenomenon within the sharing economy, thus contributing to the debate on its peculiarities and sustainability dimensions.

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Appendix. Full list of cases identified.

		CONTENT OF BUSINESS MODEL INNOVATION FOR SHARING			
		Adaptation of individual business model element			Addition of an entire 'new' sharing business model
		Value proposition	Customer interface	Business infrastructure	
MODE OF BUSINESS MODEL INNOVATION FOR SHARING	Internal development	[no cases]	[1 case] 1. BMW (BMW Car & ride sharing lease)	[1 case] 1. PWC (Talent Exchange)	[13 cases] 1. Daimler (Car2Go) 2. Daimler (Croove) 3. DHL (DHL Spaces) 4. DHL (Saloodo!) 5. Hyundai (Ioniq) 6. John Lewis (Home Solutions) 7. KBC (Bolero Crowdfunding) 8. Mahindra & Mahindra (Trringo) 9. Nissan (Choimobi Yokohama) 10. Nissan (e-share mobi) 11. Renault (Renault Mobility) 12. SAIC (EvCard) 13. Toyota (YUKO)
	Partnership	[19 cases] 1. BancAlliance-Lending Club 2. BNP Paribas Fortis-MyMicroinvest 3. Chipotle-Doordash 4. Chipotle-Postmates 5. Ford-CarAmigo 6. Ikea-Renault Mobility 7. McDonald's-UberEats 8. RBS-Funding Circle 9. RBS-Assetz Capital 10. Santander-Funding Circle 11. Starbucks-Postmates 12. TacoBell-Doordash 13. Toyota-Getaround 14. Toyota-Grab 15. Union Bank-Lending Club 16. Walmart-Handy 17. Walmart-Lyft 18. Walmart-Uber 19. Yum! Brands-GrubHub	[42 cases] 1. Admiral-easyCarClub 2. Allianz-Drivy 3. Allianz-Amovens 4. Allianz-Car2Go 5. Allianz-Turo 6. Allstate-Uber 7. Avis Budget-Lyft 8. Aviva-Lyft 9. Axa-Blablacar 10. Axa-Grab 11. Axa-Helpling 12. Axa-SocialCar 13. Axa-UberEats 14. Daimler-Uber 15. EuropAssistance-GetmyCar 16. Farmers Insurance-Uber 17. FCA-ENI 18. FIAT-Getaround 19. Ford-Lyft 20. Ford-Postmates 21. Honda-Grab 22. Hyundai-Zipcar 23. Jaguar Land Rover-Lyft 24. Lloyd's-Airbnb 25. Mahindra & Mahindra-Ola 26. MAIF-GuestToGuest 27. MAIF-Koolicar 28. MAIF-Yescapa 29. Metro Bank-Zopa 30. BMW-Ola 31. Progressive Insurance-Uber 32. Renault-Nissan-Mitsubishi-Didi Chuxing 33. Starbucks-Lyft 34. Tata-Uber 35. Toyota-Didi Chuxing 36. Toyota-Uber 37. Unilever-Helpling 38. UPS Capital-Roadie 39. Volvo-Uber 40. Waffle House-Roadie 41. Zurich-Airbnb 42. Zurich-Relendo	[11 cases] 1. Bridgestone-Toptal 2. Construction companies-Dozr 3. Construction companies-EquipmentShare 4. GE-Upwork 5. Gucci-Toptal 6. HP Enterprise-Toptal 7. Pfizer-Catalant 8. Pfizer-Toptal 9. P&G-Upwork 10. Samsung-UpWork; 11. VDL Groep-FLOOW2	[10 cases] 1. BMW-EvCard 2. BMW-Sixt (DriveNow) 3. Europcar-Car2Go 4. Ford-Deutsche Bahn Connect (FordPass Bike) 5. Honda-Neusoft Reach 6. MAN Truck & Bus AG-BCG (Loadfox) 7. Marriott-Liquidspace 8. Mercedes-Via 9. Renault-Ferrovial (Zity) 10. PSA-EYSA (emov)
	Acquisition(s)	[4 cases] 1. Europcar-Ubeeqo 2. HEB-Favor 3. Ikea-Task Rabbit 4. Target-Shipt	[no cases]	[no cases]	[5 cases] 1. Accor-Onefinestay 2. Accor-Squarebreak 3. Accor-Travelkeys 4. Avis-Zipcar 5. Ford-Chariot

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