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Towards a Prescriptive Framework of Sharing Platform Models

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Abstract

Departing from a normative definition of the sharing economy for sustainability, we prescribe a sharing platform model framework to describe these practices. Furthermore, we seek to contribute to business model literature describing triadic business models, in particular, processes of value co-creation as a result of practices mediated by a platform.

Keywords

Sharing Economy, Platform Models, Business Models, Value Co-Creation, Sustainability

Introduction

Growing attention has been paid to the sharing economy as a phenomenon, from societal actors and academia. In part, this attention is due to the purported sustainability potential of the sharing economy to facilitate access over ownership, leading to more sustainable consumption practices (Ertz and Leblanc-Proulx, 2018; Light and Miskelly, 2015; Martin, 2016). However, much of the focus of past academic research and media attention has been on unicorns such as Airbnb and Uber (Muñoz and Cohen, 2018; Ritter and Schanz, 2019), which do not illuminate the diverse permutations of “business models” within the sharing economy domain (Chasin et al., 2018). Furthermore, several streams of research explore the sharing economy from diverse disciplines, which leads to conflicting and

competing conceptualisations (Lobbers et al., 2017). Semantic confusion persists in defining the sharing economy (Belk, 2014; Richardson, 2015), which results in disparate practices being included under the 'sharing economy' umbrella (Habibi et al., 2017).

An emerging stream of literature explores business models within the sharing economy. Recent studies have developed conflicting typologies (Plewnia and Guenther, 2018), classifications (Täuscher and Laudien, 2018), taxonomies (Chasin et al., 2018), frameworks (Lobbers et al., 2017; Ritter and Schanz, 2019) and tools (Muñoz and Cohen, 2018). These studies are descriptive of those business models increasingly attributed to the sharing economy, analysing literature, interviews, and cases. As such, these conceptualisations tend to be inclusive of the wide variety of models and practices, which may or may not fulfil the promise of the sharing economy as a mode for sustainable consumption.

In contrast to previous descriptive studies, which examine disparate practices attributed to the sharing economy, our approach is prescriptive. A prescriptive approach to research seeks to develop recommendations to solve practical problems as a result of an interpretive research process (Ahlemann et al., 2013). In this case, we suggest a gap between literature describing business models in the sharing economy and its purported sustainability potential. Quite simply, we suggest that access cannot be the only condition to demarcate practices in the sharing economy, as market competition among business-to-consumer companies can lead to an under-utilised stock of new goods (e.g. bikesharing graveyards in China). Therefore, our previous research sought to define the sharing economy for sustainability, demarcating those practices that are more likely to lead to more sustainable consumption. We define the sharing economy as a socio-economic system that leverages technology to mediate two- or multi-sided markets, which facilitate temporary access to goods that are under-utilised, tangible, and rivalrous (Curtis & Lehner, 2019).

Our definition as such excludes business-to-consumer models as there is no platform mediation present; furthermore, the definition suggests that sharing economy business models cannot create a new stock of goods, but facilitates access to an already existing stock of under-utilised goods. We suggest platform mediation and leveraging idling capacity of an already existing stock of goods is more likely to contribute to more sustainable consumption. While this helps to delineate more sustainable consumption practices, this is at odds with many of the conceptualisations of the sharing economy at present.

Whereas previous research has sought to examine existing sharing economy business models to develop business model frameworks, our interpretative research process builds from business model literature and logic to prescribe business model configurations that are more likely to contribute to sustainable consumption.

Approach

While literature has focused on the design of business models attributed to the sharing economy, less attention has been paid to the practices facilitated by platforms and their subsequent sustainability implications. Our contribution departs from two postulations: 1) there is a need to expand research beyond the traditional business model perspective to be inclusive of non-traditional organisational models and grassroots initiatives in the sharing economy; and 2) there is a need to consider the mediated practice of the platform, as value is co-created by the sharing practice between a resource owner and resource user through the platform. Furthermore, many of these practices may not be considered part of the sharing economy.

Firstly, we suggest adopting the terminology *platform model* instead of *business model* when describing the design of entities engaging in the sharing economy. Platform models as a term is more consistent with the growing body of literature pertaining to the platform economy, which is inclusive of sharing economy platforms (Kenney and Zysman, 2016). Furthermore, this terminology is more in line with recent academic literature framing the sharing economy as creating two- or multi-sided markets, operated as platforms, which are mediated by information and communication technology (ICT) (Chasin et al., 2018; Curtis and Lehner, 2019; Muñoz and Cohen, 2018; Ritter and Schanz, 2019). Finally, platform models are more inclusive of non-traditional organisational models and grassroots initiatives, which do not operate as traditional businesses but meet the criteria provided by our prescriptive definition.

Secondly, research examining the design of sharing economy business models has often excluded the practice facilitated by the platform as part of any analysis. We define the practice to be the sharing exchange between a resource owner and a resource user as mediated by the platform. Our postulation suggests that research of sharing economy platform models must also consider this mediated practice between a resource owner and resource user. This is important in order to

distinguish between “all activities currently uncomfortably corralled under the term ‘sharing economy’” (Davies et al., 2017, p. 210) and those practices that may promote more sustainable consumption.

To illuminate this point, consider Airbnb. Airbnb operates as a two-sided market, which leverages ICT to mediate accommodation rental via an online platform. The platform model may facilitate access to spare rooms in providers’ homes or entire apartments when providers are away. However, the same platform model may also facilitate access to entire apartments rented by commercial real estate and property management companies for solely money-making purposes, which does not leverage idling capacity. While the platform model remains the same, the first practice belongs to the sharing economy and the second does not (Curtis and Lehner, 2019; Ranjbari et al., 2018). Similar logic can be applied to other platform models and practices. Thus, this distinction has implications on potential sustainability impacts that platforms may give rise to.

To support our development of a prescriptive framework of sharing economy platforms linked to the practices facilitated by the platform, we are conducting a literature review of relevant extant literature. We performed a Scopus database search using the search query "*sharing economy*" AND {"business models" OR "platform models"}. The returned results included 104 academic articles in English. We reviewed the titles and abstracts to assess the relevance of each article to study sharing economy platform models; our review resulted in 71 relevant articles, of which, we were able to attain full PDF access to 68 articles. NVivo is facilitating our storage, reading, analysis, and interpretation of these texts. We use this literature to inform the development of the prescriptive framework of sharing platform models.

Insights

Literature in our sample acknowledges the lack of definitional clarity of the sharing economy. Furthermore, Plewnia & Guenther (2018) suggests that implications for sustainable consumption cannot be studied as long as there exist no clear understanding of the practices comprised in the sharing economy. Even when a definition is provided, the subsequent frameworks describing business models do not always align with the authors’ stated definition. For example, Muñoz & Cohen (2018, p. 115) state that the sharing economy shall aim to increase efficiency AND optimise under-utilised resources. However, their framework includes optimising the use of new resources and they use Etsy and InstaCart as examples of sharing

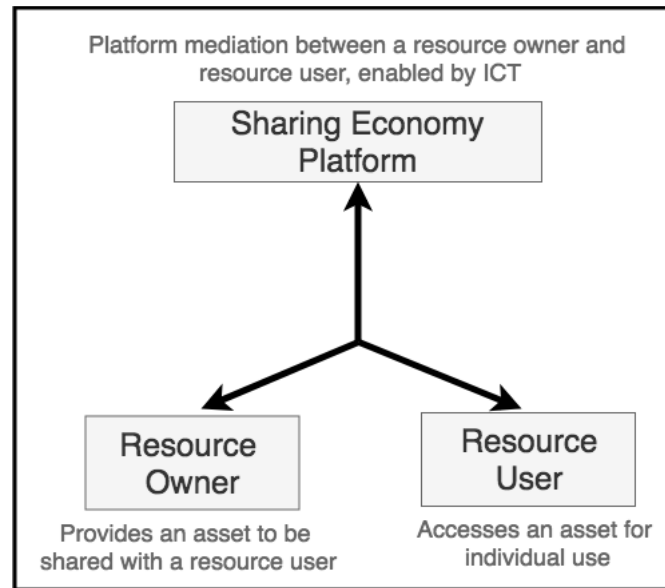
economy organisations. Etsy is an e-commerce website that facilitates distribution of hand-made, vintage or unique small-scale manufactured products for sale. InstaCart is an online grocery delivery platform facilitating home deliveries between local grocery stores and shoppers. Both are not examples of optimising under-utilised resources, a condition of their own definition. In contrast to this and others, our framework departs from our prescriptive definition of the sharing economy for sustainability.

We seek to contribute to existing business model literature describing T- or triadic business models, in particular, when describing value creation. In a triadic business model, such as those considered by our definition of the sharing economy, the platform facilitates interactions and transactions between a supplier and customer, co-creating value with and through the platform (Andreassen et al., 2018). Value co-creation in web-based multi-sided platforms is a process facilitated by the platform, which involves multiple actors engaging in key activities and processes of interaction and integration (de Oliveira and Cortimiglia, 2017). A limited but growing body of literature considers value co-creation among actors in the sharing economy, from the perspective of specific examples or geographies (Camilleri and Neuhofer, 2017; Johnson and Neuhofer, 2017; Lan et al., 2017; Zhang et al., 2018).

In contrast to traditional business models, with value being unidirectional from a supplier to a consumer, platform models in the sharing economy see multi-directional value creation, delivery, and capture through the process of value co-creation. For example, sharing platform models see a resource owner and resource user engage in key activities that are enabled by the platform model, which contribute to value co-creation. The value proposition of the platform is largely mediation and matchmaking; however, the value proposition for the resource owner and resource user is realised through their own key activities (Figure 1).

Value co-creation is only one aspect in considering platform models in the sharing economy. In developing our framework, we chose to depart from the work conducted by Täuscher & Laudien (2018) in understanding platform models by using morphological analysis (MA) to illustrate platform model dimensions, parameters and conditions. MA is a non-quantitative modelling method useful for concept

Figure 1. Key Activities by Actors Contributing to Value Co-Creation



generation as well as structuring and analysing “...complex cases where expertise on several areas is required” (Im and Cho, 2013, p. 4464). MA allows for the representation of business models across several dimensions of analysis (Im and Cho, 2013). Parameters are used to describe these dimensions and denote further the attributes of a business model (Im and Cho, 2013). Finally, conditions reflect all the possible alternatives as comprehensively and as detailed as possible with respect to their parameter (Im and Cho, 2013).

The framework is built abductively through discussions among researchers as well as in consultation of academic literature. After several iterations, we developed an initial prescriptive framework of sharing economy platform models (Figure 2). Drawing on business model literature (Osterwalder and Pigneur, 2010; Teece, 2010), the dimensions include *value creation*, *value delivery*, and *value capture*. The parameters, or attributes, of the platform model are developed in relation to each dimension. Then, for each parameter, a nearly exhaustive list of alternative conditions is proposed to describe all of the possible permutations of platform model design. Several parameters and their subsequent conditions are retained from Täucher & Laudien’s (2018) original morphological analysis of platform model attributes (e.g. price discovery, pricing mechanism, pricing discrimination). However, we also integrated other parameters from literature and our own work including *governance model* (Muñoz and Cohen, 2018), *revenue streams* (Ritter and Schanz, 2019) as well as *platform type* and *transaction content* (Curtis and Lehner, 2019), among others.

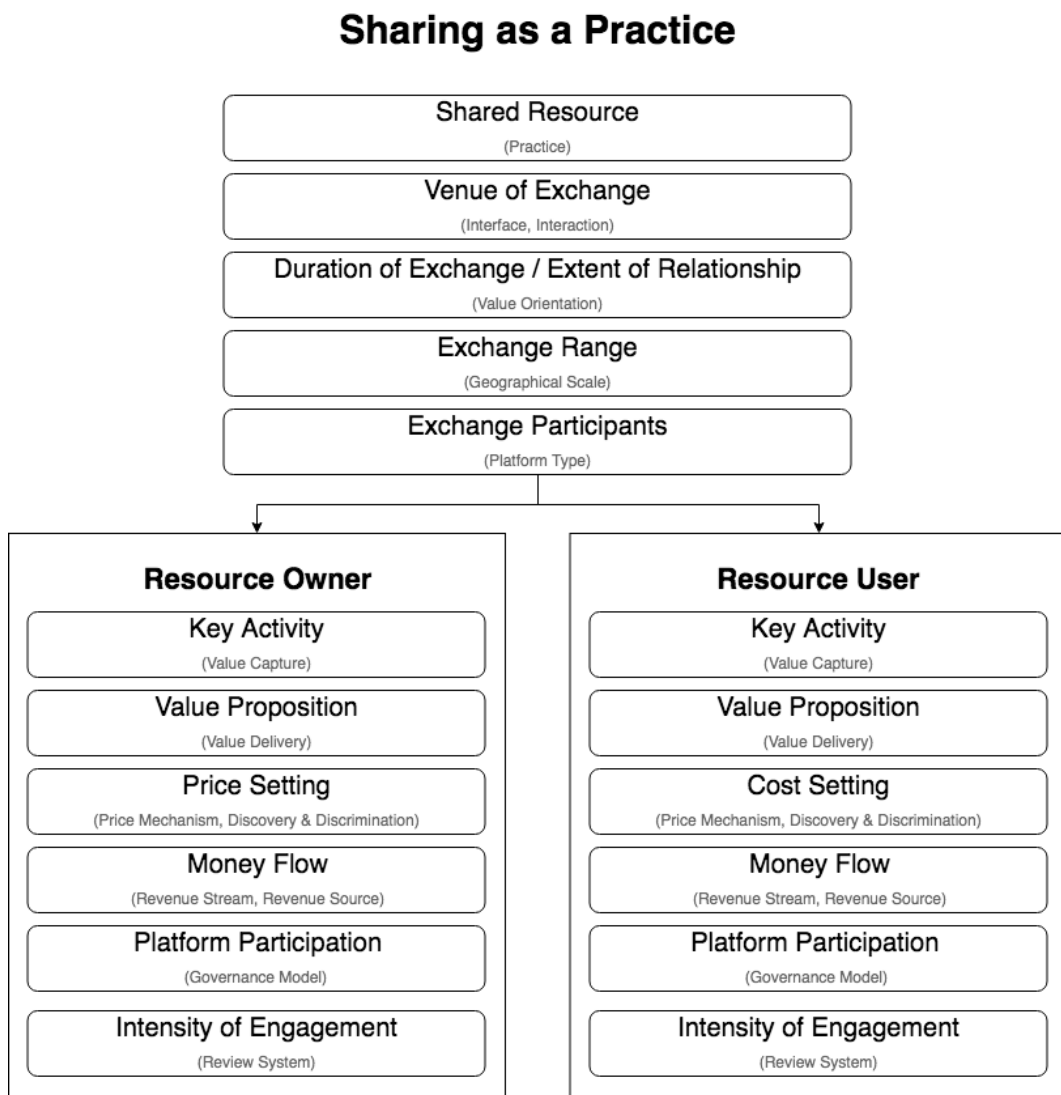
Figure 2. Prescriptive Framework of Sharing Economy Platform Models

Dimension	Parameter	Alternate Conditions									
Value Creation	Key Activity	Platform mediation/matchmaking facilitating access to under-utilised assets									
	Practice	Shared Space	Shared Mobility	Shared Goods	Shared Consumables	Shared Resources					
	Mediating Interface	Smartphone App		Website (In-house)		Website (Integrated)		3rd-Party Platform (e.g. Facebook)			
	Governance Model	Corporate			Collaborative			Cooperative			
	Intellectual Property	Proprietary/Commercial			Communal			Open Source			
	Price Discovery	Set by Platform (Fixed)	Set by Resource Owner	Set by Resource User	Auction	Negotiation	Pay What You Can	Free			
	Review System	User Reviews		Provider Reviews		Platform Reviews		None			
Value Delivery	Key Value Proposition	Reduction of transaction costs in sharing with strangers									
	Platform Type	Peer-to-Peer		Business-to-Business		Business-to-Peer		Crowd			
	Interaction	Online			Offline			Hybrid			
	Geographical Scale	Community / Neighbourhood		Local	Regional	National	International				
Value Capture	Value Orientation	Commercial			Social		Environmental		Societal		
	Revenue Streams	Transaction Fee	Commission	Subscription Fee	Membership	Advertisements	Data Mining	Sponsorship	Donations	Public or Private Funding	
	Pricing Mechanisms	Static Pricing			Dynamic Pricing			Differential Pricing			
	Price Discrimination	Feature-based		Location-based		Quantity-based		None		Other	
	Revenue Source	Resource Owner	Resource User	3rd-Party		Volunteer	None		Other		

Platforms may possess multiple conditions within a given parameter, depending on the sharing practice experienced by the resource owner and resource user. For example, the platform may utilise multiple *interfaces* to mediate the sharing practice; in addition, the platform may open up their review system to all participants in the value chain or rely on multiple revenue streams to support their activities. However, we attempted to develop our framework to the same level of abstraction in a way that each condition was mutually exclusive.

Next, because value is co-created between a resource owner and resource user through a platform, we sought to illustrate sharing as a practice to capture the processes of value co-creation (Figure 3). The first tier describes the overall sharing practice - e.g. what is shared, how it is shared, and between whom it is shared - whereas the second tier describes the sharing practice as experienced by the resource owner and resource user in relation to their key activity in the process of value co-creation. For each aspect of the sharing practice, we have suggested parameters of the platform model design that may influence how the resource owner and resource user experience the sharing practice.

Figure 3. Schematic of Sharing as a Practice



Discussion

Our framework is prescriptive in that it is the result of an interpretive research process to prescribe potential platform model configurations, which depart from our prescriptive definition. Our framework is not intended to describe all practices attributed widely to the sharing economy. Instead, we seek to illustrate platform attributes and sharing practices that may contribute to more sustainable consumption. We suggest that our prescriptive framework may be used as a tool among entrepreneurs who aspire to develop social enterprises or ICT-enabled platforms that support sustainable consumption. Furthermore, this framework might especially be of interest for municipal and national governments, which have the sharing economy on their agenda for similar reasons and are interested in distinguishing sharing practices that support social and environmental sustainability. Furthermore, we hope to contribute to business model literature in describing and understanding value co-creation in triadic business models.

Future Research

Morphological analysis requires several iterations of development, testing, evaluation and refinement. This conference paper serves as an opportunity to receive feedback on the suggested parameters and conditions contained within our prescriptive framework of sharing platform models. With this input, we will define each parameter and condition within the framework and seek to test it using cases in several cities across the world as part of the ERC project *Urban Sharing: Sustainability and Institutionalisation Pathways*. We also intend to continue to develop the schematic detailing sharing as a practice and use this as a means to study value co-creation among actors contributing to sharing economy platforms. Furthermore, the schematic can be used like a worksheet with resource owners and users to investigate perceived experience and consumer behaviour associated with the mediated practice.

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