

# **THE SHARING ECONOMY LANDSCAPE: STRUCTURING RESEARCH FROM AIRBNB TO ZIPCAR**

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## **ABSTRACT**

The sharing economy has aroused the interest from both practitioners and researchers from a variety of disciplines. However, much of this fairly new field is phenomenon-driven, creating the need to take stock of the fragmented research. To broaden our sight, we systematically review and quantitatively analyze a large sample of 590 full-text articles. We contribute to the literature by: 1) textually analyzing which topic areas previous research has focused on; 2) describe interlinkages among the topic areas; and 3) providing directions on how future research can draw on previously used theories to lift sharing economy research towards a theory-driven debate.

## **INTRODUCTION**

Platforms in the sharing economy, such as Airbnb, Uber, and Zipcar, which enable consumers to get temporary access to physical goods or services, have evolved from a niche idea into a business trend that is putting pressure on established companies with traditional business models (Botsman & Rogers, 2010; Möhlmann, 2015). The development of information and communication technology has facilitated cost-efficient ways of matching individuals, allowing them to share goods and services (Belk, 2014). The sharing economy provides an alternative to legal ownership and thus breaks down established dichotomies of traditional management theory. This development leads to new business models, new ways of creating value, and new market and non-market strategies (Uzunca, Rigtering, & Ozcan, 2018). Consequently, the sharing economy has aroused significant interest from both practitioners and researchers from various fields due to its importance to the global economy (Cheng, 2016; Gerwe & Silva, 2018). However, much of this fairly new research field is phenomenon-driven, creating the need to take stock of the existing fragmented research.

Literature on the sharing economy has been published in various areas such as (1) general management (e.g., Academy of Management Discoveries), (2) information management (e.g., MIS Quarterly), (3) marketing (e.g., Journal of Marketing), (4) sector studies (e.g., Transportation Research), (5) social sciences (e.g., Journal of Technological Forecasting and Social Change), and (6) economics (e.g., American Economic Review). Furthermore, the literature deals with various goods and services that are shared, including (1) digital goods (e.g., music, movies, and software), (2) physical goods (e.g., cars and accommodation), and (3)

services (e.g., ridesharing). The variety of business models discussed under the umbrella of the sharing economy includes both business-to-consumer sharing systems such as Zipcar and peer-to-peer platforms such as Airbnb and Uber. Scholars have examined (1) the micro-level with motivations and barriers for participation (e.g., Lamberton & Rose, 2012; Möhlmann, 2015), (2) the meso-level by analyzing platform design (e.g., Einav, Farronato, & Levin, 2015), and (3) the macro-level by discussing regulatory issues (e.g., Cohen & Sundararajan, 2015).

Reviews and co-citation analyses have focused on specific phenomena of the sharing economy and are limited in their scope (i.e., limited amount of examined documents and research fields) (e.g., Cheng, 2016; Muñoz & Cohen, 2017). In an attempt to tackle this issue and to broaden our sight, we ask: “Which topics describe the research landscape of the sharing economy?” This allows us to include a broad variety of phenomena and research articles related to the sharing economy in our analysis. The goal is to develop a landscape of the sharing economy literature that helps to identify research gaps and supports researchers in positioning themselves within the research field. Thereby, this review aims to unite several research streams and avoid the hardening of siloes as they appeared in various other research areas (e.g., Becher & Trowler, 2001; Raghuram, Hill, Gibbs, & Maruping, 2019). Furthermore, we show potential paths of connecting separated research streams and suggest ways of transferring the knowledge from other domains to management research and vice versa.

To establish a solid ground for the review, this study conducts a systematic full-text analysis based on a topic model, which provides an analytical overview that takes the hidden structures within the text corpus into account (Antons, Kleer, & Salge, 2016). We analyzed a dataset of 590 documents in the largest full-text analysis to date in the research field of the sharing economy. We identified 40 topics across our text corpus. Further, we reveal the spread of topics over different research designs and research fields. In a social network analysis, we develop a landscape of the sharing economy literature, based on the co-occurrence of topics within articles. We clustered the 40 topics into six communities: (1) Central Themes; (2) Origins; (3) Accommodation; (4) Mobility; (5) Influence; and (6) Motives. Our comprehensive and structured overview of the literature can help both researchers and practitioners to understand the sharing economy and to position themselves within the field.

We derive four conclusions from our topic modeling approach. First, the sharing economy literature has gained traction in multiple research fields; however, future research is needed that explicitly creates closer connections between these research fields, and thus acts as a ‘boundary spanner’ between relevant insights. Second, the literature reflects the poles of altruistic origins of sharing and the growing commercial interest in it, which both are reasons for sharing. Third, most of the research is focused on accommodation and mobility topics, which are grouped around prototype models, such as Airbnb and Uber, even though sharing goes beyond these areas. Fourth, none of the 40 topics was related to theory, which indicates the presence of phenomenological research and the absence of strong theoretical foundations in the sharing economy literature.

## METHODOLOGY

### Text Corpus

We collected journal articles, conference proceedings, and research papers on the sharing economy. In doing so, we applied a three-step approach: a systematic database query, checks of

reference lists of review articles, and a snowballing system. First, we conducted a database query in *Web of Science* over a 30-year time span with 23 commonly used terms of the sharing economy in the title to get a broad overview of articles in peer-reviewed journals. We searched for articles whose titles included terms such as sharing econom\*, shared econom\*, and peer\* econom\*. We converged the text corpus towards a focused dataset, by reviewing titles, abstracts, and full texts for topic relatedness.

Second, we checked the reference lists of recent review articles (e.g., Plewnia & Guenther, 2018; Prayag & Ozanne, 2018) and co-citation analyses (e.g., Cheng, 2016), and added all suitable articles to the text corpus that were not detected by the systematic query. Furthermore, we included conference proceedings and working papers such as those published on SSRN. As the whole research field is fairly new, papers such as Malhotra and van Alstyne (2014) and Zervas, Proserpio, and Byers (2015) are well-cited and important for a broad overview of the sharing economy.

Third, we added a manual search stage to extend the text corpus with documents based on library suggestions by Mendeley to get a more comprehensive list of sharing economy publications. We included only documents written in English.

The data collection took place from August 2017 to January 2019. The final dataset comprises 590 documents, which include 10,812 pages of text. Therefore, our text corpus is much larger than those of previous reviews, which covered 43 (Plewnia & Guenther, 2018), 66 (Cheng, 2016), 71 (Prayag & Ozanne, 2018), or 193 (Ranjbari et al., 2018) articles.

## Study Approach

To account for the variety of origins of research in our text corpus and to provide fine-grained results about various subgroups of the body of literature, we coded every document along two dimensions: the research design and the research field. First, we differentiated between articles based on conceptual, quantitative, qualitative, and mixed-method research designs. Second, we allocated every paper to a specific research field, based on the Academic Journal Guide 2018 of the Chartered Association of Business Schools (CABS).

Despite the fact that research on the sharing economy is still in its infancy, its scope goes already beyond what can be easily grasped. Machine learning algorithms provide approaches to handling big data such as large text volumes (Blei & Lafferty, 2007). This study uses topic modeling algorithms to detect underlying structures in a set of documents by analyzing the full texts of the documents, without the need for prior categorization and structuring (Blei, 2012). These algorithms are capable of analyzing large text corpora and identifying topics within the individual documents, producing quantified measures for each document. These measures help to identify similarities between the analyzed texts in the overall corpus (Griffiths & Steyvers, 2004). Blei, Ng, and Jordan (2003) developed the latent Dirichlet allocation (LDA), which models topics according to the probabilities of jointly describing the text in documents modeled by a set of terms in the dataset. This approach fits our research goal of identifying specific topics within the broader field of the sharing economy, as we expect that the overall research landscape will feature some common ground shared by various more or less interconnected subfields.

To provide an objective overview of the interrelatedness of the extracted topics in the sharing economy literature, we conducted a social network analysis. The goal was to detect clusters in the literature and identify potential research gaps by showing the potential for further linkages between topics. To create a basis for the network, we used the generated topics as

nodes. Following Antons and Breidbach (2017), we linked two nodes with an edge whenever two topics were simultaneously present in one document. Using the network analysis software Gephi, we illustrated the network with the “Force Atlas 2” layout algorithm (Jacomy, Venturini, Heymann, & Bastian, 2014). In addition, we calculated standard measures from network analyses, including network density, node degree, and betweenness. Furthermore, we clustered the topics, taking the network structure into account by using modularity (Blondel, Guillaume, Lambiotte, & Lefebvre, 2008).

## RESULTS

Following the approach of Antons, Kleer, and Salge (2016), the results of our quantitative full-text analysis provide an analytical overview that takes hidden structures within the text corpus into account. We analyzed a dataset of 590 documents in the largest full-text analysis to date in the research field of the sharing economy and identified 40 topics across our text corpus. We show issues, key terms and their relative importance, and top-loading articles.

Further, we reveal the spread of topics over different research designs and research fields. In a social network analysis, we develop a landscape of the sharing economy, based on the co-occurrence of topics within articles. We clustered the 40 topics into six communities: (1) Central Themes; (2) Origins; (3) Accommodation; (4) Mobility; (5) Influence; and (6) Motives. Each of these communities is interconnected within itself but seems to be isolating itself from the others. These analyses identify important research streams and gaps that vary across the field of application as well as the different publication domains in an objective manner.

## DISCUSSION

The topics and the cluster structure provide a solid overview of the sharing economy literature and help to identify research streams and gaps. While some topics are lone wolves in the research field of the sharing economy, the systematic structure and social network analysis reveal specific research streams of interconnected topics. Our research identifies four major insights: (1) a wide dispersion over research designs and fields, (2) the poles of altruism and commerce as two reasons for sharing (3) a concentration on accommodation and mobility topics, and (4) a lack of theoretical groundwork.

### **Insight 1: Multifaceted Area of Research**

The sharing economy attracts research interest from various fields. The novelty of the topic has required conceptual review articles that have aimed to open new research areas in specific fields. The wide dispersion of research fields has enticed researchers to engage in micro-analyses of one specific business model or specific product within the sharing economy rather than pursuing the development of higher-level concepts and theories around it. This has led to isolated research streams that talk about similar phenomena with different languages.

This study, however, aims to reveal opportunities to counteract the further isolation of research streams by transferring insights from one stream to the other. For instance, insights from the matching algorithms, which are mainly analyzed in the mobility sector, might be transferable to other research fields such as accommodation or the sharing of other physical products and services. Similarly, knowledge about review systems can be transferred from the accommodation

sector to other areas. We believe that these insights which are present in specific fields are useful to develop platform designs. The social network analysis showed many linkages between topics, but 531 of 780 edges are not existent in our sharing economy landscape. This fact indicates that there is great potential for combining research topics and finding new insights for research.

### **Insight 2: The Poles of Altruism and Commerce**

Since the approaches to entering the market are very diverse (Muñoz & Cohen, 2017), business models are a strategic research field for understanding organizations in the sharing economy. The two research streams of the altruistic approach and the business approach coexist; indeed, the sharing economy stretches between the poles of altruism and business. Our social network analysis reveals that these poles are poorly interconnected and exemplarily knowledge from motivation can aid one another. For instance, providers in a peer-to-peer sharing system might be motivated by altruistic reasons (e.g., Wilhelms, Henkel, & Falk, 2017). Further topics that help to investigate commonalities and differences between the two poles are barriers (e.g., Gerwe & Silva, 2018) and trust (e.g., Frenken & Schor, 2017). These factors are directly linked to the business models which are designed for the sharing economy. Insights from this comparison are also highly valuable for policymakers which might facilitate or hinder the shift from altruism to commerce with regulatory interventions (e.g., Cohen & Sundararajan, 2015).

### **Insight 3: Concentration on Two Contexts**

Besides the various interests within the sharing economy, the analysis reveals a concentration around two specific fields of application, accommodation sharing and mobility sharing. These areas are grouped around prototype models, such as Airbnb and Uber. Since several studies also show that the sharing economy is more than these two topics, we support the call for a more fine-grained analysis of its different facets (Böcker & Meelen, 2017). We reveal specific topics, which are linked to both of the main areas and thus bear potential for comparisons across different fields of application and for the uniting of insights from various research streams.

Furthermore, it is important to investigate the reasons for the great success of the two areas as well as the dominant players within the market. Both accommodation sharing and mobility sharing are very close to traditional business models. Therefore concepts of incremental and disruptive innovation (Ettlie et al. 1984), path dependency in traditional businesses (Sydow et al. 2009), as well as first-mover advantage (Kerin et al. 2018) can give important insides to understand the developments within the field.

### **Insight 4: Little Theoretical Foundation**

The research in the field of the sharing economy is much more phenomenological than theoretical. Only a few theories from psychology have been applied in the areas of behavior intention and motivation (e.g., Böcker & Meelen, 2017). However, there is no theory that directly addresses the difference between sharing systems and traditional ownership (Lamberton & Rose, 2012). No theory-related term is present across the top 30 terms of any of the 40 topics. Thus, most of the existing studies do not use or provide comprehensive theoretical frameworks (e.g., Hawlitschek, Teubner, & Gimpel, 2016).

The sharing economy yields a radical shift in how business is done but has mainly been examined phenomenon-driven. For these reasons, it is essential to leverage established theories to the field and amend them if necessary to achieve a better fit to the phenomenon itself (Davis, 2016). We expect that many theories from such fields as psychology and management are applicable to the sharing economy (Laamanen, Pfeffer, Rong, & van de Ven, 2016). Business models (e.g., Zott, Amit, & Massa, 2011), the adoption of new technology (e.g., Venkatesh, Thong, & Xu, 2012), and the general setting of two-sided markets (e.g., Rochet & Tirole, 2006) have well-developed research streams and yield the potential to explain the sharing economy against the background of established fields. Beyond that, social exchange theory (Blau, 1964), for instance, directly relates to the core idea of the sharing economy, while the transactional relationships within the new megatrend can be described from a principal-agent perspective (Eisenhardt, 1989). In any case, we believe that the phenomena-driven approaches and the huge amount of conceptual and qualitative research will inevitably lead to the development of new theories in the long run, and that these theories go beyond typologies and classification towards the explanations of relationships between different facets of the theory.

### **PRACTICAL IMPLICATIONS**

Our results provide a structure across the literature which can serve as a basis in several practical ways for researchers, conference hosts, editorial boards, practitioners, and policymakers. The structured overview improves the general understanding of the field and facilitates the positioning within the field. In addition, our research agenda provides specific research questions, based on the insights from our analysis and determine conceptual differences to establish a more theoretical debate.

### **CONCLUSION**

Our topic model reveals the underlying structure of the sharing economy landscape. We extracted 40 topics and clustered them into six communities: (1) Central Themes, (2) Origins, (3) Accommodation, (4) Mobility, (5) Influence, and (6) Motives. Each of these communities is interconnected within itself but seems to be isolating itself from the others. With its comprehensive dataset of 590 full-text documents, our analysis yields a broader research scope than prior reviews and co-citation analyses on the sharing economy. We described the topic landscape across research designs and research fields. Furthermore, we used the co-occurrence of topics within articles to develop a network that depicts the interrelatedness of the topics and helps to identify current research streams and research gaps. We find a broad interest in the sharing economy coming from various sources in academia, with foci on the two dominant domains of accommodation and mobility sharing. Beyond that, we uncover the poles of altruism and commerce as two different reasons for sharing. Finally, we show that the majority of research in the sharing economy is phenomenological and lacks a thorough theoretical foundation.

### **REFERENCES AVAILABLE FROM THE AUTHORS**