Perspectives on the Sharing Economy

Edited by

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Summary

The current developments in the sharing economy are of great economic, political, and public interest. These developments provide researchers from different backgrounds and disciplines with new opportunities to study many aspects of this evolving economy. The aim of this volume is to bring together researchers to encourage academic discourse on the sharing-economy phenomenon. To that end, this volume has collected the best conference papers submitted to the 5th International Workshop on the Sharing Economy (IWSE). All of the papers included here focus on the sharing-economy phenomenon, yet examine it from different disciplinary perspectives. These perspectives include business history, economics, organization studies, management and strategy research, information systems, political science and legal studies, and linguistics and semantics. By bringing together different perspectives on the sharing economy, this volume provides a more coherent picture of the organizations within it: how they operate, interact, and diffuse from a historical, regulatory, and competitive context.

The Sharing Economy: A Playground for Different Theoretical Perspectives

Sharing instead of owning is one of the major trends in modern life (Belk, 2010; Botsman & Rogers, 2011). While the sharing principle is not new and has historical precedents, the current rise of the sharing economy has the potential to impact many areas of business, politics, and society to an unimagined extent. By changing how people consume (Botsman & Rogers, 2011), the sharing economy might redefine the roles of owners, consumers, and producers (Hamari et al., 2016); create innovative business models (Schor, 2016); disrupt existing industries (Martin, 2016; Belk, 2014); lead to an alternative economy (Geels, 2011; Hobson & Lynch, 2016); and challenge political as well as regulatory institutions (e.g., Lamberton & Rose, 2012; Matzler, Veider, & Kathan, 2015; Sundararajan, 2016). The varied and unknown potential effects of the sharing economy fuel the public debates on it and encompass a broad spectrum of topics. The breadth of these public debates makes the sharing-economy phenomenon a novel playground for theoretical advancement, attracting a multitude of research and researchers from different disciplines (Mair & Reischauer, 2017).

Public debates in this context address questions such as how sharing-economy organizations should be designed and operate in order to achieve the sustainability goals they promise—questions that are being addressed primarily by organization-studies and management scholars (e.g., Cohen & Kietzmann, 2014; Parguel, Lunardo, & Benoit-Moreau, 2017). Public debates also reference the role of technology as an enabler of the sharing economy, the technical design of platforms, and their related risks—topics that attract information systems scholars (e.g., Puschmann & Alt, 2016). Last but not least, public debates address the implications of the altered nature of economic competition, including the threats new organizations within the sharing economy pose for traditional industries, the need for a level playing field, and the role of legal regulation—issues being studied by scholars in economics, political science, and legal studies alike (e.g., Koopman, Mitchell, & Thierer, 2014; Uzunca, Rigtering, & Ozcan, 2018).

A result of these debates is a rapidly growing amount of research in the last years focusing on the sharing economy, studying it from different theoretical angles. Testaments to this growing research interest can be seen in contributions in leading journals from different disciplinary backgrounds that have announced or already published special issues on the sharing economy. A special issue by the *Journal of Management Studies*, for example, addresses the challenges and opportunities of the

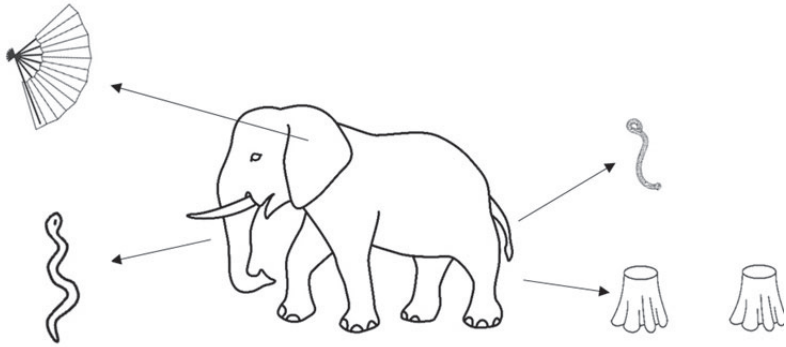
sharing economy from a managerial and strategic perspective (Wang et al., 2018); a special issue by the *Journal of Business Ethics* invites work from researchers applying an ethical perspective on the sharing economy (Etter, Fieseler, & Whelan, 2018); a special issue of *Electronic Commerce Research and Applications* concentrates on technological aspects and electronic commerce (Naldi & Hoang, 2018); a special issue of *Technological Forecasting and Social Change* addresses conceptual and definitional boundaries of the field (Acquier, Daudigeos, & Pinkse, 2017); a special issue of *MIS Quarterly Executive* takes an information-systems perspective to explore aspects of the sharing economy that are of interest to technology leaders (Junglas, Koch, Sundararaja, & Wang, forthcoming); and finally, a special issue of *Internet Policy Review* focuses on the role of legal regulation in the sharing economy (Erickson & Sorensen, 2016). In addition to these special issues, sessions on the sharing economy have been included in the programs of academic conferences in disciplines as organization studies (e.g., EGOS 2016), management and strategy research (AoM 2017), system science (HICSS 2018), and information systems (ICIS 2018).

Since special issues and conference sessions necessarily have a narrow conceptual focus, the platform they provide is not usually broad enough to include different theoretical perspectives. To overcome this limitation, this volume acknowledges the perspectives on the sharing economy from a multitude of disciplines and examines the sharing economy from different angles that, in sum, provide a more comprehensive view of a new and exciting phenomenon than any single perspective could on its own. The theme of the recent International Workshop on the Sharing Economy (IWSE 2018)[1] was "sharing theories and insights," and in line with this theme, this volume gives space for researchers from different theoretical perspectives to present their work on the sharing economy.

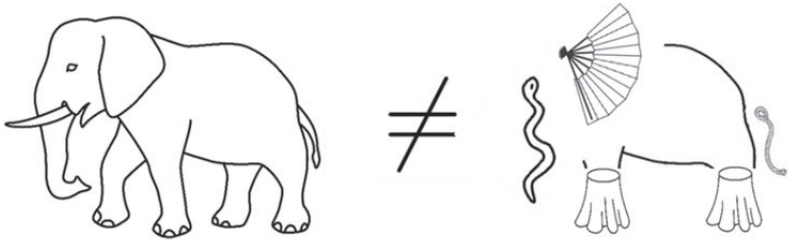
Different Theoretical Perspectives: Advantage, Downside, and Potential

A well-known Indian parable tells of a group of blind men, each one describing an elephant based on touch. Since each man is limited by his own perspective, the descriptions of the elephant are all different. This parable illustrates both advantage and downside of looking at the same phenomenon from different perspectives.

[1] The German Federal Ministry of Education and Research provided financial support for the 5th International Workshop on the Sharing Economy (IWSE 2018).



A limited perspective is advantageous because it allows us to look at a phenomenon with a specialized set of lenses and thus to develop a precise and detailed picture of an individual part of the whole. For example, organization studies and strategy scholars identify and describe the different forms sharing organizations have and the business models of each. This accurate and precise perspective enables us to categorize and structure the sharing economy (Acquier, Daudigeos, & Pinkse, 2017; Muñoz & Cohen 2017). A downside of a single perspective is that its focus inevitably leaves out other critical parts of the phenomenon. When mapping the field of organization forms in the sharing economy, organization and strategy scholars are unlikely to examine its technical infrastructure, legal challenges, or historical role models—issues that might instead be of interest to researchers with an information-systems, legal studies, or business-history perspective. Yet even when one fits these individual perspectives together, the combined picture is unlikely to be complete.



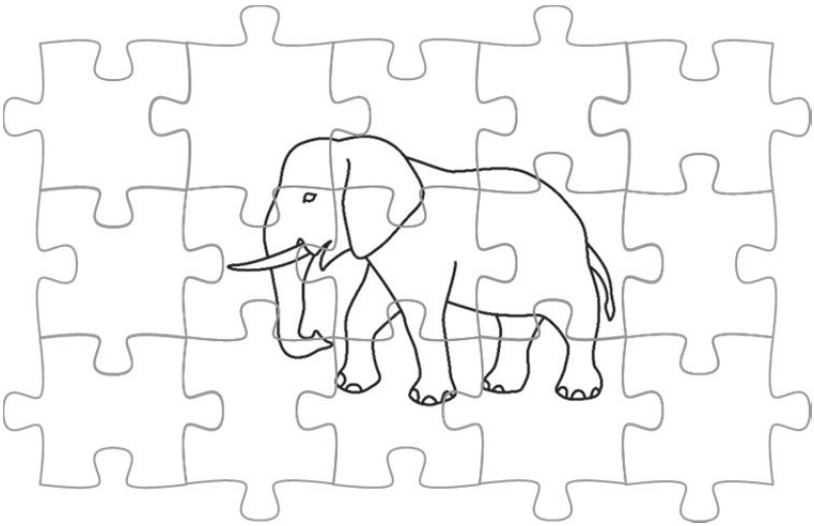
In contrast to a narrow focus, using an approach that acknowledges and comprises multiple perspectives and theoretical backgrounds at the same time enables a complex phenomenon to be treated more cohesively

(Argote, McEvily, & Reagans, 2003; Smith, Dinev, & Xu, 2011). The potential of incorporating different perspectives seems a more fruitful way to move the field forward. This volume makes a first step in this direction. Bringing together research studying the sharing-economy phenomenon from different theoretical disciplines and perspectives allows us to:

- gain a better understanding of each perspective—its peculiarities, research focus, and main insights as well as the blind spots of each;
- stimulate academic discourse across perspectives, identify similarities, differences, and areas of complementarity;
- develop a comprehensive picture and common understanding of the sharing-economy phenomenon.

To reach these aims, we have selected 21 short papers (representing approximately 25 percent of those submitted) from all contributions presented at the 5th IWSE held from June 28th to 29th, 2018 at Mannheim University in Germany and supported by the i-share project, a project funded by German Federal Ministry of Education and Research BMBF (for further information see https://www.i-share-economy.org/en). Short papers for this best-paper proceedings volume were selected in a competitive two-stage process based on their quality, rigor, content, and fit.

This process resulted in a collection of papers that all focus on the sharing-economy phenomenon, but approach it from seven different theoretical perspectives, including business history, economics, organization studies, management and strategy research, information systems, political science and legal studies, and linguistics and semantics. The cumulative impact of these short papers, by examining the subject from different disciplinary angles, is a coherent and comprehensive overview of research on the sharing economy. Specifically, this volume paints a comprehensive picture of organizations in the sharing economy: the way they operate, interact, diffuse, and relate to their historical, regulatory, and competitive context.



Accordingly, the audience for this work is primarily researchers from a variety of disciplines focusing on the sharing-economy phenomenon. We also expect this work to be of interest to researchers within the specific disciplines included in this volume as well as researchers interested in multidisciplinary work.

Perspectives on the Sharing Economy: Sharing Theories and Insights

Table 1 below gives an overview of each chapter and the short papers included in each one. Each chapter corresponds to a specific theoretical perspective on the sharing economy and the papers presented in each provide insights into state-of-the-art research within this perspective.

Chapter	Perspective	Author(s)	Paper
1.1	Business and Economic History	Mosmann	Renaissance of shared resource use? The Historical Honeycomb of the sharing economy
1.2		Gruber	Can the sharing economy regulate itself? A comparison of how Uber and Machinery Rings link their economic and social goals
2.1	Economics	Hofmann, Hartl, Sabitzer, Marth, Penz & Hoelzl	Regulating consumers' contributions and usage of a shared good: An experimental approach
2.2		Gyódi & Nawaro	Determinants of accommodation prices provided by Airbnb in four EU cities
2.3		Herrmann, Zaal, Chappin & Schemmann	Does education still matter in online labor markets?
3.1	Organization Studies	Wruk, Oberg, Maurer & Klutt	Types of business models in the sharing economy: An exploratory study in Germany
3.2		Hartl, Penz, Schüßler & Hofmann	Shared mobility business models—Trust building in the sharing economy
3.3		Farstad & Landa Mata	From shared mobility to shared lifestyles—Understanding whether and how household carsharing practices spread into other sectors
3.4		Schöllhorn	Theorizing technologies for the sharing economy: The Blockchain example
4.1	Management and Strategy Research	Oliver & Statler	Stakeholder theory and the sharing economy: Toward a research agenda
4.2		L'Ecuyer	Mapping the stakeholders and their relationships in the sharing economy: The case of Airbnb
4.3		Plewnia & Guenther	A collaborative energy system—How business models of the sharing economy may drive the energy transition
4.4		Guyader & Piscicelli	Car-as-a-service platforms

5.1	Information Systems	Eichhorn, Jürss & Hoffmann	To share or not to share: A digital divide in the sharing economy
5.2		Teubner & Glaser	Up or out? The dynamics of star-rating scores on Airbnb
5.3		Hawlitschek	In Blockchain we trust? Consumer trust relationships in the "sharing economy 2.0"
5.4		Frey, Trenz & Veit	Facilitating or regulating the sharing economy? Uncovering the impact of carsharing
6.1	Political Science and Legal Studies	Pentzien	Conceptualizing the role of the state in the digital platform economy
6.2		Voytenko Palgan, Mont & Zvolska	Sharing and the city: Roles, relations, and governance mechanisms
7.1	Linguistics and Semantics	Curtis & Lehner	A conceptual development of the sharing economy from the field of linguistics and semantics
7.2		Zarifis & Ingham	Building trust in English and German for collaborative consumption: A comparative case study of the language and content used by collaborators on Airbnb

Table 1: Overview of chapters and short papers

Despite differences in their theoretical background and approach, the short papers share—in one way or another—a focus on organizations in the sharing economy: how they operate, interact, diffuse, or relate to their historical, regulatory, or competitive context. Figure 1 illustrates the content of the short papers.

Figure 1: Focus of the short papers on organizations in the sharing economy

This joint focus creates overlaps, and thus a single issue is addressed from different disciplinary perspectives. Therefore, before presenting each chapter and its disciplinary perspective and papers, we first clarify where and how these perspectives overlap. We make no claim to completeness here; we can only encourage readers to look for issues that interest them, and to see how these issues are illuminated by looking at them from different theoretical perspectives. Figure 2 presents an orientation framework that shows some initial examples and offers guidance for further ones.

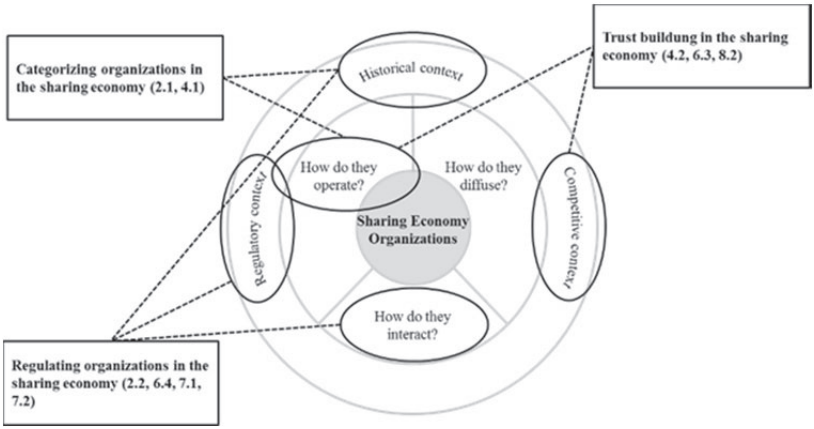


Figure 2: Joint focus of short papers and common issues

A first area of overlap includes papers examining how sharing organizations operate and using this understanding as a basis for *categorizing organizations in the sharing economy*, an issue of great importance for understanding this new phenomenon (Acquier, Daudigeon, & Pinkse, 2017). From an organization-studies perspective, paper 4.1, "Types of business models in the sharing economy: An exploratory study in Germany" by Wruk et al., applies a business-model concept to systemize types of sharing organizations and their defining characteristics. The study reveals clear boundaries between different types of organizations based on how they operate; in other words, how they create and capture value. Paper 2.1, "Renaissance of shared resource use? The Historical Honeycomb of the sharing economy" by Mosmann, approaches the phenomenon from a business-history perspective and adds to the current debate on organization forms in the sharing economy. By connecting historical and modern forms, this paper acknowledges the historical context of sharing-economy organizations.

Taken together, both papers reveal the great variety of (modern and historical) forms of sharing organizations and illustrate the vast breadth of organizations included in the sharing economy. The authors also suggest approaches for delineating the sharing economy and categorizing the sharing organizations within it. While some delineations are similar, others are different. These differences are typical for research in the sharing economy, where a number of categorizations of what constitutes sharing-economy organizations have been put forward during the last years (e.g., Muñoz & Cohen, 2017; Schor, 2016; Botsman & Rogers, 2011). Such

differences mark the starting points for future research, which can either build on the categorizations previously put forth or seek out further variety and indicate how to choose the categorization that fits best for specific research interests. Moreover, it might be fruitful for future research to turn away from suggesting how to delineate within the sharing economy and move toward exploring the boundaries of the sharing economy itself. As both papers indicate, the sharing economy comprises much more than the well-known and often-cited platform organizations. What remains unclear and debated is which organizations belong to the sharing economy and which do not (Belk, 2014). Exploring the blurred boundaries of the sharing economy, perhaps by acknowledging historical forms of sharing, thus seems an important endeavor for future research.

A second point of overlap can be seen in several papers that, while grounded in different disciplines, focus on *trust building in the sharing economy*. From an organization-studies perspective, paper 4.2, "Shared mobility business models—Trust building in the sharing economy" by Hartl et al., explores whether and how different mechanisms (e.g., reputation systems, offline events, tracking of cars) foster consumers' trust in carpooling platforms. From an information-systems perspective, paper 6.3, "In Blockchain we trust? Consumer trust relationships in the sharing economy 2.0" by Hawlitschek, shows that in a case of contested technology (here Blockchain technology) a crucial task for sharing organizations is to establish trust in the technology itself. From a linguistics and semantics perspective, paper 8.2, "Building trust in English and German for collaborative consumption: A comparative case study of the language and content used by collaborators on Airbnb" by Zarifis and Ingham, explores the role language plays in building trust and finds that it has only limited impact compared to platform norms and habits.

Taken together, all three papers identify trust building as a task that is both important and challenging for sharing organizations when seeking to attract users to reach and maintain a favorable competitive position. This finding underscores recent calls in the literature to examine the development of trust in the sharing economy (e.g., Hawlitschek, Teubner, & Weinhardt, 2016). At the same time, the papers provide insight into the multitude of possible trust-building mechanisms available. Some of these mechanisms, such as trust in the (technical) infrastructure, present necessary preconditions, it seems, while others, such as norms and habits, should be selected wisely depending on business-model, national, or linguistic context. We hope these findings will encourage future research to further explore the role of sharing organizations as facilitators of trust building among their users.

A third and final example of the overlap of perspectives can be seen in two papers in this volume that tackle *regulating organizations in the sharing economy*, an issue of utmost importance for both theory and practice (Matzler, Veider, & Kathan, 2015; Murillo, Buckland, & Val, 2017). Using a political-science and legal-studies perspective, paper 7.1, "Conceptualizing the role of the state in the digital platform economy" by Pentzien, and paper 7.2, "Sharing and the city: Roles, relations, and governance mechanisms" by Voytenko Palgan et al., explore interaction patterns between governmental institutions and sharing organizations and uncover the different roles governments can take to regulate the sharing economy. Paper 6.4, "Facilitating or regulating the sharing economy? Uncovering the impact of carsharing" by Frey et al., is grounded in an information-systems perspective and takes a critical view of regulation, whereas paper 2.2, "Can the sharing economy regulate itself? A comparison of how Uber and Machinery Rings link their economic and social goals" by Gruber, is grounded in a business-history perspective and shows how to overcome the polarization of regulation and deregulation.

Taken together, these four papers present a differentiated view of the effects and dynamics of regulation as well as the role of governmental institutions. They suggest potential solutions for resolving the trade-offs of regulation and innovation. Still, given the great diversity among organizations in the sharing economy and the context in which these organizations are embedded, the papers also indicate that none of these questions has a quick-fix answer, leaving room for further inquiry by future research.

Perspectives on the Sharing Economy: Overview of Chapters and Short Papers

This section gives an overview of each chapter, its disciplinary perspective, and a brief description of the short papers contained within it (also see Table 1).

Chapter 1 takes a *business and economic history perspective* on the sharing economy. Business-history research uses a combination of historical and statistical methods and also applies organization and management theory; together, these methods and theories provide a micro-economic perspective on the history of individual business organizations (Maclean, Harvey, & Clegg, 2016). Research interests in this discipline include examining the embeddedness of organizations within different social, economic, and political environments; the actions, structures, and

decision processes of these organizations; as well as the biographies of the organizations' founders.

While the rise of the sharing economy appears to be completely new, scholars and practitioners alike should not forget that the idea of "sharing instead of owning" has deep historical roots and that we are currently witnessing its revival (Heinrichs, 2013; De Moor, 2015). History has many examples of organizations and economic models based on the principle of sharing, bartering, or lending (Warde, 2013). While some current sharing models closely resemble their historical predecessors (e.g., community gardens and commons), others appear as modern interpretations of historical models (e.g., sharing platforms, carsharing, and ride sharing), and still others represent a break with historical models (e.g., crowdsourcing). Recognizing these historical precedents then raises the question of what we can learn from the past and thus calls for a business-history perspective on the sharing economy. While a comparison of historical and modern sharing models is of great value, so too is an examination of contemporary contexts and linkages. This line of reasoning supports the importance of the sharing economy as a research subject: whether prior findings on business models need to be revised or expanded and how historical models can inform the development of joint resource use over time (Bradley & Pargman, 2017).

The papers in this chapter examine the origins of the sharing economy as a phenomenon based on the concept of joint resource use, explain how the variety of sharing models emerged and developed, and illustrate the drivers of this development. In the first paper, "Renaissance of shared resource use? The Historical Honeycomb of the sharing economy," Mosmann identifies and systematizes fifteen historical forms according to their industry, function, and practice areas. This approach brings the current debate on definitional boundaries of the sharing phenomenon forward, while also offering an initial conceptual framework connecting historical and modern forms of the sharing economy. This framework illustrates that the idea of shared resource use is a renaissance of these historical forms and shows that current sharing-economy organizations are imitating and transforming these forms. In the second paper in this chapter, "Can the sharing economy regulate itself? A comparison of how Uber and Machinery Rings link their economic and social goals," Gruber builds on this conceptual connection and draws attention to the stated missions of Uber and machinery rings. In doing so, she unpacks their separate economic and social goals and shows how the two organizations deal with competing goals in terms of internal regulation. While Uber operates on an under-socialized picture of its users and stresses freedom of

usage, machinery rings maintain a highly socialized picture of their members. This picture helped (and continues to help) machinery rings overcome the polarization between regulation and deregulation, while at the same time opening up debate about how organizations and authorities manage to balance adequate legislation with innovative business models.

Taken together, these two papers address the gap of identifying and connecting historical and modern forms of shared resource use and broaden the understanding of how to capture and define a sharing economy while also acknowledging its historical roots.

Chapter 2 includes papers representing an *economics perspective*. Economics is a social science that studies the production, distribution, and consumption of goods and services. Focusing on the behavior and interactions of economic agents as well as on entire economies, economics is often divided into micro- and macroeconomics (Krugman & Wells, 2012). Microeconomics deals with individual agents and markets and their interactions and outcomes. This branch includes households, firms, buyers, and sellers. Macroeconomics, by contrast, concerns the overall economy (aggregated production, consumption, savings, and investments) and the issues affecting it, such as resources, inflation, growth, and public policies (e.g., monetary, fiscal) (Caplin & Schotter, 2008).

The sharing economy, with its new organizations such as Uber, Airbnb, and crowdsourcing platforms, enables individual actors to engage in new forms of interactions and transactions, to access all kinds of tangible and intangible resources, to generate alternative sources of income, and to build new old markets (Schor & Attwood-Charles, 2017). These new organizations bring with them many opportunities, risks, and challenges, and thus the sharing economy offers great potential for studying new forms of work, new forms of compensation, the rise and development of new national as well as international markets, and how these aspects relate to each other from an economics perspective (Hamari, Sjöklint, & Ukkonen, 2016; Teubner & Hawlitschek, 2017).

The first paper in this chapter, "Regulating consumers' contributions and usage of a shared good: An experimental approach" by Hofmann et al., the authors address the issue of government regulation. The authors propose that authorities within can apply different forms of power to assure that organizations' behavior is compliant and contributes to the shared good and articulated causes of participants in the sharing economy. While there is no shortage of coercive power, the authors find that self-regulation is a legitimate power that has a strong impact on participant contribution. This finding has powerful implications for organizations as they consider how to increase participants' contributions and engagement.

The second paper, "Determinants of accommodation prices provided by Airbnb in four EU cities" by Gyódi and Nawaro, sheds light on the demand for Airbnb accommodation in four different tourist-friendly cities in the European Union. The authors of this study use price-hedonic theory to examine the relationship between the price for accommodations and selected attributes, such as location, when these properties are competing with hotels. They find that host, quality, and location are important drivers of listing prices, and their research contributes to a deeper understanding of price determinants in comparison to the traditional hotel industry.

The third paper, "Does education still matter in online labor markets" by Herrmann et al., investigates the degree to which educational attainment influences wage levels in online labor markets. The authors argue that the gig economy, which allows its workforce to provide one-time and on-demand services, challenges prevailing paradigms linking educational attainment and pay levels. They find that wage levels in the sharing economy are influenced by individuals' education, work experience, reviews, time active on the platform, and gender. The theoretical and practical implications of this study for literature at the intersection of labor economics and economic sociology are great, and also challenge the design of the current education system.

Taken together, the three papers in this chapter depict current topics and issues from an economics perspective while using different approaches to assess the sharing economy from different theoretical backgrounds. The work and perspectives in this chapter advance research on the sharing economy and open future avenues of research by stressing the impact the sharing economy has on traditional industries, such as hotels, and on prevailing systems, such as those in education.

Chapter 3 comprises the *organization studies perspective*. Research in this field, most generally, focuses on examining organizational structures, processes, and practices; how each is diffused; and how each affects organizational performance (Clegg & Bailey, 2008). One recent approach for understanding these issues in a comprehensive manner is the business-model framework. Business models describe an organization's logic of doing business and organizing along different dimension (Lambert & Davidson, 2013); these are, namely, an organization's value proposition, value creation, and value capture (Zott & Amit, 2010).

With the rise of the sharing economy, different business models based on the basic idea of sharing, bartering, or lending have emerged and are being diffused into a wide variety of application areas, ranging from carsharing to co-working and community gardening (Owyang, 2014). Within these areas, the sharing economy has the potential to redefine the

role of owners, consumers, and producers (Hamari et al., 2016); change their mode of transaction; create innovative business models (Schor, 2016); and disrupt existing ones (Martin, 2016). These changes pose a number of challenges to organizing, operating, and creating value within the sharing economy and thus call for an organization-studies perspective on the sharing phenomenon.

The four papers in this chapter provide a better understanding of different business models in the sharing economy and articulate how single practices or technologies can be adopted or diffused to other sectors.

The first paper in this chapter, "Types of business models in the sharing economy: An exploratory study in Germany" by Wruk et al., examines how sharing-economy organizations interpret the sharing principle and turn that principle into their logic of doing business. To be more concrete, this paper shows how sharing-economy organizations create, deliver, and capture value using the business-model concept. Building on results of an exploratory study and based on qualitative and quantitative data, the paper observes three different types of business models: grassroots, platform, and traditional. What differentiates these three types of business models is the way they create and capture value. This research indicates the overlaps, boundaries, and reach of the new and heterogeneous field of the sharing economy.

The second paper, "Shared mobility business models—Trust building in the sharing economy" by Hartl et al., explores the emerging business models within the segment of shared mobility, and investigates how applying different business models in sharing-economy platforms fosters consumers' trust. The results of this exploratory study reveal that users of carpooling platforms perceive review systems as a key element for establishing trust between drivers and riders. This study contributes to research by showing that trust mechanisms affect trust differently depending on whether or not participants own a car.

The third paper, "From shared mobility to shared lifestyles—Understanding whether and how household carsharing practices spread into other sectors" by Farstad and Landa Mata, deals with how practices from one sector are adopted by another. The authors investigate whether and how car-sharing practices within the personal-mobility sector spread to other tourism-related sectors and explore the possible implications from a sustainability perspective. Taking the lens of social-practice theory, they conducted interviews and show that this approach is useful for identifying elements and relationships of a specific practice, and further investigate whether these elements and relationships are also present in tourism-

related sharing practices. They point out the need for further research to identify the elements of shared-resource use that are likely to promote or support achievement of more sustainable travel and tourism.

The fourth paper, "Theorizing technologies for the sharing economy: The Blockchain example" by Schöllhorn, answers the question of how Blockchain has been linked to illegitimate or legitimate domains at different points in time. The paper aims to reconstruct the theorization of Blockchain technology, as a way of improving understanding of legitimization and the preconditions of diffusion. Results show that the diffusion of a technology becomes more likely when 1) a new technology gains legitimacy and is de-linked from illegitimate activities, and 2) when a new technology is abstracted and generalized beyond its initial application. This paper contributes to work on the theorization of knowledge.

Taken together, the four papers in this chapter take a deeper look at different business models within the sharing economy and explore the effects of these models on different aspects of the economy, such as sustainability and trust as well as antecedents for adoption and diffusion. Findings show that the sharing economy encompasses a wide range of business models. The contribution of these papers is in showing the numerous possibilities that exist for different business models to create value and influence different dimensions. The research in this chapter offers significant contributions for both researchers and practitioners.

In **Chapter 4**, the *management and strategy research perspective* deals with the development, planning, and implementation of an organization's vision and goals. This perspective focuses on future business activities and is of great importance for the stakeholders of a company (Pearce et al., 2000). There are two levels to consider: the company level and the business-fields level. The company level includes the design of a business portfolio to optimally distribute a company's resources to the individual business areas, as well as the strategic design of a company's structures and systems. At the business-field level, this perspective addresses the question of how a company must optimally operate in each individual business in order to remain successfully competitive (Beard & Dess, 1981).

With the rise of the sharing economy, new and innovative organizations and organizational forms have emerged, disrupting traditional business fields (Heinrichs, 2013). Sharing-economy organizations in particular have to compete with other sharing organizations as well as with traditional ones (Demary, 2015). The

strategic decisions about which segments and markets to invest in, which resources to allocate, and which stakeholders to address are key.

The four papers in this chapter provide a better understanding of how organizations in the sharing economy develop and grow, and which strategic decisions they undertake will help them to stay competitive.

The first paper in this chapter, "Stakeholder theory and the sharing economy: Toward a research agenda" by Oliver and Statler, develops a research agenda for stakeholder theorists organized around three emergent tensions arising from the sharing economy. These tensions encompass ownership versus sharing, reciprocities versus transactions, and platforms versus organizations. The paper discusses how each of these key tensions might be usefully approached from the descriptive, instrumental, and/or normative-stakeholder perspectives.

The second paper, "Mapping the stakeholders and their relationships in the sharing economy: The case of Airbnb" by L'Ecuyer, explores the relations among stakeholders in the sharing economy as regulations and competition constantly change. The paper examines the case of Airbnb, whose main objective is to connect hosts and guests via a free platform. When a rental transaction is concluded, Airbnb receives a commission from both the host and the guest. Results show that sharing-economy organizations should first be concerned with stakeholders' relations and interactions within its ecosystem rather than with profit maximization, and that the promising future of sharing-economy organizations depends on their effectively and sustainably cultivating relationships among a complex group of inter-organizational stakeholders.

The third paper, "A collaborative energy system—How business models of the sharing economy may drive the energy transition" by Plewnia & Guenther, aims to bring together the topic of an evolving sharing economy and the role of new business models within the transitioning energy system. Following a multi-case study approach, the paper shows that attributes of sharing-economy business models can be associated with a wide range of activities and developments currently taking place in the energy sector, and that these activities and developments can contribute significantly to ongoing energy transitions by fostering technical, economic, and behavioral changes.

The fourth paper, "Car-as-a-service platforms" by Guyader & Piscicelli, examines business-model diversification in the shared-mobility sector. A case analysis of GoMore reveals three customer segments (nowners, independents, and resilients) that are differentiated based on their need to access a car and their cost orientation. Business-model diversification in this case not only allows the platform to increase its

supply of peer providers in its peer-to-peer markets, but it also addresses different customer segments of shared mobility.

Taken together, the four papers in this chapter take a closer look at strategies to increase competitiveness and efficiencies. They show that the sharing economy has the potential to transform different sectors and business fields. The papers here contribute by highlighting the strategic potential of sharing-economy business models.

Chapter 5 represents the *information systems perspective*. The information-systems discipline addresses phenomena at the intersection of organizations, people, and information technologies (Lee, 1999) and involves insights from behavioral as well as design science (Hevner et al., 2004). Whereas the former focuses on developing and validating theories that explain the behavior of organizations or humans, the latter acknowledges the limits of organizational and human capabilities and seeks to design innovative IT artifacts. In the recent past, one major objective of information systems has been understanding the implications of digital technology. Accordingly, this research addresses the impact of digital technology on firms' strategies, structures, and processes (Sambamurthy et al., 2003; Sambamurthy & Zmud, 2000). In addition, research in these fields investigates the role of information technology in creating business value and in building sustainable competitive advantage (Kohli & Grover, 2008; Nevo & Wade, 2010).

The rise of the sharing economy is closely linked with the development of innovative technologies and their growing acceptance in modern society. Organizations from the various sectors of the sharing economy rely on information and communication technology platforms to coordinate a peer-to-peer-based sharing of access to goods and/or services (Puschmann & Alt, 2016). Socio-technical developments in particular, such as the increasing spread of mobile devices and electronic services, enable a broad reach of sharing offers, which would be inconceivable without such developments (Elliot, 2011). Therefore, it seems fruitful to take an information-systems perspective on the sharing economy. The papers in this chapter answer questions concerning socio-technical enablers and constraints of the sharing economy, as well as the role of information technology.

The first paper in this chapter, "To share or not to share: A digital divide in the sharing economy" by Eichhorn et al., explores which factors facilitate or impede (potential) users' engagement with sharing-economy organizations. To empirically derive and test mediating factors, they conceptualize the difference between users and non-users as a digital divide. Their analysis reveals that materialistic motivations such as higher

income and education, internet usage, and residence in urban areas are positively related to user participation.

In the second paper, "Up or out? The dynamics of star-rating scores on Airbnb," Teubner & Glaser empirically examine the dynamics of the star-rating system of Airbnb, as literature has recently called into question the functionality and effectiveness of reputation systems on peer-to-peer platforms. Shedding light on an important pillar of electronic commerce, the authors find that the skewness of ratings results from their dynamics over time, as reputations emerge and change.

The third paper, "In Blockchain we trust? Consumer trust relationships in the sharing economy 2.0" by Hawlitschek, addresses the underlying mechanisms of Blockchain as a technological environment and questions how these mechanisms affect trust. Consequently, the focus within this paper lies on consumers' trust relationships in the sharing economy, as enabled through Blockchain technology. Findings show that organizations must establish trust in the Blockchain technology itself, and the study contributes to theory and practice by exploring the multitude of targets and trust relationships among peer-to-peer sharing.

In the fourth paper, "Facilitating or regulating the sharing economy? Uncovering the impact of carsharing," Frey et al. examine how carsharing affects society, the car manufacturing market, and users, as well as how the effects can be supported and mitigated. The authors find positive and negative effects that differ from the effects in the traditional tourism industry. Because the positive effects predominate, they indicate there is no need for further regulation. Nevertheless, this study contains valuable recommendations for how policy makers, providers, and users can mitigate any negative side effects.

Taken together, the four papers in this chapter address technological issues and link them with societal and economic factors. Findings show that the sharing economy is strongly dependent on innovative technology and a high rate of internet usage, and these findings also open up significant opportunities for further research in other disciplines and fields. In addition, these contributions of these studies offer enormous potential for researchers and practitioners to evaluate business opportunities and challenges and thus add valuable insights to ongoing debates about efficient use of technology in innovative business models in the sharing economy as well as in established industries.

Chapter 6 takes a *political science and legal studies perspective* on the sharing economy. The study of law deals with the interpretation and the systematic conceptual pervasiveness of current and past legal documents and sources, focusing on a wide variety of topics such as

criminal, property, insurance, civil, tax, commercial, environmental, and family law. Legal studies are part of the humanities and a hermeneutic discipline (Griffiths, 2002). Research in this field can be considered as a process of identifying and retrieving information necessary to support legal decision making that is based on the legal system of an institution, a nation, or a region. The political perspective, however, concerns systems of governance and the analysis of political activities, behaviors, and thoughts. Determining the distribution of power and resources, political science comprises fields such as international relations, political theory, political economy, and public policy (Roskin et al., 2007).

With the rise of the sharing economy, business models will develop that will change the lives and welfare of millions of people (Koopman, Mitchell, & Thierer, 2014). These business models promise more efficient use of physical assets, less resource use, and less wasted energy (Katz, 2015). At the same time, the sharing economy is associated with undesirable effects such as platform monopolies, privacy violations, exploitation of labor, and unfair competition. In debates about the sharing economy, firms like Uber or Airbnb are prominent examples of its downsides (Daniel & Schleicher, 2015; Flores & Rayle, 2017), and their actions have forced judges, legislators, and regulators, as well as industry associations, unions, consumer protection agencies, and labor movements to rethink the rules by which these businesses should be governed (Sundararajan, 2016). The various challenges regarding rules and regulations within the sharing economy call for a Political Science and Legal Studies Perspective on the sharing phenomenon (Kassan, & Orsi, 2012).

The two papers in this chapter examine the undesirable effects of the sharing economy: which actions and new laws are needed and how existing laws and regulations have to be adjusted by multiple legal and/or political actors to address these undesirable effects (Ranchordas, 2015).

In the first paper in this chapter, “Conceptualizing the role of the state in the digital platform economy,” Pentzien investigates the role of the state in facilitating and shaping the development of the platform economy. By conceptualizing a new analytical framework, he puts particular focus on the relationship between state activities and the market (platform economy and policy fields). Based on his findings, the author contributes to the field by stressing the ex-post approaches to fixing markets, which allows him to observe conflicts throughout the policymaking process. These approaches also make visible the state’s patterns of activity that have facilitated the formation of the global network of the platform economy.

The second paper, "Sharing and the city: Roles, relations, and governance mechanisms" by Voytenko Palgan et al., sheds light on the dynamics and mechanisms of how cities engage with sharing and how organizations of the sharing economy influence cities. Based on an analysis of five different cities across the world, the authors identify five different categories of actions cities can take to promote, ignore, or inhibit urban sharing organizations. The roles of cities differ: city as regulator, as provider, as enabler, and as consumer, and their paper shows how city government and urban sharing organizations interact both positively and negatively. This adds to existing literature by suggesting a wide degree of governing latitude when it comes to sharing organizations.

Taken together, the two papers in this chapter—based on holistic approaches and rich data—create a thorough understanding of state activities and policymaking that can both support the positive economic and societal effects and outcomes as well as contain the negative ones resulting from the sharing economy. More precisely, they highlight the relationships and mutual actions among states, cities, and sharing-economy organizations.

Chapter 7 encompasses the *linguistics and semantics perspective*. Linguistics examines human language using various approaches. Research in this field deals with language as a system, language in use, its individual components, and its units (De Saussure, 2011). Semantics is a part of linguistics that focuses on the meaning of language. Research in this perspective answers the question of how we experience and understand things, ourselves, and each other (Bréal & Cust, 2013), since it deals with the denotation of words, phrases, signs, and symbols.

Since the rise of the sharing economy as a new phenomenon, researchers have struggled with the term and meaning of "sharing economy." The phenomenon still lacks a commonly accepted definition (Botsman, 2013; Belk, 2014; Hamari et al., 2016; Habibi, Davidson, & Laroche, 2017). However, what makes the sharing economy so special is that the majority of people all over the world are able to participate in it, despite speaking different languages (Muñoz & Cohen, 2017). The linguistics and semantics perspective can help us better understand the phenomenon by clarifying the meaning of terms while also examining characteristics and effects of different languages used when approaching the sharing economy in an international context.

The two papers in this chapter provide a better understanding of how difficult and at the same time important it is to define new phenomena like the sharing economy and to understand whether language influences trust, especially in transactions between actors within the sharing economy.

The first paper in this chapter, "A conceptual development of the sharing economy from the field of linguistics and semantics" by Curtis and Lehner, stresses the semantic confusion surrounding the term "sharing economy" and explores how this phenomenon is defined within academic literature. From a semantic point of view, an essential dichotomy exists between what a term means (intension) and what it denotes (extension). Building on results of a systematic literature review, the paper proposes an intentional definition of the sharing economy. Based on their findings, the authors stress the need for a common understanding and definition of the term, as this plays a major role in the process of legitimizing and institutionalizing sharing-economy practices. Additionally, an intentional definition reduces the semantic confusion currently described in literature and prevents misusing or co-opting the term.

The second paper, "Building trust in English and German for collaborative consumption: A comparative case study of the language and content used by collaborators on Airbnb" by Zarifis and Ingham, explores the role of language in building trust on the e-commerce platform Airbnb. The paper compares the two languages English and German, as both have standard language norms and are used by specific cultures. This exploratory research applies qualitative analysis to identify patterns in the language, such as structure, content, and tone, and finds that language has a limited influence on trust. Instead, platform norms and habits have a greater influence.

Taken together, the linguistic and semantic approaches of the two papers in this chapter on the one hand contribute to research by defining the sharing economy as a new phenomenon and on the other hand open new future research directions by highlighting the subordinate role language plays in the trust dimension within the sharing economy.

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1.

BUSINESS AND ECONOMIC HISTORY PERSPECTIVE

1.1

Renaissance of Shared Resource Use? The Historical Honeycomb of the Sharing Economy

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Introduction

The sharing economy is seen as a modern phenomenon in politics, society, and the economy alike (Belk, 2014; Acquier, Daudigeos, & Pinkse, 2017), and one that situates the principles of exchange, sharing, and lending at the center of all interactions and transactions. The growing importance of the sharing economy in Germany can be primarily attributed to a diverse group of organizations such as Airbnb, urban community gardens, and BlaBlaCar, which, among other things, are platforms that link individuals and stakeholders and allow them to exchange directly with one another. Jeremiah Owyang's (2016) "Collaborative Economy Honeycomb" model, widely recognized and used in science and politics, addresses this diversity by capturing and categorizing organizations according to their industry, function, and practice areas.

The idea of exchanging, sharing, and lending, however, is not new. Particularly in agriculture, community resource use has always served as a basic model of living and working (Ostrom, 1990; Warde, 2013). There is also a long tradition of research that has intensively studied the commons, machinery rings, and cooperative forms of organization (Braun & Binder, 2002; Brakensiek, 2004; Agrawal, 2014). The main focus of this prior research, though, has been on the social and political potential (Adams et al., 2003), or on specific aspects of their organization and structure (Dietz, Ostrom, & Stern, 2003; De Moor, 2015). Arguments in current research

that deal concretely with identifying historical forms and linking these forms to modern models with respect to the sharing economy are isolated (Bradley & Pargman, 2017). Other initial studies confirm that historical forms have manifold characteristics and link the example of garden use to modern forms of community resource use (Becker & Mosmann, 2017). Other (historical) forms of sharing, though, have not been included in the debate on the sharing economy. In particular, we lack a conceptual framework connecting historical and modern forms.[1]

The "Historical Honeycomb of the Sharing Economy"

Figure 3: The Historical Honeycomb of the Sharing Economy

[1] This study is funded by the German Federal Ministry of Education and Research (Grant numbers 01UT1408A and 01UT1408E).

Jeremiah Owyang developed the "Collaborative Economy Honeycomb" as a way to understand the new economic phenomenon of the sharing economy (“collaborative economy” and “sharing economy” are used here synonymously) and to depict its organization and characteristics (Schor, 2014). The honeycomb ultimately allows for historical forms of shared resource use to be identified and systematized. To retain the content and structural consistency of Owyang’s honeycomb requires that I am guided by the definitions and limits of case examples. An understanding based on these phenomena supports placing these fifteen historical examples into seven families according to industry, function, and practice areas as follows:

The first honeycomb, and one of the oldest forms of community resource use, is *land use* (Ostrom, 1990; Brakensiek, 2004). This honeycomb includes the commons defined as communally owned grassland—distinct from agricultural and private land—as well as garden use in the form of allotment gardens. They consisted of individually allotted contiguous plots, and for the most part were organized and managed as associations and used collectively as a retreat from urban living and working.

Smaller equipment and large agricultural *machinery*, which began to be used in the 19th century as part of industrialization, was also shared by the community. An example of this shared use is the threshing cooperatives (Mahlerwein, 2016). Generally, local cooperatives provided members with a threshing machine for harvesting different grains and cereals and jointly organized provision of the machines for members. The most well-known form of shared machine use is the machine ring, which, from the time of its founding in 1958 in Bavaria, brought together supply and demand of agricultural products, and in doing so provided distribution, market access, and sales opportunities.

The machine ring, though, was not limited to supporting agricultural holdings by organizing and providing machinery, but also served an economic function by providing *manpower* to help members with field work. Machinery rings offered their members professional advice and helped organize additional labor when needed. In most cases this labor came from the members themselves, who had the necessary capacities to offer. The principle of sharing was thus firmly anchored: farmers could always draw from a common pool of labor and divide this labor among themselves.

These examples show that organizations such as machine rings also took on an advisory role. This allowed cooperative members to seek *services* in the form of community consultations, which, again, were often

carried out by members themselves. Another well-established rural institution that provided important services in agriculture was the producers' ring, which was founded in the young German Federal Republic at the beginning of the 1960s. This cooperative organization was specialized in consultation and education in pig farming and pig breeding, acting as a link in a horizontal network of agricultural producers.

Animal husbandry also made use of a community-resource concept because acquiring and maintaining farm *animals* such as cattle, sheep, and pigs was both costly and labor intensive. Within village communities, bulls, boars, or goats were either purchased and maintained collectively by individual members of the village or were shared among villagers.

Another example of historical resource sharing is community *facilities* established in the 1950s as part of the Green Plans that were subsidized by the state (Krieg, 1993). These facilities, in the form of wash- and slaughterhouses, were designed to ease the burden of domestic work and were organized and operated on a subsidiary-communal basis. Access was provided to the village community to ease the burden of work.

Yet another form of historical community resource use came in the form of *appliances* that were centrally located: villagers could use cold storage refrigeration and freezer rooms as well as wash- and bake houses, with each type of appliance housed in its own building. Modern electrical appliances such as washing machines, electric ovens, and freezers and refrigerators were centrally placed within village communities. One of the central challenges was to familiarize villagers in the community with these devices, showing them how to correctly handle the appliances and efficiently integrate them into their everyday lives. To ease the burden of work and reduce the time spent working, villagers needed both access to the appliances and a sound introduction in how to use them.

In sum, with the help of the "Historical Honeycomb of the sharing economy" framework, different organizational forms and models can be traced back across historical periods and eras. Contrasting the historical honeycomb to the current one makes clear that the developments, modifications, and adaptations of historical forms of organizations has led to a renaissance of shared resource use.

A Renaissance of Shared Resource Use

Transforming Historical Forms and Practices

The sharing-economy organizations are transformations and evolutions of historical forms and models of shared resource use that have been adapted

to modern needs and new contexts. By way of *professionalization*, roles and functions have been commoditized, and new occupational fields, activities, and functions created. We are witnessing the continued development of individual activities that existed in historical forms move in the direction of structured and paid work. These new types of work in fields such as advertising, public relations, and community management are extensions of historical role and functional divisions that existed in machinery rings and community facilities. We can observe in modern forms of community management divisions of labor into individual organizational (sub)entities and piecemeal work in order to realize the benefits of specialization effects. In their historical forms, though, caring for members was a central and primary concern of organizations. The functions, roles, and standardized work that prevailed historically have become institutionalized and adapted to new sharing economy objectives. To these historical functions, roles, and work, new ones have been added, such as assuring transaction and interaction quality, creating transparency, acquiring funding, focusing on sustainability, and achieving critical mass and scale, among others (von Nordenflycht, 2010).

An Imitation of Historical Forms and Practices

Modern organizations are creating new practices and structures, while at the same time imitating historical forms. By doing so, the lifespan of historical forms has been extended and has contributed to their wider dissemination. The imitation of historical forms is based on *formalization*: In the commons and garden-use forms, for example, practices of governance, coordination, and control were primarily written down and compliance with regulations was closely monitored. Modern forms such as urban gardens imitate these practices, for example, by introducing and formalizing member community hours to ensure engagement and a sense of community (Warde, 2013). This sense of community and solidarity, embodied in the basic principle of cooperative organizational forms such as the machine or producers' ring, has also been formalized in modern forms of the sharing economy. Platforms that connect individuals and enable direct exchange are based on the principle of neighborhood help, and re-establish as new the values that were historically an integral and foundational component of family, neighborhood, and village community. In addition, *regionalization* in the business models of the sharing economy can be traced back to these same values. E.g., modern urban gardens and exchange platforms artificially re-create the local neighborhood that was

once the domain of the family or immediate neighborhood. The social embedding of individuals is thus entirely an outgrowth of historical forms.

Conclusion

We are currently witnessing a renaissance of shared resource use in the current sharing economy, which is reviving historical forms of economic and social exchange. This study initially identified fifteen historical forms that have been represented from the early Middle Ages to the modern era and that have existed across political and economic contexts. Introducing the "Historical Honeycomb of the sharing economy" makes it possible to identify and categorize historical forms based on industry, function, and practice areas across contexts and eras. By reconstructing the development and modification, we also show that sharing-economy organizations are imitating and transforming historical forms. While the sharing economy adopts practices and structures that are similar and comparable to historical forms, these practices and structures diverge from their historical forms in their characteristics and intensity.

The sharing economy is thus not an exclusively modern phenomenon, since it shares many similarities with historical forms. And even the differences that do exist, and that grow out of mechanisms of transformation and imitation, point to the long tradition.

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1.2

Can the Sharing Economy Regulate Itself? A Comparison of How Uber and Machinery Rings Link their Economic and Social Goals

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Introduction

The dispute over regulation vs. deregulation has heated up recently, especially in the case of Uber, a company that ignores existing law and whose services have been banned in several countries. The aim of this paper is not to ask whether there should be regulation or not, but to evaluate the sharing economy with respect to economic efficiency and social cohesion, and to find out how these two objectives can be balanced to develop a more comprehensive picture of how regulation mechanisms influence each.

This paper assumes that the relationship between the market sphere and social structure is an antagonistic one. If one pole becomes more dominant, this dominance provokes a reaction toward the other pole (Beckert, 1996, 143). If the market becomes too dominant, for instance, political regulation—as a reaction—is needed. But regulation comes in many forms: companies use internal regulation, based, for instance, on norms and social rules that are put into practise as cooperation and network formation. Jens Beckert suggests analysing market dynamics in terms of the social order established by varied social mechanism, based on

ethical norms (Beckert, 2002; 2009) and expressed here in the vision statements of two organizations: Uber and machinery rings.

This paper draws attention to the possibilities for internal organizational regulation. It examines the vision statements of the ride-sharing company Uber and machinery rings—machinery-sharing associations for farmers. To answer the question, which preconditions are necessary for the sharing economy to regulate itself, in the sense of fostering social ties and finding a better balance between competition and social cohesion, this paper analyses two related questions: What are the economic and social goals of Uber and machinery rings and how are they linked? How do they deal with contradictions between competing goals? This paper hypothesises that Uber tends toward economic efficiency but endangers social cohesion, while machinery rings support social cohesion but are less economically efficient.

The Ride-sharing Company Uber

Uber was founded in the United States in 2009 in the middle of the global financial crisis. Out of this situation Uber managed to create a new business based on a technological innovation, using a platform application that arranges rides between riders and drivers. The technology coordinates and matches drivers and riders in time and space, and also manages the accounting for drivers. The guideline by which the algorithm makes these accounting decisions is set by humans. An obvious question, then, is, what are the moral standards for these guidelines?

The driving force of Uber is Travis Kalanick, who co-founded the company and was also its CEO from 2009 to 2017. Kalanick framed his vision for the company with a message positioned within an environmental-issues discourse. He cited the problem of traffic jams and offered Uber and its mobile internet technology as a solution for reducing the problems of "congestion, pollution and parking" (Kalanick, 2016) by using mobile internet technology:

> Fewer people owning cars and fewer cars on the road—this is our ultimate vision for the future. Smarter transportation with fewer cars and greater access. Transportation that is safer and cheaper and more reliable creates more job opportunities and higher incomes for drivers…Uber is a new mode of transportation that compliments and improves the system that we have today (Kalanick, 2015).

Kalanick's economic goal was to attract investments that would allow him to realise his technological vision, and in the process he promised to

create jobs, increase wages and lower prices for consumers. The social goal of Uber is aimed more at the individual, while its services are designed to improve flexibility and freedom for riders and drivers. Transportation, says Kalanick, should be "reliable as running water, everywhere, for everyone" (ibid.) and it should be provided by drivers who enjoy a maximum of self-determination: "What other job out there can you just turn on when you want to start, and turn off when you feel like it? There is no other job like it and that flexibility is powerful for having control over your life" (ibid.). The key element of Kalanick's narrative is freedom. Freedom is both a precondition as well as a desired result, and his conception of achieving it is closely linked to technologies (Daniel, 2017, 4) and a demand for deregulation: "All we ask of local officials is to allow people to drive who want to drive" (ibid.).

Kalanick calls Uber's drivers as *partners*: "Our driver partners are the heart and soul of this company and the only reason why we have come this far in five years" (ibid.). When it comes to Uber's pricing policy, though, drivers are not as likely to be treated as partners. Uber's surge pricing leads to volatile prices, and the performance-related income of the drivers often falls short of their expectations (Zwick, 2017). Drivers play no role in pricing, but are instead unwilling participants in the company's price cuts. Therefore, the freedom promised to drivers is in reality a greater work burden for them, to compensate for a loss of earnings. There is also no compromise between these two positions of burden and loss, as witnessed in a public dispute between Kalanick and a complaining driver that became a scandal on social media (ibid.).

The morality of Uber's business model does not lend itself to a well-balanced distribution, and has even prompted legislators to get involved, thus (ironically) undermining Kalanick's initial position. Critics question whether drivers are truly self-employed or instead act as employees, and many experts have come to the conclusion that drivers are more like employees. Despite these claims, Uber does not take responsibility for the employer's part of the social security contribution (Zwick, 2017; Eichhorst & Spermann, 2015, 10). The fact that Uber creates precarious jobs is not illegal—yet—but legislators have other ways to stop Uber's expansion, not least because Uber puts its price-dumping pressure on established taxi companies. One result of this pressure is that Uber is required in many countries to seek permission and an operating license as a transportation business. In the case of Germany, neither the company nor its individual

drivers can receive these permissions and licenses; consequently, the company and its services are forbidden (Gruber, 2015, 16-26)[1].

The Uber case exemplifies the clash between new modes of the platform economy and existing law, which is not yet prepared for the new technological opportunities this economy allows for. A crucial point in the discussion is that Uber not only has an antisocial attitude toward drivers and other societal stakeholders, but also that this attitude divides the management from the drivers while at the same time undermining the economic goals of both. The unacknowledged contradictions within Kalanick's ideology—cheaper fares and higher incomes, personal freedom and decreased earnings, no participation and no regulation—brought him into unresolved conflicts that in the end led to the lost trust of his investors (BBC, 2017) and endangered the existence of the company.

The Machinery-sharing Association: Machinery Ring

The first machinery ring was founded in Germany in 1958, when Europe was experiencing an economic boom and enormous structural changes. For smaller farmers, these changes meant that—as part of a broader strategy (the Mansholt plan of the EEC)—they were to be intentionally phased out of agriculture because modernisation in this industry only had room for big-scale agriculture. Erich Geiersberger (1926-2012) put his vision into this socio-economic context of competition and displacement:

> Since we know that not only can fewer people produce even more, but also that agricultural products face an increasingly inelastic market, the solidarity of farmers will erode and result in an inner displacement competition...In a machinery ring everyone really needs everybody—whether as a full-time or part-time farmer—but regardless, as a partner. Instead of displacement, preservation of their existence and increase in income is their joint concern (Geiersberger, 1974, 194, author's translation).

To support farmers' competitiveness, Geiersberger promoted the idea of reducing the high investment cost of mechanisation by sharing existing but underused machines among farmers. A machinery ring works like a bank, whose members "…do not have their own machines and do not aim

[1] It is important to distinguish between different Uber services. Forbidden and most criticised in Germany is the peer-to-peer ride service called uberPOP, which allows anyone to become a driver without any qualification, while uberTAXI operates with licensed taxis. uberBLACK (also forbidden in Germany) and uberX (the predecessor) require a general business licence (as of June 2018).

to own their own machines. It just organises for farmers who lack certain machines: those machines from others who own these machines" (Geiersberger, 1959, 18, author's translation). In practice, farmers provide each other with machinery services, which are listed and accounted for by a manager, who at first operated as a freelancer and later became an employee (Maschinenring Österreich, 2016, 32).

Knowing that smaller farmers could never compete with industrialised agrobusinesses, Geiersberger argued for a non-profit orientation within a for-profit oriented system. A machinery ring is meant to have a "non-profit character; because none of the associates' gains are for profit" (Geiersberger, 1959, 54) and machinery work is offered at cost to associates (ibid., 35). Hence, his economic goal was to cover the costs, an idea closely linked with the intention of self-help and empowerment. His social goal was to open the rural population to new perspectives and to mobilize the solidarity of farmers. He made part-time farming a more respected strategy, and his principles are based on the idea that economic and technical progress has to be for the benefit of all, not only for the privileged (Geiersberger, 1974, 183-209).

To convince farmers of these ideas, Geiersberger used as a key part of his rhetoric the idea of freedom, but for a whole class rather than just for individuals. His best-known publication, *The Third Liberation of the Farmers by the Machinery Ring* (1974), describes liberation derived from multiple sources: from overcoming certain beliefs and structural limitations, leading towards a self-determined way of life beyond feudalism, but within modern capitalism and democracy (ibid., 224-245). Another important context is that of the polarised post-war regime. This context meant it was important to distance the model from state-ordered kolkhozes (collectives), which he achieved by emphasizing its voluntariness (ibid., 159). His expression "Everybody can, no one has to!" (ibid., 245, author's translation), became a guiding slogan of the movement[2].

The internal regulation of a machinery ring follows the philosophy of reciprocity. An association is founded by members, who have the right to vote and participate in decision-making. Geiersberger established high moral standards by saying, "We would rather renounce a member than have someone who wants to make profits." (Geiersberger, 1959, 35, author's translation). Geiersberger insisted that a machinery ring should

[2] At its 40th anniversary, the Austrian machinery ring published a book titled *Jeder kann, keiner muss* (2016). Today, about 240 machinery rings still exist in Germany (https://www.maschinenring.de/maschinenring-deutschland/mr-organization/, 08.06.2018) and are common in European countries and Japan.

never own machines. Even though in the 1980s *machinery parks* were established and offered new services with a for-profit orientation (Mashinenring Österreich, 2016, 55), *machinery rings* continue to exist in parallel and operate with a non-profit orientation. Machinery rings have evolved and now offer services to rural populations in the fields of landscape management, tourism and environmental issues. This development is moving the rings in a community-driven and socially and economically sustainable direction.

Machinery rings operate within the legal framework, combining individual enterprises and joint associations all under the umbrella of national legislation. Generally, agriculture has become increasingly influenced by the European Union, which has established multiple regulations ranging from pricing to production rules. Machinery rings do not ignore these regulations, but rather add to their scope and operate within the framework of a non-profit organization.

Looking back on the development of machinery rings over a half century, we can see a shift from a non-profit to a for-profit model, yet the non-profit model still exists (ibid., 102-139). One interpretation is that machinery rings have slowed down the structural changes and softened their impact on farmers by creating opportunities for a more conscious shift towards alternative economic fields (ibid., 44).

Differences of Regulation Strategies

The peer-to-peer services organised and provided by Uber and machinery rings are quite similar: they exchange services provided by an individual's own vehicles. But the mode of regulation, and their respective impacts on economic success and social cohesion, are quite different. While Kalanick was fighting *against* competitors and officials, Geiersberger was fighting *for* the farming community. Uber is not trying to create a systematic link between individuals and society, while within machinery rings, individuals are consciously embedded into both a small-scale (farmers' community) and a large-scale social and economic structure (capitalism, free market, democracy, EU). Uber has no internal regulation, while the machinery rings do, and are therefore able to adapt to internal and external challenges. By creating links and establishing a system of internal regulation, the machinery rings avoided external regulation, while Uber has yet to agree with authorities to create adequate legislation, meaning its services in many countries are still not available.

Conclusion

The case study of Uber and machinery rings examines different manifestations of the antagonism between the market sphere and a social structure. Uber has an aggressive expansion plan, while machinery rings operate reactively, by way of self-help. These examples prove the hypotheses that Uber tends to favour actions and decisions that support economic efficiency but that endanger social cohesion; machinery rings, on the other hand, support social cohesion but are less economically efficient. While these examples do prove the hypotheses, the results are not linear, because stressing profit maximisation too greatly would be economically disadvantageous for Uber. Generally, a correlation exists between the framing of the individual and the existing social structure. A decisive point is whether they can frame freedom in a more realistic and acceptable manner. Uber has an under-socialised picture of the individual, which neglects and leaves unaddressed certain contradictions. By contrast, a machinery ring maintains a highly socialised picture of the individual and manages to contextualise itself broadly. A machinery ring can incorporate self-regulation because it reflects a high moral position. Hence, we can conclude that regulation—and not over-stretching social ties—always requires a foundation of ethical values, and that ethical norms can be practiced on a small as well as on a large scale. Looking at these cases from a social-mechanism and social-order perspective, the theoretical framework helps us to overcome the polarisation between regulation and deregulation, and gives a differentiated picture of regulation options on multiple scales.

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2.

ECONOMICS PERSPECTIVE

2.1

Regulating Consumers' Contributions and Usage of a Shared Good: An Experimental Approach

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Introduction

Regulation in the sharing economy is a contested topic. While some feel that regulation would undermine voluntary cooperation in the sharing economy (Hartl, Hofmann & Kirchler, 2016), others argue that the sharing economy encourages self-interest and exploitation and thereby threatens societal welfare (Schor, 2016). Empirically, consumers in the sharing economy show *undesired costumer behavior* such as bringing back a

shared car late (Hofmann, Hartl & Penz, 2017). This behavior asks for containment from an authority. As regulation from governmental institution is scarce, regulation from service providers and owners' of shared goods is necessary.

Regulation of such authorities can follow the propositions of the extended slippery slope framework (Gangl, Hofmann & Kirchler, 2015; Hofmann et al., 2017) in terms of a governance theory. The framework postulates that coercive power and legitimate power of an authority (see forms of social power in Raven, Schwarzwald & Koslowsky, 1998) reduce undesired behavior and foster cooperation. We propose that applying either form of power (coercive or legitimate) or both forms of power together (coercive and legitimate) assures that participants in the sharing economy observe the rules, contribute to the shared good, and use it fairly.

Sharing Economy as a Social Dilemma

Participation in the sharing economy can be conceptualized as a social dilemma (Dawes, 1980). Users contribute to a public good (e.g., pay a yearly fee for carsharing) and share a scarce resource (e.g., cars). The individualistic interests collide here with collective interests. While an individual is better off contributing as little as possible and using the resource as much as possible, it is in the collective interest that each individual pays a fair share and uses the resource fairly.

Nevertheless, not every user sticks to the rules, brings the resource back in good condition, or at the agreed time. They to exploit other users by overusing the good or by preventing further usage by other users. In social dilemmas, some individuals are said to freeride (Marwell & Ames, 1979). Hence, the extended slippery slope framework (Gangl et al., 2015; Hofmann et al., 2017) offers mechanisms to prevent freeriding. Coercive power works through rewarding cooperative behavior and sanctioning uncooperative behavior. Legitimate power works through expertise of the powerful authority, the information the powerful authority is giving away or keeping, the legitimacy of the position of the powerful authority, and the charismatic personality of the powerful authority. Both, coercive and legitimate power lead to cooperation but the path, however, is distinct.

The so-called give-or-take-some dilemma (GOTS; McCarter, Budescu & Scheffran, 2011) is particularly suited to study cooperation in the sharing economy. It is a two-step experimental game. In the first step, four participants of an experimental group contribute some from their endowment to a public good. In a second step, they request some amount out of this public good. If the sum of requests exceeds the sum of

contributions, none of the participants can use the public good and does not receive any money. If the requests do not exceed the contributions, participants receive what they requested plus an additional bonus (75% of the sum of the input equally divided between all four participants). Only in the second case, the public good is of value for the participants as they can increase their monetary gain by contributing and taking out fairly. In the context of the sharing economy, contributions would mirror participation and requests would mirror fair use.

Based on the literature on the impact of power on cooperation, we propose the following hypotheses:

H1: Coercive power and legitimate power have a positive impact on contributions.

H2: Coercive power and legitimate power have a negative impact on requests.

Procedure

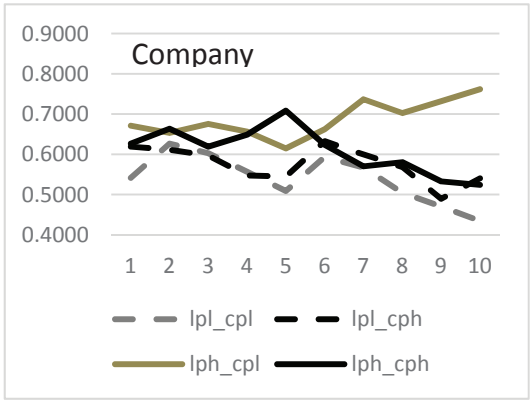
The experiment was conducted in a computer laboratory with the software z-tree (Fischbacher, 2007) having a 10-rounds experimental GOTS game following McCarter et al. (2011). Participants had to imagine to share cars and toy boxes (five rounds each, counterbalanced order) with others in groups of four.

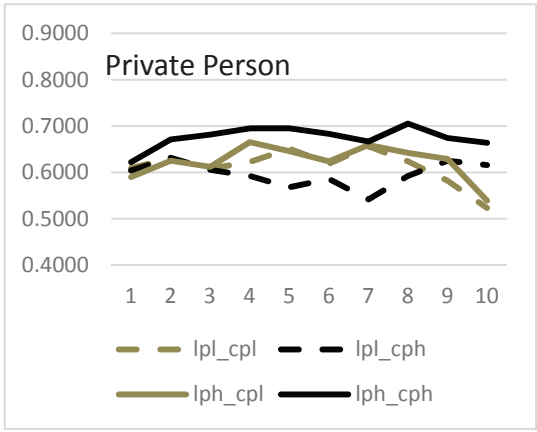
They imagined that they needed these goods for their work. First, participants had to contribute something for the good, and second, they could request something. Before they decided about the amount to give or take, they received a description of the respective owner of the good (company, private person via a platform, community). Those were described as holding high/low coercive power (e.g., rule-breakers would be punished *harsh/lightly*) and high/low legitimate power (e.g., rules for usage of the box of toys/cars were established together with the users/alone). In the end of the experiment, participants were remunerated according to their behavior. Overall, 362 students (57.7% females, M_{age} = 23.77 years, SD_{age} = 4.71 years) took part in the experiment. Most students held high school qualification for university entrance (67.1%) and some held already a university degree (30.9%). The majority (77.3%) earned less than 1,000 EUR per month.

Results

Findings reveal that power has an impact on cooperation. Contributions were influenced by legitimate power ($p < .001$, $\eta^2_p = .04$), whereas

coercive power (p = .78), the different owners of the good (p = .22) and the interaction effects had no effect on contributions. For the means per round see Figure 4a-c.





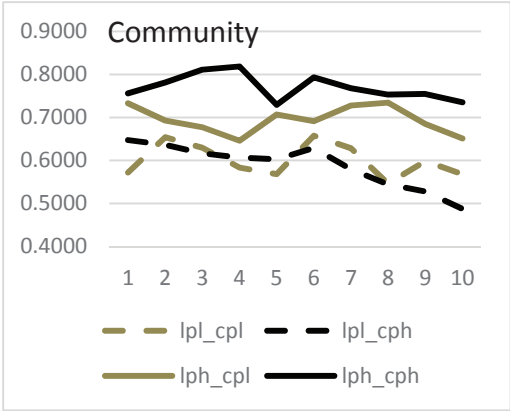
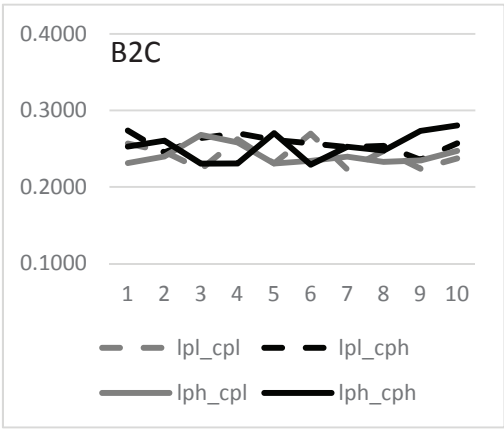


Figure 4a-c: Contributions over 10 rounds for company, private person and community.

Requests showed no impact of coercive power (p = .98), legitimate power (p = .93) or the owner of the good (p = .59) as well as no interaction effects. As Figure 5a-c shows, the participants requested about a quarter of the sum of the contributions



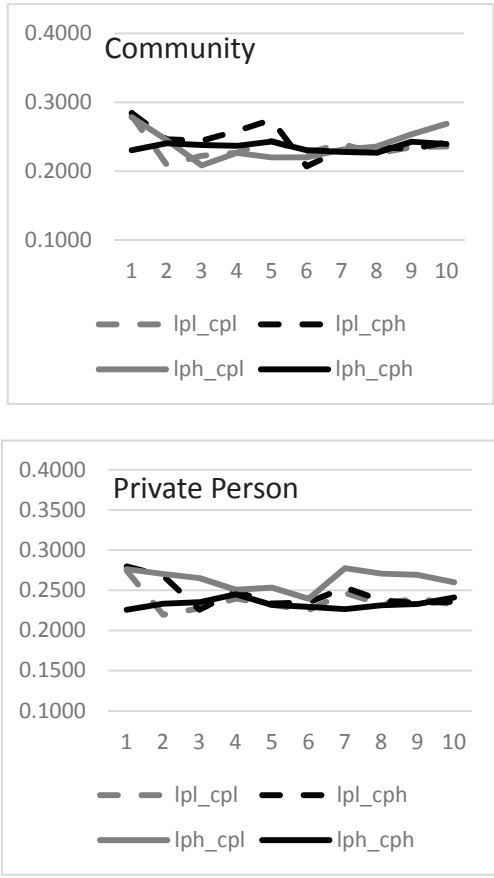


Figure 5a-c: Requests over 10 rounds for company, private person and community.

Thus, there is an impact of legitimate power on contributions, but not of coercive power and there is no impact of power on requests.

Conclusion

The current research has considered the sharing economy as a social dilemma (Dawes, 1980; McCarter et al., 2011). Self-regulation in terms of legitimate power of companies, private persons, and communities has been

found to have an impact on contributions to the sharing economy, but not on the usage of the sharing economy. No effect of coercive power was detected. Interestingly, there is no difference in contributions and requests over different business models (company, private person, community). Legitimate power works the same in all business models.

Nevertheless, this research has some limitations, as it is an experimental approach that is not exactly picturing reality; the GOTS is an experimental game and the student sample is not exactly depicting participants in the sharing economy. In the future a field experiment with different business models would be necessary to back up the results.

From a practical point of view, organizations in the sharing economy should be aware that they can regulate participants' contributions, but that it is difficult to regulate their take out. Future research should investigate, how usage can be regulated beyond the use of power.

Overall, the current study is a valuable contribution to the sharing economy research, not only showing that it can be pictured as social dilemma, but also revealing that legitimate power is appropriate to achieve cooperation of users in the sharing economy.

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2.2

Determinants of Accommodation Prices Provided by Airbnb in four EU Cities

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Introduction

Airbnb, a home-sharing platform, has become one of the most important players in the tourism sector. The wide adoption of short-term flat rentals not only has an impact on the hotel industry, but also affects the living conditions in touristic cities (Zervas et al., 2017; Gurran & Phibbs, 2017). The overall impact of home-sharing depends on the demand and preferences of tourists.

While the preferences regarding traditional lodging offers have been already described (e.g. Zhang et al., 2011), the demand for Airbnb accommodation is less understood. Existing studies (e.g. Wang & Nicolau, 2017) present the relationship between price and listing information, however, several important factors remain unexplored.

Such area is the role of location variables in the evaluation of listings. Tourists wish to stay close to tourist attractions (Gutiérrez et al., 2017), however, they may also want to explore local life and rent flats in outer districts with good public transportation.

Another field is the competition between Airbnb and the traditional hotel industry. The price of home-sharing offers may be influenced by not only quality and location factors, but also by the surrounding hotels and hostels. A significant and positive relationship would suggest that Airbnb hosts adjust the price of their offers in relation to the hotel industry, signaling stronger substitutiveness between the two platforms.

The aim of this research is to examine the relationship between the price of Airbnb accommodation with selected attributes, including location factors and competition with the traditional hotel industry. The research questions are the following:

1) What are the determinants of Airbnb accommodation prices?
2) What is the impact of tourist attractions and access to public transport infrastructure on the accommodation prices provided by Airbnb?
3) What is the relationship between Airbnb and traditional hotel prices?

The theoretical basis of the analysis is the price hedonic theory, according to which the price of a product is a function of its attributes (Lancaster, 1966). Examples for the application of this framework include the analysis of residential property price and hotel accommodation price (Thrane, 2007).

The research is based on a unique data set of web scraped data on Airbnb and Booking.com. The sample covers data on offers from Barcelona, Berlin, Paris and Warsaw. Location data on tourist attractions and public transportation has been collected from Wikipedia.

Literature Review

Wang & Nicolau (2017) provide an analysis on the determinants of Airbnb prices in 33 cities in Europe and in North America. The authors present the role of variables that are included in the Airbnb website: host and property attributes, amenities and services, rental rules and online review ratings. Using hedonic regressions, the significance of these variables is shown, and that host attributes (number of listings offered by the host, verified or superhost status) serve as quality signals. The authors also show that prices are decreasing with distance from city centres. Host characteristics are found to be significant by Ert et al. (2016) & Teubner et al. (2017) as well. The impact of Airbnb on the hotel industry is presented by Zervas et al. (2017) and Xie & Kwok (2017). Gutiérrez et al. (2017), who find that supply is strongly driven by the vicinity of tourist attractions, examine the location of Airbnb listings in Barcelona. Quattrone et al. (2017) also discuss spatial patterns.

This analysis contributes to the literature by examining the value of location variables and the impact of traditional hotel prices on the pricing of Airbnb offers.

Data Set and Methodology

The data set includes market data on accommodation provided by Airbnb and the traditional hotel industry. The data has been collected with the implementation of web-scraping techniques. The search criteria referred to accommodation for two persons for a weekend in December (8.-10.12.2017). All Airbnb types are included in the sample, while only hotel and hostel offers have been collected from Booking.com. The platforms returned offers for other numbers of guests as well that are included in the data set. The data set has been prepared between late October and early November in 2017, covering Warsaw, Paris, Barcelona and Berlin.

The collected Airbnb price data (variable *Full Price*) refer the final price of the offer, including the cleaning fee and reservation fee as well. In order to analyze the relationship between Airbnb and traditional lodging prices, the average hotel and hostel prices have been calculated surrounding the Airbnb listings. The process involved the following steps:

- The area of city was divided into squares with 1 km in length and width
- Every Airbnb listing and hotel/hostel was assigned to its corresponding square based on location
- The median price of hotels and hostels was calculated for every square
- For every Airbnb offer, the average price of hotels and hostels was calculated based on the median prices of neighbouring squares.

The location of tourist attractions and metro stations have been collected from Wikipedia. The tourist attractions are summarized by city landmark pages, while metro stations are also collected in separate Wikipedia pages. Following the scraping of location data, the distance from Airbnb listings have been calculated using Vincenty's formulae. Every Airbnb listing has been assigned with the distance to the closest metro station and city attraction.

The analysis is based on the Ordinary Least Squares (OLS) regressions, in which the dependent variable is the logarithm of *Full Price*. The final form of the model has been determined using general-to-specific modeling. The collinearity of independent variables has been tested with the VIF test. Due to heteroscedasticity of the error terms, white robust covariance matrix estimator has been used to calculate the standard errors.

Results

The results of the regression analysis are summarized in Table 2, revealing the main determinants of accommodation prices provided by Airbnb.

	Dependent variable:			
	Log(Full Price)			
	Warsaw	Berlin	Paris	Barcelona
	(1)	(2)	(3)	(4)
Superhost (dummy)	0.0001	0.058***	0.040***	0.054***
	(0.022)	(0.016)	(0.015)	(0.018)
Person capacity	0.058***	0.085***	0.135***	0.068***
	(0.010)	(0.008)	(0.007)	(0.006)
Picture count	0.004***	0.008***	0.007***	0.004***
	(0.001)	(0.001)	(0.001)	(0.001)
Number of listings offered by host	0.004***	-0.011***	0.012***	0.007***
	(0.0004)	(0.003)	(0.002)	(0.001)
Am. AC (dummy)	0.169***	0.145**	0.232***	0.088***
	(0.029)	(0.058)	(0.021)	(0.014)
Am. Wifi (dummy)	-0.117**	0.035	0.095***	-0.044
	(0.055)	(0.031)	(0.025)	(0.038)
Am. Laptop (dummy)	-0.011	0.023*	0.043***	0.055***
	(0.021)	(0.013)	(0.010)	(0.012)
Cleanliness rating	0.042**	0.035***	0.042***	0.020**
	(0.017)	(0.012)	(0.008)	(0.010)
Location rating	-0.020	0.037***	0.054***	0.066***
	(0.015)	(0.012)	(0.010)	(0.011)
Value rating	-0.075***	-0.094***	-0.061***	-0.068***

	(0.016)	(0.015)	(0.009)	(0.012)
Real Bed (dummy)	0.093***	0.044*	0.116***	-0.054
	(0.033)	(0.023)	(0.017)	(0.046)
Private room (dummy)	-0.337***	-0.407***	-0.198***	-0.554***
	(0.032)	(0.014)	(0.016)	(0.020)
Shared room (dummy)	-0.670***	-0.604***	-0.574***	-0.831***
	(0.178)	(0.073)	(0.127)	(0.203)
Metro: distance	-0.005	-0.005	-0.014	0.098***
	(0.012)	(0.006)	(0.041)	(0.036)
Tourist attraction: distance	-0.047***	-0.053***	-0.199***	-0.152***
	(0.010)	(0.006)	(0.014)	(0.019)
Hotel price	0.00002	0.0003***	0.0001*	0.00000
	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Review count	-0.001***	-0.001***	-0.001***	-0.001***
	(0.0003)	(0.0002)	(0.0001)	(0.0001)
Overall guest satisfaction	0.003*	0.006***	0.002**	0.007***
	(0.002)	(0.002)	(0.001)	(0.001)
Constant	6.227***	4.664***	4.309***	4.537***
	(0.206)	(0.152)	(0.109)	(0.128)
Observations	886	1,962	4,164	2,368
R^2	0.484	0.562	0.482	0.686
Adjusted R^2	0.473	0.558	0.480	0.683
Residual Std. Error	0.279 (df = 867)	0.273 (df = 1943)	0.319 (df = 4145)	0.294 (df = 2349)
F Statistic	45.124*** (df = 18; 867)	138.341*** (df = 18; 1943)	214.689*** (df = 18; 4145)	284.869*** (df = 18; 2349)
Note:				*p<0.1; **p<0.05; ***p<0.01

Table 2: Regression analysis on price determinants

As expected, the price is strongly shaped by quality, location, and space attributes. Controlling for such variables, the 3 listing types are differently positioned: shared rooms are 83.1-57.4%, while private rooms are 55.4-19.8% cheaper than entire apartments, depending on the observed market.

The price is significantly influenced by the guest capacity of the property (increase of price between 5.8% and 13.5% with every additional bed place). While Airbnb offers contain information on a large number of amenities, only a few seem to be valuable for travelers: air conditioners (price premium by 8.8- 23.2%), place for working with a laptop and convenient bed. The impact of Internet connection is ambiguous, which may be connected to the wide accessibility of this feature (Wang & Nicolau, 2017).

Quality attributes, expressed by the reviews of travelers, are also associated with price premiums. Overall guest satisfaction (scale 0-100), cleanliness and location (scale of 10) increase the price. Finally, the superhost status, signaling the trustworthiness of the host, is also statistically significant (4-5.8% higher price).

Focusing on the location variables, the results suggest that the distance to tourist attractions is a more robust factor than access to the metro. When controlling for both variables, distance from the metro is statistically insignificant that may signal that tourists are primarily interested in staying in the close vicinity of city landmarks. The magnitude is rather robust: with every km increase of distance from the nearest landmark, the price drops by 4.7 to 20 per cent. Therefore, staying in the vicinity of tourist attractions seems to be more valued by tourists than proximity to public transportation.

The final variable in our specification is the average price of hotels and hostels in the neighborhood of the listing. A significant relationship would confirm that price of Airbnb offers is influenced by nearby accommodation prices of the traditional hotel sector. However, the presented results do not reveal such a relationship. The sample in Berlin shows a statistically significant impact, although the magnitude is very low. Besides using the average price calculated from both hotels and hostels, the impact of hotel and hostel prices have been tested separately as well, with the same conclusions. The result do not confirm that hotel prices have explanatory power of Airbnb prices.

Conclusions

The results support the findings of previous research on Airbnb price determinants: host, quality, and location factors are important drivers of listing prices. The research contributes to the literature by a deeper analysis of location factors and relationship with the traditional hotel industry. The results show that tourists value higher to stay close to city landmarks than to have good access to public transportation, confirming that tourist demand facilitate the expansion of Airbnb in city centers and touristic districts. Such development of Airbnb may lead to higher negative externalities for local residents.

The other main insight of the research refer to the effect of hotels and hostels on Airbnb prices. The insignificant relationship suggests that Airbnb prices are driven by location and quality attributes, and hosts do not price their offers in relation to the traditional hotel industry. Such result do not support strong substitutiveness between Airbnb and nearby traditional accommodation offers.

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2.3

Does Education Still Matter in Online Labor Markets?

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Introduction

To date, the opinion that higher levels of education lead to higher income levels in dependent employment is virtually uncontested (Day & Newburger, 2002; de Wolff & van Slijpe, 1973; Miller, 1960). Theoretically, this paradigm is founded on the asymmetric information and, thus, the adverse selection problem that employers face before hiring new employees. To address this problem, employees signal their qualities to potential employers through their educational certificates. Accordingly, the literature on labor economics demonstrates a link between educational attainment and pay levels.

Online labor markets or the 'gig economy'—which allows organisations and individuals alike to hire workers through online platforms for a one-time service—fundamentally challenge this paradigm: gig workers do not need educational certificates to offer their services on online platforms, such as Upwork, freelancer or PeoplePerHour. Rather than through educational certificates, adverse selection is prevented

through the platforms' review system. This raises the question whether educational attainment still influences wage levels in online labor markets: Do gig workers with higher levels of education have higher levels of income?

Theory

Drivers of income levels have been discussed across different strands of the social science literature, most notably in labor economics and economic sociology. To investigate the importance of education for the income levels of workers, labor economists have importantly relied on principal-agent theories explaining how adverse selection is prevented in labor markets (Jensen & Meckling, 1976). Typically, an employer (the principal) cannot be sure of the capabilities and intentions of a possible employee (the agent) until they have been working together for an extended period of time. The fact that these capabilities and intentions are not known beforehand increases uncertainties. For this reason, the principal will use information that is available to him in order to decide whether, or not, to hire an employee and, if so, at what wage level. This information consists of several characteristics (Spence, 1973), most importantly the agent's (1) ***education***, (2) ***previous work experience***, (3) ***recommendations***, and (4) ***gender***.

(1) ***Education*** is a particularly important measure that a principal can use in order to reduce the effect of adverse selection. A degree can signal to the principal that the agent has not only dedicated his time to studying a specific subject, but also successfully completed this trajectory. This reduces the risk that the principal will hire an inadequate agent. For this reason, agents with a higher educational degree can signal a stronger quality and have a stronger position to negotiate their salaries. Accordingly, both the industrial relations and labor economics literature agree that the educational degree obtained is an important predictor of income levels: the higher the level of education received, the higher the salary levels of agents. This relationship has not only been established for regular employees (de Wolff & van Slijpe, 1973; Lazear, 1974; Miller, 1960), but also for workers hired on a-typical and temporary contracts (Visser, 2002). Translating these insights to the gig economy, we expect to find that:

H_1: The higher the level of education of a gig worker, the higher his income.

(2) As time passes between the completion of the education and the application for the job, the degree becomes less important. Instead, one's ***work experience*** gains in signalling power. Having had a previous job becomes proof that an agent has a certain set of skills and attitude which signal the quality of work he is capable and willing to do (Spence, 1973). Accordingly, Lazear (1974) and Mincer (1974) both find that previous work experience is correlated to a higher income. Part of this relationship can be explained through on-the-job training which positively influences income and job bids (Krueger & Rouse, 1998). Likewise, it was found for a-typical workers who gain different skills at each place they work (Friedman, 2014) that working in the same industry for a longer period closes the initial pay gap between temporary workers and traditional employees (Booth, Francesconi, & Frank, 2002; Jahn & Pozzoli, 2013). Translating these insights to the gig economy, we expect to find that:

H_2: The more work experience a gig worker has, the higher his income.

(3) Another important mechanism to prevent adverse selection are ***references*** of previous employers. Given that references are written on the basis of a worker's previous performance, they serve as a strong signalling mechanism of quality. One of the first studies on the importance of references as signalling tools revealed that most jobs are filled through referrals, rather than on the basis of resumes (Christopherson et al. 1999). A similar phenomenon was identified for the income of freelancers and the reviews they obtain: the more positive the reviews, the more income or job offers a freelancer receives (De Stefano, 2016). The reason for this is that a positive review is considered a proof of quality (Schemmann, Herrmann, Chappin, & Heimeriks, 2016). Translating these insights to the gig economy, we expect to find that:

H_3: The higher the review scores of a gig worker, the higher his income.

(4) Next to factors that can signal worker quality to potential employers, ***gender*** constitutes a major driver of different income levels. Accordingly, research across the social sciences found that women earn systematically and persistently less than men for doing the same work (for example Baroudi & Igbaria, 1994; Bobbitt-Zeher, 2007; Gill, 2002). Men, simply, seem to request and thus receive significantly higher salaries (Barron, 2003). Accordingly, we expect that:

H_4: Male gig workers have a higher income than female gig workers.

Data and Operationalization

To test these hypotheses, this study investigates one of the largest international freelancer platforms, which offers a wide range of high-skilled jobs such as programming, design, translating and writing. To be able to compare educational degrees across economies, the study focuses on 14 Western economies with similar education systems: Canada, France, Germany, Greece, Hungary, Italy, the Netherlands, Poland, Portugal, Romania, Spain, Sweden, the United Kingdom, and the United States of America. To ensure that the analyses include gig workers who are sufficiently experienced about the wage levels they can ask for, the study includes only gig workers with at least three reviews. This also ensures that only one or two referees do not influence the review scores of gig workers. After cleaning the data for outliers, the remaining sample includes a total of 2327 gig workers.

For each of these gig workers, we collected and manually cross-checked data on the hourly wage a gig worker asks for, the highest educational degree obtained, the years of relevant work experience, the average review score, as well as the gig worker's gender. In addition, we control for the years a gig workers is active on the platform, they type of job s/he offers, as well as country.

Analyses and Results

OLS regressions analysing how the wage levels of gig workers are influence by (H1) their education, (H2) work experience, (H3) reviews, (H4) gender, as well as their time active on the platform, job type, and country provide the following results. Most importantly, and contrary to the expectation of H1, education does not significantly influence the wage levels of gig workers. Instead, previous work experience, review scores, and gender turn out to be significant predictors of income levels of gig workers. This confirms our expectations of H2-H4. Importantly, these findings are robust as they did not change when we for instance estimated a multi-level model.

Discussion and Conclusion

Our findings have several implications: At a theoretical level, they support the idea that signalling mechanisms, addressing adverse selection problems in work relationships, are important drivers of workers' income levels. Importantly though, in the gig economy, these drivers no longer

seem to consist in the educational degree of gig workers but rather in their previous work experience and the reviews obtained. It is furthermore striking that women earn significantly less than men also in the gig economy, where contact between work requesters and gig workers is extremely limited. These findings contribute to the existing literatures at the intersection of labor economics and economic sociology investigating the drivers of income levels.

At a practical level, the insight that education does not matter for income levels of gig workers challenges the current education paradigm that higher qualifications are a route to economic wealth. This also challenges the design of our current education systems: If the gig economy indeed develops into a major labor market of the future, Western education systems would benefit from reconsidering how to better prepare gig workers for their future jobs. Furthermore, our findings also point to the power of platforms' review systems and the potential need to regulate the ways in which they operate. While national education systems are governed and supervised by the state through accreditation systems, review systems are exclusively designed by platforms, which thus have the power to influence the employability of gig workers with a simple change of the algorithm determining the workers' evaluation.

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3.

ORGANIZATION STUDIES PERSPECTIVE

3.1

Types of Business Models in the Sharing Economy: An Exploratory Study in Germany

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Introduction

The principle of "sharing instead of owning" has motivated various actors to develop and test ever-new business ideas and creative ways of putting this principle into practice (Botsman & Rogers, 2011; Belk, 2010). The result is a large variety of sharing-economy organizations and business models.

To help make sense of this heterogeneous field, researchers have recently begun to categorize organizations in the sharing economy. These categorizations include the industries affected by the sharing economy, the products and services that are shared and exchanged, and the actors who are sharing (Owyang, 2014; Stokes, et al., 2014; Botsman & Rogers, 2011). Such categorizations are important because acknowledging and differentiating what can be shared and by whom shows the broad applicability of the sharing principle and thus reflects its relevance for

economy and society. What is not yet understood, though, is how these organizations interpret the sharing principle and turn that principle into their logic of doing business. More specifically, we know little about these organizations' value propositions and how sharing-economy organizations create and capture this value. These aspects of organizations, though, are important sources of variation in the sharing economy. Therefore, the aim of this study is to explore the different types of business models in the sharing economy.[1]

Existing Categorizations of Sharing Organizations

A large number of sharing organizations have recently emerged, accompanied by growing attention from the public, politicians, and academics (Heinrichs, 2013). Recent conceptual and empirical work has focused on developing a deeper understanding of the sharing economy and its members by categorizing sharing organizations.

In early approaches, sharing organizations were categorized according to their areas of application. For instance, in his popular "honeycomb," Owyang (2014) categorized organizations by the type of goods or services shared (food, space, mobility services, etc.). Botsman & Rogers (2011) suggested the three categories of collaborative lifestyle, product-service system, and redistribution, and proposed labels within each category to reflect the application areas of the sharing models, such as car-sharing, community gardening, or coworking.

Most recently, the literature has begun to acknowledge the usefulness of applying the business-model concept when categorizing sharing organizations. One limitation of these approaches, however, is that they tend to focus on business models within specific sectors of the sharing economy—for instance, mobility (Cohen & Kietzmann, 2014), accommodation (Voytenko Palgan et al., 2016), and clothing (WRAP, 2013)—or use only a few business-model elements when categorizing sharing organizations—for example, profit orientation (Schor, 2014), transaction characteristics (Frenken & Schor, 2017), and the regional scope of organizations (Belk, 2014). Moreover, the process of developing these categories presents another limitation: first, business-model categories are developed top-down, and then organizations are assigned to these categories.

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To overcome some of these limitations and to gain a deeper and more detailed insight into the business models of sharing organizations, this study takes an exploratory approach that captures a more comprehensive set of elements and dimensions of business models. This approach allows us to explore the value propositions sharing organizations offer and how they create and capture this value.

The Business Model Concept

The business-model concept has proven profoundly valuable for understanding business phenomena and identifying and describing types of business activities (Baden-Fuller & Morgan, 2010).
Despite differences in the conceptualization of the business-model framework, researchers agree that the core idea of the business-model concept is to capture an organization's logic of doing business, as indicated by different elements (Lambert & Davidson, 2013): an organization's value proposition, value creation, and value capture (Yunus, et al., 2010; Lepak, et al., 2010). Value proposition describes what value the organization offers to its target groups; value creation describes how the organization creates and delivers this offer to its target groups; and value capture describes the sources and mechanisms set up to finance the activities of the organization and cover its costs.

We draw on the above business-model conceptualization because it provides several advantages that help to achieve the aim of this study: The three elements of a business model are useful for describing and analyzing the business logic of a broad variety of organizations (Lambert & Davidson, 2013), ranging from internet-based organizations (Cherif & Grant, 2014; Curie, 2004) to high-tech ones (Casper, 2000; Sabatier, et al., 2010), and from social enterprises (Mair & Schoen, 2007; Seelos & Mair, 2005) to sports clubs (McNamara, et al., 2013). Moreover, these elements allow us to systematically uncover differences between organizations and make comparisons across business-model types (Morris, et al., 2005; Baden-Fuller & Mangematin, 2013), which are the aims of the present study.

Using the business-model framework to investigate the heterogeneity of sharing organizations also allows us to capture similarities and differences between sharing organizations along a wider spectrum of dimensions and elements compared to prior research, and this approach will help us answer the under-researched yet important questions of what kind of value these organizations offer to their target groups and how they create and capture this value.

Approach and Methods

We conducted an exploratory study based on qualitative and quantitative data and carried out in three steps.

1. Sample selection: To select organizations for our study that cover the great variety in the sharing economy, we used a top-down approach. We started with a search for the most frequently cited articles on the sharing economy to identify which labels for application areas they mention. From this process, we identified 20 different labels for areas of application. Next, we searched for prototypical organizations for each of these areas. We arrived at a list of 62 organizations repeatedly mentioned as examples of sharing organizations in public debates about the sharing economy in Germany.

2. Coding of features: To analyze the selected organizations we used a theoretically informed inductive approach (Mayring, 2014) to code business model features using information available from the organizations' websites. To test and further refine the data from the websites, we additionally conducted 21 semi-structured interviews with founders, CEOs and employees of 14 sharing economy organizations. This enabled us to develop fine-grained codes for business-model features applicable for sharing organizations.

3. Identification of business model types: In the third step, we described the individual business models of each organization in the sample. We used co-occurrence and network-analytical approaches to compare and distinguish individual business models and identify business-model types. We used interview data to enrich the information gathered from the organizations' websites. This qualitative data helped us to get an even better understanding of the business-model types, which would have not been able to capture from only coding sharing organizations' websites.

Results: Three Types of Business Models

We observe three different types of business models: grassroots, platform and traditional. Our data reveal that distinct groups of business-model features characterize how organizations create and capture value. This implies a clear boundary between different types of business models with regard to the business-model elements 'value creation' and 'value capture'. With regard to the business-model element 'value proposition'

the dividing lines are not as sharp and we observe overlaps. While business-model types tend to focus on one specific value they offer to their target group, they usually complement this value with additional ones resulting in value combinations. Table 3 provides a summary of the main characteristics of the three types of business models identified in our empirical study.

	Value Proposition	Value Creation			Value Capture
		value chain	channel	coordination and control mechanisms	
Grassroots (e.g. coworking spaces, community gardens, repair shops, etc.)	Tend to focus on social and ecological values and to have a regional scope	Employees, members and volunteers deliver services; users are often co-producers Idea of communal property	Local, physical infrastracture for transactions Do not own resources/ infrastructure	Informal mechanisms: shared norms and values, rules of behavior	Non-profit/charitable organizations and initiatives Mix of incomes including donations Compensation often not part of the income model
Platform (e.g. services for peer-to-peer money lending, exchanging pre-owned goods, etc.)	Tend to focus on economic and social values (e.g. experience) Propose access to underutilized assets or matching supply and demand Growing target groups	Do not own and provide shared products or resources Separation of delivering and mediating services	Develop transaction system: Technical infrastructure and community management	Formal mechanisms: service and brokerage contracts replace job contracts; standardized transactions	For-profit companies, some of which started as movements/initiatives Mostly through transaction fees Different pricing strategies
Traditional (e.g. car-sharing or bike-sharing provider with own fleet)	Tend to focus on economic values such as availability, quality, service Rather unspecified target groups	Use own resources to develop infrastructure Employees deliver services	Broad regional scope with own local service infrastructure and online support	Formal mechanisms: job contracts and hierarchies	For-profit companies Billing the performance/service or fees

Table 3: Main characteristics of the three types of business models

Grassroots business models provide products or services that can be used or accessed physically within a developed stationary system. Typical grassroots sharing organizations include, among others, coworking spaces, community gardens, and repair shops. Their teams consist of employees and/or volunteers who are responsible for providing services, maintaining the infrastructure, and coordinating members. In community gardens, for example, volunteers often welcome new members and introduce them to the rules and norms of the garden. A stationary system and service teams are the two basic, foundational features of the grassroots type of business model. These organizations resemble voluntary associations or organized movements in that they aim to create value for a local community by reflecting and aspiring to shared norms, values, and goals. While contracts and hierarchies are examples of important mechanisms for coordinating and controlling activities in most companies and other formal organizations, in grassroots organizations these are replaced with informal coordination and control mechanisms. The emphasis in grassroots organizations is mainly on the social and/or ecological advantages that a sharing model can provide.

In organizations using the *platform* business model we observe both peer-to-peer and business-to-consumer models. These organizations provide services that enable peer-to-peer money lending, exchange of pre-owned goods, or ridesharing services, for example. Platform-sharing organizations provide a system and technical infrastructure that facilitates transactions and makes it possible for a social community to develop. In this model, organizations often act as brokers between providers and consumers of products and services. In addition to promoting themselves as providing economic value for their users (e.g., saving money or offering alternative income sources), some platforms also emphasize social values.

The group of organizations in the *traditional* business-model type includes car-sharing or bike-sharing providers that own their fleets, for instance. The operations of these organizations would typically be described as those of traditional, for-profit companies, with formal organizational structures and processes. Services are provided by members within the organization, and roles and hierarchies are established by those within organizational boundaries. Employee leadership and motivation is carried out through formal mechanisms, including contracts, and employees within established hierarchies give other employees instructions for carrying out their work. The value proposition of traditional sharing organizations focuses on economic values, because the organization owns the resources—such as cars or bikes—or because employees deliver services or create products that are sold to customers.

Discussion and Conclusion

To better understand the similarities and differences between sharing organizations, this paper analyzed a variety of individual sharing business models and identified three types—grassroots, platform, and traditional. What constitutes the three types of business models is the way they create and capture value. Especially the value chain characteristics, the channels used, and the coordination and control mechanisms applied are distinctive for each type of business model. Thus, it is especially how they operate and organize that reveals clear patterns and dividing lines between types.

In summary, by revealing three different types of business models and their constitutive elements and features, this research indicates the overlaps, boundaries, and reach of the new and heterogeneous field of the sharing economy.

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3.2

Shared Mobility Business Models – Trust Building in the Sharing Economy

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Introduction

The sharing economy has been booming for the last decade. It transforms consumption and work by using digital technologies to reshape socio-economic relations (Fitzmaurice et al., 2016). In this vein, we see the sharing economy as an economic system in which goods are not necessarily owned by consumers and services are not necessarily provided by a company, but can be shared between peers, often mediated through digital platforms (Heinrichs, 2013). The term 'sharing economy' is used to refer to organized systems in which consumers gain access to goods and services through peer-to-peer (P2P)-"sharing" (Möhlmann, 2015).

The sharing economy creates new challenges for market organization (Kirchner & Schüßler, 2018). For instance, consumer, i.e., users of shared goods trust is a necessary condition for sharing activities, but needs to be actively created and maintained by sharing economy platforms (cf., Hamari, Sjöklint, & Ukkonen, 2015). The creation of trust is thus a central aspect of sharing economy business models. However, since the sharing

economy is a relatively new phenomenon, there is little research on the relationship of business models and consumers' trust. The objective of this paper is therefore to explore the emerging business models in one segment of the sharing economy, shared mobility, and to contribute to the question how sharing economy platforms foster consumers' trust by applying different business models.

Business Models and the Issue of Trust

The sharing economy provides a unique business environment, as transactions take place in between at least three parties, involving providers of a private, underutilized good, a consumer seeking to make use of the offer, and an organizing platform structuring the multi-sided marketplace (Hawlitschek, Notheisen, & Teubner, 2018). Further, sharing activities involve an online, but also an offline component; for instance, in the case of carsharing, the matching of drivers and passengers occurs online for Blablacar and Oszkár, but the actual ridesharing takes place offline. Thus, the multi-sided business model deserves more attention (Baden-Fuller & Mangematin, 2013).

Business models describe how a business creates value and converts it into profits. The platform providers' decision how to organize the sharing transaction –how to integrate consumers in the transaction process, for instance, or which kind of providers are allowed to offer their goods and services – effectively impact consumers' decision to use the platform. As the (negative) consequences of sharing activities may be damaging to goods or endangered personal safety, consumers of sharing economy platforms need to place a considerable amount of trust in both the provider of the good or service, and the platform itself (Huurne, Ronteltap, Corten, & Buskens, 2017). In sum, a crucial issue in multi-sided business models is to create trust in largely impersonal interactions (e.g. Brinkmann & Seifert, 2001; Diekmann & Przepiorka, 2017; Belk, 2014; Dolata, 2015; 2017a; Hartl et al., 2016).

Osterwalder & Pigneur's (2010) business model canvas includes nine building blocks which represent an ideal framework for the analysis of trust in business models: 1) customer segments, 2) value proposition, 3) channels, 4) customer relationships, 5) revenue streams, 6) key resources, 7) key activities, 8) key partners, and 9) cost structure. These nine building blocks can be mapped as a "canvas" to provide a tangible overview about the business. Platforms can adapt their business model to enhance consumers' trust by defining different customer segments (Osterwalder & Pigneur, 2010), use various channels to reach and communicate with its

users, build different customer relationships, or put emphasis on different key activities. For instance, mobility platforms use peer review systems, GPS tracking to enhance safety and provide contact information.

Shared Mobility Services

In the transportation industry, new sharing economy platforms provide users with short-term access to transportation modes, offering an alternative to owning a vehicle. In contrast to carsharing, with carpooling car owners allow passengers to share a ride in their vehicle to a destination organized via the platform (Stephany, 2015). P2P carpooling strongly relies on social networks and mobile geolocation technologies allowing service providers to match people with the closest shared mobility options available (Chu, 2015; Cohen & Kietzmann, 2014). Sharing via online platforms provide an uncertain environment for consumers, therefore, the integration of trust-building mechanisms in the platforms' business model lowers consumers' risk and reduces information complexity (Grabner-Kraeuter, 2002). If platforms organize the sharing transactions in such a way that trust-building mechanisms are present, consumers' intention to use the service should increase (cf., Hartl & Hofmann, 2017). However, although consumers perceive sharing economy platforms as 'of one piece', platforms organize economic exchanges in different ways (Fitzmaurice et al., 2016).

The current research aims to examine how trust mechanisms are implemented in the business models of two selected carpooling platforms, BlaBlaCar and Oszkár. Two research questions are formulated:

RQ1: Which mechanisms for trust-building are in place in sharing economy carpooling business models?

RQ2: What are the consequences of different business models for trust-building in the sharing economy?

Procedure and Material

Study 1: Case Selection, Data Collection and Analysis

The websites of two selected carpooling platforms (Blablacar and Oszkár) were analyzed using the nine business model building blocks by Osterwalder & Pigneur (2010) as an underlying framework, following template analysis (Brooks, McCluskey, Turley & King, 2015). After a first analysis of each website content regarding trust-building measures, personal semi-structured in-depth interviews were held with

representatives of the platforms BlaBlaCar and Oszkár. The semi-structured interview guideline followed the framework and included trust-building related questions that could not be answered by the website analysis.

Study 2: Laboratory Experiment

165 economic students (48.5% women; Mage = 21.53, SDage = 2.65) were confronted with a scenario describing that they have moved to a new town and had to think about which mode of transportation they would like to use given they do not own a car. For the basis of their decision making, a homepage of an internet platform where private persons offer to share a ride was provided. Participants were randomly assigned to one of five conditions with different versions of the homepage of the ridesharing platform. All five homepages were identical, differing only in the presentation of a trust-building mechanisms (based on Study 1's results these are peer review system; GPS tracking; contact opportunity; communal events organized by the platform; information about the Homepage design). Participants had to fill in a questionnaire assessing their trust in the platform, as well as whether they owned a car or had prior experience with carpooling, in addition to other scales not relevant for the current study on a 7-point Likert scale ranging from 1 ("I totally disagree") to 7 ("I totally agree").

Results

The results revealed that both carpooling platforms heavily rely on reputation systems as trust building measures and that both do not take over responsibility in case of dispute between drivers and riders, but rather try to facilitate communication between the two parties. However, the platforms differ in other important respects, such as whether the platform can be used commercially (Oszkár), whether offline events are organized (BlaBlaCar), or whether forum and automatized messages are provided (Oszkár). The laboratory experiment revealed a significant interaction of trust-building measures and car ownership on trust, showing that car owners (vs. no car ownership) trust the platform more in case of offline events, but less in the case of GPS tracking of the cars.

Discussion and Conclusion

The current studies show that the review system is perceived as a key element by carpooling platforms to establish trust between drivers and riders. This result is in line with earlier research on accommodation platforms (Marth, Hartl, & Penz, 2018), showing that sharing economy platforms rely on review systems and reputation system as means of self-regulation. However, the analysis revealed that the two carpooling platforms differ in the application of other trust mechanisms, as Oszkár, which is currently only operating in Hungary, allows the commercial use of their platform, which is quite unique, and the platform BlaBlaCar which operates worldwide, regularly organizes events to promote community building.

The results of the laboratory experiment show that trust mechanisms are affecting trust in a different way depending on whether the participants own a car or not. This indicates that future research needs to focus on the role of the consumers, i.e., whether they possess a good and can decide whether to share it (driver), or whether they are in need of a good or service (rider). Depending on their role, the organization of the business model may impact their trust in the platform in a different way.

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3.3

From Shared Mobility to Shared Lifestyles – Understanding Whether and How Household Carsharing Practices Spread into Other Sectors

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Introduction

The collaborative consumption, or sharing economy, is nothing new. What is new is its scale and the unknown impacts it may bring about (Lyons et al., 2018). Sharing practices have mainly taken off within the accommodation and mobility sectors, a development that has been augmented by new information technology. Yet the diversity of sharing practices and users' motivations for engaging in them, vary widely (Böcker & Meelen, 2017).

Within the tourism domain, both academic literature and journalist accounts of the sharing economy have mainly focused on the accommodation sector, and primarily on Airbnb (Cheng & Edwards, 2017). The sharing economy, however, extends to many other services, including accommodation (e.g. Couchsurfing), food services (e.g. Eatwithalocal), tours and experiences (e.g. Toursbylocals), travel (e.g. Triptogether) and transport (e.g. Zipcar).

The range and diversity of sharing practices may justify the case approach academia has followed in studying "sharing". However, contemporary sharing practices also share common elements, such as trust-based digital mechanisms, that facilitate these exchanges (Celata et

al., 2017). These common elements, along with several insights gained from social practice theory, indicate that sharing practices adopted in one sector may spread to other sectors. Thus, this paper aims to investigate whether and how carsharing practices in the personal mobility sector may spread to other tourism-related sectors and what the implications of such a spread would be from a sustainability perspective.

Theory Framework

"Sharing Economy" and Social Practice Theory

Two sectors have received extensive attention when it comes to sharing: personal mobility and accommodation. In the mobility sector, research has mainly focused on carsharing (Ferrero et al., 2018), a daily activity. While tourism travel is not necessarily a daily activity, changing mobility and place consumption practices (e.g. temporary lifestyle migration) make it increasingly difficult to distinguish everyday life practices from tourism practices (Novy, 2017).

Social practice theory (SPT) is grounded in the work of thinkers such as Bourdieu, Giddens and Schatzki (Gram-Hanssen, 2009). SPT can be understood as a way to solve the structure-agency dichotomy in social science theories. SPT does not ignore structure and agency, but relegates them *to* practices (Halkier et al., 2011; Gram-Hanssen, 2009; Røpke, 2009).

Several reasons support the notion that practices may spread across sectors. First, individuals participate in several practices and act as *"crossing points of practices"* (Reckwitz, 2002, p. 256). Second, practices are not isolated from other practices; they are organized and performed by individuals and some practices rely on others (Watson, 2012). Third, relationships between practices and changes in these relationships (along with changes in the elements constituting practices and in the individuals carrying them out) can lead to changes in practices (Watson, 2012). Fourth, practices are reproduced in three ways: (1) elements constituting each practice influence each other; (2) one practice can benefit from another, creating systems of practices that in some cases lead to changes in lifestyles; and (3) practices and practice complexes influence and configure the elements of future practices (Pantzar & Shove, 2010). Ultimately, these mechanisms may lead to the transferability of elements (e.g. skills) across practices and their integration – and ensuing changes – can spread from one practice to another.

Different authors identify different elements as comprising practices, as described in a review by Gram-Hansen (2010, p. 154). Pantzar & Shove

(2010) identify these elements as materials, skills and images, while Shove & Walker (2010) consider them to be meanings, materials and skills/ procedures. Here we adopt Shove & Walker's set of identified elements.

Method and Data

Sample and Data Collection

To develop a deeper insight into these matters, a sample of household interviews was analysed through the lens of social practice theory. The emphasis here is on the similarity of the SPT elements of meaning, materials and skills in both the carsharing and tourism domains. More specifically, the purpose was to uncover whether households' carsharing practices can be linked to sharing practices within other areas of travel and tourism activity.

Data were collected from 38 in-depth interviews with carsharing households in the Oslo region, comprising households of different age groups and compositions in different urban locations. Interviews were transcribed and then coded and analysed using NVivo software.

Main Results

All 38 households had used carsharing services within the last year. Carsharing was mainly used for leisure activity, such as weekend trips or visits to friends or relatives, in addition to transporting goods or doing private errands. Of these households, 27 had used other types of sharing services or arrangements, as shown in Table 4 below:

Sharing services/arrangements used	Number of households
Airbnb.com to rent short term accommodation	19
Finn.no to acquire or dispose of, get and give away used things	8
Airbnb.com for short term renting out of own home	8
Short term rentals of tools and equipment, parking space, etc. from peers	4
Food sharing/leftover food pick-up services	2
Hiring of peer services and help	1

Table 4: Number of households that have used at least one sharing service or arrangement

Half (19 households) had used P2P overnight accommodation services when travelling. Eight households had rented out their home through Airbnb to visitors to Oslo. The same number had used a P2P service (Finn.no or "Find") to give away or get used things. Four had rented equipment or tools through a P2P platform (Leieting.no or "Renthings"). Two households had used a food-sharing service (Too -Good-To-Go) offering leftover food from restaurants, and only one had used P2P to hire help (Nabohjelp.no or "Neigbourhelp").

From an SPT perspective, interviews reveal that many households consider the *meaning* of carsharing as making wise economic choices, including freedom from the cost and obligations of car ownership. Having convenient access to different types of shared cars and supporting a "just where and when needed" infrastructure were decisions interviewees describe as "doing things the smartest way". Some households also emphasize conserving the natural environment or the social aspect of sharing resources as a primary meaning, although most consider this meaning to be secondary.

The *material* element of carsharing is expressed in how the households use and appreciate the different types of cars, auxiliary equipment, parking arrangements, booking platforms and other materials connected with carsharing.

A number of interviewees indicate that learning to use the user-interface with confidence can be considered an acquired *skill*. To find a suitable car for the situation, choose a car, manage the booking and pay requires some learned skill; to learn how to plan the trip, when and where to pick up and drop-off the car and to calculate cost also requires some skill, which becomes fairly automated after a few rentals.

The best example of practice transferability is in how one can apply the same skills and competencies learned by using carsharing in travel situations. For instance, how to plan, calculate costs and manage a booking; use reviews, deal with strangers as sharing providers in P2P practices; and pick up, handle and return shared objects are all transferable skills. Likewise, the same or similar meaning elements embedded in carsharing may also guide choices when using shared resources away from home on travel.

As for the implications for sustainability, SPT can help identify elements that need to be addressed to facilitate the spread of sharing practices. Results show, however, that for the majority of households interviewed, "environmental" meanings are secondary to "cost savings/financial smartness" and "convenience", although some households are genuinely concerned with saving the natural environment.

This concern, however, does not automatically lead to sustainability. In fact, the interviews reveal some of the rebound effects identified by Lyons et al., (2018). Several households report that the cost savings gained from not owning a car free up funds that can be spent on other desirable things, or on more travel.

Discussion and Conclusions

From the analysis of the practice of carsharing in households, it appears that practice elements, such as meaning, materials and skills, are similar to sharing practices in other domains related to travel and tourism.

This paper employs social practice theory to explore whether carsharing could contribute to the spread of sharing practices in domains other than tourism. Results illustrate that this approach is useful for identifying elements and relationships of a specific practice and that these elements and relationships can be further investigated to identify whether they are also present in (i.e. constitute and reproduce) tourism-related sharing practices. Gaining such insights can be useful to identify the elements that are likely to promote, or support achievement of, more sustainable travel and tourism using shared resources. However, more research is needed to learn what the broader implications and possible rebound effects of such sharing practices may be.

This paper is a first attempt to contribute to this knowledge base. Such knowledge has implications for business development and public policy related to the sharing economy, for example, which types of sharing schemes or arrangements promote or support more sustainable travel and tourism using shared resources.

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3.4

Theorizing Technologies for the Sharing Economy: The Blockchain Example

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Introduction

The current platform-based organizations in the Sharing Economy – such as Airbnb and Uber – are criticized for their high concentration of economic profits based on the organizations' ability to control the necessary platform technologies and data for mediating between suppliers and customers of sharing services (Haucap, 2009, 2016; Peitz, 2006). One approach to attack these dominant positions is seen in a new technology: Blockchain – a technology enabling safe, secure and private transactions between parties without a central mediator owning technology and data (Nakamoto, 2008; Underwood, 2016). Blockchain might be an enabler of new business practices and could supersede the central mediator to create a real decentral Sharing Economy (Filippi, 2017; Nowiński & Kozma, 2017; Prisco, 2016; Sundararajan, 2016).

However, the use of the Blockchain technology in real-life sharing organizations is currently rather scarce. One might think the technical complexity (Wuehler et al., 2018) hinders organizations from adopting the technology, but the rapid proliferation of Blockchain-based currencies shows that developers are able to handle the technical complexity. Another reason for the slow diffusion might be the exact origin of this new technology in a highly controversial domain as a means to organize criminal activities or as speculation objects (Stinchcombe, 2018). Following this line of thought, I analyze how Blockchain is linked to illegitimate or legitimate domains at different points in time. To study the embeddedness of new practices in existing concepts, I apply the idea of

"theorization" developed in institutional theory (Dobbin & Dowd, 2000; Greenwood, Oliver, Lawrence, & Meyer, 2017; Meyer & Höllerer, 2010; Strang & Meyer, 1993). Thus, the aim of this paper is to reconstruct the theorization of the Blockchain technology, making the state of legitimization and the preconditions of diffusion better understandable.

Theorization of Technologies

The diffusion of technologies is often explained with demand-driven approaches focusing on customers (Rogers, 2010). Yet these approaches do not capture the early phases in the process of diffusion, in which application developers, computer scientists, consultants and product owners are engaged in the social construction of complex new technologies (Bijker, Hughes, & Pinch, 1987).

To describe the early phases of diffusion of new and complex technologies in the software industry, I argue from the perspective of the sociology of knowledge (Berger & Luckmann, 1967) and diffusion research in new institutionalism (Strang & Meyer, 1993).

Following this view, computer scientists, software developers and consultants form a *community* and have a *shared stock of knowledge* (Berger & Luckmann, 1967), that is, a set of technologies, practices and theories on how software applications should be designed and implemented. These practices are often *institutionalized.* Developers select taken-for-granted technologies for everyday problems (for instance, relational databases to store data), even if other technologies might be more appropriate for the problem at hand. The shared everyday knowledge of the community is stored in *knowledge objects* that are related to other knowledge objects by *patterned relationships*. This shared network of *knowledge objects* and *relations* is dynamic as new technologies (for instance, NoSQL-Databases, Graph-Databases or Blockchain) are created and become contested knowledge objects in the *discourse* of the community. In this discourse, computer scientists determine which conditions a technology should be used in, consultants endorse it for business reasons and software developers contribute by adding reports from real projects. In either case, it involves the creation of relations between knowledge objects. Strang and Meyer call this process of embedding a new concept into existing concepts *theorization*.

Strang and Meyer describe the *processes of theorization* of a new practice that are important in this paper: legitimacy, complexity and abstraction. First, as the community embeds a new practice in the shared pool of knowledge, it might *gain legitimacy* when the community embeds

it to existing legitimate practices. Yet a practice can also *lose legitimacy* when the community relates it to illegitimate practices. Second, the community can increase the *complexity* of knowledge about a new practice by explaining its relationship to other existing practices. Third, the community can develop *generalizations and abstractions* to describe the new practice.

All three mechanisms—connection to legitimate practices, increase of complexity and increase of abstraction—increase the likelihood that a new practice gains legitimacy and diffuses.

Method and Data

I use *Wikipedia* as a proxy to observe the dynamics of the shared stock of knowledge. In Wikipedia, authors work independently on pages in an attempt to improve the content (Kane, 2011; Kittur & Kraut, 2008). The German Wikipedia started in 2003 and has become the second most important user-edited online encyclopedia worldwide ("Wikipedia," 2018). It consists of more than 2.9 million pages, edited by 270,000 registered authors with more than five edits. Therefore, it is a huge body of codified knowledge created by a large number of authors and seems to be a good source to observe processes of theorization.

Wikipedia as a Proxy for Processes of Theorization

The software running Wikipedia ("MediaWiki," 2018) stores codified knowledge in a way that can be interpreted with core concepts of theorization:

1) A page is a proxy of a *knowledge object* edited by the community.
2) The structure of links between pages is an indicator for the *patterned relationships* of building a shared theorized model.
3) Authors of pages of specific topics (the *shared stock of knowledge*) are part of the *community* taking part in processes of theorization.
4) Changes to links between pages are an indicator for creating a theorized model of knowledge objects – the process of *theorization*.

Furthermore, Wikipedia stores each edit of a page in a *revision* that can be used to reconstruct changes over time, including changes to links between pages.

Ego Networks of Blockchain

The data of Wikipedia can be analyzed in this context using a dynamic network approach (Breiger, Carley & Pattison, 2003). I used the following procedure:

Step 1 – History of Links: Using the revisions of pages that have ever mentioned Blockchain, I reconstructed the changes to links between pages in the time frame from 2001 to April 2018.

Step 2 – Yearly Ego Networks of Blockchain: With the History of Links I reconstructed the graph for each year in the period 2010 to 2018, filtered by the ego network of Blockchain (Wasserman & Faust, 1994).

Step 3 – Coding of Societal Segments: To get a better understanding of the structures of embedding the societal segments of pages, I manually coded the pages as a nominal variable "societal segment" to each page. This variable can have four different values: science, economy, culture and politics.

For the visualizations of these ego networks, I applied these techniques:

1) Each node is a page in Wikipedia and is sized proportional to its degree.
2) The color of a node is according to its societal segment.
3) An edge between two nodes represents a link between two pages in Wikipedia. The color of an edge is according to its source; this indicates the direction of an edge in a visual, accessible way.

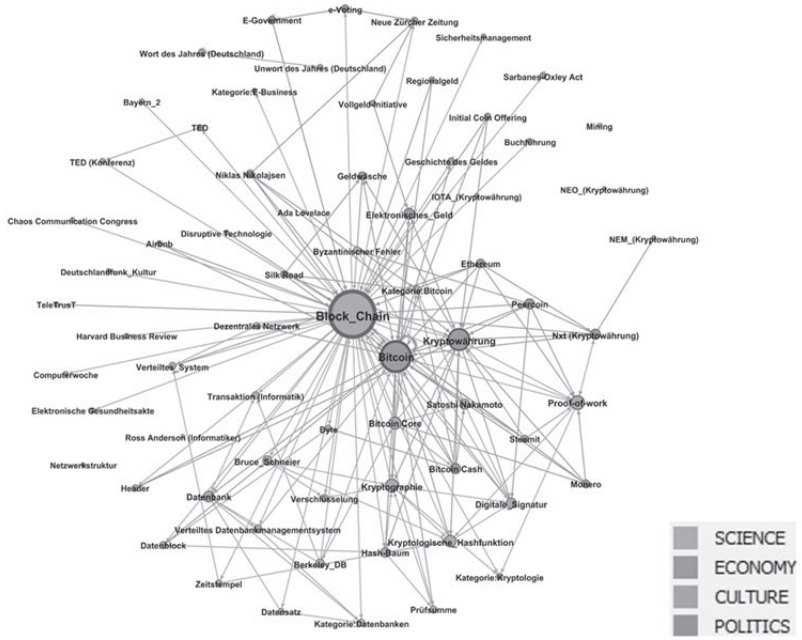

Figure 6: Overall Ego Network, 80 nodes, 359 edges

Findings

After visual exploration of all ego networks from 2010 to 2018, I identified three different phases. For each phase, I selected a typical year for the following analysis.

2012–Embedding Bitcoin

In the first step I analzye how Blockchain was initially introduced to the existing stock of knowledge. During the first years, "Blockchain" does not yet exist as a page, but "Bitcoin" appears.

In the ego network of "Bitcoin" above, I identified two groups of pages: The first group (1) consists of technical pages such as "Kryptographie" (Cryptography) and "Datenbank" (Database). The second group consists of economic pages with pages such as "Elektronisches

Geld" (Electronic Money), "Geschichte des Geldes" (History of Money) and "Geldwäsche" (Money Laundering).

Figure 7: Ego Network of 2012

Members of the community introduce the page "Bitcoin" in 2010 and embed it during the following two years to the already existing groups of technical and economic pages (3). By embedding "Bitcoin" to the already existing stock of knowledge, a process of sensemaking can be observed. However, explicit connections to money laundering are delegitimizing (4).

This first phase can be summarized as the attempt to embed Bitcoin to the existing shared pool of knowledge, although with connections to illegitimate activities.

Figure 8: Ego Network of 2016

In the second step, I try to understand how the community embeds Blockchain to the existing stock of knowledge. As previously noted, the knowledge object Blockchain has no corresponding page on Wikipedia in 2012. Based on the ego networks of the years 2012-2014 (not printed in this paper), it becomes evident that the community creates the page "Blockchain" only in 2014–4 years after the creation of "Bitcoin." With the advent of other cryptocurrencies such as "Peercoin" and "Ethereum," the community creates a more general page, "cryptocurrency," and links it to instances of cryptocurrencies (1). Additionally, the community embeds the page "Blockchain" strongly to the group of technical pages (2). The

community decouples Blockchain from its first applications – namely cryptocurrencies – and creates a more general knowledge object.

This process of generalization continues until 2016. In the ego network of 2016, "Blockchain" is the most central node in the network (based on degree centrality) and is strongly connected to the group of technical pages (2).

This generalization leads to a quite different position of "Blockchain": Firstly, it is a knowledge object on its own, as it has a corresponding page on Wikipedia. "Bitcoin" is now just one possible application of the Blockchain technology. Secondly, the page "Blockchain" is decoupled from delegitimizing applications such as money laundering, whereas "Bitcoin" is still connected to illegitimate applications.

This second phase can be summarized as the generalization of Bitcoin. After this phase, two important conditions for the diffusion are met: Firstly, the knowledge object in question is more generalized, and, secondly, it is now free from delegitimizing topics.

2018 – Discourse in Various Segments

In the third and last step, the question arises regarding how the process of embedding Blockchain in the existing shared pool of knowledge continues.

Blockchain has been embedded and generalized in the phase before. In the ego network of 2018, the community has linked the page "Blockchain" to pages of different societal sectors. As can be seen in the graph depicted above, "Blockchain" is embedded to three groups of pages in different societal sectors:

1) Through links to pages such as "Elektronische Gesundheitsakte" (electronic health file), Blockchain becomes linked to the segment of *health care*.
2) Through links to pages such as "e-Voting" and "Sarbanes-Oxley Act," Blockchain is connected to the segment of *policy making*.
3) Media as daily journals ("Neue Züricher Zeitung"), radio stations ("Deutschlandfunk") and conferences („TED") demonstrate that Blockchain is discussed by the segment of *culture*.

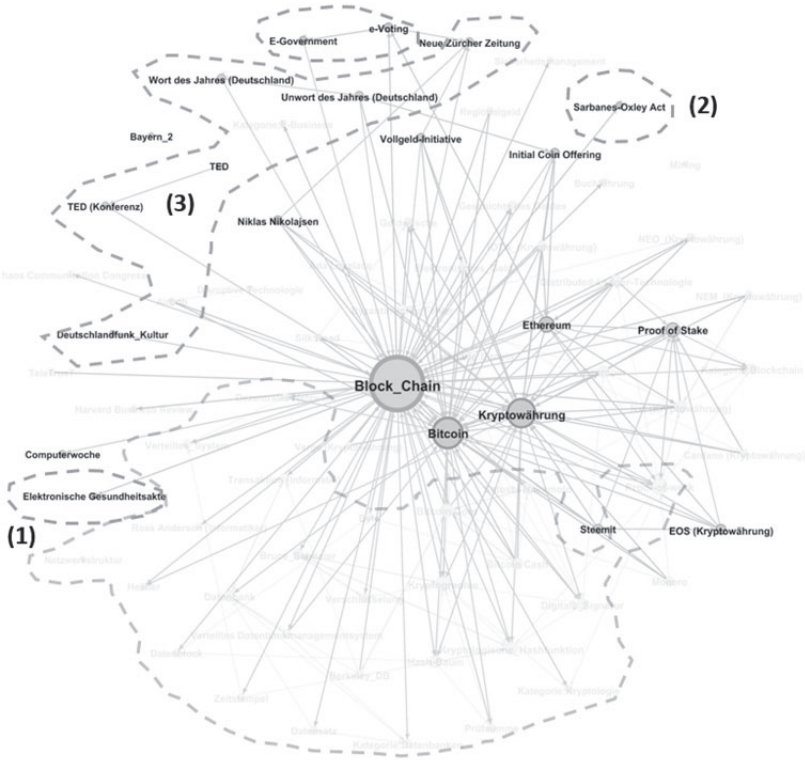

Figure 9: Ego Network of 2018

This third phase can be summarized as the start of embedding the Blockchain technology to other societal segments. Blockchain is linked to a broader set of societal pages and topics and is discussed as a possible solution for problems in these societal segments. It gained complexity and connections to different legitimate application areas.

Conclusions

By using the yearly ego networks of Wikipedia pages, I could reconstruct a process of theorization of the Blockchain technology and could show the embedding of a technological concept into codified knowledge of other societal sectors. The findings suggest that the diffusion of a technology becomes more likely when a new technology gains legitimacy and

disconnects from illegitimate activities and when a new technology is abstracted and generalized from its first application.

This paper contributes to the works on the theorization of knowledge on two levels. Firstly, the concept of theorization has primarily been used to explain the diffusion of practices on organizations such as new business models (Dobbin & Dowd, 2000) or management practices like corporate social responsibility (Meyer & Höllerer, 2010). This paper extends the applicability of this theoretical approach to the analysis of new technologies. Secondly, this paper expands the methods of studying theorization by demonstrating how Wikipedia could be used to quantify theorization processes.

Based on these results I conclude that the use of Blockchain in the Sharing Economy might start to gain momentum: Firstly, the growing disconnection from illegitimate practices and the increased complexity of Blockchain should make it easier for product developers to use the technology in their products. Secondly, the linkages to the different societal sectors could motivate and inspire new Blockchain-based organizations. Finally, these new organizations might successfully compete with the current dominant internet platforms in the Sharing Economy.

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4.

MANAGEMENT AND STRATEGY RESEARCH PERSPECTIVE

4.1

Stakeholder Theory and the Sharing Economy: Toward a Research Agenda

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Introduction

The recent growth of the sharing economy has given rise to a number of important ethical questions. In this short paper, we develop a research agenda for stakeholder theorists organized around three emergent tensions arising from the sharing economy. We discuss how each of these key tensions might be usefully approached from the descriptive, instrumental, and/or normative stakeholder perspectives.

Ownership v. Sharing

The sharing economy de-emphasizes property ownership in favour of enabling people to utilize resources jointly. While making available economic capacity from previously 'trapped' resources, the resultant lack of control over the resources can lead to unintended consequences. Researchers focused on the tension between ownership and sharing could usefully refine the basic categorizations of stakeholder groups. How, for example, might we categorize an Uber driver who may bear elements of an employee, supplier, or customer but does not fit neatly into any of these more traditional categories? The field would also benefit from a finer description of the potential benefits and costs across stakeholder boundaries in the more fluid conditions characterizing the sharing

economy, for example, Uber's drivers. They might also study approaches taken by the Uber platform (and others) in managing its fleet of potential drivers. Ultimately, such research may lead to a revised graphical representation of Freeman's commonly-used stakeholder framework to account for the different shadings of sharing relationships, due to the descriptive and strategic power of such representations (Fassin, 2008).

More instrumental stakeholder approaches would focus on the economic benefits to be gained by reducing ownership and encouraging the sharing of goods and services. How can firms maximize the overall utility of their stakeholder networks when goods are shared amongst the participants? What is the potential impact of externalities, for example, property values in buildings where residents make regular use of AirBnB, or increased homelessness in such areas? We need new theory that assesses costs and benefits across stakeholder boundaries. What might be the economic value of sharing more durable goods rather than consuming more disposable ones, if this is indeed what is happening?

Normative stakeholder theory would benefit from studying those sharing economy platforms that appear to be taking the 'sharing' aspect of their business model seriously. What are their responsibilities and duties to participants in their platform who are willing to sharing their time or goods, sometimes without receiving market value compensation? How should managers in the sharing economy enterprises identify their stakeholders?

Reciprocities v. Transactions

Descriptive stakeholder theorists could usefully improve our understanding of the forms of non-monetary compensation that are most valued by participants in the sharing economy. The importance of the relationship between participants is critical here. How might different stakeholder groups exercise power through reciprocal relationships? New theory is needed to describe networks and norms—within a nexus of stakeholder interests. We specifically need more research on how norms are created amongst stakeholders to better manage conflict and encourage cooperation (Harrison and Wicks, 2013), particularly in situations where the connections are multiplex (Lahdesmaki et al, 2017).

More instrumental studies could usefully examine the economic benefits associated with bringing parties who would never previously have met into a relationship through the sharing economy. How can and should firms maximize the monetary as well as the non-monetary value created through such reciprocal, sharing relationships? Such instrumental

questions would surely deal with or touch upon the design of the technological platforms, including especially the particular structure and function of the reciprocal rating systems. But instrumental studies could additionally focus on the effectiveness of particular marketing or branding strategies. For example, the Uber brand identity has undoubtedly been shaped by the brash machismo of its founding CEO, and this identity contrasts specifically with the more feminine identity of Lyft, a direct competitor in the ride-sharing market. What are the most relevant or important principles or considerations that should guide effective market positioning, whether among 'suppliers' or among 'consumers' of mobility? Similarly, as AirBnB appears to be extending its brand beyond the space of real estate to include 'experiences', instrumental theorists could usefully explore what kind or type of experiences are most compelling to travellers and/or hosts who reciprocally benefit from the shared activity.

Finally, normative study here could provide some guidelines for this relational stakeholder work. Scholars have suggested that the focus on relationships contrasts with the more 'masculinist' ethical paradigms such as utilitarianism, Kantianism, virtue theory and social contract theory (Lahdesmaki et al, 2017). Future normative studies could in this sense draw on developments in feminist ethical theory to explore the relevance of an "ethics of care" considering for example how advocating for non-violence towards others or the self as the highest principle (Gilligan, 1982), might pertain to participants in the sharing economy.

Platforms v. Organizations

The development and deployment of technological platforms within the sharing economy provides descriptive stakeholder theorists with a vast set of opportunities for future research. Perhaps the initial or most basic question, pending the identification of new categories of stakeholders appropriate to the context, would be to describe the costs and benefits that accrue to the stakeholder groups that use the platform. A correspondingly basic question would be to describe the costs and benefits that accrue to the stakeholders whose activities are displaced or replaced by the platforms. It seems clear at a glance that considerable power accrues to those individuals who are capable of designing, developing and maintaining the platform. It also seems clear that such platforms have the effect of reducing the size of the formal organizations required e.g., to deliver mobility, hospitality or logistics. But how exactly, and in what ways? Drawing on Friedman and Miles (2002), are any structural

configurations or situational logics becoming evident for stakeholders in the sharing economy? And in turn, how should stakeholder theorists describe the increased range and variety of participants in such markets, once the constraints of a formal organization are removed by the platform?

Instrumental theorists confront a similarly basic and far-reaching set of questions and opportunities for future research. To begin, how should platforms be designed in order to increase value for the firm while serving the interests of all stakeholders without resorting to trade-offs between particular groups (Freeman, 2010)? In turn, how should the relatively smaller but still essential organizations that design and deploy such platforms be structured, managed, and led? The potentially global scale and reach provided by technological platforms raises a series of important questions about the legal, regulatory and governance frameworks that pertain to 'sharing' as distinct from 'transacting'. How then should firms operating in the sharing economy customize or adjust the platform so that it can remain accommodating particular interests within local, regional or national contexts? Again, the strategic importance of this question is illustrated by the objections to Uber raised by the London taxi drivers' association, but there are many hundreds if not thousands of similar illustrations that merit further research in different markets. Stakeholder theory could usefully be extended to describe and evaluate such apparently competing interests, as well as the strategies involved with the design and implementation of the platforms that make such ambiguity possible in the first place.

Finally, normative theorists will find themselves overwhelmed by the task of exploring what the right thing to do might be when designing, deploying or using a technological platform within the sharing economy. The pace of societal disruption associated with these technologies is truly dizzying, and the ethical norms as well as the legal principles associated with the practice of sharing are now in the process of emerging. Existing research drawing on utilitarian, deontological and/or virtue theories may provide guidance, but we believe at this stage of the development of the sharing economy that inductive empirical research by normative theorists would be most illuminating. What rights, duties, virtues, and/or consequences are considered normatively optimal by Uber drivers, or by AirBnB hosts? What particular activities or efforts should such market participants undertake in order to achieve or sustain those values? How should apparently competing or mutually exclusive values be adjudicated or settled practically, whether as part of the platform's function, or through another set of governance procedures exogenous to the platform itself? In this sense, the functionality of the platform itself takes on an explicitly

normative dimension – what happens if the tool breaks, and who is responsible then for the value that the disruption destroys or inhibits?

In view of the emerging research agenda focused on the preceding set of tensions, we conclude this paper with a simple and direct call for pragmatic research focused on stakeholder ethics in the sharing economy. We believe that by taking up some of the questions we have raised, future researchers can not only contribute to greater understanding of the various stakeholder interests in the sharing economy, but can also help ensure that it develops in ways that serve those interests and effectively benefits rather than harms market participants.

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4.2

Mapping the Stakeholders and Their Relationships in the Sharing Economy: The Case of Airbnb

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Introduction

One of the most fascinating socio-economic phenomena in current times is the emergence of the Sharing Economy (SE) which allows sharing of assets through access over ownership between individuals by maximizing idle resources, and by interactions and transactions among peers via digital platforms (Belk, 2014; Bardhi & Eckhardt, 2012; Constantiou, Marton, & Tunainen, 2017). Those platforms create value by eliminating intermediary inefficiencies and propose broader varieties of solutions, allowing greater flexibility (Rifkin, 2014, Acquier, Daudigeos & Pinkse, 2017).

The pioneers in the SE (e.g., Uber, Airbnb) demonstrate the amplitude of this disruptive approach to traditional businesses. Despite its continuous growth in the past few years, the SE is considered as a domain of eventual conflicts, causing public animosity and legal actions, due to tensions and contradictions amongst stakeholders. (Sundararajan, 2016; Munoz & Cohen, 2017; Schor, 2014).

A better understanding of the relations amongst stakeholders in the SE is essential due to the constantly changing regulations and competition. Despite its growth, the literature on the SE remains focused on its business models, its nature and its sustainability development (Cheng, 2016). There seems to be no literature on the SE's stakeholder broad perspective, and the profiles and roles of stakeholders within the SE.

We intend to approach this gap through the stakeholder theory (SHT) in which the SE is a new socio-ecosystem with the stakeholders at its center, the entrepreneur being just one of the minor actors (Freeman, 1984; Jensen, 2002; Harrison, Bosse & Philips, 2010).

We have chosen to study Airbnb, whose main objective is to connect hosts and guests via a free platform. If the rental transaction is concluded, Airbnb receives a commission from both the host and the guest. Since 2008, Airbnb has become a serious menace to traditional businesses, e.g., the hotel industry and housing market (Zervas, Proserpio, & Byers, 2017).

Our findings are (1) SE companies should be first concerned by stakeholders 'relations and interaction within its ecosystem, rather than by profit maximization (2) the promising future of the SE companies depends on the effectiveness and sustainability of their relationships within the complex inter-organizational groups of stakeholders.

Stakeholder Theory (SHT)

The SHT, which allows us to understand the relationship amongst stakeholders defines stakeholders as "any group or individual who can affect or be affected by the achievements of an organization's purpose" (Freeman, 1984:25).A business is a set of relationships among groups that have a stake in the firm, who interact and create value. In our study, the SHT helps to understand how the relationships amongst a firm's stakeholders work (Freeman, Harrison & Wicks, 2010). The other conception of SHT is value creation, which defies the conventional thinking that the pursuit of profit is the main concern of the management. According to SHT, a company should create value for all its stakeholders, and not just for shareholders.

Identification of Stakeholders

"Who are they?" To this question, scholars have responded by producing lists of stakeholders' classification with different attributes (i.e., internal and external, cooperative and competitive, derivative and normative, generic versus specific; primary versus secondary) (Freeman, 1984; Carroll, 1989; Philips, Freeman & Wicks, 2003). The notion of stakeholder attributes and influences has received significant attention in the literature. Mitchell et al. (1997) identify urgency, legitimacy, and power as the three key attributes of a stakeholder, explaining that the various combinations of these elements are an indication for managers of the degree of attention needed to be given to a stakeholder.

Stakeholders' influences and power are central within the ecosystem (e.g., regulations, taxes). Due to the lack of government regulations when SE companies started, the policy makers had no influence on the SE companies. While this facilitated the latter's growth, it also increased tensions amongst groups of stakeholders. Hence for past ten years, SE pioneer companies have just acknowledged the existence of their stakeholders and engaged in public relations but never interacted in a proactive way.

Contradictions in the Sharing Economy

To partake in the big debate of defining and finding a framework of SE, we have selected the framework. "Access platforms", represented by SE companies, "give access to underutilized resources/services through digital platforms" (Acquier et al., 2017:6). In this framework SE is an umbrella construct which is essentially a contested concept offering 3 promises: (1) economic (i.e., generating incremental revenues), (2) social (i.e., cheaper access to services, social interaction, cohesion, member of a community), (3) environmental (i.e., sustainable use of resources). (Acquier et al, 2017; Schor & Fitzmaurice, 2015; Botsman & Rogers, 2010; Hamari, Sjöklint & Ukkonen, 2015; Benkler, 2017).

However, SE literature reveals (1) economically: unbalanced economic benefits distribution, tax evasion and unfair competition, (2) socially: regulations evasion, unmet quality and safety norms; (3) environmentally: environment motivations not taken seriously by the users, violation of residential zoning codes (noise, traffic, parking shortages). (Schor & Fitzmaurice, 2015; Murillo, Buckland & Val, 2017; Frenken & Schor, 2017).

Mapping Airbnb stakeholders

The following description based on SE literature review and secondary data (e.g. news article, blogs) of Airbnb, allows us to provide propositions which will be later tested with a longitudinal case study. (Fig.1)

Airbnb. In ten years Airbnb has become a giant of the SE. Airbnb has focused on (1) flexible market integration of e-commerce sites, reducing the fixed costs compared to traditional businesses (2) strategic immediate responses with constant launching of new services (e.g., Airbnb experiences and the new business travelers segment). It's now worth more than 30 billion dollars, bypassing the brand loyalty that hotels like Marriot and Hilton took decades to build. Approximately 45 million guests stayed

in Airbnb homes in the summer of 2017. Airbnb employs 4.000 people and develops incentive through direct compensation in a very competitive job market.

Hosts. People who own a house/apartment and want to earn extra money (economic), while interacting with unknown people/guests they welcome (social), optimizing the use of their property (environmental). Airbnb encourages hosts to be profit-making and consider them as "micro-entrepreneurs", providing guidance to attract investors (e.g., Airdna.co, the Airbnb online free data and analytics) for a higher occupancy rate and higher profits. This encouragement has motivated owners to rent their homes or apartments exclusively to Airbnb clients as opposed to long term rentals, causing a housing crisis. The value creation has been distorted by the principle of profit gain and is causing social and economic issues in urban areas, disrupting the equilibrium among the stakeholders disrupted.

Guests. "Feel at home" is the policy for Airbnb guests, eliminating social barriers. Economic benefits and enjoyment, and authenticity are the main motivators for the guests (Guttentag et al., 2017).

Regulatory bodies. Institutions and policy makers at national, regional, state, local level**s** have the legitimacy and power to lead actions against Airbnb.

Hospitality industry. It provides short-term accommodation**s** for business and leisure with both large established firms and small private establishments (e.g., inns, bed and breakfasts). Recent research shows that Airbnb had a quantifiable negative impact on local hotel revenue, (1) as a substitute to hotel rooms and (2) as price competitor. The strategic responses of large established traditional businesses could be (1) optimize business, (2) invest in SE, learn and act (e.g., Accor, Hyatt), (3) partner through the SE platform with another industry (e.g., Hilton Group with Uber), (4) combine the SE business model with traditional business to create a hybrid model, (5) strengthen the existing business model to resemble a SE model (e.g., Wyndham). (Zhang et al., 2018). Some traditional business choose "coopetition", a mutually advantageous relationship with a competitor, by using their services to fill vacant rooms.

Others (i.e., trade groups, media, and associations). The tensions between groups of nonprofit associations (e.g., Shareable, Sustainable Economies Law Center (SELC), Ouishare), traditional actors and Airbnb are aggravated by influence peddling through public relations and lobbying operations. Trade groups of the hotel industry are very active and powerful at the local, state and federal level (e.g., the American Hotel and Lodging Association).

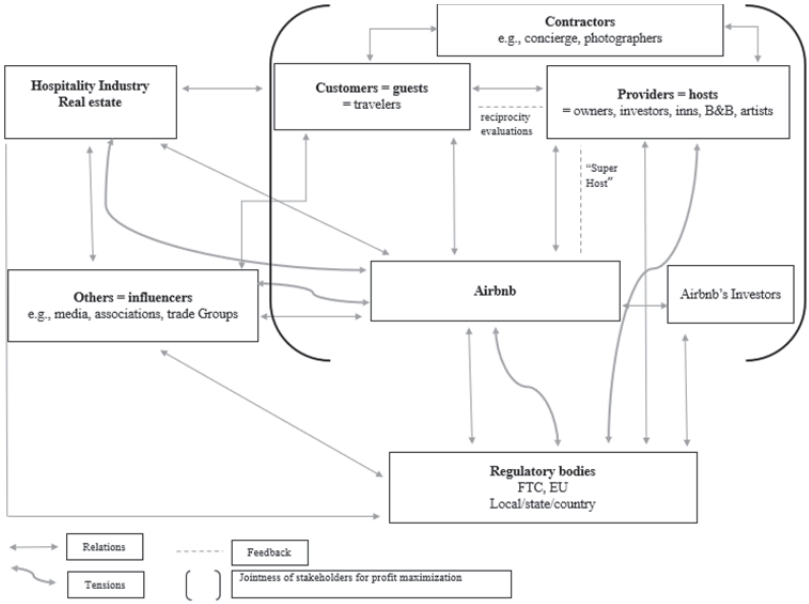

Figure 10: Mapping Airbnb's stakeholders

Conclusion

The purpose of this paper has been to examine the SE with a broader perspective via the SHT using the case of Airbnb.

Airbnb demonstrates proactivity in marketing strategies, exploring constantly new opportunities. Surprisingly there is no "proactiveness" (Tang, 2013) with "external" stakeholders, e.g. regulatory bodies. It appears that Airbnb applies a narrow view of value creation, focusing on promoting shareholders' interests, (i.e., profit maximization to investors, employees, hosts).

Proposition 1: The narrow view of value creation is harming the SE company's' growth (e.g., increase in transaction costs).

The strategic responses of the hotel industry or the actions of the regulatory bodies reveal that the SE is an ecosystem that mobilizes groups of heterogeneous players with interdependencies between stakeholders.

Proposition 2: Stakeholders lead to the success of the ecosystem, in which the entrepreneur is just a minor actor.

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4.3

A Collaborative Energy System—How Business Models of the Sharing Economy May Drive the Energy Transition

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Motivation and theoretical background

As a result of the rapidly advancing digitalization, numerous new business models have been devised that are summarized under the umbrella term of a sharing economy. While sharing schemes are already disrupting the entertainment, hospitality, or mobility sector, lately, the sharing economy has also sparked vigorous debate about its impact on the energy sector (Haring, 2016; Johnston, 2015). The business activities discussed in this context range from peer-to-peer trading of energy within prosumer markets (Gstrein & Teufel 2015) to centrally distributed cloud energy storage systems (Lombardi & Schwabe, 2017).

A concept that might help to understand how business models of the sharing economy can drive socio-technical transitions in the energy sector is the multi-level perspective by Geels (2002). Although some authors have included it into their analysis of the interaction of established regime actors and new niche business models of the sharing economy, research in this field is still scarce (Martin, 2016; Martin, Upham & Budd, 2015). However, the multi-level perspective is increasingly applied to capture developments in transitioning energy systems (Bolton & Hannon, 2016; Grünewald et al., 2012; Verbong & Geels, 2007). Furthermore, the spread of renewable energies creates new market structures and business models,

which have gained in importance as a unit of analysis to understand socio-technical innovation processes that might drive the transition towards a more sustainable energy system (Bidmon & Knab, 2018; Huijben, Verbong & Podoynitsyna, 2016; Wainstein &Bumpus, 2016).

The goal of this paper is to bring these two major topics–an evolving sharing economy and the role of new business models within the transitioning energy system–together. For this purpose, a systematization for activities of the sharing economy in general (Plewnia & Guenther, 2018) was tested for its applicability in the energy sector. Consequently, business model (Bocken et al., 2014) and socio-technical transition frameworks were taken as a theoretical background to discover how business models of the sharing economy might contribute to the ongoing transition towards sustainable energy systems.

Research Methods

Three main methodological steps were taken within this research project. First, based on scientific and grey literature, it is analyzed on a conceptual and descriptive level how concepts of the sharing economy can be transferred to the energy sector. Second, based on the above mentioned systematization of the sharing economy (Plewnia & Guenther, 2018), four workshops were conducted with companies within the energy sector to discuss on a more empirical level how sharing economy activities are already used or might be used in the context of their business. Both these steps were taken in order to answer the research question of how sharing economy concepts can be adapted within the energy sector.

Finally, in a multi-case study approach (Yin, 2013), seven case companies were selected according to the similarity of their business models to sharing economy concepts. Accordingly, these companies were promoting either the sharing of electricity in an energy community or receiving electricity locally and peer-to-peer from specific renewable energy plants. Employing 88 secondary data documents (e.g., websites, news articles, and press releases) and 18 semi-structured interviews with company executives and external experts, it was analyzed how these companies may contribute to a sustainable energy system. The interview guidelines and data analysis focused on value proposition and creation mechanisms in order to understand the advantages and disadvantages behind the promoted concept of ‘sharing energy with your neighbor’ in the context of transitioning energy systems. All data was coded based on open or inductive coding (Strauss & Corbin, 1990) using the software MAXQDA and was condensed, discussed, and interpreted using the Gioia

methodology (Gioia, Corley & Hamilton, 2013) and communicative validation among authors (Kvale, 1995).

Results

Results of the first part of this study showed that attributes of sharing economy business models can be associated with a wide range of activities and developments currently taking place in the energy sector. Access instead of ownership, digital platforms, peer-to-peer schemes, shared values, sharing with strangers, and better use of resources are aspects that are of high importance in the transitioning energy system. Furthermore, sharing activities used in this context cover almost all fields also relevant in the sharing economy in general. This included business-to-consumer concepts, where companies offer services and shared products to consumers; consumer-to-consumer platforms, where small-scale actors of the energy sector begin to interact with each other; as well as consumer-to-business and business-to-business concepts, where resources like storage or renewable energies are integrated on a higher level to create additional value. Furthermore, similar to other industries, different kinds of resources can be shared in the energy sector, including products, such as small-scale generation facilities or storage; spaces, for example for photovoltaic installations on roofs of other houses; money, as in crowdfunding or financing schemes; or data and information, for example on consumption patterns and energy efficiency measures. Additionally, the workshops and interviews discovered that taking stock of sharing economy frameworks can help the energy sector to further develop their transitioning business models and structures by borrowing ideas and learning from other sectors.

With regards to the value created by the sharing business models in the energy sector, it was found that making a contribution to a sustainable energy transition was one of the main benefits. This benefit is achieved in three ways, namely through technical, economic, and behavioral changes, which need to co-evolve to enable socio-technical transitions (Elzen, Geels, and Green 2004). First, connecting the increasing number of decentral small-scale market actors to enable them to share, trade, and coordinate their generation, storage, and consumption capacities requires the installation of smart metering and control technologies. Consequently, sharing business models in the energy sector advance the dissemination of smart technologies which support the system integration of renewable energies. This technical push for smart technologies, which might be too expensive in the context of other business models, is facilitated by capitalizing on customers' willingness to pay more for local or more

personal relationships with renewable energy providers. At the same time, it creates markets and new sales channels for operators of renewable energy plants. These may earn higher revenues when they are connected directly to consumers on peer-to-peer platforms and, additionally, can identify ways to market their generated electricity when subsidy schemes end. Through these additional incentives for renewable energies, sharing economy concepts can support the market integration of clean energy sources and promote economic changes within the transitioning energy system. Finally, more transparency of energy consumption and production patterns as well as of consumed electricity's origin can help to raise awareness on how an energy system based on renewables may work. Furthermore, communication platforms can be used to leverage possibilities for more energy efficiency or for better synchronization of local consumption and production. These aspects may contribute to an increased acceptance of renewable energies and behavioral changes of consumers that might be necessary for a more sustainable energy system.

Discussion and Conclusion

In this study, it was shown that business models of the sharing economy can be applied to the energy sector in many ways and that these can contribute significantly to ongoing energy transitions by fostering technical, economic, and behavioral changes. While in other sectors the sharing economy and ICT based platforms may provide innovation and disruption that can lead to socio-technical transitions by themselves, in the energy sector the sharing economy may support the ongoing transition towards renewable energies. In order to transition from fossil fuels to renewable energy, new market mechanisms and business models will likely be developed, many of which were found to be well-suited for the ideas of a sharing economy in this paper. Accordingly, sharing economy business models may act as a vehicle to bring new technological developments, such as renewable energies and smart meters, from the niche to the regime level in socio-technical transitions (Bidmon & Knab, 2018). This interaction of business models and socio-technical transitions could also be examined in other sectors to investigate how the sharing economy entails technical, economic, but also behavioral changes to drive sustainability transitions. After all, while new technologies may provide the cornerstone for shifting our socio-technical systems towards sustainability, only new business models (e.g., of a sharing economy) provide the incentive to implement, steer, and benefit from these changes within society.

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4.4

Car-as-a-Service Platforms

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Introduction

Many sharing economy firms operate two or more business models at once to enhance their competitive position and grow: a so-called business model portfolio. This phenomenon is particularly salient in the shared mobility sector where both automotive manufacturers and pure digital players are diversifying their services. From the industry incumbents' side of the shared mobility sector, *Volvo Cars* has partnered with *SunFleet* carsharing, and with *Uber* to provide leasing services to drivers as well as collaborate on autonomous technology development. *Daimler* has acquired, invested in, or developed several mobility services such as *Car2Go, Turo, Flinc, MyTaxi, and ChauffeurPrivé* to offer ridesharing, free-floating carsharing, ride-hailing, and peer-to-peer (P2P) car rental services. Similarly, *Ford* acquired *Chariot*, *GetAround*, and *GoDrive* as to be involved in ridesharing, P2P carsharing, and leasing services as well as providing vehicles to *Zipcar*. The *Volkswagen Group* also offers on-demand rentals of *Audi* and *Porsche* vehicles, and it has invested in *Gett* ridesharing services. *General Motors* has invested in or acquired *SideCar*, *Lyft*, *RelayRides*, and *Maven* as to have a foot in different services. From the disruptors side of shared mobility, long-distance ridesharing platform *BlaBlaCar* started to offer to its loyal members the possibility to lease cars at discounted rates in partnership with *ALD Automotive*, it launched the *BlaBlaLines* app to facilitate ridesharing on short-distance commutes, and it acquired urban carpooling startup *Less*. Business-to-consumer (B2C)

carsharing platform *MyWheels* began to also offer cars made available by neighbors (i.e. P2P carsharing). Conversely, *Turo* now allows professional rental agencies to list their cars on its P2P platform to diversify its revenue streams and increase the number of cars available to its customers.

However, shared mobility businesses face fierce competition and many fail to survive (Täuscher & Kietzmann, 2017; Van Alstyne, Parker, & Choudary, 2016). Moreover, it is extremely difficult to operate a business model portfolio (Casadesus-Masanell & Tarzijan, 2012; Markides & Oyon, 2010; Snihur & Tarzijan, 2018). For instance, *Uber*—a ride-hailing platform—failed to operate leasing services (e.g. in partnership with *Enterprise*, *Hertz*, and *Zipcar*) to offer car rentals to its drivers. If different business models can mutually reinforce one another, they can also lead to cannibalization of the original customer segments and firm resources (Aversa, Haefliger, & Reza, 2017).

There have been some attempts at mapping sharing economy business models in the mobility sector (e.g. Cohen & Kietzmann, 2014). Despite the increasing number of platforms that operate several business models simultaneously, little research has examined how sharing economy platforms successfully diversify into business model portfolios. The purpose of this research is to explore business model diversification in the shared mobility sector.

Case Study

In order to investigate the advantages and challenges of combining multiple business models, we analyzed the case of GoMore, an online platform providing three mobility services: ridesharing, P2P car rental, and leasing. Based on semi-structured interviews with firm management and a document analysis (2015-2018), the case was used to show the evolution, diversification, and expansion of a sharing economy start-up from a non-profit ridesharing website (e.g. bulletin board) to a for-profit matchmaking platform that also offers P2P car rentals and leasing services (by leveraging fleet management firms as partners) with the aim to further increase the number of cars available. GoMore claims that 50 percent of leasing contractors use the platform's ridesharing or rental services to compensate their costs. GoMore takes a commission on each P2P transaction, as well as on leasing contracts. With such portfolio—the "all-in-one carsharing solution"—GoMore increases its hold onto the shared mobility sector. As a sharing economy "pure-player", GoMore does not own any cars but takes advantage of drivers willing to take on passengers in their car and owners willing to let borrowers use their car.

Analysis and Results

The case analysis reveals three customer segments based on their need to access a car and cost orientation (Table 5). First, the frequency of car usage need varies from occasionally (up to a few times a month) to often (a few times a week) to most of the time (all week days). Second, the duration of the mobility need mostly depends on the destination and purpose of the trip: short for one-way trips (e.g. a few hours to go from one city to another), medium (full-day return trips), or long (return trips outside of town lasting several days). Third, the spontaneity of access involves the planning required prior to car usage: little when the trip is part of a routine (e.g. trips to work or the supermarket scheduled within a day), moderate (trips planned within a week), or advanced (trips planned for more than a week). Fourth, the need of hauling differs between low (e.g. no luggage or only small items, no passengers, only oneself), medium (several small items), or high (grocery shopping, large items, including family members). Fifth, there is a distance component influencing the need for accessing a car, which varies from short (less than 50 km), medium (about 150 km) and long (more than 200 km) distances covered by car. Sixth, access needs are eventually different depending on the individuals' cost orientation: from high (when ownership and usage costs are decisive in the choice of mobility), moderate (car ownership costs bear more consequences than car usage costs), to low (costs are not principal factors). In a nutshell, the nowners have little needs for using a car, the independents temporary need to access a car, and the resilients basically need to own a car.

	The nowners	***The independents***	***The resilients***
Frequency	Occasionally	Often	Most of the time
Duration	Short	Medium	Long
Spontaneity	Little planning	Moderate planning	Advanced planning
Hauling	Small items	Several items	Large items
Distance	Short	Medium	Long
Cost orientation	High	Moderate	Low

GoMore's mobility services	Ridesharing	P2P car rental	Leasing
GoMore's business models	12.5 matchmaking commission	20.5 matchmaking commission	5% contract fee

Table 5: GoMore's customer segments

Each of GoMore's mobility services targets a different customer segment, with distinct needs for car usage (or ownership): low (ridesharing), moderate (P2P car rental), and high (leasing). Ridesharing targets the segment with the lowest access needs, such as friends meeting in a neighboring city, or commuters who regularly make the same journey. These consumers are the most cost-oriented and typically do not own a car. The P2P car rental business model targets the segment with moderate access needs, such as inhabitants of large cities who value the flexibility and convenience of owning a car but they also consider the financial benefits of accessing a car on demand over private ownership. The leasing service targets the segment with the highest needs, such as parents owning one or more cars, who need to drive frequently, change their itinerary last-minute, and carry many items.

None of GoMore's services is unique—sharing economy competitors also aim to facilitate shared mobility with a car as the main resource. However, GoMore's competitive advantage lies in the complementarity of the business models on the same platform. Together, these business models appear to be synergistic rather than in competition between each other. In other words, GoMore constituted a 'Car-As-A-Service' platform (Figure 11) with a portfolio of different business models, which optimize the overall value proposition of the platform as a holistic solution for diverse customer segments of mobility needs.

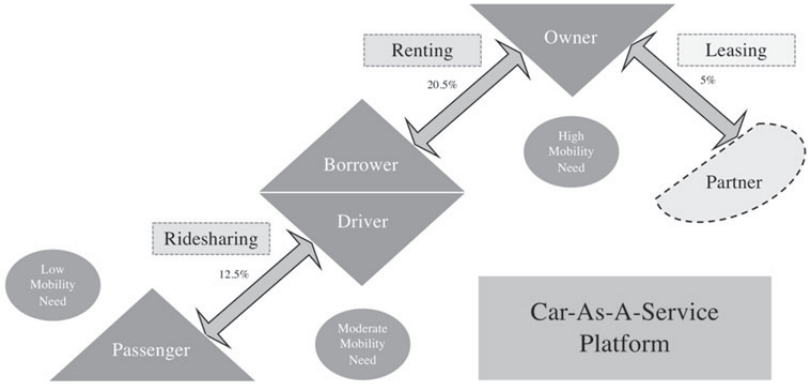

Figure 11: GoMore's business model portfolio
Note: The three shared mobility services are differentiated based on the platform business models (in red boxes) and the B2C business model (in light green). Platform users are depicted in triangular shapes: green in the role of consumers, blue in the role of peer providers. The matchmaking fees charged by the Car-As-A-Service platform for each business model is represented by double-headed arrows.

Discussion

GoMore operates a business model portfolio to deliver value to its customers in different ways, while ensuring its medium-term viability and future development. The synergetic business model diversification over time enabled GoMore to offer different mobility service based on distinct business models, but it also established a complementary fit across the business model portfolio. In particular, the P2P car rental business model provides additional supply for the platform's ridesharing services (i.e. car rental users can use the platform to offer empty seats on their journey as peer providers of ridesharing services). Similarly, GoMore's leasing services provide additional supply to its two other P2P services. That is, each new mobility service introduced by the platform aimed at increasing the supply of the already existing matchmaking business models. This strategy enabled the platform to be competitive for different customer segments. Moreover, GoMore increases profits from keeping its existing users and offering them to use the Car-As-A-Service platform for complimentary shared mobility services.

Conclusion

GoMore's business model diversification not only allowed the platform to increase the supply of peer providers in its P2P markets, but it also addresses different customer segments of shared mobility. By deploying synergetic business models, GoMore achieves cost savings, reduces risk, improves performance, and sustains its competitive advantage, thus supporting previous studies on the advantages of deploying a business model portfolio (Aversa et al., 2017; Casadesus-Masanell & Tarzijan, 2012; Sabatier et al., 2010; Snihur & Tarzijan, 2018; Sohl & Vroom, 2017).

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5.

INFORMATION SYSTEMS PERSPECTIVE

5.1

To Share or Not to Share: A Digital Divide in the Sharing Economy

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Introduction

While some early observers were quite optimistic about the potential of digital media to facilitate participation (Krueger, 2002), subsequent analyses have put forth perspectives that are more skeptical (Jennings & Zeitner, 2003). However, to systematically explore the outcomes of participation on digital media platforms, it is necessary to establish a theoretical perspective on how participation emerges.

The focus of this study is user participation on sharing economy platforms. A number of studies investigating usage of sharing economy services conclude that mostly young people with high levels of education and income shape the user community (cf., PwC 2016; ING 2015; Deloitte 2015). Nevertheless, what kind of mediators facilitate the usage of sharing platforms by this demographic and what factors impede others is still open for discussion. In this study, we conceptualize the differences between users and non-users of the sharing economy as a digital divide and apply the framework established by van Dijk to theoretically derive and empirically test mediating factors (van Dijk, 2005).

A Digital Divide in the Sharing Economy

Based on the discussion of Collaborative Consumption (e.g. Bardhi & Eckhardt, 2012; Belk, 2014, 1597; Benoit, et al., 2017, 219-220), we define "mediated sharing" as a reciprocal exchange process, mediated through a digital platform, whereby individuals grant others temporary access to their personal goods for use. The relationship of participating peers/actors (providers and consumers) is expected to be peer-to-peer or consumer-to-consumer, respectively. Following Bardhi & Eckhardt, we focus on processes organizing a temporal access to goods of interest without altering the status of ownership (Bardhi & Eckhardt, 2012). In addition, we focus on tangible goods while neglecting immaterial services that other authors include in the on-demand economy (Frenken & Schor, 2017). We are guided by an understanding of "sharing as an economy" that Kennedy differentiates from "sharing as scaled distribution" in the sense of file-sharing, and "sharing as social intensity" in the sense of an increase of connectedness facilitated by social media platforms (Kennedy, 2016).

Following the OECD, a digital divide denotes a gap in access and use of information and communication technology that can be explained through different socio-economic levels of individuals (including households and organizations) and geographical areas (OECD, 2001, 5). Previous studies on digital divides have focused on antecedents such as resources (Brady, Verba & Schlozman, 1995), motives (e.g. Bucher, Fieseler & Lutz, 2016), or skills (e.g. Hargittai & Walejko, 2008) to explain (non-)participation in internet-related topics like the sharing economy. Van Dijk established an overarching model that combines these various approaches (van Dijk, 2005). Van Dijk´s model follows the basic idea of a resource model embedding an access model into a wider framework containing positional and personal categories that determine the amount of different types of resources and how they are reproduced by participation. While positional categories include key elements of an individual's social status (labor position and education), personal categories comprise typical socio-demographic attributes such as age, sex, and ethnicity, as well as psychological attributes (e.g. intelligence or personality). Both, positional and personal categories determine the amount of temporal, material, mental, social, and cultural resources required to obtain four stages of access: Not all individuals may wish to participate actively; some may simply lack the motivation to do so. In other cases, individuals may wish to participate but lack the required material resources necessary. Even if an individual is motivated to

participate, he or she may lack the skills to use the service appropriately. Finally, individuals need an opportunity to apply their motivation, skills and material access. Van Dijk describes this usage access as "need, occasion, obligation, time or effort to actually use them" (van Dijk, 2005, 95). By using ones resources to participate in several fields of society (e.g. economy, social networks or politics), individuals are able to improve their positional categories, rendering the model recursive.

Applying this model to sharing economy platforms as defined above, we expect to find a digital divide in the sharing economy along positional categories in that users with higher levels of socio-economic status (SES) (Hypothesis 1) living in urban areas (Hypothesis 2) are more apt to participate in the sharing economy. Furthermore, we expect the positive effects of SES and place of residence to be mediated through higher levels of motivational access, that is, to use sharing economy platforms to obtain financial and immaterial benefits (Hypothesis 3). Also higher levels of skill access, namely, the abilities to gain information from the internet and use them to achieve benefits or goals desired (Hypothesis 4), and higher levels of usage access, i.e., being online more routinely to open opportunities for participation in the sharing economy far easier (Hypothesis 5) are supposed to explain the expected digital divide.

Data and Methods

Empirically, this study is based on survey data collected as part of the European Union Horizon 2020 Research Project "Ps2Share: Participation, Privacy, and Power in the Sharing Economy" (for details, including sample description, see Andreotti, et al., 2017). The quantitative survey aimed at assessing the attitudes and self-reported behavior of more than 6000 individuals across 12 European countries for providers, consumers, and those not (yet) engaged in the sharing economy.

The survey included a representative sample with a target of 500 respondents of the online population in each country in terms of age (18-65), gender, and region. Respondents received a small financial reward for filling out the questionnaire directly from the survey provider.

To test our hypotheses and answer our research question, we use structural equation modeling (SEM). To carry out the analyses we apply the lavaan package (Rosseel 2012) for the statistical computing environment R (R Core Team 2017).

Measures

To measure the effects of SES, we use the highest level of education, working status, and annual household net income as exogenous variables. Level of education is measured on a seven-point scale from "no formal education" to "primary school", "lower" and "higher secondary" to "Bachelor", "Master" and "Doctorate or higher". Working status was provided by the survey provider as binary variable ("working"/"not working"). The annual household net income was measured using country-specific currencies. To combine them into a single variable, we created a standard score so that the income value for every case represents the distance from the country-specific mean income in standard deviations.

To recognize differences between urban and rural areas we use a 4-point scale that asked survey respondents to classify their area of residence as "big city (more than 500,000 inhabitants)", "suburb or outskirts of a city", "small to medium city (fewer than 500,000 inhabitants)", or "rural area (town or village in the countryside)".

Furthermore, respondents were asked whether they expect financial and immaterial benefits (meeting new people, acting in a more sustainable way, having fun) from participating in the sharing economy to estimate motivational effects. The abilities to gain information from the internet and use them to achieve benefits or goals desired is measured with a short scale of Hargittai & Hsieh where respondents are asked to rate their familiarity with six internet-related terms ("Advanced Search", "PDF", "Spyware", "Wiki", "Cache", "Phishing") (Hargittai, 2008; Hargittai & Hsieh, 2010). To measure usage access in the sense of being online, respondents were asked for their frequency of internet usage as well as for the number of devices used to access the internet and online activities performed regularly.

To measure participation, respondents were asked to rate if they use different branches of the sharing economy (carsharing, home-sharing, food-sharing, goods-sharing, and finance-sharing with examples mentioned each) as providers (who offer personal goods for use), consumers (who access and use these personal goods of others), as well as both or neither of these.

A number of further variables such as age, gender, help received from others, as well as four attitudes including general trust in others, innovation attraction, volunteering, and materialism were included in the analysis as control variables.

Results

In the overall sample (N=6111 with 27.8 % active users), carsharing and home-sharing dominate the sharing economy with 18 to 19 % each of all respondents using that type of sharing and only less than one in five respondents not knowing these terms. Food-sharing, goods-sharing, and finance-sharing are less known and only about 5 to 7 % of all respondents use such platforms, almost two thirds are not familiar with these forms of sharing.

The probability of participating in the sharing economy can largely be explained through higher levels of materialistic motivation and internet usage, while immaterial motivation is negatively related to participation. It is important to mention that we allowed material and immaterial motivation to covariate, which they do positively and significantly. A model estimated without this covariance provided a positive relation of both, material and immaterial motivation to participation. In the same vein, we allowed online skills and internet usage to covariate. This effect is also positive, that is, higher levels of internet usage co-occur with higher levels of online skills. However, while internet usage is significantly and positively related to participation, online skills are not (with or without covariation).

Working respondents with higher income and education are more likely to participate in the sharing economy as they tend to expect higher financial benefits from doing so. They also possess higher levels of online skills and, in general, use the internet more often. In addition, respondents living in more urban areas are expecting higher financial benefits from sharing, motivating them to participate in the sharing economy more often. They also possess higher levels of online skills and use the internet more often than their counterparts living in areas that are more rural.

Implications

Our findings imply that Van Dijk's model of internet usage can be applied appropriately to explain participation in the sharing economy – thereby providing a sound theoretical lens through which to analyze the digital divide in the sharing economy. Our results show that participants in the sharing economy are largely comprised of users with higher SES, that is, higher levels of education, income, and labor status, as well as people living in more urban areas. They do so as a consequence of higher levels of material and lower levels of immaterial motivation combined with a higher affinity to the internet in general. Seeing participation in the sharing

economy solely as an opportunity structure itself providing the potential to realize self-related benefits, we see those already successfully engaged in education or the labor market adding another set of opportunities for social enhancement to their portfolio.

As a result, the sharing economy appears to be normalizing established power relations (Jennings & Zeitner, 2003) rather than challenging them, for example through a mobilization effect (Krueger, 2002). Furthermore, our findings indicate that participation in the sharing economy depends strongly on general internet usage, rendering the sharing divide a subset of a more general digital divide. Sharing participation is also strongly driven by material motives. The absence of an immaterial motivation actually contributes to an increased probability of participating. In summary, we can conclude that the sharing economy primarily affords opportunities to realize material needs. Users, overall, do not expect the sharing economy to supply social or hedonic wants. Instead, they use the sharing economy to achieve cheaper offers than on traditional markets or gain money from this new (and mostly unregulated) form of market exchange.

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5.2

Up or Out? The Dynamics of Star–Rating Scores on Airbnb

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Introduction

Airbnb represents the single most important and successful platform for accommodation sharing (Airbnb, 2017; Forbes, 2017)—presumably for peer-to-peer sharing in general. While it represents an interesting business model and a use case for many kinds of information systems in and by itself, it also serves as a blueprint for other ventures. This function as a role model makes Airbnb worth studying all the more. This said, one of Airbnb's central challenges is the maintenance of trust between users (Gebbia, 2016; Möhlmann, 2015). One of the most salient and disputed means to achieve this is the platform's star rating system. After a completed transaction, guests evaluate their hosts on a scale from one to five stars. Such ratings play a central role in the formation of trust in electronic C2C commerce and hence the realization of transactions altogether (Ert et al., 2016; Zervas et al., 2015).

The literature on Airbnb reports highly skewed distributions of rating scores, where the great majority of ratings is equal to or higher than 4.5 stars (Teubner et al., 2017; Zervas et al., 2015). This has raised some doubts about the functionality and effectiveness of Airbnb's reputation system, and it has almost become a fashion to deride it as dysfunctional

and ineffective (Wolff-Mann 2016). Recent literature has brought forward several explanations for this skewness, including customer self-selection, herding behavior, and non- or under-reporting of negative experiences. The latter may, in turn, be due to several reasons such as personal contact, reciprocity, fear of retaliation, or publicity (Bridges & Vásquez, 2016; Fradkin et al., 2018; Zervas et al., 2015). While such candidate explanations are increasingly being discussed, little have they been examined empirically.

In this paper, we report findings on the dynamics of Airbnb rating scores. The paper's main idea is that rating distributions in peer-to-peer platforms are subject to survivorship bias, based on the assumption that better-rated providers exhibit lower probabilities to drop out of the market. We draw on Airbnb data from October 2015 to May 2017. The paper sheds light on an important pillar of electronic commerce, in particular for C2C platforms, by means of empirical analysis.

Related Work

Many papers on Airbnb report highly skewed rating score distributions, where the great majority of ratings is equal to or higher than 4.5 out of 5.0 stars. Recent literature has brought forward several possible explanations for this remarkable skewness. First, non- or under-reporting of negative experiences may cause a positivity bias (Fradkin et al., 2018). One suggestion in this regard is *reciprocity* (e.g., tit-for-tat, fear of retaliation). Since Airbnb introduced a simultaneous review system already in 2014 (Airbnb, 2014), reciprocity can be ruled out as a driver of distribution skewness.

More promising, it is suggested that the high degree of personal contact associated with staying at someone's apartment may prevent all too critical assessments. Submitting a negative rating to someone with whom one has spent time may simply feel awkward and hence let users withhold their complaints (Bridges & Vásquez, 2016; Ikkala & Lampinen, 2015). However, prior research suggests that average rating scores and their distributions differ only marginally between transactions with and without extended personal contact between host and guest, rendering also this potential explanation rather unlikely (Teubner & Glaser, 2018).

An additional potential explanation for the dynamics of rating scores are distinct survivorship processes. Specifically, the large share of top-rated listings may be partially attributable to increased survivorship of well-rated listings. The theoretical conception of the survivorship bias is straightforward. The main premise is that there occurs a logical error when

concentrating on objects or observations that emerged as a result of some selection process and overlooking those that did not – typically due to their lack of visibility (Brown et al., 1992). Given that markets are not static but in a steady process of change, listings on Airbnb are subject to an ongoing selection process, where new listings enter the market while others drop out. Prior research on reputation dynamics on Taobao.com (China's largest e-commerce platform) found that seller reputation has a positive effect on established sellers whereas it does not for new sellers in the sense that "at any point of time, better-reputed established sellers are more likely to survive for another six months" (Fan et al., 2013, p. 4). Likewise, time series analysis of eBay sellers revealed that when a seller receives negative feedback, weekly sales dropped distinctly. Moreover, higher market exit rates were found for sellers with low than for those with good reputation (Cabral & Hortaçsu, 2010).

Data, Methods, and Results

The data was retrieved from InsideAirbnb.com (Cox, 2017; Wired, 2017). In this paper, we focus on Berlin data. Preprocessing yielded as set of 43,288 distinct listings. Figure 12 depicts the distributions of rating scores when differentiated by the underlying number of ratings. From left to right, the number of ratings increases where each bin has twice the size of the preceding one. As can be seen, the rating scores' range decreases from 80 (=100–20) to 24 (=99–75). Similarly, the interquartile range decreases from 20 (=100–80; 1 rating) to 5 (=96–91; ≥64 ratings).

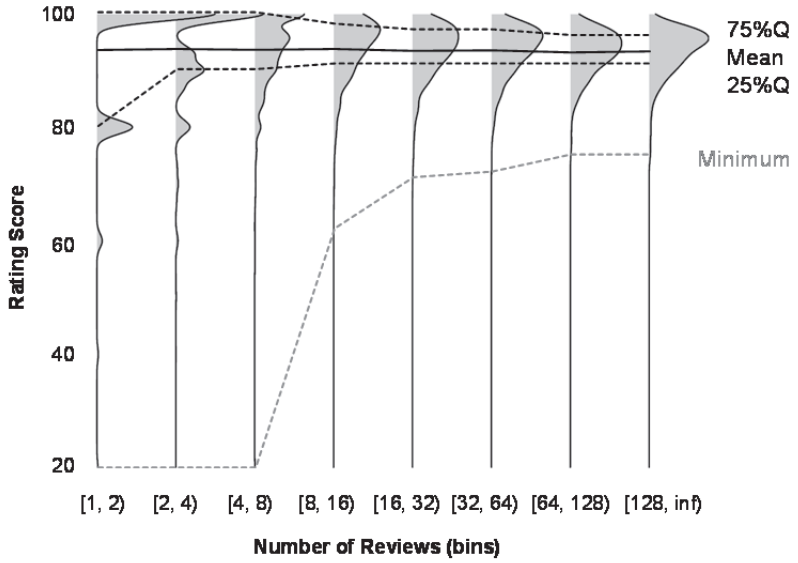

Figure 12: Rating score distributions, differentiated by number of reviews

Next, we consider transitions between a listing's possible rating score "states." A state refers to a listing's star rating score, where all scores of 3.5 stars or less are aggregated into a joint category. With that, we compute the monthly state transition probabilities. This also yields a differentiated set of churn rates, depending on its rating score. Moreover, we obtain an assessment of the probabilities for different star ratings of newly arriving listings. A summary of these state transitions is depicted in Figure 13.

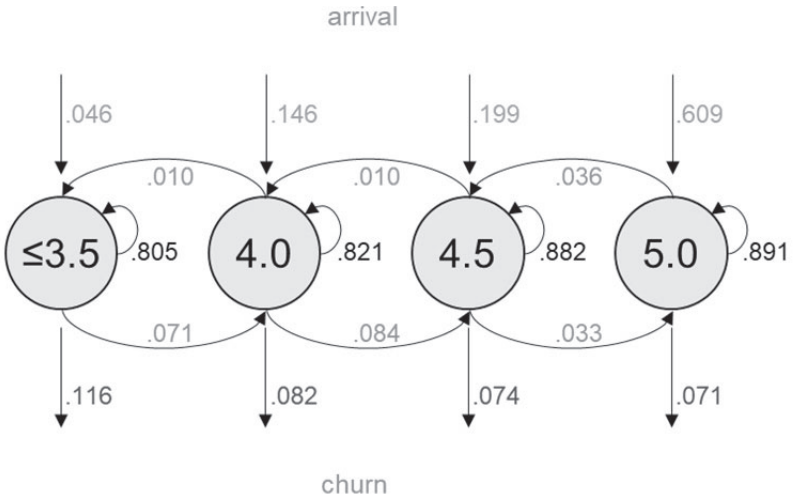

Figure 13: State transition network

As can be seen there, new listings entering the market have a probability of 60.9% to be rated 5.0 stars, 19.9% for 4.5 stars, 14.6% for 4.0, and 4.6% for 3.5 stars or less. With regard to churn, lower rating scores are associated with higher churn rates (7.1% < 7.4% < 8.2% < 11.6%). Listings with 3.5 stars or less exhibit 63% higher churn rates than those with 5.0-star ratings.

Conclusion

Markets with information asymmetry may fail if quality cannot reliably be signaled (Akerlof, 1970). Since markets such as Airbnb exist, function, and flourish, the accumulated provider reputation appears to represent a mechanism by which information about behavior can be credibly communicated to consumers. For providers, consumers, and platform operators, it is hence crucial to understand the meaning rating scores actually carry and how they emerge dynamically over time – potentially explaining much of what is casually referred to as the ratings' *skewness*. When differentiated by the underlying number of ratings, the picture is unambiguous. Rating distributions become narrower and unimodal for higher numbers of ratings. For Airbnb listings, roughly speaking, it is hence either *up or out*.

While overall, additional factors play a role in shaping rating score distributions, the data clearly shows that differential dropout rates support the notion of survivorship bias. Our approach can also support the understanding of customer churn, representing a threat to basically every business. For Airbnb in particular, it is essential to understand when, how, and why providers drop out of the market as these do not simply represent customers but the very pillar of Airbnb's business model.

The debate around five-star rating systems has revealed a great amount of customer confusion in perceptions of what is and should be considered a good rating score. Ethan Wolff-Mann (2016) nicely put it by stating that "at some point, maybe around when orange became the new black, four stars became the new zero." For star ratings as a design element of two-sided platforms, it is hence crucial to develop a clear understanding since otherwise, they degenerate into pixels with no practical value. While of course Airbnb's rating score distribution is far from uniform, the popular narrative that "all ratings are 5 stars anyway" must be rejected. After all, the scale allows for sufficient differentiation. With this paper, we hope to contribute to the ongoing debate by providing novel empirical insights, which we believe is instrumental for understanding not only the *whats* and *wheres* of star rating systems, but also its *hows* and *whys*.[1]

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[1] For the full paper, we kindly refer to Teubner & Glaser (2018). Up or out—The dynamics of star rating scores on Airbnb. In *ECIS 2018 Proceedings*, pp. 1-13, Portsmouth, UK.

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5.3

In Blockchain We Trust? Consumer Trust Relationships in the "Sharing Economy 2.0"

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What we (do not) know about Trust in the Sharing Economy 2.0

Writing about "the sharing economy" is a difficult undertaking. The oxymoronic term conjures up images ranging from social romantic world improvement to a neoliberalistic platform capitalism dystopia and thus always demands for explanation and discussion. Avoiding this terminological minefield, I refer to the term sharing economy as "consumers granting each other temporary access to under-utilized physical assets ("idle capacity"), possibly for money" (Frenken & Schor, 2017, p. 4-5).

Granting access to privately owned goods from peer to peer necessitates overcoming reservations about possible vulnerability to strangers – in a nutshell: the sharing economy runs on trust (Gebbia, 2016; Hawlitschek, Teubner & Weinhardt, 2016; Möhlmann & Geissinger, 2018). Trust in its own right is a research topic of interdisciplinary nature and (as an enabler of social interaction) of imperturbable recency (Rousseau et al., 1998; Söllner et al., 2016a). Consequently, concepts and theories addressing trust in the sharing economy are complex and diverse. Typical transactions in a sharing economy context comprise at least a triad of relationships, involving peers, their products and a platform (Hawlitschek et al., 2016a; Hawlitschek et al., 2016b; Möhlmann, 2016). While both peers and platform (providers) as potential targets of trust have been well addressed in the literature, the underlying technology of sharing

economy platforms has been mostly neglected. However, as demonstrated by Söllner et al. (2016b), trust in the environment that enables the use of information systems is a crucial prerequisite for trust in the information system provider.

While usually the Internet is considered as the technological environment that drives the rise of the sharing economy (Hamari, Sjöklint, & Ukkonen, 2016), peer-to-peer sharing of private assets may well be facilitated by alternative technological environments. One example that is increasingly discussed (and hyped) by both academic and non-academic authors is the blockchain (Hawlitschek, Notheisen & Teubner, 2018). In this sense, Lundy (2016) coined the term "sharing economy 2.0" as a "true" (intermediary independent) sharing economy facilitated by blockchain technology.

While the blockchain can be considered trust-free within the boundaries of a closed ecosystem (Glaser, 2017), the actual impact of this underlying technology on trust relationships in the sharing economy is rarely addressed in the academic literature. One fact can be taken for granted: "blockchain affects trust" (Beck, 2018, p. 56). However, the underlying mechanics of how blockchain as a technological environment affects other targets of trust, is an open research question so far. From a more general perspective, the question of how trust is affected by the blockchain is an important component of a larger research agenda (Beck, Müller-Bloch & King, 2018). In this paper I will shed first light on the consumer trust relationships in a blockchain-enabled sharing economy environment.

A Model of Trust in the Sharing Economy 2.0

Although the number of calls from the scientific community to investigate the use of blockchain technology in the context of the sharing economy is increasing (Risius & Spohrer, 2017; Puschmann & Alt, 2016; Beck, 2018; Sundararajan, 2016; Notheisen, Hawlitschek & Weinhardt, 2017), the information systems (IS) literature on blockchain and trust in the sharing economy is scarce (Hawlitschek et al., 2018). To better understand the role of blockchain as the underlying technology for sharing economy transactions and the corresponding implications for trust from a consumer perspective, I developed and tested a theoretical model of trust relationships in a blockchain-enabled sharing economy scenario (see Figure 14).

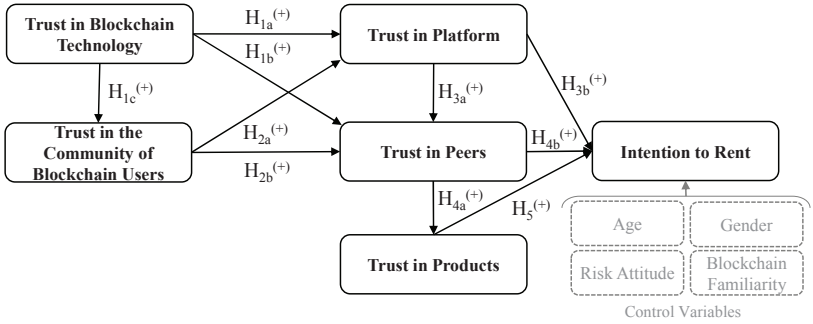

Figure 24: Research model: trust in the context of Blockchain-based platforms

The model is derived from the work of Söllner et al. (2016b), who developed a general model for the relevant targets of trust in the context of IS use. These targets comprise trust in the IS, trust in the provider, trust in the internet, and trust in the community of internet users. In the simplified model discussed in this paper, trust in the provider was removed. Instead, the established differentiation between trust in platform and trust in peers was added (H_{3a}, H_{3b}, H_{4b}). Furthermore trust in the product (Hawlitschek et al., 2016a) was included in the model (H_{4a}, H_5). All trust constructs related to the internet (Söllner et al. 2016b) were adapted to a blockchain context (H_{1a}, H_{1b}, H_{1c}, H_{2a}, H_{2b}).

A scenario-based pilot survey among a sample of Millennials from an experimental economics and a PhD course at the Karlsruhe Institute of Technology was conducted in December 2017 to evaluate the theoretical model. The survey comprised two steps: first, an introductory text describing a blockchain-based sharing economy platform was distributed among the participants and read out aloud. The text described the vision of a blockchain-based universal sharing network for peer-to-peer sharing of IoT assets – the so-called Slock.it platform (https://slock.it/). Second, a questionnaire with randomized survey items was distributed. All items were adapted from established constructs (questionnaire available from the author) and measured on 7-point Likert scales ranging from strong agreement to strong disagreement. Also two questions for testing the participants' attention and a set of demographic and control constructs were added to the questionnaire.

Study participants were recruited during a lecture and a PhD colloquium for a voluntary participation. Consequently, even though the obtained sample size of 48 observations is large enough to detect minimum R^2 values of 0.25 at a significance level of 10 percent with a

statistical power of 80 percent (Hair et al., 2016), the results of the pilot survey should be interpreted with caution. The following descriptive statistics provide a brief impression of the sample: overall, 48 students participated in the survey. Age ranged from 22 to 35 years with a mean of 25.73 years. About 31 percent of the participants were female. The educational standard was mostly on a bachelor level, while the familiarity with blockchain technology (risk affinity), on an 11-point scale, ranged between zero (two) and nine (nine) with a mean of 4.9 (4.8).

The research model was evaluated using Partial Least Squares Structural Equation Modelling (PLS-SEM), conducted in SmartPLS 3.0 (Ringle, Wende & Becker, 2015; Sarstedt et al., 2016), due to the exploratory character of the study for theory extension (Hair, Ringle & Sarstedt, 2011). Following the guidelines of Hair et al. (2016), the evaluation of the measurement model of reflective constructs revealed sufficient reliability, convergent, and discriminant validity. Collinearity between the indicators of formative constructs was not an issue. However, the indicator significance and relevance testing resulted in the decision to drop one indicator of the *Trust in the Community of Blockchain Users* construct. Overall, the measurement model fulfilled the required properties.

For testing the structural model PLS bootstrapping (with 5,000 subsamples, no sign changes, basic bias-corrected and accelerated bootstrapping, and two-tailed hypotheses testing) was conducted. The results of the corresponding analysis are depicted in table 6.

Hyp.	Estim.	Std. Dev.	Effect size f^2
DV: Trust in the Community of Blockchain Users (adj. R^2=0.172)			
$H_{1c}^{(+)}$	**.456****	**.144**	**.233**
DV: Trust in Platform (adj. R^2=0.175)			
$H_{1a}^{(+)}$	**.436****	**.141**	**.200**
$H_{2a}^{(+)}$	.073	.185	.001
DV: Trust in Peers (adj. R^2=0.487)			
$H_{1b}^{(+)}$	.016	.154	.001
$H_{2b}^{(+)}$	.035	.149	.000
$H_{3a}^{(+)}$	**.712*****	**.098**	**.813**
DV: Trust in Products (adj. R^2=0.300)			
$H_{4a}^{(+)}$	**.592*****	**.085**	**.459**
DV: Intention to Rent (adj. R^2=0.277)			
$H_{3b}^{(+)}$	**.492****	**.170**	**.148**
$H_{4b}^{(+)}$	-.296	.195	.059
$H_5^{(+)}$	.332	.262	.082

Table 6: Results from the structural model (*** p<.001; ** p< .01; * p<.05)

Out of the ten hypothesized relationships, only five could be confirmed. Interestingly, H_{4b}, which is very well established in the literature (ter Huurne et al., 2017; Hawlitschek et al., 2018), could not be confirmed. Instead, a total effect of *Trust in Blockchain Technology* on *Intention to Rent* (.192, *p<.05*) could be identified. Testing the influence of the control variables on the dependent variable suggested no significant effects.

Do We Need to Trust Trust-free Systems?

Despite several major limitations and shortcomings of this pilot study (sample representativity and size, self-selection bias, questionable causality and potential problems of endogeneity, fictitious platform environment, etc.), the results provide some preliminary but very interesting insights on the consumer trust relationships in the sharing economy 2.0. I want to highlight one thought that can be derived from the findings at hand and is also in line with other theoretical considerations in the academic literature: even though blockchain is considered as a “trust-

free technology," the formation of decisions, appears to depend on the users' trust in the blockchain technology itself.

This pilot study contributes to theory and practice by shedding first light on the multitude of targets and trust relationships in blockchain-enabled peer-to-peer sharing and by demonstrating the need for establishing trust in blockchain technology itself. First and foremost, however, it should be seen as an impulse and call for future research in the challenging intersection of the research topics of blockchain, trust, and the sharing economy.

I want to thank the participants of my experimental economics class in the winter term 2017/2018 for their inspiration for writing this paper.

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5.4

Facilitating or Regulating the Sharing Economy? Uncovering the impact of Carsharing

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Introduction

The sharing economy in general and carsharing in particular receive tremendous public attention in Germany (Statista, 2018). The public perception of carsharing is generally positive. In this realm, the German government has recently passed a law that gives priority to carsharing in Germany by granting privileges when parking, such as reserved parking spaces and exemption from parking fees (Bundesministerium der Justiz und für Verbraucherschutz, 2018).

At the same time, there are some negative headlines in the media. Carsharing seems to have the potential to replace private vehicles. One carsharing vehicle substitutes up to ten vehicles held by individuals (e.g. bcs Bundesverband CarSharing e.V., 2012; Martin et al., 2010; Shaheen et al., 2012). This shift does not only influence car manufacturers and their employees, but also local authorized dealers (IIC Group, 2014). Manufacturers like BMW and Daimler have started to offer their own carsharing services and began a transformation process from manufacturer to mobility providers (Statista, 2017) – with unpredictable consequences for their network of suppliers and for employment. From an environmental

perspective, a lower number of cars promises less air pollution and positively affects traffic congestions (Li et al., 2016). In contrast to this, the sharing economy and the corresponding availability of having easy and cheap access to resources may lead to rebound effects (Frenken & Schor, 2017). There are first indications that Sharing economy offers induce a shift from public transport to private transportation, leading to an increase rather than a decrease in private transport (Lindsay, 2017). However, studies investigating the impact of carsharing stay on an economic and environmental level without incorporating direct effects on carsharing users and offering recommendations to facilitate this phenomenon.

Previous studies discussing the impact of other sharing economy business models tend to bring important ideas forward, but cover the phenomenon on a very broad level. Recommendations to support the positive effects and mitigate the negative effects are mostly limited to government intervention and regulation without looking at other parties influencing the effect of sharing economy services (such as platform providers or service users). The few studies providing applicable recommended actions that go beyond governmental regulations investigated the phenomenon from an tourism industry perspective (Frey et al., 2018). However, the dynamics of carsharing are fundamentally different from those in tourism. Consequently, the corresponding questions on regulation and facilitation of this phenomenon remain unclear.

Based on interviews with representatives of the carsharing industry (e.g. carsharing associations and carsharing providers), this study aims at addressing the two research questions:

1) How does carsharing potentially affect our society, the car manufacturing market, and users?
2) How can these effects be supported and mitigated?

Methodology

We employed a multiple-case study design (Yin, 2009) with an interpretive stance (Walsham, 1995) to uncover the potential impact of the Sharing economy in the context of carsharing without manipulation or explicit control of variables (Darke et al., 1998). In order to gain in-depth insights on the impact of the Sharing economy, we focus our research on business-to-consumer (B2C) and peer-to-peer (P2P) carsharing in Germany—one of most common sharing offers in Germany (Statista, 2018). In contrast to an all-encompassing perspective, this focus allows us

to translate observations into actionable recommendations for policy makers, carsharing providers, and users and thereby not only consider the restriction but also facilitation of the Sharing economy.

The collection of data from multiple carsharing organizations facilitates us to study the phenomenon in different settings and enables cross-case analysis (Yin, 2009). We conducted 12 semi-structured interviews with representatives of 12 different carsharing organizations associations ranging from six non-profit carsharing associations to one commercial-orientated P2P carsharing organizations and five B2C carsharing organizations. A semi-structured interview guideline (Eisenhardt, 1989; Orlikowski, 1993) based on literature on the potential impact of the Sharing economy (Cervero et al., 2007; Fang et al., 2016; Guttentag, 2015; Tussyadiah & Pesonen, 2016; Zervas et al., 2017), drivers and motives of the sharing economy (Hamari et al., 2015; Möhlmann, 2015; Tussyadiah, 2015), and surrounding conditions (Hartl et al., 2015; Martin, 2016; Scaraboto, 2015) was developed. The interviews had an average length of 55 minutes, were recorded, transcribed, and coded.

Results and Discussion

Our analysis reveals that carsharing has different effects on the society, car manufacturers, and users of carsharing services. First, we outline the effects on the society, followed by the effects on users and car manufacturers. Within the boundaries of this short paper, we are forced to limit ourselves to discussing selected effects that we find to be particularly important or interesting.

In line with prior studies (e.g. Martin et al., 2010; Shaheen et al., 2012), carsharing seems to have a positive impact on the society by reducing traffic. The following quote counters the argument that carsharing leads to an increase in private transport, as it serves as a complement for public transport (Lindsay, 2017):

> *"If I can manage eight times the utilization of such a vehicle, then the additional traffic will not increase to that extent. Time is the tightest factor. Where can I find the time to travel and the additional benefit is not as great as the time I would spend on mobility at the end of the day."*

Also for car-manufacturers there could be positive effects, since they could test their newest vehicles and concepts and immediately get customer feedback without having to produce large batches:

"The visibility for the fuel cell and hydrogen mobility is actually the most important issue. […] We want to learn how customer acceptance of the vehicles and the feedback on refueling and vehicles in general is, but also how the vehicles work if they are actually used every day."

On user side, there could be a positive impact on the usage of other sharing offers. Once the first hurdle of sharing has overcome, it is easier to build up an affinity to other sharing offers. This could also lead to true sharing behaviors of other resources:

"In our association also other things are exchanged sometimes. You rent a lawn mower if it is broken or a hedge trimmer. You also have the confidence that the others handle things properly and that you get it back. If you can share a car, you can swap and rent other things."

Additionally, in contrast to private car ownership, the user receives immediate feedback on the costs of each ride. This could lead to an educational effect for the users:

"Carsharing users will first enjoy the great freedom and go here and there—but then on the bill they'll see if it was worth it. I think that this will have an educational effect that will lead to more environmentally friendly behavior again."

However, there could be also negative effects for the users of carsharing services due to the "don't be gentle, it's a rental" effect:

"As soon as it is no longer property, it is dealt with completely differently and someone has to bear the costs and nobody is happy in the end if the costs are then reallocated to the general public via the sharing tariffs."

Our findings lead to several recommendations to overcome the few negative effects of carsharing and to facilitate the prevailing positive effects.

For policy makers we found that there is a need to support carsharing in form of infrastructure (e.g. parking spaces). In addition, connections to public transport seem to be beneficial, since the profitable operation of a carsharing business is dependent on environmental conditions such as the presence of subway stations. Furthermore, policy makers should consider carsharing in urban planning projects and financial support to overcome the initial obstacles to vehicle financing. However, interviewees stated that funding guidelines need to be adapted to be able to provide funding, since some rigid administrative guidelines currently do not allow funding for carsharing.

For providers of carsharing services, we recommend connecting to other mobility providers such as the public transport and other smart and shared mobility services such as ride sharing or ride hailing to offer mobility solutions from a single source.

Conclusion

As expected, carsharing exhibits positive and negative effects simultaneously. However, the positive effects seem to predominate. Our analysis gives no indication of any further need for regulation. As carsharing users are made aware of the costs immediately after each trip, they recognize the actual costs of the trips, which lead to more sustainable behavior.

The contribution of this study is twofold. First, we delineate the impact of carsharing on multiple parties such as car manufacturers, users, and society. Secondly, we outline recommendations on how to support the positive effects and mitigate the negative ones. In summary, this represents a first step towards resolving the tension between regulation and facilitation of the Sharing economy.

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6.

POLITICAL SCIENCE AND LEGAL STUDIES PERSPECTIVE

6.1

Conceptualizing the Role of the State in the Digital Platform Economy

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Introduction

The global proliferation of digital platforms (for instance in the sharing economy) such as Airbnb, Uber and Amazon Mechanical Turk has led many scholars to question whether states can still successfully intervene in markets via command and control regulation. Emphasizing possible limits of state intervention, many have either pointed towards the purported 'footlooseness' of globally operating platforms (Pasquale, 2018) or towards disruptive "'facts' in the[ir] software" (Kenney & Zysman, 2016) as potentially hindering factors.

Yet, these skeptical perspectives on state capacities in the platform economy contrast a global increase in platform-specific state *activity*. In December 2017, the European Court of Justice classified Uber as a transport services company instead of an intermediary, thereby virtually banning the platform's UberPop business model in the entire European Union. Shortly after, New York City's mayor voted in favor of passing legislation that would cap the number of ride-hail vehicles on its roads (Wired, 2018).

This increase in state activity has gone hand in hand with a shift in public debate. While platforms such as Airbnb and Uber were initially framed as more sustainable alternatives to centralized service providers (Botsman & Rogers, 2010), a more pessimistic perspective – criticizing them for bypassing existing regulations or for fostering precarious labor relations – has recently come to dominate headlines (Slee, 2016). In this context, a variety of scholars have explicitly countered the 'limits of state

intervention'-perspective, instead emphasizing both the necessity and the *feasibility* of state intervention (Srnicek, 2017; Morozov & Bria, 2018).

This chapter argues that either perspective is misleading. Both frame the state as a mere market "fixer" (Mazzucato, 2015) whose primary capacity consists in retroactively reining in purported negative impacts of new market activities. Therefore, they almost exclusively focus on *ex post* forms of state activity in the platform economy.

The ubiquity of this focus is surprising, given that states not only "fix" but also actively create and transform markets, for example by facilitating and guiding technological change (Zysman, 1994). Consequently, state and market have always been intricately linked beyond *ex post* approaches of "fixing" markets (Slater & Tonkiss, 2001). Yet, despite these findings, current literature only seldom investigates the role that states play and have played in facilitating and shaping the development of the platform economy.

In order to amend this, the chapter develops an analytical framework for the platform economy that puts particular focus on this very interconnectedness between state and market. Such a framework is necessary, as it can further our understanding of what states can and *cannot* do in the platform economy. The chapter proceeds as following: the first section introduces both the specificity of the platform economy and a conceptual approach to state activity. The second section combines these perspectives and develops a preliminary research agenda. It then concludes by outlining the framework's contribution to the field.

Towards an Analytical Framework

(1) Understanding the Platform Economy

The platform economy incorporates all economic and social activity facilitated by digital platforms. Such platforms exhibit three main traits that relate to or potentially make them subject to state activity: First, platforms are intermediary digital infrastructures that create value by coordinating interactions and transactions between two or more distinct groups of users in specific industries (Kenney & Zysman, 2016). In doing so, they facilitate the "exchange of value produced by decentralized networks of individuals" as well as other formalized groups (such as companies) (Moazed, 2016). Consequently, their emergence has had a transformative impact on both inter-firm and state-firm-relations in various industries.

Second, platforms integrate both supply and demand. In doing so, they enclose interactions and transactions of the specific industries they operate in. As a result, platforms create internal markets whose rules and governance mechanisms they exclusively determine.

Third, platforms are particularly suited to extracting data as they position themselves between multiple information holders. This data can then be analyzed and sold as a commodity. As a result, platforms compete with both functionally similar platforms in specific industries as well as with functionally different platforms in the market for data (Srnicek, 2017).

In sum, the proliferation of the platform economy has brought with it (1) the transformation of existing industries, (2) the creation of new platform-internal markets, as well as (3) increasing competition in the market for data extraction and analysis. Analyzing state activity in each of the policy fields associated with these traits—the specific industries, the platform-internal markets, and the data market—enhances our understanding of how state and market are bound up in the platform economy.

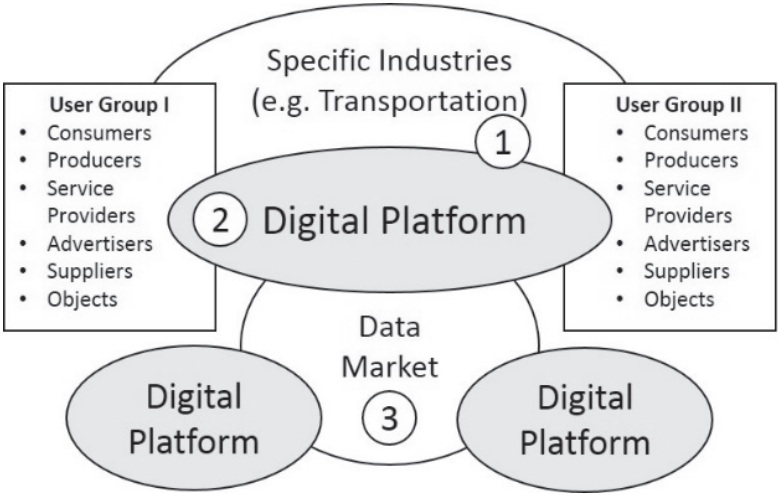

Figure 15: Policy Fields of the Platform Economy

(2) Understanding State-market-relations

States actively shape the framework of market transactions by providing "stable and reliable conditions under which firms organize, compete, and

exchange" (Fligstein, 1996). Economic transformations—such as the current process of "platformization" (Helmond, 2015)—are therefore carried out in politically pre-configured environments (Zysman, 1994). In order to analyze how exactly states have influenced the three fields of the platform economy outlined above, it is therefore necessary to develop an understanding of the capacities that states have at their disposal to influence markets. Vormann & Lammert (2019) propose to differentiate between three ideal-type levels of state activity:

First, states act as market enablers. By providing the infrastructures that enable circulation (for example of data), enforcing contracts and harmonizing technical standards, they create the basic framework and conditions of possibility of (transnational) markets. Second, states act as market shapers. By (de-)regulating market entry and behavior, providing tax incentives and mitigating between different interests, they guide growth in a particular (context-specific) fashion (Hall & Soskice, 2001). Third, states act as market developers. They do so through public investments in new technologies and basic research and development and by granting tax rebates and direct loans for specific market actors. This is done in order to ensure the continuous expansion of existing markets. Taken together, this typology of state activity incorporates ex-ante as well as ex-post approaches and thereby provides an adequate starting point for identifying all relevant policies with which states have intervened in the platform economy.

Important to note is that—given the global scope of the platform economy—jurisdiction is often times not clear-cut. Thus, all implicated levels of government need to be taken into account when analyzing these types of state activity. Taking the case of Germany's role in the platform economy as an example, one would therefore not only have to identify state activity on the federal level, but also on the local as well as on the European level. By employing such a multi-level-perspective, one is furthermore enabled to also identify potential scale-related contradictions the might hinder state intervention as well as possible conflicts of interest relevant to the policymaking process.

The following image illustrates this interconnectedness of market and state in the platform economy in an ideal-type fashion.

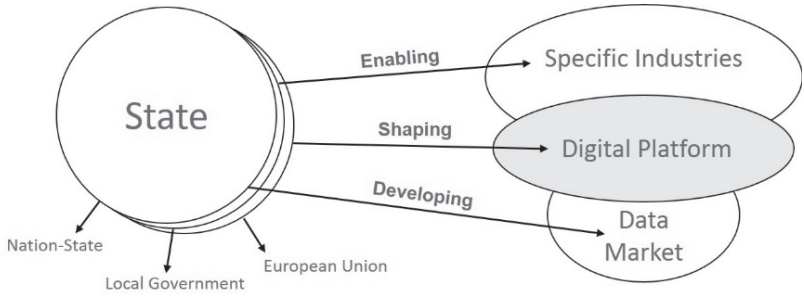

Figure 16: State-market relations of the platform economy

Outlining a Research Program

What can be derived from these conceptual considerations? On one hand, having identified the three policy fields of the platform economy—the specific industries platforms operate in, the platform-internal markets, and the data market—provides us with an understanding of what state activity in the platform economy is *directed towards.* On the other, having conceptualized the three types of state activity—market enabling, shaping, and developing—provides us with an analytical lens that allows for identifying dimensions of state activity beyond *ex-post*-approaches of market "fixing."

Combining both perspectives then suggests a three-step research program. First, one should identify all relevant *platform*-specific state activities, meaning all policies directed at the functioning of the platform model and its internal market. The federal German *Netzwerkdurchsetzungsgsgesetz*, which forces platforms to manually delete all 'obviously illegal content,' would constitute an example for the activity of market shaping on the level of the nation state.

Second, all relevant *data*-specific state activities—meaning all policies directed at the securitization and circulation of the commodity that platforms extract—need to be identified. The *European Free Flow of Non-Personal Data* regulation, whose aim is to promote a more competitive and integrated EU market for data storage, would constitute an example for the activity of market enabling on the level of the European Union.

Lastly, one should identify all relevant *industry*-specific state activities, meaning all policies directed at the specific industry a platform operates in. Barcelona's *tourism law*, which forces all hosts of short-term rental platforms to register individually with the city council, would constitute an example for the activity of market shaping on the local level.

In sum, the research program allows for analyzing in a more holistic fashion how exactly states steer and influence the development of the platform economy.

Conclusion

Current perspectives on the role of the state in the platform economy lack a robust conceptualization of state-market relations. To amend this, the chapter has put forth a framework that links the policy fields of the platform economy to a typology of state activity. Through this, the framework contributes to the field in two ways: First, it allows for state activity beyond *ex post* approaches of "fixing" markets to come into view. Second, it allows for observing both political conflicts in the policymaking process as well as strategies with which states mediate such conflicts. As a result, it makes visible patterns of state work that have come to facilitate the building of the global network of the platform economy, which, in turn, furthers our understanding of what states ultimately can and *cannot* do in this context.

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6.2

Sharing and the City: Roles, Relations, and Governance Mechanisms

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Introduction

The emerging phenomenon "sharing economy" comprises diverse arrangements where under-utilised assets are shared, exchanged, or rented, and often enabled by online platforms (Frenken & Schor, 2017). Sharing of spaces, vehicles, and assets takes place through monetary and non-monetary exchanges between peer-to-peer, business-to-consumer, business-to-business, and public-to-public actors. However, the sharing economy is a contested concept (Schor, 2014; Cohen, 2016; Sundararajan, 2016). Some authors claim that it reduces environmental impact, strengthens social cohesion, and stimulates entrepreneurship (Botsman & Rogers, 2011), while others see it as a threat to professionalism, security, and labor laws (Bradley, 2017).

With increasing urbanisation, cities face numerous sustainability challenges to address which many cities work through formal and informal networks with promising concepts such as the sharing economy. Cities play an important role in shaping the landscape of the sharing economy and in defining conditions for success or failure of sharing organizations (McLaren & Agyeman, 2015; Długosz, Voytenko & Mont, 2015; Zvolska

et al., 2018). To emphasize the increasingly important role of municipal actors and local contexts, we use the term *"urban sharing"*—an alternative consumption mode between actors in cities comprising the act of gaining access to resources and utilising idling rivalrous physical assets through online platforms.

Despite the proliferation of multiple forms of urban sharing in the recent decade, the dynamics and mechanisms of how cities engage with sharing and how urban sharing organizations (USOs) influence cities has not been extensively explored (Bernardi, 2015). There is lack of understanding of the relations between city level institutions, the sharing economy in general and USOs in particular.

The institutionalisation of urban sharing takes place through two principal sets of dynamic processes. Firstly, a top-down institutionalisation process whereby a city government employs its agency to promote or inhibit certain USOs through the governance mechanisms of regulating, providing, enabling and self-governing (Zvolska et al., 2018). Secondly, a bottom-up process, which is a result of USOs' institutional work (Zvolska et al., 2018). This paper aims to advance our research on the first institutionalisation dynamic, and to develop further our conceptual framework (Zvolska et al., 2018), which demarcates four roles of municipal governance: city as regulator, provider, enabler and consumer. Consequently, it seeks to answer the research question:

How do city governments engage with sharing and what is their role in its institutionalisation?

Research Methodology

We test the advanced conceptual framework with data from USOs, municipal governments and other sharing actors in Berlin, Gothenburg, London, Malmö and San Francisco. The empirical data are collected through a mixed-method approach combining traditional methods—analysis of academic and grey literature, case studies, field and participant observations at three workshops, three focus groups with users of sharing services, and 73 in-depth interviews, with novel approaches, such as a mobile research lab—and a collaborative process of conducting in-situ analysis by a research team that allows analysing the study object in its context. Four mobile research labs[1] were conducted.

[1] One in each city apart from Gothenburg, where mobile research lab is planned for autumn 2018.

Results and Discussion

Drawing on the urban governance modes, i.e. governing by authority, through provision and enabling and self-governing (Bulkeley & Kern, 2006; Kern & Alber, 2008), we conceptualise four roles—regulator, provider, enabler and consumer (Figure 17)—that city governments may assume when working with urban sharing (Zvolska et al., 2018). The city government can employ any of the four roles and combine them to varying degrees when dealing with any governance issue (Bulkeley & Kern, 2006). The roles play out to be explicitly or subtly promoting or inhibiting the emergence and operation of USOs.

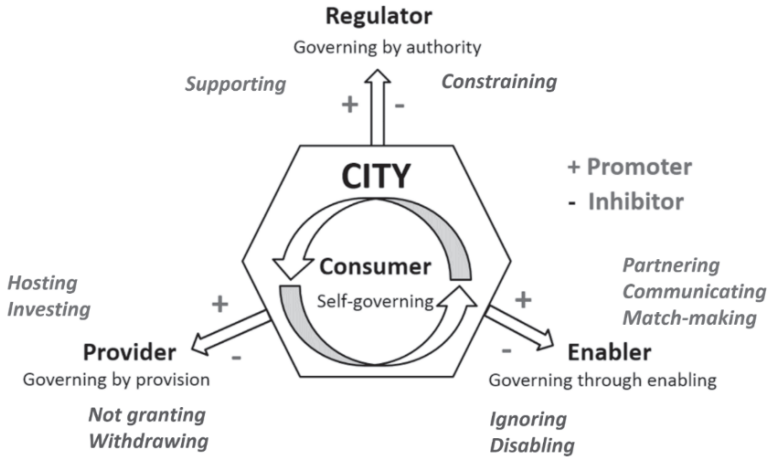

Figure 17: Governance modes for cities

City as Regulator

The main mechanisms are enforcement and sanction. The city government employs a range of regulatory tools: laws, taxes, bans, policies that regulate the establishment and operation of USOs. It can both devise regulation that constrains USOs to emerge or spread, or develops policies that support all or certain types of USOs in the city.

There are many uncertainties about whether and how the city governments should regulate USOs. London, Berlin and San Francisco have specific yet different ways to regulate or ignore large disruptive USOs. For example, ride sharing services Lyft and Uber are not regulated

in their home San Francisco as they are seen as contributing to local employment. In Berlin Uber is banned. Short-term accommodation rentals - Airbnb, VRBO and One Fine Stay—are subjects to legal restrictions on maximum and minimum allowed nights of stay in London, Berlin and San Francisco. Malmö and Gothenburg do not have such local regulations since national law in Sweden regulates the housing market including short-term rentals.

City as Provider

This role is exercised through the provision or withdrawal of practical, material and infrastructural means. City governments may offer financial ("city as investor") or infrastructural ("city as host") support to USOs. However, they can also choose to intentionally or unintentionally ignore USOs and not grant any financial resources to them or withdraw existing infrastructure support.

In London and Berlin, the city mainly acts as a host. Malmö and Gothenburg support several USOs with start-up funding, premises, materials, equipment, transportation, and salaries.

City as Enabler

The key enabling mechanisms are persuasion, argumentation, and incentives. City governments may facilitate collaboration among USOs, provide information about sharing and offer training on the topic (i.e. "a match maker"). They may organise competitions and offer voluntary certification schemes to recognise the best sharing practices. They may disseminate the best urban sharing practices and market them to different stakeholders (i.e. "a communicator"). They may also enter into partnerships with USOs and other stakeholders (i.e. "a partner"). Often a city becomes a partner for strategic reasons, e.g. to address urban sustainability challenges through engagement with a sharing community. An example of a city-communicator and partner is the Smart Map[2] project in Gothenburg, which is a result of public partnership between Gothenburg municipality and the NGO Collaborative Economy Gothenburg. The Smart Map was co-created with Gothenburg citizens and maps over 100 USOs in the city.

At the same time, the city may ignore or disable USOs. Ignoring USOs, however, could have an enabling effect too. For example, the City

[2] See a short video about Gothenburg Smart Map at http://smartakartan.se/about/

of San Francisco ignores ride-sharing services Uber and Lyft by not imposing any restrictions on them, thereby enabling their operations. An enabling role may become controversial, if the city supports USOs selectively. This becomes particularly problematic, if the city is accused of preferential treatment of certain profit making USOs or of intruding into the market as it breaches competition laws. This is one of the reasons why Malmö and Gothenburg focus their enabling efforts on local and non-profit USOs.

City as Consumer

The mechanisms are those of organizational management when municipalities adopt urban sharing practices in their own operations, e.g. procurement or when different municipal units engage in sharing activities with each other.

Examples include procurement of Zipcar services for municipal employees in Croydon, London, bicycle and car pools for city employees at Malmö City, publicly procured bicycle pool Styr och Ställ in Gothenburg, and London Waste and Recycling Board's plans to share high value low use assets between London boroughs.

Governance Spectrum of City Actions

We identify at least five different categories of city actions in relation to whether they promote, ignore, or inhibit USOs (Figure 18).

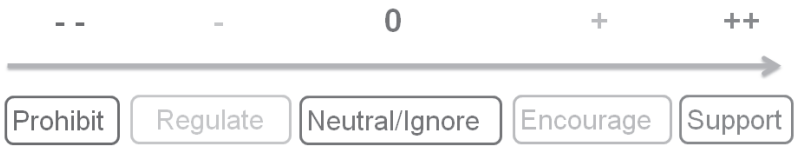

Figure 18: Governance spectrum of city actions toward urban sharing organizations

For example, Uber is prohibited in Berlin. Airbnb is regulated in all studied cities, however, only in Berlin, London and San Francisco are these regulations issued by city governments. San Francisco city government ignores Lyft and Uber as it generally welcomes the gig economy in its agenda for workforce development while the Cities of Malmö and Gothenburg ignore short-term rental companies since these are

regulated at the national level. The City of Gothenburg encourages many local USOs by placing them on the Smart Map. Both Malmö and Gothenburg municipalities support many non-profit USOs with infrastructure, material or human resources.

Conclusions

We address the need to analyse the role that cities play in the institutionalisation of sharing. We do so by advancing our earlier framework through detailing the mechanisms of how cities enact the four governance roles. We apply this framework to rich empirical data from five cities. We highlight positive and negative interactions between the city government and USOs rather than merely demonstrating how cities support sharing. We suggest a governance spectrum of city actions towards USOs with five categories: prohibit, regulate, ignore/stay neutral, encourage, and support.

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7.

LINGUISTICS AND SEMANTICS PERSPECTIVE

7.1

A Conceptual Development of the Sharing Economy from the Field of Linguistics and Semantics

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Introduction

Within the academic discourse surrounding the sharing economy, literature reports semantic confusion surrounding the term 'sharing economy' (Aloni, 2016; Belk, 2014; Habibi, Davidson & Laroche, 2017; Richardson, 2015; Ukolov, Solomatin & Solomatin, 2016). Moreover, we observe that authors use examples to help define or exemplify the sharing economy (cf. Aptekar (2016); King (2015); Miller (2016); Puschmann & Alt (2016)). As such, we sought to explore how the sharing economy is defined within academic literature. Based on results from a systematic literature review, drawing from semantics, we propose an intentional definition of the sharing economy.

Semantics

Semantics is a subfield of linguistics, which studies the embodied meaning of words. This meaning is either in reference to the inherent meaning or the exemplified meaning of a term. As such, a term's intentional context refers to the properties, characteristics or dimensions that constitute the formal definition of a term. In comparison, the extensional context refers to those objects that the term signifies (i.e. examples). Established terms reference both intentional and extensional contexts.

Methods

A systematic literature review was conducted, using methods presented by Keathley-Herring et al. (2016), Randhawa et al. (2016), among others. Peer-reviewed academic articles were chosen in order to examine the meaning of the term within the research field. A scoping study supported the identification of keywords, which were queried in the databases 'Scopus' and 'Web of Science'. The search results returned 2270 articles, including duplicates. The titles, keywords, and abstracts were reviewed to confirm relevance for this study. The final sample included 255 peer-reviewed academic articles.

We coded these articles using NVivo 11. We used a grounded theory approach, which inductively 'grounds' analysis directly from and within the data in order to develop one's coding framework and, later, established concepts (Bryant & Charmaz, 2007). We proceeded with two phases: 1) we identified the definitions provided of the sharing economy in all articles within the final sample; 2) we coded all definitions of the sharing economy. In particular, we used processes of open coding, axial coding, and selective coding to arrive at what we call the dimensions of the sharing economy.

Results

The identified dimensions of the sharing economy represent the wide breadth of characteristics coded within the article definitions. They are not normative; instead, they are descriptive or illustrative of the discourse. In particular, we identified the following dimensions:

- ICT-enabled
- Idling Capacity
- Ownership
- Platform or Organizational Models
- Shared Goods & Services
- Motivation

ICT-Enabled

Although not universal, the sharing economy is largely described as being 'ICT-enabled'. While authors indicate that sharing is not a new phenomenon (Belk, 2010; Price, 1975; Szetela & Mentel, 2016), the 'newness' of the sharing economy seems to stem from the use of

technology to reduce the transaction costs associated with sharing among strangers. While offline sharing exists, many sharing organizations utilise some form of technology. Numerous terms are used in literature to describe the extent the sharing economy is ICT-enabled, including online, internet, web, technology, social media, digital, and ‘smart’.

Idling Capacity

The sharing economy seems distinguished from other forms of consumption based on the idling capacity of goods. Authors discuss the sustainability potential of the sharing economy, which reduces net production by increasing the intensity of use of products. This is accomplished through leveraging the idling capacity of the objects being shared. Our analysis identified several terms that describe this idling capacity: surplus, excess, excess capacity, intense use, latent capacity, spare, surplus, under-utilised, unproductive, and unused.

Ownership

The sharing economy discourse seems fractured regarding transfer of ownership and no transfer of ownership. When describing transfer of ownership, authors include consumption practices such as buying second hand, gifting, swapping, bartering, donating, exchanging, or trading. In contrast, when describing no transfer of ownership, authors include consumption practices such as accessing, renting, hiring, borrowing, using, sharing, lending, utilising, or collaborating.

Platforms

The platform describes the constellation of actors involved in the consumption practice, which include peer-to-beer, business-to-consumer, and business-to-business. Furthermore, our coding arrived at two other platform models, which we conceptualised as public-to-citizen – to describe government-supported sharing platforms–and ‘crowd’–which is to say from one to many, from many to one, or from many to many. ‘Crowd’ platforms would include crowdsourcing, crowdfunding, cooperatives, and shared-ownership models.

Shared Goods & Services

We sought to distinguish shared objects on the basis of tangible or intangible objects. Tangible objects include space, durable goods, and non-durable goods. Intangible objects include services, time, knowledge, money.

Motivation

Authors expressed differing motivations among actors involved in the sharing economy. They include economic, environmental, social or intrinsic motivation. We coded motivation from the perspective of users, providers, intermediaries, and the community. There exists a diversity of views, although the environmental and social motivation were consistent.

Discussion

As a whole, the dimensions illustrate some logical inconsistencies within the discourse that need further discussion–in particular, motivation, ownership, and shared goods and services–to support an intentional definition. Any characteristics must be logically aligned around these dimensions.

While the motivations for those engaging in (and researching) the sharing economy are diverse, the characteristics and many examples expressed in the literature clearly fail to deliver on this purported potential. Therefore, we propose an intentional definition of the sharing economy, most relevant for sustainability that harmonises and aligns the dimensions. The defining characteristics are:

- **ICT-Enabled: The sharing economy is enabled, or mediated, by ICT.** The fundamental 'newness' of the sharing economy, as compared to sharing, is the reduced transaction costs afforded by ICT. While we view that the exchange may take place either online or offline, it must also be mediated by technology, either formally (e.g. app or website) or informally (e.g. Facebook group).

- **Non-Pecuniary Motivation: The sharing economy leverages the idling capacity of goods.** Idling capacity being an important dimension of the sharing economy, it follows that the goods shall not be purchased or owned for primarily economic motivation. While providers (and platforms) may make money from sharing,

the owner presumably owns the good for their own use, leveraging its latent capacity when not in use. Business-to-consumer 'sharing' may be categorised as renting, as the case with car and tool rentals, but does not constitute part of the sharing economy.

- **Temporary Access: The sharing economy is characterised by consumption practices that don't lead to transfer of ownership.** To an extent, sharing implies no transfer of ownership in comparison to other practice such as buying, swapping, or gifting. While transfer of ownership may facilitate sustainable consumption (i.e. buying second hand), this exchange lacks the pro-social aspects promoted through sharing. For these reasons, we suggest that the exchange doesn't involve transfer of ownership. While renting doesn't include transfer of ownership, it is associated with business-to-consumer 'sharing', potentially, over longer periods of access, such as renting a car or apartment. Therefore, in contrast, sharing describes temporary access.

- **Durable Goods: The sharing economy sees sharing of durable goods.** While an individual may provide a service as a result of idling time and acquired (owned) knowledge, we argue that these types of exchanges are better described by the gig economy and do not embody the sustainability potential associated with sharing of physical goods. Non-durable goods, such as clothes, often see a transfer of ownership through swapping or buying second hand. While we support these consumption practices, they are not logically consistent with the term sharing. Further discussion is required regarding food.

- **Peer-to-Peer / Business-to-Business:** As exchanges do not see a transfer of ownership and take advantage of idling capacity, it follows that sharing takes place among equals. Therefore, the constellation of actors within the sharing economy are peer-to-peer or business-to-business. This constellation embodies the social and sustainability potential of the sharing economy.

- **Rivalrous: When sharing, the use of a shared good prevents the simultaneous use by another.** Some literature discusses public transit or parks as examples of the sharing economy. However, we see goods that are accessible by all as poor examples of the sharing economy. Therefore, we suggest shared goods shall be rivalrous.

This criterion subsequently eliminates filesharing and video streaming as examples of the sharing economy, as they are non-rivalrous exchanges.

Conclusion

These characteristics, derived from academic literature, describe an intentional definition of sharing economy that is logically consistent. Furthermore, these characteristics seek to harmonise the purported potential of the sharing economy with the diversity of dimensions and breadth of discourse. This is important in the process of legitimizing and institutionalizing the practices of the sharing economy.

We acknowledge that our derived definition is not the only possible way to conceptualize the sharing economy in a logically coherent way. However, we suggest that other attempts should strive for an intentional definition, which logically follows the motivation of the researcher/organization and aligns examples used to exemplify the definition. In doing so, this will reduce the semantic confusion currently described in the literature and prevent the misuse or co-opting of the sharing economy.

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7.2

Building Trust in English and German for Collaborative Consumption: A Comparative Case Study of the Language and Content Used by Collaborators on Airbnb

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Introduction

Collaborative consumption (CC) and the sharing economy have disrupted several sectors of the economy with organizations like Airbnb and Uber. This global phenomenon and its global champions use similar models and platforms across several countries. In the globalized world we live in, where the platforms such as the internet and the e-commerce organizations are international, it is easy to overlook the differences that still exist in language. The role of trust in e-commerce has been explored and researched extensively and has now matured (Zarifis et al., 2014). There are models of how the consumer trusts online that have been extensively validated in several contexts. Some new contexts require extensions to the models so that they explain the new environment better. The role of the language has not been evaluated thoroughly from a linguistic perspective in information systems. Evidence from the area of linguistics supports that languages such as English and German shape the way a message is coded and decoded. There are standard language norms and culture specific use

(Kohn & Hoffstaedter, 2017). It is therefore useful to evaluate how trust is built in these two languages and if there are differences.

As the person wanting to pay for the use of a room will ultimately rent it from an individual and not a company with a recognized brand and established long term presence, the risk and potential for distrust increases. For example, the individual's privacy is at risk while using a stranger's room. Firstly, the privacy in the physical world, visually and acoustically, and secondly the privacy of personal information in the digital world. Despite the effort of a platform such as Airbnb to fill this void the role of trust is nevertheless increased. The person offering the property must fill the remaining void of trust and reduce the risk by how they communicate information about what they are offering and themselves.

The text in the profile of those offering their properties in England in English, and in Germany in German, were compared. To give the analysis validity the comparison was made on the same organization, Airbnb. The findings indicate that language has a limited influence and the platform norms and habits are the biggest influence.

Literature Review

CC matches users with the purpose of making a transaction in a moderated way. The moderation provided by the platform may include evaluating the user, the user content and handling conflicts. The platform can build trust by keeping records of transactions enabling reputational trust. The platform also supports the transference of trust from one consumer to another and from the platform to the consumer (Tams, 2012). Unlike a B2C retailer the platform can only support trust in a limited way that does not cover the delivery of the service or product.

Despite the platform choreographing this cooperation there is still risk for both sides in several ways including financial loss, security, safety and privacy. The language used by the landlord to initiate the information and value exchange is very important. Trusting brings with it being vulnerable so the negotiation sets the landlords boundaries on how vulnerable they are willing to be. As the negotiation develops, covering important aspects of the exchange, the trust develops also (Yao, Zhang & Brett, 2017). In addition to trust making the exchange of value possible, trust has been found to avoid deadlock (Belkin & Rothman, 2017) and support a mutually satisfying result being achieved (Kong, Dirks & Ferrin, 2014). Trust in interpersonal negotiation has been found to encourage integrative behavior that encourages, 'making the pie bigger' and 'win-win', a joint outcome and satisfaction in the outcome (Kong,

Dirks & Ferrin, 2014). This process can be considered a form of calibration.

The way each side communicate their message and how this message is understood are important. The content of the message can be complex, with subtle and implied meaning. Each language with its idioms, dialects, grammar and norms may influence the interaction differently. Each culture is conveyed to some degree through its language and this shapes perception (Gumperz & Levinson, 1991). Accommodation theory (Koslow, Shamdasani & Touchstone, 1994) and social identity theory (Forehand & Deshpandé, 2001) indicate that communicating to someone in their own language can be considered to validate their culture. Furthermore it makes people remember what was said better (Luna & Peracchio, 2001). Therefore, as Airbnb offers many methods of communication with different purposes such as presenting your property and yourself, it is useful to explore what the method and purpose of trust building is.

Methodology

This exploratory research applied qualitative analysis to identify patterns in the language such as the structure, content and tone. The data was collected from England and Germany. An effort was made to collect cases from across different parts of these countries, so the sample is representative. Large cities, smaller towns and villages were targeted. The search term used was '1-bedroom apartment' and the price range was 75 to 100 euro a night. Having a similar offering and price range across the two countries would limit the effects of other sociodemographic factors.

Findings

The findings were separated into four categories based on the specific purpose and method of the trust building language:

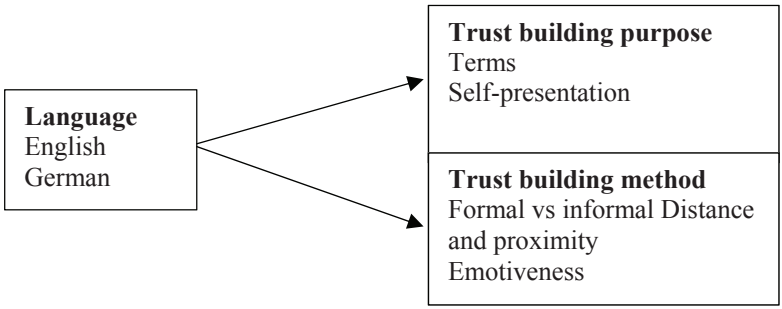

Figure 19: The role of language in building trust on Airbnb

1. How the benefits of the vacancy are expressed: The benefits of the vacancy can be presented with formal or informal language. The level of formality influences the level of emotiveness and how language of distance and proximity is used. Several trust building features are utilized. Some trust building features were focused on reducing the perceived risk on certain aspects of the exchange. Firstly, the authenticity of some aspects of the room was supported. Secondly, the reliability of the process of renting was also supported.

2. Terms, conditions and fines: There are explicit and implied references to terms, conditions, boundaries that are acceptable from the guest, fines, contract and how a negotiation would happen. The issues related to the terms are influenced by whether it is a business or a private landlord. The business landlords appear to have more standardized, comparable terms. Businesses also make more explicit references to institutional forces such as legal protection and government support. It appears that business landlords want to bring in these institutional forces and not just rely entirely on the platform. Therefore, it appears that private individuals focus on the platform and social convention more, while businesses rely on the legal framework also.

While the landlords make an effort to appear firm and inflexible in their terms this is usually done in a polite way without being aggressive or angry. The inflexibility is emphasized by the extra attention and clarity given to the terms rather than aggressive or angry language. As displays of anger have been found to reduce trust (Belkin & Rothman, 2017) this is a beneficial approach by most landlords.

3. Influence of English and German language: The role of urban and provincial, English and German speakers and the platform community 'modus operandi' and style were found to influence self-presentation

including personal profiles. For example, vacancies related to leisure activities often had personal profiles, which promoted a leisure lifestyle. In such cases, the profile was used to illustrate the opportunities provided by the vacancy. The influence of the platform and community 'modus operandi' is apparent. This may appear to be a social interaction between two individuals is embedded within the platform's processes, regulations, social conventions and legal framework.

4. Self-presentation in personal profiles: The self-presentation is often used as an extension of the vacancy promotion, promoting the lifestyle they have in that place. The language of the self-presentation is usually positive and presents a happy person. This also builds trust as displays of happiness have been found to encourage trust, unlike displays of anger that reduce trust (Belkin & Rothman, 2017).

Discussion and Conclusion

Literature suggests language conveys a culture along with its norms and this discourages people from deviating from the standard language and the norms implied (Kohn & Hoffstaedter, 2017). The findings suggest that English and German speakers have been linguistically assimilated by the platform. This can be seen as an additional example of the loosening of the grip of native speakers on language with a wider range of influences now affecting language. Therefore, the degree to which the users chose the content of the messages they communicate may be low with high importance put on following convention. As language and culture are related (Gumperz & Levinson, 1991) this also raises the question to what degree, beyond a shared language there is also a shared culture on the platform.

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