

How Much Social Innovation is Behind the Online Platforms of the Sharing Economy?: An Exploratory Investigation and Educing of Clusters in the German context

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Abstract--The paper aims to generate insight about conceptualization of the sharing economy. With a field research of 76 online platforms associated with the German sharing economy (SE) a generalized conceptualization is formed. With the inferred attributes and developed categories, clusters are built. The German sharing economy is outlined as conglomerate of business models that are effecting classical consumption by online platform-using business organizations, peer-to-peer consumption without business intermediates, and hybrid forms between commercial and non-commercial users. Within these and their frequency, conclusions about possibilities for alternative consumption and social innovations are discussed. A minority can be directly linked to alternative consumption that acts without business intermediates or without monetary reward. Seldom cases can be interpreted as social innovations, because improvements in social concerns are enabled through online platform technology. The frame of the German economic system for the sharing economy is considered briefly to underpin assumed developments and effects, which led to the actual status and will influence the sharing economy's future. The study is theoretically based on the resource-dependence-approach and on related fields. Concluding hypotheses are derived from our results for further research on SE.

I. INTRODUCTION AND THEORETICAL FRAMEWORK

A. Types and participants of sharing

Sharing economy (SE) is increasingly in the focus of academic and media interest [39] or a mass phenomenon [33] and viewed by some researchers as new source of social innovation (SI) and way to improved social welfare [23, 38, 41]. Recently, achievements in understanding the phenomena have appeared like Fraiberger, S. P. and A. Sundararajan [13], Shu-Yi, O. and D. M. Ring [51], Zervas, G. and Proserpio, D. and Byers, J. [60], and Hamari, J., M. Sjöklint, and A. Ukkonen [20], which remediate the picture that mainly was drawn by the media hype before. Meanwhile there is consensus about some assumptions related to the SE, because of theoretical argumentations as well as case studies.

Respective the phrase sharing, shared, or share economy, 'sharing' as it will be used within here, defines the process of granting or getting access to infrequent-use products or space [37]. It focusses on a common use of products and services within a community [1, 47]. Ownership thus is said to be the opposite of sharing within this context [7]. Because access to products and services is said to be the core, it is also called access economy [11]. It can be stated, that SE lacks definition and collaborative consumption as well as peer-to-peer consumption are the same, something similar or subdomains of it [5]. On one hand that led to a foggy understanding, where

"everything" is assumed. On the other hand researches started to explain portions like peer-to-peer rentals [60], peer-to-peer monetary lending [45] and redistribution [4, 20] which are helping to understand the variety of activities within associated types.

Authors agree, that there are different forms of sharing, new and old ones [1]. Rentals for examples are a form of sharing realized in the context. When rentals take place between private individuals instead of private individuals and business organizations interaction, it is called peer-to-peer rentals. Business-to-consumers rentals are understood as business model with new options for renting (like ad hoc rentals) and are associated with SE as well [7, 13]. This is the first differentiation which has to be stated. Rentals can take place between private people with or without business intermediates. From the perspective of consumption and its participants that underlines that peer-to-peer is a link of private or individual suppliers and private or individual consumers without business intermediates, whereas business-to-consumer focusses on commercial supplier and private or individual consumer [7]. Forms like lending or borrowing are subsumed as sharing as well, sometimes with monetary reward, sometimes without [1]. Resale or redistribution focuses on the concept of transferring ownership, instead of granting access for temporary use [13]. This form of consumption is understood as sharing as well and includes cases with and without monetary reward [4]. Further forms are donating and bartering [5]. This is the second differentiation. There are forms with monetary reward and some without cash transfers. Belk discussed related to this, forms of sharing and pseudo-sharing that are built on egoistic reason, that lacks a common sense and reciprocity is expected [2]. Sometimes, like Demary, it is assumed that peer-to-peer concepts are a main part in the SE [7]. The authors do not share this assumption and will focus on this within the research.

B. Online platforms and technical requirements

The main driver of the SE is the development of information technology [37]. Mainly up-to date communication through the internet and apps is enabling the before mentioned forms [7]. This is possible, because of the Web 2.0 and its functions of interactive content generating and permanently being connected with others [1]. Web 2.0 approaches have created the possibility for online platforms (OP), which exist through user-generated content, what enabled sharing [20] and collective behavior [31]. Thus the OP do not "produce" products or services itself, but act as an intermediate of supply and demand, as it was shown before for business-to-

consumer and peer-to-peer forms [7]. This is understood as creating market places [20]. Moreover the scope of sharing and the associated forms are rising because of the advancements in information and communications technology such as Web 2.0 [1]. The increasing volume of sharing as well as the increasing variety of shared items is leading researchers to deal with impacts through the SE as well [48]. There are two inherent perspectives, the increasing of online interaction itself and the rising amount of offline contact to fulfill the access granting, if necessary [33].

C. Sharing economy effected changes

With a community focus, meaning a regional community, redundant possessions are decreasing and neighborly help is developing [1]. New people meet, because of the interaction on the OP [47, 54]. From a community point of view the increasing granting of access to the community is an increase of possession. The community has for example more products than only one person [22]. Hence each person can get access to more things than he or she owns him- or herself. In addition users of OP are getting, during the time of participating, a new awareness of social engagement and norms of common behavior are established or manifested. Norms hence do change, what is in a broader or systemic focus, leading to changing norms and attitudes in general [20].

Especially peer-to-peer forms of sharing are analyzed concerning their impact. Studies show, that consumers can benefit from further income gained on the OP [54, 60] or rather satisfy or wishes with the same amount of money [22]. Sometimes OPs are enabling new jobs, like AirBnB [60]. Moreover it is stated, that private person can become producers or suppliers what changes the classical roles of both parties and consumers do become 'prosumers', because of the blurred boundaries between supplying and consuming [20, 23]. The participation in peer-to-peer consumption can reduce the need to own products like cars [13]. In addition the user themselves create the content and hence design their own consumption [20]. That is a reason and advantage for people to join OP associated with the SE. The people are free in decisions which organization (sharing or non-sharing) to join in for consumption [37], what is leading to less classical consumption [17].

There are also society-effecting assumptions about the SE [20]. For example, an increased use of OP associated with the SE for realizing transportation lead to an increase in the traditional mobility services [13]. A community-oriented managing of driving, e.g. by joining a group having the same way, is said to save money, save gas and hence reduce resource wastage, reduce pollution and hence save the environment [48]. Moreover meanwhile it is assumed that the SE even is leading to a change of attitude towards consumption, pollution, waste, and community engagement [13, 50]. As part of the society (commercial) organizations are impacted by the SE and its OP, because they are viewed as an economic model for production [3]. Firstly, OP are understood as competitors for (commercial) business [20, 48], secondly as new

opportunity for diversification of own business activity [7, 43, 60], and thirdly as a new opportunity of making business, for everything that can be realized impersonally, decentralized and function-specific, because of social information flows [3].

D. Online platforms and sharing economy as (social) innovations and alternative for classical consumption

In a further instance SE is understood as a pool for innovations, sometimes social innovations (SI) that lead to more social welfare [20, 37] and increase of wealth [23]. One factor is that online communities are a place where new ideas are getting invented and end-users are a good source for new products or services instead of firms [14, 24]. From this perspective all OP associated with SE are interpreted as innovative and sometimes social innovative, when it is more than a private value and the social improvement is huger than the one for entrepreneurs [46].

Enabling consumption through internet technology was taking place before Web 2.0, such as online stores, where consumers could buy products. With the Web 2.0 this forms underwent a change because of the improved possibilities of user integration as active producers of content such as user rating systems. In that time this was new and understood as innovation. Later the interactivity caused generally new websites or OP that were based on content generated by the users. It was seen as innovation. Later consumption was possible through OP, based on user interaction on the OP and their created content, especially the supply and demand of products. Linking the technological possibilities and forms of consumption ((re)-sale, bartering, renting, lending, and donating (used forms of product and service exchange) is understood as new or rather SE. Hence associated OP are understood as innovation at the time relative to their relevant context, since innovations are situational and relational, what implies that something is new, when it is objectively and subjectively new [39]. For our understanding of SI a few core principles attributes are relevant: Unmet needs, ideas and solutions, (individual) motivation and action, diffusion, forwarding environment, adaption, (social) organizations, networks, and interaction which are linked in four-phase-process. Beginning with a perceived unmet need and an idea for changing that, either a single person or a group of people is focusing a new solution for a (social) problem (against the odds). 'New' thereby mainly means a combination of two or more phenomena that have not been linked before. They are arising from technology, organizational forms or new knowledge and are linkable to the perceived need. SI and the described process are mainly taking place in social organizations to meet social demands while business innovations are mainly taking place in profit-oriented organizations to meet profit-maximizing goals [36, 49]. SI are intrinsic motivated by fostering social change [46]. In the special case of SE this points to innovation in community empowering and improvement in access [46].

Another factor is the link of SE with the topic of alternative, sustainable or solidary consumption. From this perspective the SE and its OP are explored concerning economic behavior that aims common, solidarity, and aid instead of egoistic behavior. The alternative within such economic activity arises because it neither is based on power and control nor on exploitation of people and environment [56]. Alternatives for consumption can form in a way only, that is consistent with its economic system and requirements, where it is established [19]. Thus an understanding of alternative consumption and if the SE enables such forms, always is a complex discussion because of the embeddedness in the related economic system [41]. There are no typical legal forms of organizations, in each form alternative or solidary consumption is possible [28]. Hence each form could focus on solidarity and thus lead to social welfare and maybe is understood as SI.

E. The research focus

We based our study on the following assumptions: From a broad understanding of sharing as peer-to-peer as well as business-to-consumer consumptive activity with or without monetary reward enabled by interactive OP as an overhead point of view, it will be able to generate a generalized conceptualization of SE. A narrow understanding of sharing as peer-to-peer without business intermediates and non-monetary forms, which are viewed as alternative consumption, will create awareness for related alternative consumption. Our approach here is to differentiate the SE conceptualization. By integrating associated terms and knowledge, it is possible to show the variety, scope, and practical realization subsumed under SE. Focusing on the diversity of associated private and business activity will lead as well to a clustering that enables to understand typical cases within the SE and its impact based on a systemic understanding of economy and society and the embeddedness of SE within. With special focus on OP associated with the SE in Germany and the economic system of the country, the analysis and the results exemplifies the German practice of the SE. Therefrom general deduction is possible and by linking these results with theoretical assumptions researches hypotheses will be proposed.

II. METHODOLOGY

To generate insight in the German SE an explorative field research was performed, where OP and related documents are analyzed [27, 30]. Therefrom it was expected to cope with the variety of associated OP and the related activities. With the objective to gain information about the phenomena of SE in Germany, its forms and correlations, 76 OP, that are associated with the German SE, have been identified and analyzed. This approach served to find theoretical statements by generalizing them from the collected data. The first steps has not been a verification of a theory, it was a building of theoretical generalization [34]. The data source for the qualitative data

analysis [53] has been the OPs, especially textual information.

It is a typical procedure to analyze texts when dealing with interaction on websites. This interaction is understood as social and communicative [8]. Texts from websites are seen as indirect communication, because it is not clear when or who will read them [16]. Research on websites is similar to traditional social research and thus requires similar quality criteria like inter-subjective confirmability [58]. The data collection was realized with MaxQDA software, which enables an easier marking in texts and the confirmability of single steps [29]. Because of the researcher dependency and subjectivity of the process and results within a grounded theory research, it is important to ensure a good documentation and substantial volume of integrated cases e.g. texts. This increases the quality of the research by gaining more validity [30]. For analyzing the texts the grounded theory method was used. Following this approach, texts are understood as artifacts of the research fields [6]. In the case of this research imprints and terms of use have been parts of the homepages, hence artifacts, which mainly each OP provided. Imprints served as starting point to enter the research field, because they are a mandatory requirement on each website in Germany with regulated contents [12]. E.g. terms of use have to be provided, when transactions are taking place and have been available in most cases.

Because of the circular structure and repeating steps of the grounded theory approach, general assumptions are generated bit by bit and not at once [34]. Main focus thereby is the coding, what signifies the analysis of the texts sentence by sentence or even word by word to generate codes or attributes [6, 30]. The first coding serves the identification of the variety of attributes. The base of attribute conglomerate leads to the building of categories through their comparison of similarities and differences. These are called concepts and are one level of abstraction above the attributes that describes the phenomena [53]. Finding of attributes often is a repeated process. After building categories, again the researches collect attributes to illustrate the variety of attributes in one category. The researcher thereby selects, focusses and summarizes codes or rather attributes [6]. When categories are identified, a connection of the categories is required [53]. This finally leads to a core category which is linked with every other category [6].

Following this method, our study consisted of 15 phases. The first and main phases have been collection data from the texts and gaining information, selecting further texts and analyzing them, building categories and find the core category (phase 1-13). These recursive data collecting and analyzing is interlaced concerning time and content and stresses the bit by bit development of information and theoretical assumptions [35]. Collecting of data can be repeated as often as necessary for the researcher and enables an integration of further text to generate information about a category or the whole phenomena [34]. Finally, in phase 14 und 15 a construct validation with the resource-dependence approach and a

building of clusters within the OP of the German SE was performed.

The first coding led to an amount of approximately 700 codes or attributes, which was the base for finding categories. Information about users, items, participation, and contracts for using were generated. The categories finances, role of operator and user interaction have been part of a second data generation. After connecting the core category with the other categories through one or two levels of abstraction by selecting and summarizing attributes, we generated eight categories with 17 subcategories.

III. DATA UND RESULTS

A. General description and categories

The analysis of the texts generated an empirically grounded definition or conceptualization of the SE in Germany. Based on the before explained research approach the German SE can be characterized as followed:

The SE in Germany consists of OPs that are established in each kind of German legal forms of organizations. Core feature, that all OP have in common, is 'sharing'. This codifies the interaction on each OP, there has to be one kind of sharing, which are (re-)selling, bartering, lending, renting, and donating, and which are legally defined in German law. This takes place between private persons or private persons and organizations or tradesmen. The items of sharing are products, services, knowledge, information, and money. Sharing then means concluding legal contracts, on the one hand for entering the OP and on the other hand by interacting with other OP users. Basically each natural person and mainly people on behalf of organizations, who agrees with the legal foundation and data privacy, can take part in OP of the German SE. Joining OP is always free of charge but interacting with other user often entails different kinds of costs. Consequently there are money transfers between the users, who are 'sharing' with each other. Moreover the operators influence the interaction in many ways, what they are demanding fees, commissions, and prices for. Sometimes the operator is user of the own OP as well.

Because of the research design this description is the result of a three-level abstraction: first collecting attributes, second pooling attributes in categories and third linking the categories with one core category. Consequently the given characterization that consists of eight main categories is the result of the highest level of abstraction. Furthermore each category can be portrayed through the inherent attributes and hence become differentiated by them.

Category A: Sharing

'Sharing' is the core feature of all OP and describes the interaction of users generally. Focusing single cases, the attributes are (re-)selling, bartering, lending, renting, and donating, which define the types of 'sharing'. The word sharing mainly does not appear in the legal foundation and terms of use.

Category B: Items

The shared items are products, services, knowledge, information, and money. Sometimes, especially when dealing with products, there are limitations like clothes, cars, bikes, and books.

Category C & D: Users and prerequisites for attending

Users of OP associated with the German SE are private people and business organizations or tradesmen, who agree in terms of uses and data privacy.

Category E: User interaction

This complex category consists of two perspectives: users as suppliers and users as consumers. Often it is described when a legally binding offer is made by a supplier and when this offer was accepted legally binding by the consumer. Moreover accompanied rights and duties are explained, too. To concrete the contract and complement the process of sharing (category A) as one of the named features, sometimes the assigned contract is specified like contract for accommodation, rental agreement, and contract for (work) and services. A special case is, when the operator is supplier of the platform, too, than only the consumer side is described.

Category F: Corporate data

In here, there are facts about OP, the legal form of organization, place of business and if the OP is a service of an organization, who is not only running the OP. Mainly the organizations are limited liability companies (GmbH) and other typical profit-oriented legal forms. Fewer cases are organized by private people or non-profit organizations (NPO). Because of the focus of OP associated with the German SE the places of business are in Germany, mainly big, well-known cities like Berlin, Hamburg and Cologne.

Category G: Online platform using contract

Predominantly the attributes are 'using contract' when joining the OP. It determines the contract of one user with the OP operator for being a member of the platform. Some attributes declare the non-involvement of the operator within the contracts caused by user interaction.

Category H: Integration and role of the OP operator

This is the biggest category with many subcategories. The operator of an OP acts for the technical execution, enables user quality rating systems, transfers contacts, acts as mediator, offers guidelines, provides legal advice, and sometimes proofs users and offers further services. These are ways of operators to intervene in user's interaction.

Category I: Financial matters

Within this category during the research four perspectives are included: all OP offered a joining the OP free of charge; for further services around the user exchange the operator of the OP demands prices, fees, and commissions. Often con-

sumers have to pay money within a 'sharing' process to the supplier and sometimes vice versa as well.

F. Design and variety of the German sharing economy

Role and forms of operators

In 15% (11/71) of all cases the operator of the OP is the sole supplier at the OP and users can hence "only" consume the offer and do not tender own items. A small amount of about 4% is open for users to offer items, when the operator acts as supplier as well. Moreover in 15 cases, organizations are named as operator, who is running the OP as a service besides other business activities. In five cases the operating organizations are well-known enterprises like Deutsche Telekom AG (communication), DB Rent GmbH (transportation), Daimler AG (automobile), and CITROËN DEUTSCHLAND GmbH (automobile). 57 OP are made for users to interact without the operator as sole or additional supplier.

Private people involvement

Private people are involved through two ways in the German SE. The first one is the legal form of the organizations. Seven of 71 OP are private initiatives, what means that a private person is named on the legal information of the website. Three are operated by non-profit forms of organizations and 61 are established as profit-organizations. Hence the majority is organized to achieve profit gaining goals. Less than 10% are made by private person initiatives. The second starting point is the perspective of users. As said before, operators of OP allow private person, as well as tradesmen or organizations to join the OP. 53 of 71 allow private and business users, 15 are only made for private people, and three are focusing private people and only allow business people with exception. An OP with sole focus on business users has not been identified in our study. The majority hence is enabling private to private as well as private to business interaction. Summed up the German SE is facilitating private people to operate associated OP and being members of associated OP and to exchange exclusively with other private people or business users. But all of these options are not the majority

Bringing these two attributes together further information to understand the German SE can be shown. Concerning the NPO it can be stated, that the operators only act as operators and do not become part of the consumptive activity of the users. All NPO and private initiatives are founded for operating the platform. With regard to the private initiatives we cannot rule out that NPO are only operators of the OP or if they are users as well. Profit-orientated organizations (indicated by their legal form, not form their profit allocation) are in 15 cases operated by an organization that is offering the OP as a service and has other business activities, too. Five of them have operators, which are well-known enterprises. No before established organization (21%) is operating an OP with as a NPO. They are operating the OP under their name and legal form. The operators that are exclusive suppliers on their OP as well as the operators that allow others to be supplier on the OP, where they are suppliers, too (15%+4%) are

all organized profit-oriented. Operators that are sole supplier, too, mainly allow both private and business users (except one).

Shared items and 'sharing' process

Different achievements divided the SE through their shared items: products, cars, clothes, books, money and if they are resold, rented, lent, or donated [4, 23]. Our study added attributes and hence information about the frequency of these attributes, as well. 21 OP are fostering transportation mainly car 'sharing' (17), few bike 'sharing' (3), and one bus 'sharing'. All cases are renting or lending OP, there is no resale or donation. This group forms approximately 30% of all cases. 15 are focusing product and/or related service exchange for resale, renting, lending and donating (21%). In eight cases money and in six cases accommodation is the exchanged item. Five OP are enabling the renting and lending of books and/or multimedia data. Four cases in our study enable cloth-related 'sharing' as resale, renting or lending. An amount of three are focusing on working place sharing in the sense of temporary renting and two are for renting of parking space. Seven cases are single cases with no comparable counterpart within the analysis, insurance, child care, storage place and material transport, food, wireless internet access, toys, and leisure possibilities.

Relating item and sharing 'process' facts with the facts about the operator status and the private person integration, is bringing further interesting information. The OP that are exclusively for private users or just business with exceptions are acting mainly in transportation (60%), in money 'sharing' (20%), and private lending and reselling of products (20%). Two of these OP are private initiatives. The operators, who are the suppliers, too, provide only self-owned products and related services that the OP users can rent. They do not sell, donate, or barter items and do not focus on information, knowledge, or money. Most of them are acting in the transportation sector (64%).

Further attributes from the categories

So far the types and items of sharing (categories A & B), some corporate data (category F), the users (category C), and the role and integration of the operator (categories E & H) have been portrayed with some attributes and their range of forms. Concerning the category G describing the contract of the usage of the OP, it can be stated that they are mainly made similarly. Consequently a comparison of the attributes will lead to a homogenous picture of using contracts with generating profiles, showing no illegal data, agreeing in terms of use, posting only true information and offering only things, they are allowed to offer.

The user interaction (category E) is strongly related to the types of sharing (category A) and hence is a heterogeneous conglomerate of attributes. Because of its link to the types of sharing (category A), further statements are useful when describing them for each type of sharing. But the focus of this achievement tends to another direction, why this will not be

described more detailed now. The special case of operator as supplier already was portrayed and will be of further interest. Likewise category I, the financial matters, is linked to the type of sharing, too, because they are dependent if renting, selling, donating or non-monetary lending was agreed. The heterogeneity of the attributes and the wide range of forms will not be examined here now. The further interest concerning money transfer will be, if there is money exchange included or not, when users are interacting. Summed up, all categories and inherent attributes have been portrayed more or less respective the achievement's focus to form the understanding of the German SE.

G. Clustering the sharing economy of Germany

One problem of knowledge generating about the SE is the range of associated OP and hence the range of possible associated knowledge and ways for interpretation. There are OP of all possible legal forms of organization in Germany, some made by before established organizations, some made to operate the OP. Associated OP are open for suppliers and consumers or just for consumers, when the operators acts as unique supplier. There are established OP like www.ebay.de, that was founded in 1995 and younger OP like www.whyouwnit.de from 2012. Several OP describe themselves as crowdfunding or crowdsourcing [15] project, especially when they are 'sharing' money. Consequently the authors suggest a clustering with the help of the research inherent facts to understand the types and their frequency to deduce assumptions about the whole SE and the variety of SE-related economic interaction and alternative consumption.

First a differentiation can be done because there is peer-to-peer and business-to-peer 'sharing' similar to Demary [7]. As shown before in the demonstration and the frequency of attributes, the German SE consists of operator-supplied and user-supplied OP (the role of the operator). Because operator-supplied OP are business organizations, that run their business with the help of an OP, this is understood as business-to-peer sharing. User-supplied OP, where users are suppliers as well as consumers, this is understood as peer-to-peer sharing. Within the research three clusters arise, documented in table 1. Dividing the three clusters with the focus of private people, business organizations and business with exception as users, theoretically nine clusters are formable. But within the research two cases did not appear, because business user with

exception was just a case of user-supplied OP. Seven clusters are hence formed on base of our study. Focusing the participation of only private users or private and business users in exclusively user-supplied OP, three clusters arise: private users only, private and business users with exception and private and business users. Exclusively user-supplied OP that are only allowed for private users are 20%, the majority, that allows private and business users, forms about 74%, and 6% are private users and business users with exception. Implementing this separation on exclusively operator-supplied there are 91% open for private and business user and the rest 9% are only for private users. Within the operator and user-supplied OP two clusters are to mention, the one for only private users and the one for private and business users. Sole business users were no case in any form of peer-to-peer or business-to-peer OP.

H. The frequency of clusters

With the differentiation, showed in table 1, and the related numbers, some facts are getting obvious: The majority, more than three-fourths, of the SE in Germany are exclusively user-supplied OP. That is understood as confirmation that SE-OP in Germany are mainly made by the operators for others to fulfill consumptive needs with each other and without the OP operator [20]. The opposite cases are the operator-supplied OP. These are about 16% of all OP and are understood as the before mentioned business-to-consumer OP. Furthermore, we found more support for associating business models of profit-oriented organizations with the SE, because it was shown before, that all operator-supplied OP are profit-oriented organizations. Less than a quarter (13/71) are made only for private exchange within the exclusively user-supplied OP. Those are OP, where no business intermediate is involved, neither as supplier nor as consumer, are viewed as peer-to-peer OP and organizations for alternative consumption (18%). This was stated as the second form of OP within the SE besides the business-to-consumer form. The majority of all OP is open for private and business users. Hence business actors are allowed in most OP (53/71), what means about 75% of all OP are made for private to private and private to business interaction. This could be understood as a form, where business-to-consumer interaction, as well as peer-to-peer exchange is taking place and hence is a hybrid form. This will be of interest in the following.

TABLE 1: CLUSTERS OF THE SHARING ECONOMY IN GERMANY BY OPERATOR STATUS AND USER GROUPS

Role of operator	exclusively operator-supplied OP		operator and user-supplied OP		exclusively user-supplied OP		
	11 OP (15.49%)		3 OP (4.23%)		57 OP (78.87%)		
Groups of users	Only private	Private & business	Only private	Private & business	Only private	Private & business	Private & business with exceptions
		1	10	1	2	13	41
Form of business	Business-to-peer		Business-to-peer		Peer-to-peer	Business-to-peer & Peer-to-peer	Peer-to-peer with exceptions

Within the user-supplied OP three only allow business users with exception and foster a peer-to-peer ‘sharing’. Because of this reason it is named peer-to-peer with exceptions, because business-to-consumer is not the rule. Three OP have operators that allow further suppliers besides themselves as supplier. Later in the text, these three will, because of their focus of business and the resulting tendency of the supplier status, be related to one of the groups. With the differentiation seven clusters are established, which will be described in the following. Moreover with our narrow and wider understanding and interpretation of alternative consumption aggregated clusters are formed: sharing in narrow sense with possibilities of alternative consumption (red), sharing in wider sense as business model (orange), hybrid form with alternative consumption and business model (blue), further related phenomena (green) and no sharing (white).

I. The clusters of the German sharing economy based on our study

Exclusively operator-supplied OP

Aren't they just organizations that use the possibilities of the Web 2.0 to fulfill their business? One of them just allows private users. This can for example be seen as a marketing strategy. Thus and because of the operator as sole supplier within this cluster, there is no differentiation by user groups. Mainly they allow everyone to join the platform and consume their offer. And as mentioned before, all of these OP are just in the renting business where products and related services are offered. Seven are offering transport possibilities, cars or bikes, which form the majority in this group. All in all they are interpreted as car or bike renting organizations. The difference to traditional car sharing enterprises, and maybe that

is the reason why they are associated with SE, is the technology that is used to provide the services, access to the cars or bikes and the length of use [7, 60]. Basically, this cluster can be understood as renting with different technical realization. But for finding alternatives for consumption, this part of the OP associated with SE does not lead to common welfare aspects. In table 2 they are marked in orange and form the part sharing as business-to-consumer without possibilities for alternative consumption, what is a part of our wider understanding of sharing.

Two other examples in this group are related to an interesting new phenomenon, which are already analyzed and well-grounded. The OP offer working space for rent, what is called coworking [52]. It can be understood as sharing in the sense of sharing space to work, where others are, too, and pay for the use. The way the coworking spaces are established and work are quite new, and can be understood as common use of the working space. But all in all, as the car and product renter in this cluster, it is a business model to follow profit goals by receiving money for enabling access without transfer of ownership [11]. Altogether and despite the fact, that the OP are associated with the German SE and different authors mentioned business-to-consumer OP as a part of the SE practice, the authors do not understand business-to-consumer OP as an alternative for consumption. It is important to realize and describe the cases to understand the SE of Germany in its variety, but not for finding alternatives in consumption. Coworking and crowdsourcing are green in table 2 to show that about 14% are explainable through other, well-known phenomena, which belong to our wider understanding of sharing.

TABLE 2: FREQUENCY OF CLUSTERS AND FREQUENCY OF POSSIBILITIES FOR ALTERNATIVE CONSUMPTION

Clusters of the description		
71	Total amount of online platforms	100,00%
14	only private users in user-supplied OP (peer-to-peer)	19,72%
11	commercial renting organizations (business-to-consumer)	15,49%
8	crowd sourcing	11,27%
1	information website	1,41%
2	coworking	2,82%
2	non-monetary redistribution in private and business OP	2,82%
4	reselling (peer-to-peer and business-to-consumer)	5,63%
24	renting and lending (peer-to-peer and business-to-consumer)	33,80%
5	special focus OP	7,04%
Clusters aggregated respective its possibilities for alternative consumption		
71	Total amount of online platforms	100,00%
21	OP with possibilities for alternative consumption in each case of interaction <i>- sharing in the narrow sense of our understanding -</i>	29,58%
28	OP with possibilities for alternative consumption in some cases of interaction <i>- sharing within OP that are hybrid form, narrow and wider understanding -</i>	39,44%
11	commercial renting organizations without possibilities for alternative consumption <i>- sharing as business models of business-to-consumer interaction, wider understanding -</i>	15,49%
10	other phenomena without possibilities for alternative consumption <i>- sharing as business model, wider understanding, related topics for further research -</i>	14,08%
1	information website without possibilities for alternative consumption <i>- no sharing in our view and understanding -</i>	1,41%

The clusters of exclusively user-supplied OP

Because of the amount of related OP the argumentation will be made in the three subcategories: only private use of exclusively user-supplied OP, private and business use of exclusively user-supplied OP, and only private use and business use with exceptions of user-supplied OP. With the help of focusing shared items and type of sharing, as other researchers have done this before [2], the description will grant deeper insight and comparability.

The cluster of only private use in user-supplied OP

This group is about (13/71) 18% from all OP associated with the SE. As mentioned above, this cluster is viewed as peer-to-peer interaction on OP. Peer-to-peer interaction is a part of our narrow understanding of SE with possibilities for alternative consumption. It is marked with red in table 2. More than the half part (7/13) of this OP are dealing with transport, 31% (4/13) are enabling money-related interaction, and the rest 15% (2/13) are focusing private lending or reselling as well as private service exchange. Again the interests and the 'new' phenomena is an old one, what gets a bigger dimension because of the internet and Web 2.0 [42].

Besides the money-related interaction OP, what will be discussed below, there are 9 OP (13% of all OP), which are made for private people to exchange their private property. Most of them are made to 'share' cars and focus a common use of them. One part of the users own cars and offer them in the community of the OP to use it temporary and others, use the cars if needed. This OP are understood as common alternatives to car renting possibilities, because it is realized without business organizations. Two others focus products to resell or products and/or services to place at the disposal. The ideas behind is a locally exchange of products as a resale or rent and helping each other with services neighborly [2]. Reselling or donating products is part of the redistribution-market as described by [4, 23].

The cluster of private and business with exceptions use in user-supplied OP

There are three OP that allow business users with exception. All of them act in car sharing and focus on private use. Hence they are associated with the mobility-group of OP within the cluster of exclusively user-supplied OP for private users only, which are understood as alternatives to car renting possibilities, as described above. In table 2 they are red, too like the peer-to-peer OP and are hence belong to the narrow understanding of the SE with possibilities for alternative consumption.

The cluster of exclusively user-supplied OP for private and business members

This group is still a quite heterogeneous one with 41 cases. Hence a further differentiation by value characteristics is revealing. The huge cluster of exclusively user-supplied for private and business users can be divided by mainly two forms of interaction: common use (through lending or renting

of temporary access) in 32 cases and in six cases redistribution (as resale or donation with transfer of ownership) [4]. Three cases are neither common use nor redistribution. One of this cluster 'just' is an overview of coworking space in Germany, hence this is not understood as a 'sharing' and no part of the following discussion. It is marked with white in table 2. The other two will be part of the special cases (6) below.

(2/6) cases of redistribution are fostering a further use and prevent discarding of still usable products without monetary exchange value. Redistribution, what is organized without monetary reward is understood as alternative of consumption. Thus it belongs to our narrow understanding and is marked in red in table 2. The others are market places to resell all possible material stuff, mainly clothes. They are marked in blue in table 2 and belong to the hybrid forms of OP enabling sharing. The bigger part, that focuses common use, can further be divided by their items: products that are shared through monetary-rewarded renting (8), flats and rooms for temporary use (6), money (5), transport: bikes and cars for temporary use (4), books and multimedia data lending (4), parking space temporary usage (2), wireless internet access (1), possibilities for designing leisure time (1), and storage and transportation options (1). They all have in common, that the items are brought into the community of the OP and others can use them temporarily when needed. Because of private and business users, they are marked in blue for hybrid forms with some cases of alternative consumption, when it is peer-to-peer interaction. Some of the OP allow monetary exchange value, others do not.

Within this cluster, there are five OP that enable money-related interaction on the concept, that someone needs money and a group of others gives money to the one, who needs it. As it is the case of coworking, this special form of sharing is associated with crowd sourcing. Often these OP describe themselves as crowdfunding project or platform and peer-to-peer lending. Of course sharing in the sense of lending is taking place between (sometime private) people and consequently can be interpreted as a part of the SE. Especially when the focus is to enable money exchange without business intermediates [21]. For the five cases in this cluster, it cannot be stated to which amount this is happening without business intermediates, as argued before for the whole cluster. But three money-sharing OP are part of the peer-to-peer cluster and interpreted as alternative for consumption. Because of the special focus on money exchange further understanding should be based on crowd funding research. The authors do not want to replace it from the German SE, but underlying the specialty and the opportunity the gain further insights by related topics. They are belonging to the green part in table two (other phenomena).

As mentioned before, this cluster is seen as a hybrid form between peer-to-peer and business-to-peer, because both forms are possible by the defined users. In table two the hybrid forms are marked in blue. Previous research, did not analyze the real participation of privates and business mem-

bers. The questions remain: What happens more often: peer-to-peer or business-to-peer? Are there more private people participating or more business organizations? Which side of consumption do they mainly hold: supplier or consumer? Summed up, so far the authors cannot quantify the percentage of peer-to-peer and business-to-consumer interaction and thus cannot outline the true scope of alternative consumptive behavior. However, both parts are realized within this cluster.

The operator and user-supplied OP

There are three OP that allow next to themselves suppliers, two in the transportation branch and one in the branch of cloths exchange. All follow different strategies when reading their legal foundation. One is the main supplier and is complementing gaps in the offer by self-selected partners. This one is interpreted as profit-oriented organization that fits into the group of exclusively supplier-operated OP, that use OP for fulfilling their business goals. The second one is mainly an exclusively user-supplied OP, where the operator takes part in supplying products as all the others. Consequently this one is understood as user-supplied OP. The third one focuses the own offer, but announces alternatives when the own one does not fit and is because of the priority of profit gaining related to the exclusively operator-supplied OP.

Special cases

As coworking and crowd funding were defined as special cases, which are sharing in the sense of temporary access granting, but are already well-known under these labels. There are five special cases that can be related to the cluster user-supplied OPs for private and business users. But because there have been no comparable similar OP, they are described now and the sense of sharing is concluded. One OP is bringing together people, where one part will go to other place and the other part likes to have a product that can only be obtained where the other part will go to. All in all that is a resale of new products because it was bought for another person, who ordered the product. The users of the OP are organizing product purchasing all over the world for members of the community of the OP (private and business). The second OP is linking people, who are looking for a childcare solutions and people who offer childcare. Maybe this can be seen as a common use of childcare suppliers that solves a problem in Germany of lacking childcare. The third one is a marketplace for renting and lending transportation and storage options. This seems to be relatable to transportation and parking space renting. Temporary access granting and gaining in the branch of logistics seems to be a well-manageable problem within the SE. The fourth OP is bringing together people for sharing leisure activities. That means that people offer themselves as guide and others “book” them for the offered leisure activity. It can be understood as common use of services around the leisure branch. And finally the fifth OP is linking people to use wireless internet access commonly. This common use bases on a temporary use of wireless internet access or continuing common use and cost sharing. All cases are, as men-

tioned, single cases without comparable similar cases. They all use Web 2.0 and similar technologies to form a community and market place for their special focus. All are seen as possibilities of alternative for classical consumption, because people could go on their own to the place, where the products are available; people could try to use “official” childcare; there are commercial suppliers of transportation and storage place; travel agencies offer guides commercially; or people just could buy an internet access themselves or use mobile wireless internet. Although it is not clear how many business users are involved in these five cases, as argued before for the cluster of private and business users in user-supplied OP, these cases are related to peer-to-peer interaction and are seen as sharing in a narrow sense. Hence they are marked in red.

J. The clusters based on the assumption about possibilities for alternative consumption

So far all clusters are described and all OP have been related to one of the clusters. Within the description some adjustments had to be done for the evaluation for alternative consumption possibilities. Table 2 is showing the amount and percentage of the clusters after rating each OP. That offers the possibility to understand the German SE in its variety and the frequency of realized business-to-consumer, peer-to-peer or alternative consumption, and hybrid forms.

IV. DISCUSSION AND IMPLICATIONS

A. Theoretical discussion using the resource-dependence approach

For the development of the generalized assumptions a theoretical frame was chooses, which fosters an interactive and dynamic understanding of the relationship between organizations and its environment, where individual action can be explained and a basic systemic understanding is assumed. The resource-dependence-approach (RDA) by Pfeffer and Salancik [44] does fulfill all of these requirements. The RDA in brief is a theory that explains connections of actors (individuals, organizations, networks [18] with a changing environment, and how the actors survive by adapting behavior to ensure resources [44]. Environment and actors are linked through interaction [40]. Groups, networks and organizations are coalitions of individuals with own aims and behavior. The sum of the behavior of individuals and their social interaction forms the collectivity and thus a group, network or organization. Joining an organization, group or network is determined by individual and varying aims and expected advantages compared to non-joining [44]. Moreover individuals calculate in which organization their personal aims are met in a better way. The organization itself has to sustain the organization, meaning inner processes and has to gain and grant resources with other actors of the environment [57]. Thereby the actors have to deal with an uncertainty because of resource flows related to economic, social, and cultural changes [59]. The actors, no matter of individual or collective actors, can react on the environment by e.g. structural, processual, behavioral

adaption. For organizations there are options such as diversification, cooperation, fusions or system influencing methods [18]. Resources are money, products and services, which are critical for an actor, when the absence of the resource threatens the existence [26]. The behavior of individuals for personal goals, likewise in organizations to fulfill the required contribution and reach the personal goal, is limited in rationality, because behavior is based on personal perception and interpretation of the environment and interaction [18].

OP are, because of their collectivity that emerges from the amount of individual behavior of the participants, collective actors as organizations or networks are. The structuring activities (transaction, mediation) of an operator are underpinning this assumption. Thus OP are an environment influencing factor, no matter of the achieved vision or goal (profit or non-profit). Participating users of an OP are following personal goals with that. They are viewing the OP as a “good place” to achieve private objectives. There is no need, that the individuals likewise follow profit or not-profit goals, in comparison to the goals of the OP. But there are hence free in decision, too, to end participations, when their objectives are met better in another organization. This point of view can explain why people are participating in OP with possibilities of alternative consumption, because there the personal objectives are fulfilled in a better way. The analyzed OP can thus be interpreted as substitutes for organizations of classical consumption.

Moreover the OP are a consequence or development of a changing environment e.g. new technologies. Hence the whole SE in Germany is an influencing factor for other actors like organizations, individuals, politics, and institutions because of before occurred changes. Meanwhile the SE in Germany and related OP are in the sense of the theoretical approach source for change, as well. First reason for that is the scope of “substitutional” individual behavior concerning consumption. Only one alternative decision would not be realized by most actors of the environment [44], but the increasing amount of consumption within OP related to the SE in Germany is viewed, interpreted and integrated in further behavior in the environment, by individuals as well as organizations.

For individuals this is primary the participation on OP as supplier and consumer instead of traditional consumption. Organizations can react in many different ways on the changes around SE in Germany. Like some mentioned business organizations (Deutsche Telekom AG, DB Rent GmbH, Daimler AG, and CITROËN DEUTSCHLAND GmbH), the organizations can establish own OP and use it to run business fields. These are the operator-supplied OP, either as new organizations or as part of a before established organization. They can also react with trying to influence system related power institutions and try to forbid OP of the SE [55].

Finally, in a broader sense, the development of the SE in Germany is leading to changes in norms and values. Thus it can be explained, that participation in OP also influences the peoples attitude towards ecology, resource sustainability,

globalization, and the worthiness of common welfare behavior. Even if monetary reasons have been drivers of joining an OP. And it allows the related assumption of broadening of changes in consumers’ attitude in general, when focusing the volume of alternative consumption decisions. But it remains, according to the RDA, strategies, business forms and individual behavior will survive, that reaches the legitimation of a majority [44]. Based on our findings, we developed propositions concerning the development of the SE in Germany in the following section.

B. Economic impact

Effects on traditional organizations

Focusing the peer-to-peer rental markets in transportation, it was argued for America, that the increase of peer-to-peer car rentals have a decreasing effect in traditional transportation like caps. The same impact was argued for the accommodation branch. Increasing peer-to-peer accommodation rentals or loans led to fewer traditional overnight stays in e.g. hotels [13]. In Germany, 30% (21) of the associated OP are acting in the branch of transportation by placing cars, bikes, or buses at disposal. Within this study on six OP the shared item is accommodation, none of these are operator-supplied OP and none of these are allowing only private users.

Moreover, in our study have been 21 cases (30%) of renting and loaning products in general, or especially books, multimedia data, or working space. Four of them are operator-supplied and hence understood as business-to-consumer consumption. One OP is for private users only and thus viewed as peer-to-peer. Mainly the other cases are all open for private and business users. Because it is known, that OP enabling rentals or loans in the sense of temporary using of not self-owned products are acting similar to accommodation and car peer-to-peer OP, an impact on traditional counterparts is assumed [51].

The amount of OP dealing with transportation or accommodation can indicate a development from a niche to a mass market for OP operators as well as for users where special strategies are required to survive as OP [11]. Moreover the adaption of the concept and the nuanced designing of more OP for similar interaction cases are interpreted as a concept that gains profits for the OP operators (none of these is a private person initiative or a NPO). The business-to-consumer OP 15% are understood as competitors and are hence influencing the market, too.

Concerning the impact on traditional markets it is shown, that joining OP of the SE and consuming in the offered way changes the consumption of an individual on traditional business [60]. Especially evidence is generated for transportation and accommodation [13]. Thus about 21 OP for car, bike, or bus-sharing and six OP for accommodation sharing, what is about 35% are, as argued, effecting traditional car selling and renting and the accommodation industry. If this assumption is transferred to all rental and loaning OP, except lending money OP, which are together 48 OP, about 68% of the SE in

Germany is affecting traditional industries. Based on our findings, we propose that:

P1: *The majority of the sharing economy platforms has a substitutive effect on traditional industries.*

Economic effects for private people

Likewise the time of the existing of OP may have occurred problems in differentiation of users in privates and business, especially within transportation, accommodation, and products. When offering e.g. accommodation permanently on OP, as it is typically on peer-to-peer renting OP, and consequently welcome other user perseverative, it is actually a commercially behavior when getting money as reward. Presumably proper peers are incrementally getting business or tradesman because of their permanently offering and renting of own accommodation and the German business law subsuming this as a commercial behavior.

Moreover it is assumed, that peers that became commercial actors by taking part permanently in these OP are the majority in comparison to before established accommodation supplier are taking part. It is assumed that they are a “product” or a consequence of the development of the SE in Germany. Based on our findings in Germany we propose:

P2: *Within the sharing economy commercial action is arising from private person interaction, if a permanently active participation on OP is transforming them into business users incrementally.*

Linked to the peer-to-peer rentals and the problem of commercial or non-commercial behavior are the resale OP. The difference between resale and rental OP is, that resale OP like www.ebay.de enable occasional selling of products, what is accompanied by ownership transfer, rental OP are facilitating recurring short-term product or service usage without ownership transfer [13]. The problem arises when occasional resale becomes a permanent trading of products. Especially www.ebay.de, which is an established OP for resale, deals with the classification of commercial and non-commercial behavior and informs its users about the issue [10]. The authors here, assume as well, that there are peers, who are commercial actors through their exchanges especially selling products on the OP.

C. Social impact

Around durable asset rentals in America studies showed an increase of lower-income people’s welfare and hence a consume value, that is more even because the peer-to-peer rental markets enable a higher standard of living through renting [13]. In Germany peer-to-peer renting and lending of durable assets are about 13 OP (18%) and further 24 (34%) are allowing peer-to-peer and business-to-consumer renting and lending, where the amount of peer-to-peer is unclear so far. Consequently for less than a quarter of the SE it can be assumed to create a more even consumption and higher standard of living. In the best case, when peer-to-peer is happening mainly in the 24 OP, about the half of the SE could be

able to improve equality in consumption. Based on the results of the studies of American sharing and our findings we assume:

P3: *Up to the half of the online platforms associated with the sharing economy is improving the equality of consumption and the standard of living*

The problem around acting in a commercial or non-commercial way, when offering and renting personal goods permanently on an OP, was discussed before. A study showed that 69% of OP users, are likely in sharing when owning money with that [20, 32]. Owning money by offering personal goods and services is possible within 57 OP in the SE, because users can offer goods to rent, offer money to lend, and provide services to assume (71 OP -2 non-monetary redistribution, -11 operator-supplied, -1 information website = 57 OP). Users are hence taking part as suppliers, sellers, and providers, what they can ask monetary reward for. The majority of the SE consequently enables money-gaining. Gaining further money for the participants means to have more income to use for personal purpose, what is seen as improvement for OP users. Even the other way round: loaning products for free means economizing by preventing buying them or renting them from commercial business organizations. Recapitulatory we propose

P4: *If the majority of OP enables gaining further income or saving money for individuals, the OP of the sharing economy are predominantly leading to private person monetary improvements.*

OP of the SE are said to lead to social welfare [23]. Maybe this is taking place, because there are social innovations (SI) that fostered social issues, which are executed by OP. As described Mulgan and colleges established principals that are relevant for SI [36]: Private people or social organizations, unmet social needs, testing, adapting into other branches and a supportive environment. Understanding the form of organizations as a fundamental decision for not-for-profit or profit goals, after all approximately 3% of the SE in Germany focuses on common welfare as organization from, with and for users. Within the discussion of SI these three NPO thus have potential for SI because of their legal forms, focusing generally on common welfare. Additionally, the private person initiatives are per se able to foster a SI as social organizations do. Hence within the SE ten cases or 14% do have the potential to be socially innovative. However, the legal form of a OP is just one indicator for a SI.

A further indication for a SI is fulfilled, when it solves unmet social needs successfully and is adapted to other branches [36, 49]. Understanding the entire OP as market places with possibilities of alternative consumption, except the operator-supplied OP, which are business-to-consumer interaction, maybe all user-supplied OP have the potential to be a SI. Without discussing, which of the OP has been the first and who adopted the idea, they all have in common, that they are all using new technologies (e.g. web 2.0), one men-

tioned source for new solutions, and link it with consumption related exchange. As discussed before, so far it is not clear, how much interaction in the majority of private and business user in user-supplied OP is peer-to-peer and hence an alternative for classical consumption. But the internet based markets, that are created to follow consumptive needs without intermediates, are understood as an innovation that changes personal consumption [37]. Changing the personal consumption does not implement a SI [46]. Thus a further view to the solved problems is needed.

Most OP are working at problems like transportation, accommodation, or redistribution of products. When focusing the peer aspect, the solutions are given for privates to solve a problem of getting to somewhere, staying somewhere or getting access to products or service that are needed at the moment. Sometimes it solves a problem of parking space, getting internet access, receiving a product known from holidays or money for starting a business. All these are neither social problems in a narrower sense such as hunger, poverty, or medical deceases nor the solved problems exist in an society determining scope. It is even getting more obvious when looking for personal motivation to join or further personal problems that are solved; needing money or saving money, buying temporary access, lacking money for expensive transportation, and so on.

From this perspective there are just three OP, which foster a social need to solve. Two OP are gaining social welfare by a non-monetary product redistribution of food or used products. They are linking still eatable food (form private person and business organizations) and no longer needed products to deserving poor without monetary reward and thus they can be understood as socially innovative. One of these is a NPO; the other one is a private initiative. They are made by private initiatives or social organizations and solve social needs. The third one is the profit-oriented OP for bringing together childcare and parents. In Germany, there is a lack of childcare, especially in evening times and weekends. When jobs include night-shifts or weekend employments, it is getting difficult for parents, particularly when they are single parents, to find a childcare service. Hence the OP, that is simplifying childcare solution, is in the German context understood as socially innovative. And it solves problems of many parties (parents, children, employers). This case makes it clear, that likewise profit-oriented OP, by the legal form, can be created to foster social welfare and hence create SI. Thus we assume a wider horizon for SI origin:

P5: *Despite the assumption that social innovation is taking place in social organizations, within the sharing economy social innovation is enabled in profit-oriented legal forms of organization as well.*

Within the peer-to-peer money lending OP, there are some (profit-oriented and not-for-profit) that help projects to gain money for the idea. Sometimes these are for social purposes. Maybe these special cases can be seen as SI, too. The idea itself, to link people or organizations, which need money with

people or organization, that want to spend money without involving banks, is understood as an innovation [45]. If within this process the spent money supports a social matter, it can be seen as socially innovative. But for private reasons like buying a car, the authors do not interpret this as a SI.

So far unmet social needs, the ideas itself and the imitation and adaption of ideas were discussed, what led to a minority of about three OP, that can be directly associated with SI in the sense of serving social welfare through Web 2.0. Some special cases somehow can be seen as socially innovative, too, but these do not form a majority in the German SE. A reason for that might be a missing supporting environment.

D. Embeddedness of the sharing economy and online platforms in Germany

The aim of all OP, as mentioned before, is to enable sharing in the sense of granting and getting access to products, services, and money by renting, loaning or resale [13, 37]. Consequently the aim of an operator of an OP is creating a marketplace for others to follow consumptive needs. The goal of the operator can be a social one (childcare), but the task is to build and maintain the technology. For this part the operator is responsible and hence is delivering a technical service that has to be operated within a fitting environment. For the OP itself the operator can as well foster a social or non-profit form of organization. But there are reasons why it can be difficult to do it as a NPO or private initiative.

Innovation in the sense of transforming products, services or processes out of ideas is connected to a complexity of requirements like the own vision, supporters' opinion and institutional power influences for NPO [9]. For NPO it is known, that they mainly follow process innovations instead of product innovations, when they have been proved by others. Reasons are the lower risk of failure and lower costs. That is important for NPO, because they are often dedicated in a common field they are acting in by a charter. If the NPO cannot fulfill that, it has to fear consequences like monetary restrictions, loosing of users and sources of money. While profit-organizations focus on profit maximizing for increasing value, NPO have to balance the given monetary budget to maintain the generic service by financial restrictions [25].

When operating an OP, even if the vision is a social one, it can be complicated to reach the status as organization of common public interest, because all in all the operator is depended from the user, what they will make of the offered market place. May be this is a reason, why the minority of OP associated with the German SE is established as NPO. Moreover, when dealing with SI, mainly the authors point out, that existing NPO are achievers of discovering social needs because they are acting in the social field. [9] Within our study it was shown, that the private initiatives and the NPO are all established to operate the OP, none of these were before established NPO. Hence the OP are new organizations, who did not pass a process of (social) innovation. They started in a new field, and are viewed as (social) innovation itself. Another reason for finding less NPO is, that often SI start with-

out much testing or piloting before. They bring the idea to the market and check, what is happening [49]. Therefore other legal forms are more attractive.

All in all a SI so far is just assumed directly within three cases and indirectly within the money-related exchanges. The other cases are understood as innovation within consumption [1, 20]. With respect to car or accommodation sharing OP, it can be argued that these have been first forms of peer-to-peer lending OP, fostering a common use by granting or getting access to cars or accommodation by rentals in an online community. Linking car or accommodation rentals to an online community definitely was a new relationship and hence an innovation. But during the time it does not seem to be innovative, when a new OP arises with this focus. A further argument for that is the amount of car sharing or accommodation OP at all (27 of 71 = 38%). Another example is www.ebay.de, the OP for (re)-sale. Meanwhile standard online shops are offering their products and private people are powerseller (sellers, who often sale things and not only used products, even new products). When it was established, it was seen as an online flea market, a traditional form of consumption linked to the internet, it was an innovation [49]. Today it maybe is new for people, who consume in this way the first time, for them it is an innovation because of the first use [39].

A further assumption is the rising amount of peers that are getting commercial actors. Maybe this development can be interpreted as a SI since it represents a case of new lifestyles and its related ensuring for necessary income and defining the way of living. Moreover the solved problems are leading to possible changing on a higher level or societal level: sustainable resource saving, local distribution, and less pollution. But as long as there is no evidence of that consequences, it stays unclear if the peer-to-peer forms can be entirely understood as SI.

Concerning the development of the SE in Germany meanwhile (the data collection took place in 2014) nine of the OP do not operate anymore or are in cooperation with other OP. All cooperation took place in the mobility branch (taxi, car renting, and carpooling) and the operator of www.moovel.de (Daimler AG – transportation and automobile industry) now owns three OP associated with the Germany SE. Moreover one OP changed the legal for from a NPO into a profit-oriented legal form of organization. Thus the amount of OP is sinking and even the small number of NPO is decreasing. That underpins the assumption that NPO are not the best form to run SE OP, the sharing economy of Germany still is a development, and business actors affect the actual status and thus the future of the sharing economy in Germany.

V. CONCLUSIONS

The generalized conceptualization and description of the SE in Germany was developed using the grounded theory method on a base of 76 OP of the SE in Germany. The core

principles (categories) process and item of sharing, user interaction, role and integration of operators, corporate data, financial matters and contract of use were brought in relationship and were described with attributions. With the inherent variety of the principals, clusters have been formed by the role of operators and user groups. Through the outlining of frequencies the SE was described mainly as user-operated. In the defined narrow sense, a minority are peer-to-peer sharing, which are understood as alternative consumption, and business-to-consumers forms, which are business models and not alternative for consumption, but competitors for other market participants, and hybrid forms whose scope of alternative consumption is unclear so far. Further analysis has shown, that only a small amount of three cases can be directly related to SI, which are operated by NPO and profit organizations. Within the findings some further assumptions are made and propositions have been formulated about private people getting business users, private monetary improvement, substitution effects on traditional industries and positive effects on equality of wealth.

It was shown that about 4% could be related to SI in the sense of solving social problems with the functions of interactive OP. Even though this is a small number, this is understood as motivation for practitioners and researchers trying to find helpful further solutions that serve the society or a special community, because it is still a new form of realizing people's interaction.

We could show that SE-OP as SI are not limited to a special legal form of organizations and can hence be easier than establishing a NPO. The embeddedness of the SE in an economic and social system leads to questions about comparisons with other nations and questions about necessary adaption by the OP of the SE or parts of the economic and social system. Because social improvements are possible through OP of the SE, maybe a differentiated understanding as suggested here and treatment could help to facilitate further SE-OP with impacts as SI.

The assumption around private people becoming business people are leading to further questions. The integration of business users maybe is a development to allow 'new' business or traders that are traders because of the exchange on the OP, to take part. There is a fine line of selling or renting things privately or commercially in Germany as described. If business users, and the described small traders are business users, are not allowed, they could not take part. To prevent that, maybe it was necessary to involve them. Another possibility of interpretation is the intentional opening for business. E.g. the redistribution without monetary exchange value can consequently integrate business users and organizations and reach a wider range and amount of reallocated products.

As Botsman and Rogers described lifestyles that are based on the possibilities of the SE, maybe the increase of private persons as business people is pointing at that [4]. By the increase of sharing-related options within the SE it can become possible that people change their lives with the help of online community access for needed products and minimiz-

ing the necessary capital to finance bottom-line concerns or enabling more extravagance with the same.

It has been outlined that there is a small amount of OP that operate without monetary reward, which are understood as alternative consumption as well as the peer-to-peer interaction in the OP. Some few cases are acting with a currency surrogate. In these cases there is no money as base of allocation. Further investigation may help to find more monetary-free solutions, that are mediated through something else than money such as time, trust or input- and output-frequency.

REFERENCES

[1] Belk, R., "You are what you can access. Sharing and collaborative consumption", *Journal of Business Research*, vol. 67, issue 8, pp. 1595–1600, 2014.

[2] Belk, R.; "Sharing versus pseudo-sharing in web 2.0, in *Anthropologist*, Vol. 18, Issue 1, pp. 7-23, York University, July 2014.

[3] Benkler, Y. "Sharing Nicely", in *Shareable Goods and the Emergence of Sharing as a Modality of Economic Production*, 114 *Yale Law Journal* 273, 2004.

[4] Botsman, R. and R. Rogers, *What's mine is yours. The rise of the collaborative consumption*, HarperCollins Publisher, New York, 2010.

[5] Botsman, R. (2013): *The sharing economy lacks a shared definition*, retrieved 09/19/2013 world wide web <http://www.fastcoexist.com/3022028/the-sharing-economy-lacks-a-shared-definition#6>

[6] Breuer, F., *Reflexive Grounded Theory. Eine Einführung für die Forschungspraxis*, VS Verlag für Sozialwissenschaften, Wiesbaden, 2009.

[7] Demary, V., *Competition in the Sharing Economy*, IW policy papers - Nr. 19, Köln, July 2015.

[8] Dominguez. D. et al., *Virtuelle Ethnografie*, in *FQS*, Vol. 8, No. 3, 2007.

[9] Dover, G. and T. B. Lawrence, *The Role of Power in Nonprofit Innovation*, in *Nonprofit and Voluntary Sector Quarterly*, 41(6) 991–1013, 2012.

[10] Ebay.de, *Allgemeine Geschäftsbedingungen für die Nutzung der deutschsprachigen eBay-Dienste*, retrieved 01/14/16 world wide web <http://pages.ebay.de/help/policies/user-agreement.html>

[11] Eckhardt, G.M. and F. Bardhi, "The Sharing Economy Isn't About Sharing at All", in *Harvard Business Review*. <https://hbr.org/2015/01/the-sharing-economy-isnt-about-sharing-at-all#>

[12] Eindock GmbH: *Impressumrecht*. Retrieved 04/03/14 world wide web <http://www.impressum-recht.de/impressum-pflicht-homepage.html.html>

[13] Fraiberger, S. P. and A. Sundararajan, *Peer-to-Peer Rental Markets in the Sharing Economy*, *NYU Stern School of Business*, Research Paper, October 2015.

[14] Franke, N. and Shah, S. "How Communities Support Innovative Activities: An Exploration of Assistance and Sharing Among End-Users", *Research Policy*, 32 (1), pp. 157-178, 2011

[15] Gassmann, O., *Crowdsourcing. Innovationsmanagement mit Schwarmintelligenz*. 2.Auflage. Carl Hanser Verlag, München, 2013.

[16] Gnamb, T. and B. Batnic, B., "Qualitative Online-Forschung", in *Qualitative Marktforschung in Theorie und Praxis. Grundlagen, Methoden und Anwendungen*, Naderer, G. and E. Balzer, GWV Fachverlage GmbH, Wiesbaden, 2007.

[17] Götz, S., "Die Avantgarde der Share-Economy", in *Telepolis*, retrieved 09/16/13 world wide web, <http://www.heise.de/tp/artikel/39/39532/1.html>

[18] Grenzinger, S., *Strategisches Ressourcen-Management. Die Perspektive des Ressourcen-Dependence-Ansatzes*. Discussion Paper Nr. 18, Universität Flensburg, 2008.

[19] Gutzeit, W., *Wirtschaftssysteme in der Entwicklung. Theorieansatz für gesamtwirtschaftliche Organisation der Volkswirtschaft*, Duncker und Humblot, Berlin, 2006.

[20] Hamari, J., M. Sjöklint, and A. Ukkonen, "The sharing economy: Why people participate in collaborative consumption". *Journal of the Association for Information Science and Technology*, 2015.

[21] Hammon, L. and H. Hippner, H., "Crowdsourcing", in *Wirtschaftsinformatik 3/2012*, Gabler Verlag, Wiesbaden, 2012.

[22] Hank, R. & Petersdorff, W. „Sharing Economy Haben ist seliger als Teilen!“, in *Frankfurter Allgemeine*, retrieved 05/24/14 world wide web <http://www.faz.net/aktuell/finanzen/meine-finanzen/geld-ausgeben/sharing-economy-haben-ist-seliger-als-teilen-12139540.html>

[23] Heinrichs, H. and H. Grunenberg, *Sharing Economy. Auf dem Weg in eine neue Konsumkultur?* Centre for Sustainability Management (CSM). Leuphana University of Lüneburg, 2012.

[24] Hienert, C., von Hippel, E. A. and C. Y. Baldwin, Carliss, "How User Innovations Become Commercial Products: A Theoretical Investigation and Case Study", *MIT Sloan Research Paper No. 4572-06; HBS Finance Working Paper No. 876967; Harvard NOM Working Paper No. 06-13*, January 2006.

[25] Hull, C. and B. Lio, "Innovation in non-profit and For-profit organizations: visionary, strategic, and financial considerations", retrieved 10/10/15, <http://scholarworks.rit.edu/article/572>

[26] Kempf, M., *Strukturwandel und die Dynamik von Abhängigkeiten. Ein Theorieansatz und seine Illustration am deutschen Kabelnetzsektor*, GWV Fachverlage GmbH, Wiesbaden, 2007.

[27] Kleemann, F., U. Krähnke and I. Matuschek, *Interpretative Sozialforschung. Eine praxisorientierte Einführung*, Verlag für Sozialwissenschaften, Wiesbaden, 2009.

[28] Klute, J. and S. Kotlenga, *Sozial- und Arbeitsmarktpolitik nach Hartz. Fünf Jahre Hartzreform: Bestandsaufnahmen – Analyse – Perspektiven*, Universitätsverlag Göttingen, 2008.

[29] Kopp, D. and R. Menez, *Computergestützte Auswertung qualitativer Daten. Arbeiten mit MaxQDA anhand eines aktuellen Beispiels*, working paper, Universität Tübingen, 2005.

[30] Kuckartz, U., H. Grunenberg, and T. Dresing, *Qualitative Datenanalyse: computergestützt. Methodische Hintergründe und Beispiele aus der Forschungspraxis*, 2. Auflage, Verlag für Sozialwissenschaften, Wiesbaden, 2007.

[31] Lackes, R. and M. Siepermann, "Web 2.0", in *Springer Gabler Verlag (Herausgeber), Gabler Wirtschaftslexikon*, Stichwort: Web 2.0, Retrieved 11/10/15 world wide web, <http://wirtschaftslexikon.gabler.de/Archiv/80667/web-2-0-v8.html>

[32] Latitude and Sharable Magazine, "The sharing economy", retrieved 10/10/15 world wide web <http://www.collaborativeconsumption.com/2013/03/18/study-the-new-sharing-economy-latitude/>

[33] Lorenzen, M., „Shareconomy. Besitzen ist out - Teilen ist in“, in *Wirtschaftswoche*, retrieved 09/16/13 world wide web, <http://www.wiwo.de/technologie/digitale-welt/shareconomy-besitzen-ist-out-teilen-ist-in/7849920.html>

[34] Lueger, M., "Grounded Theory", in *Qualitative Marktforschung. Konzepte – Methoden – Analysen*, Buber, R. and H. H. Holzmüller, pp. 189-205, Gabler Verlag, Wiesbaden, 2007.

[35] Mayering, P., "Generalisierung in qualitativer Forschung", in *FQS*, Vol. 8(3) Art. 26., 2007.

[36] Mulgan, G., "The Process of Social Innovation", in *MIT press journals*, Vol. 1, No. 2 Pages 145-162, June 2006.

[37] Müller, P. M.; *An economic analysis of online sharing systems' implication on social welfare*, research paper in progress, University of Innsbruck, 2015.

[38] Müller-Plantenberg, C., *Solidarische Ökonomie in Europa. Betriebe und regionale Entwicklungen*. University Press GmbH, Kassel, 2007.

[39] Moldaschl, M., *Innovation in Sozialwissenschaftlichen Theorien Oder: Gibt Es überhaupt Innovationstheorien?*, Chemnitz University of Technology, Juli 2010.

[40] Nienhüser, W., "Resource dependence Theory. How well does it explain organizational behavior?" in *management revue*, 19 (1+2): 9-32, Rainer Hampp Verlag, 2008.

[41] Notz, G., *Theorien alternativen Wirtschaftens. Fenster in eine andere Welt*, Schmetterling Verlag, Stuttgart, 2011.

[42] O'Reilly, T. (2005); "What is Web 2.0 – design patterns and business models for the next generation of software", Retrieved 11/10/15 World

- Wide
<http://oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html> Web,
- [43] Ortmann, Y. „Sharing Economy: Alle Konzepte und Plattformen auf einen Blick“, in Deutsche Startups, retrieved 09/26/13 world wide web, <http://www.deutsche-startups.de/?p=96565>)
- [44] Pfeffer, J. and G. R. Salancik, *The external control of organizations. A resource dependence perspective*, 2. Auflage. University Press. Stanford, 2003.
- [45] Pur, S.; S. Hüsigg; H. G. Mann, C. Schmidhammer, “How to analyze the disruptive potential of business model innovation in 2-sided markets? The case of p2p lending marketplaces in Germany”, *PICMET '14 Conference*, Kanazawa, Japan, July 27- 31, 2014.
- [46] Ranchordas, S., “Does Sharing Mean Caring? Regulating Innovation in the Sharing Economy”, *Minnesota Journal of Law, Science & Technology*, Winter 2015.
- [47] Ratzesberger, P., „Share Economy im Internet. Die Generation Y teilt“, in Süddeutsche.de, retrieved 09/06/13 world wide web, <http://www.sueddeutsche.de/wirtschaft/share-economy-im-internet-die-generation-y-teilt-1.1556736>
- [48] Sacks, D., “Thanks to the social web, you can now share anything with anyone anywhere in the world, is this the end of hyperconsumption?”, retrieved 09/16/2013 World Wide Web <http://www.fastcompany.com/1747551/sharing-economy>
- [49] Sanders, B., G. Mulgan, R. Ali and S. Tucker, “Social Innovation: what it is, why it matters, how it can be accelerated”, *Oxford Said Business School*, working paper, March 2007.
- [50] Scholz, C. „Wissen teilen ist gut – oder?“, in *Personalmagazin, Heft 03/2013*, S. 62, retrieved 09/16/13 world wide web, / http://www.wiso-net.de/webcgi?START=A60&DOKV_DB=ZECO&DOKV_NO=PEM A021321033&DOKV_HS=0&PP=1
- [51] Shu-Yi, O. and D. M. Ring, Can sharing be taxed?, *Washington University Law Review*, Vol. 93, No. 4, 2016; *Tulane Public Law Research Paper No. 15-3*; *Boston College Law School Legal Studies*, Research Paper, September 2015.
- [52] Spinuzzi, C., “Working Alone Together Coworking as Emergent Collaborative Activity”, in *Journal of Business and Technical Communication*, Vol. 26, No. 4, October 2012.
- [53] Strübing, J., *Grounded Theory. Zur sozialtheoretischen und epistemologischen Fundierung des Verfahrens der empirisch begründeten Theoriebildung*, 2. Auflage, VS Verlag für Sozialwissenschaften, Wiesbaden, 2008.
- [54] The economist, “Peer-to-peer rental The rise of the sharing economy”, retrieved 10/01/15 world wide web, <http://www.economist.com/news/leaders/21573104-internet-everything-hire-rise-sharing-economy>
- [55] Tiberius, V., *Prozesse und Dynamik des Netzwerkwandels*, GWV Fachverlage GmbH, Wiesbaden, 2008.
- [56] Voß, E., *Wegweiser Solidarische Ökonomie. Anders Wirtschaften ist möglich!*, Verein zur Förderung der sozialpolitischen Arbeit, 2010.
- [57] Weik, E. and R. Lang, *Moderne Organisationstheorien 1. Handlungsorientierte Ansätze*, 2 Auflage. Gabler Verlag, Wiesbaden, 2005.
- [58] Welker, M and U. Matzat, „Online-Forschung: Gegenstände und Entwicklung, Institutionalisierung und Ausdifferenzierung eines neuen Forschungszweiges“ In: *Sozialforschung im Internet*, Jakob, N., H. Schoen and T. Zerback, Verlag für Sozialwissenschaften, Wiesbaden, 2009.
- [59] Wolf, J., *Organisation, Management, Unternehmensführung. Theorien, Praxisbeispiele und Kritik*, 3. Auflage, Gabler Verlag, Wiesbaden, 2008.
- [60] Zervas, G. and Proserpio, D. and Byers, J., “The Rise of the Sharing Economy: Estimating the Impact of Airbnb on the Hotel Industry”, *Boston U. School of Management*, Research Paper, May 2015.