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Value Creation in Digital Service Platforms

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Abstract

Value creation is increasingly relevant for owners of digital service platforms (DSPs). These owners have two vital goals: increase their service base and sustain their service offerers. A key element in continuously accommodating these goals is value creation. While the literature on DSPs is growing, there is a paucity of knowledge on the value creation process in these platforms. Drawing on a qualitative study of Uber drivers in Denmark and Sweden, we synthesize Schumpeter's theory of value creation to develop an understanding of the value creation process in DSPs from the perspective of service offerers. As such, our study proposes and contributes a value creation framework that identifies eight value sources and highlights the exchange and combination of resources in the process of value creation in DSPs.

Keywords Digital Service Platforms (DSPs), Uber, Resource Exchange, Sharing Economy, Value Creation

1 Introduction

In the current post-industrial economy, service has become the basis of economic activities (Barrett et al., 2015). New digital infrastructures and ecosystems allow for generativity and the creation of value through platforms (Henfridsson & Byzstad, 2013; Cusumano, 2012; Ghazawneh & Mansour, 2015). The sharing economy is a phenomenon that exhibits new venues where digital platforms act as a foundation upon which firms can develop complementary digital products and services (Yoo et al., 2012). Service in these platforms is seen as the application of specialized knowledge and skills in a process of joint and reciprocal co-creation of value among multiple parties rather than the traditional notion of service as a unit of tangible product (Vargo & Lusch, 2004; Barrett et al., 2015).

In recent years, several digital service platforms (DSPs) have appeared such as Uber and Airbnb that echo this redefinition of service. DSPs are systems that consist of tangible and intangible resources and facilitate the interaction between actors and the exchange of resources among them (Lusch & Nambisan, 2015). They provide a foundation for peer-to-peer markets (Fraiberger & Sundararajan, 2015; Hamari et al., 2015; Avital et al., 2015) that enable service exchange and provision between private individuals in areas like car rental (Uber, Lyft), labor (TaskRabbit), home rental (Airbnb), and others (Fraiberger & Sundararajan, 2015). Collectively, peer-to-peer DSPs represent the backbone of the sharing economy. Some suggest that the sharing economy introduces an alternate or secondary business model/market in which people are interested to get services directly only when they need them (Fraiberger & Sundararajan, 2015; Böckmann, 2013). This view of the sharing economy is marked by a rising emphasis on utilitarianism (Belk, 2010; Bardhi & Eckhardt, 2012; Fraiberger & Sundararajan, 2015). It describes a new form of relationship between consumers and objects where interest in object ownership is increasingly replaced by the utilitarian value of the function that a resource can perform (Marx, 1930). For instance, studies on ride-sharing services show that people are interested in getting convenient services at low cost rather than owning a car (Belk, 2014; Bardhi & Eckhardt, 2012).

Furthermore, the basic notion of the sharing economy emphasizes on the idea of sharing (Schor, 2014) which is essentially based on the exchange of resources, goods, and services (Hamari et al., 2014; Belk, 2014; Arsel & Dobscha, 2011; Benkler, 2004). Belk (2010) discussed that sharing out “involves dividing a resource among discrete economic interests”. As resource exchange is central to the conceptual understanding of sharing and given that it is one of the pillars of Schumpeterian value creation (Schumpeter, 1934; Moran & Ghoshal, 1996), there is an opportunity for us to look into an important economic aspect of the sharing economy, that is, value creation. Our review of relevant literature on sharing economy suggests a lack of clarity about potential value creation which prompts the need for empirical investigation. In particular, there is a void in empirical knowledge about leveraging tangible and intangible DSP resources in service exchange and provision. There is also little empirical research, at least within IS, addressing economic aspects such as ownership and value in the sharing economy.

Hence, in this paper we focus on the ride-sharing digital service platform, Uber, as our empirical context. Our aim is to develop an understanding of collaborative exchange and use of platform resources between service offerers (Uber drivers) and platform owner (Uber) with emphasis on the perspective of the drivers. We therefore seek to answer the following question: *what value creation processes are involved in service offerings in the context of the ride-sharing service platform?*

2 Conceptualizing Sharing in the Sharing Economy

The sharing economy often describes contemporary peer-to-peer transaction and exchange of services. Exchange, mediated via DSPs, is manifested in collaborative consumption that is acts and “events in which one or more persons consume economic goods or services in the process of engaging in joint activities with one or more others” (Felson & Speath, 1978, p. 614). This involves peer-to-peer activities of obtaining, giving, or sharing access to physical and non-physical goods and services (Hamari et al., 2015). Through these activities, strangers tend to establish trust to both exchange and use mutual resources (Böckmann, 2013). In this respect, DSPs take on an intermediary role between private buyers and sellers allowing them to share their existing resources (Allen, 2015). Sharing is defined as a pro-social behavior (Benkler, 2004) which involves distributing what is ours to others for their use or receiving something from others for our use (Belk, 2007). It includes voluntary lending, pooling and allocation of resources, but not contractual renting or leasing. In this way, the term ‘sharing’ in the sharing economy may hold some meaning to the emergence of the phenomenon in that it is seen as a solution for materialism and overconsumption (Hamari et al., 2015; Böckmann, 2013). One of the main reasons why it is seen this way is that exchanged services or goods are made available to people only when they need them; that is, there is no need for owning an asset permanently.

The discussion of overconsumption and ownership leads us to important ideas from the field of consumer research. Car sharing is discussed as one form of access-based consumption. Bardhi & Eckhardt (2014) described access-based consumption in what they called redistribution markets where peer-to-peer matching services like Airbnb enable used or owned goods to be redistributed where they are needed. They made a distinction between digital access-based consumption and traditional rentals that shows the shift associated with the sharing economy. Traditional renters, they explained, were often seen as feckless consumers with lower financial power who don't acquire investment, pride and security, and depreciation credits. Interestingly, nowadays ownership and attachment to objects became problematic, Bardhi & Eckhardt (2012) argued, in that value is increasingly reliant on cultural rather than tangible resources. They reported on this in their study of Zipcar¹ which shows that use value dominates relationships with objects. Use value is defined as the utilitarian value of the function that a material object can perform (Marx 1930). In other words, the consumer-object relationship is underlined by utilitarianism (Belk, 2010); that is, riders are motivated by consumption motivations such as reducing expenses and increasing convenience (Bardhi & Eckhardt, 2012).

In addition, while the rise of the sharing economy is often attributed to environmental concerns and yearning to social embeddedness, studies suggest that consumption motivations may be prime reasons for sharing (e.g., Bardhi & Eckhardt, 2012). Marketing and consumer behavior scholars studied sharing as one form of anti-consumption or rebellion against market exchanges (e.g., Ozanne & Ballantine, 2010; Belk, 2014, 2010, 2007; Bardhi & Eckhardt, 2012). For instance, Ozanne & Ballantine (2010) studied toy lending libraries as a form of alternative consumer-controlled service by 'market avoiders' and 'quiet anti-consumers'. Their results show that sharing maybe conceptualized as futile form of market resistance rather than an extreme form of active market rebellion as it only reflects minimization of consumption behaviors. Further, a study on Zipcar showed that car-sharing practices pushed large car manufacturers like Mercedes and BMW to start their own car-sharing programs such as Car2Go and DriveNow (Belk, 2010). The reason why these manufactures would turn to short-term car rentals rather than facilitate car ownership is that, Belk (2010) claimed, young people seem to be losing interest in car ownership as being important to self-definition and find purchase and maintenance expensive.

3 Theory

Drawing on Schumpeter (1934), Moran & Ghoshal (1996) developed a value creation framework which described value creation as consisting of processes of resource exchange and resource combination. They stressed that new resource combinations are the source of new potential value to be created and that exchange accounts for the actual realization of this potential value and also sets the stage for value creation. According to Schumpeter (1934), resource combinations are drivers of economic development. They represent the employment of the economic system's existing supplies of productive means. What is meant here is that for each new resource combination, some other resources need to be withdrawn from existing productive means (Moran & Ghoshal, 1996). In other words, creating new potential value may come at the expense of existing value; something that Schumpeter described as value destruction.

Further, Moran & Ghoshal (1996) distinguished between processes of value creation and value realization. Unlike Schumpeter, Moran & Ghoshal argued that no economic progress is possible without some value realization. They reasoned that potential value must be leveraged in order to add wealth into society. That is, value must be generated, appropriated, and then handed on. The generation and appropriation of value describe value realization of which value creation is just one part. In this respect, Moran & Ghoshal (1996) outlined three conditions that must be met for the realization of potential value through purposive action: 1) there must exist an opportunity to make deployment and new combination of resources, that is, resources such as knowledge, goods, or services as well as the opportunity to deploy them should be available in order to make resource deployment, 2) the party(ies) who have the opportunity or means to make the prospective deployment must be motivated to do so, 3) and that these party(ies) perceive an opportunity for some value to be realized.

In addition, Moran & Ghoshal discussed the realization of value suggesting that potential value created through new resource combinations cannot yet be considered as realized value but it only exists as intrinsic value. They distinguished economic value from intrinsic forms of value. According to them, intrinsic value is real and can be inferred from behavior by the apparent weight or priority a party assigns to certain things such as knowledge, objects, services and emotions relative to others. In this respect, Moran & Ghoshal (1996) stressed that such value has no economic value unless it is reflected in exchange such as, in their own words, the sharing of objects, knowledge, ideas, or services. Exchange is the

¹ Zipcar is a commercial car sharing organization that allows fee-paying participants to reserve cars online to be used when they need them and then send them back to their original locations

primary mechanism through which potential value becomes realized. It validates the value of the resources exchanged and, thereby, promotes, and sends a signal of the realization of some potential value. As such, the role of exchange, as Moran & Ghoshal described it, is to facilitate the continual reallocation of resources to their productive uses and thereby increase their social productivity. So, each time goods or services are exchanged, the potential value created by prior resource deployments is realized and added as economic value to the system. Also, besides facilitating the reallocation of resources, exchange helps to provide continuing supply of new productive uses for resources.

4 Empirical Method

The main vehicle for our empirical investigation is the semi-structured interview. Our method is qualitative influenced by hermeneutics as we emphasize on the subjective meanings of our participants. The following sections show the empirical setting, data collection process, and the analysis of data.

4.1 The Empirical Setting

Our study took place in Sweden and Denmark where Uber, at the time of the study, was available and would-be individuals can join in as Uber Drivers. We collected data in two Swedish cities Lund and Malmö as well as in the Danish capital of Copenhagen. Uber started operations in Sweden on February 2013 and in Copenhagen on November 2014. It is worth mentioning that Uber ended its operations in Denmark over new taxi regulations on the 28th of March 2017.

4.2 Data Collection and Participants

The empirical data in this study was collected using the semi-structured interview method. We chose to use this particular qualitative method since it enables direct interaction with our participants and facilitates access to their real-life experiences with regard to our research aim (Schultze & Avital, 2011). Given our interest to understand how the participants create value as Uber drivers, it was important for us to use a method that allows for revealing data about their subjective accounts of what they do and engaging in a conversation that helps in capturing the sense making work that they use in explaining events, people, and any courses of action in their work (Ponterotto, 2006; Roulston, 2011). We have interviewed a total of 20 Uber Drivers of which 12 were in Denmark and 8 were in Sweden. Table 1. below shows a complete summary of the characteristics of the research participants. We initiated direct contact with the participants through random selection. The authors of this study went on 20 Uber trips in Sweden and Denmark. The average trip time (interviewing time) was 40 minutes and drivers were introduced to the study and asked if they are willing to participate.

Table 1. Interviews and Research Participants

#	Informant (initials)	City/Country	Period as Taxi Driver/months	Period as Uber Driver/months	# of trips / Uber	# of hours / Uber
1	AC	Copenhagen/ Denmark	40	3	180	54
2	SP		0	10	1,500	489
3	EE		0	6	900	347
4	MA		26	1	240	60
5	WR		0	15	3,600	1020
6	IR		18	2	150	93
7	SB		0	6	2,070	500
8	ZO		37	1	360	130
9	WA		50	7	3,150	735
10	HG		0	3	360	81
11	SA		0	1	117	31
12	RM		66	4	1455	361
13	MS	Malmö, Lund/ Sweden	0	1	112	39
14	SC		0	1	330	104
15	SJ		0	1	289	143
16	AO		33	2	126	35
17	SS		34	2	170	80
18	OK		0	4	28	12
19	JO		220	1	210	61
20	AM		0	1	187	90

The interviews were conducted during the trip as drivers were transporting the authors to their destination. All participants in our study worked as full-time Uber drivers but many of them had an earlier Taxi driving experience ranging between 0-220 months. The range of working time as Uber driver was between a few days up till 15 months, the average number of trips per driver was 665 trips, and the average working hours per driver was 200 hours. This information is available via Uber mobile app and we obtained them from each individual participant during the interviews. The interviews took place between March and April 2016. All interviews were audio recorded after getting permission from each participant and later transcribed by both authors for analytical purposes.

4.3 Data Analysis

Empirical data collected in our research is primarily qualitative and of textual nature. The mode of analysis was thus hermeneutic (Myers, 1997; Klein & Myers, 1999) and its emphasis was placed on interpreting and stressing the subjective meanings that our participants associate with their life experiences (Boland, 1991). In our discussion of processes of value creation above, exchange was shown to be a key mechanism through which value is created and realized. We therefore believe that value is subjective and socially constructed through continued service exchange and provision. As such, our interpretive analysis of data was focused on understanding and making sense of our participants' constructions and meanings of value as they use platform resources in their service offerings. A number of key value creation concepts were used to guide our interpretation of data including resource exchange, resource combination, value creation, and value realization. The data analysis was then enabled by a combination of qualitative and hermeneutic data analysis techniques with the aim of generating and searching for meanings in selected segments of the empirical data.

Table 2. Example from the data analysis

<i>Theoretical concept (pattern)</i>	<i>Interview Quote (data segment)</i>	<i>Analytical interpretation (meaning)</i>
Resources exchange	<i>“Every time I finish a drive, the passenger rates me, he gives me a rating from one to five stars... If my rating goes below some number, I think if the average rating is below 4.6, Uber will consider kicking me off their system.”</i>	Riders' reviews represent an exchange of value (e.g., feedback on drivers' quality, behavior, etc.), that is, validating and rating the driver, which forms a basis for choosing this driver or not by other riders.

We followed three key steps from Miles et al. (1994) to generate meanings: finding patterns and developing themes, seeing plausibility, and clustering/grouping. For each of these steps, we applied the circular structure of understanding from Cole & Avison (2007) to aid our analytical interpretation and meaning-generation processes. The structure of understanding includes understanding, explanation, and interpretation. These are seen here as three levels of interpretation in that understanding is an initial attempt to make sense of the data, explanation is developing a preliminary interpretation, and finally interpretation is meaning interpreted anew or reinterpretation.

The main author of this paper started to review each interview transcript keeping in mind the aim of the study and the stated theoretical concepts. In the early stages of the analysis, the focus was placed on finding value creation-related patterns in the data and compiling a selected set of data segments from each transcript where the patterns are found. These patterns were identified based on their recurrence and also significance to the meanings implied in theoretical concepts. So, any recurring patterns in the data that weren't of significance to our theory were not considered. The three elements of the structure of understanding helped us here to uncover meanings by repeated interpretation of data segments. A simple example of this is shown in Table 2 above. Seeing plausibility was the stage in which we started to look for 'pointers' in the identified data segments to central aspects of the value creation process. It is at this stage that we started to collect 'clear-cut themes that represent and capture theory-relevant meanings. For instance, in the quote mentioned above we would look for meanings related to value and exchange. Just like in the pattern-seeking stage, we used the structure of understanding and emphasized multiple levels of interpretation to make decisions about meaningful themes. Applying the first two stages in each transcript resulted in a set of themes together with several data segments supported by analytical descriptions. These themes were main ingredients for the final stage as we created tables in Microsoft Word in which we organized them into groups based on their relevance. Miles et al. (1994) call this clustering. As we grouped relevant themes, we started another level of interpretation aiming at elaborating interrelated themes and developing a higher level of abstraction (e.g., see dimensions below) which could be later used to develop the framework and support the discussion of the findings.

5 Findings

Our findings section shows the main results from the analysis of data. It is divided around three main dimensions: DSP sales, DSP safety, and DSP operation. For each of these dimensions, a number of relevant value sources is presented.

5.1 Digital Service Platform Sales

5.1.1 Transaction Processing

Processing of transactions between Uber drivers and riders is a major issue that concerns both parties. Uber processes and handles all financial transactions over their DSP. It then pays out all drivers on a scheduled basis after cutting their service fee. Uber drivers find it beneficial in not getting involved directly in any transaction handling process. A Swedish Uber driver said: *“Regarding money it’s great, I don’t have to own a credit card processing machine, I don’t have to handle cash and change, I don’t have to print receipts to the riders. It’s like magic. The customers arrive to the destination and leave the car smoothly and Uber handles all of this.”* But transaction processing does not only cover payment handling. It also covers transaction management and reporting. A Danish Uber driver explained: *“Think about it. Uber provides everything. They do the numbers and reports. I worked as a taxi driver the last five years and I can tell it is a lot of work when it comes to monthly reports. Now I log into my Uber account and print reports immediately within few seconds.”*

Our findings also show that the availability of such transaction features in the DSP is an important factor to join in as a driver. A Danish Uber driver explained: *“You know, we need everything to be perfect when it comes to fares and transactions. I worked for a couple of months with Taxi.eu, then a friend recommended Uber, I switched and it was more perfect than Taxi.eu. Uber processes our transactions, handles and organizes them and delivers our money share in a very smooth way.”* The participants, however, were concerned about the 20% commission fee deducted by Uber for each trip as a lead generation cost. A Swedish Uber driver explained: *“This percentage is too much for me. I know it might be common in our industry and there are no monthly fees to be paid to Uber for using their services but it is too much especially here in Sweden with high taxes and expensive gas.”*

5.1.2 Review and Rating System

Uber provides a review/rating system for drivers and riders. This system enables both parties to rate each other and write reviews based on their experiences of the trips. The main aim from the system is to objectively measure the performance of the service provider as well as the service beneficiary. A Danish Uber driver commented: *“Every time I finish a drive, the passenger rates me, he gives me a rating from one to five stars. This rating is very crucial for me as a driver. If my rating goes below some number, I think if the average rating is below 4.6, Uber will consider kicking me off their system.”* Also, the system is used by Uber to categorize drivers into three levels: the first includes drivers with ratings below 4.6 and are at risk of being deactivated, the second includes drivers rated between 4.6 and 4.8 and are encouraged to improve their service, and the third includes drivers with ratings above 4.8 and are encouraged to keep their good work. A Swedish Uber driver said: *“It is not only Uber that sees my rating but also the passenger and If I have a low rating he might consider canceling the trip request and never take the ride with me. I think, this review system is the most sensitive thing in our work and is taken seriously by Uber and riders. You know, Uber reminds us about our rating on a weekly basis.”*

Additionally, Uber platform allows for rating drivers’ behaviour. Uber has a review model that is associated with the acceptance rate of rides. This model is referred to as “Acceptance Rate”. Every time a passenger requests a ride, Uber sends the request to the nearest driver. The driver has 15 seconds to accept the request, otherwise the request is sent to the second nearest driver. Uber informs drivers that their acceptance rate should be above 80%. A Danish Uber driver said: *“I feel this is frustrating that we have to keep accepting requests as high as we can. Skipping requests frequently is not a good behaviour and Uber takes this into consideration. Maybe it is good for them and the riders and is totally different from the way traditional taxi companies work.”*

5.1.3 Publicity and Exploitation

Uber focuses on marketing their platform globally. This includes advertising, creating user awareness, promoting the service in various channels, setting campaigns and providing coupons for new users. A Danish Uber driver commented on this: *“I own and drive a taxi for many years now. And before, we have to take care of advertising, distributing our service numbers and business cards and wait for calls. Also, I collaborate with other taxi companies to exchange customers. With Uber, the game changed. They take care of marketing and reaching out to customers and sends us requests via their*

app.” Uber also continues to expand its services in the platform to increase its user base. This is perceived by the drivers to be of significant value. A Danish driver described newly released Uber services: *“The good thing about Uber is that its services are not limited to people, they have other services for the future here in Denmark and in Europe. I know that Uber has now package delivery services, also fresh food delivery services. So, if you ask me as a driver, this is like a dream, we can deliver not only riders but food and packages. Also, I know they have new services in California called UberPool, we will be able to do car-pooling in the future.”*

5.2 Digital Service Platform Safety

5.2.1 Technological Reliability

Uber provides both drivers and riders with reliable technologies and features. Our participants described how the integration of the map into Uber platform creates a sense of satisfaction and trust in the reliability of available service technologies. A Danish Uber driver explained: *“I know that Uber is great in technology, and their maps are very accurate and I can use them easily. I have asked many riders about how do they like Uber ... they said it is awesome to see the Uber car on the map in real-time when it is coming to pick them. I work around Kastrup (Copenhagen Airport) and most riders use Uber, they said they trust it more than regular taxis, the technology Uber provides in real time gives them trust...”* Our data also shows that there are other safety features supplied by Uber. One feature that is referred to as “Share my ETA” enables riders to share their journey and real-time location with a family member, a friend or anyone else. A Danish Uber driver said: *“I think from a customer perspective it would be great when he shares his ride location with others. I can tell you about two cases. Once as a taxi driver, I drove a teenage girl, her father kept calling her and talking to me as well, this was very annoying.... Using Uber.... I drive a lot of teenagers and they feel relaxed sharing their real-time location with their families. So, I think it is a win-win situation for all.”*

5.2.2 Safety and Trust

Uber provides drivers and riders with features that allows them to identify each other. There is no anonymity between drivers and riders in the platform. These features enable them for instance to view each other’s profiles before the trip begins. According to our data analysis, this helps to reduce the risk of inappropriate behaviour and facilitates reporting of incidents. A Danish Uber driver gave an example: *“I worked as a taxi driver for many years, in Copenhagen there is a lot of drunk people, I always ended up carrying them and this was a problem for me. Now, when I use Uber, I at least make sure I know whom I am driving.”* The data analysis also revealed that estimated trip fares by Uber creates a sense of trust for the riders. Our participants believe that riders trust Uber fares so there are no arguments over the price as one Danish Uber driver explained: *“Let me tell you, I know that if you take a taxi all over the world you think that the driver might cheat and your trip will be overpriced. When riders use Uber they can see accurate price estimation for their trips in advance and before they request us. This means riders trust the price and trust that the drivers cannot cheat them.”*

Digital Service Platform Operation

5.2.3 Membership and Affiliations

Platform owners aim at attracting service offerers to use their platforms. The more service offerers available, the more service beneficiaries will be attracted to the platform. We found that Uber is doing this by facilitating the adoption of their services through easy accessibility to join the platform and become an Uber driver. A Swedish driver explained: *“I am not a taxi driver; I don’t own a taxi-special driving license. I have my own car, my Swedish regular driving license and I joined Uber and I drive passengers and make money. That’s as easy as it is. If I am to join a regular taxi company it would take few years in a process from obtaining the special taxi license to finding a company to for.”* Further, we also found that Uber does not demand service offerers to quit their services to other competitors such as Lyft and Taxi.eu. This flexibility was perceived to be of great value by all of our informants and was illustrated by a Danish Uber driver as follows: *“The greatest value I see here is that I have affiliation to Uber and to my local taxi company. I can serve passengers from both sides; Uber does not force me to stop driving at my local taxi company while using Uber’s partner program. So, it is my task to pick up passengers based on my availability and other circumstances.”*

5.2.4 Work Flexibility

Uber tries to offer a flexible work environment for service offerers (drivers). Drivers can use features in the platform to turn the service on and off and create their own work schedule. Our data analysis revealed that service offerers see a great value in not being overseen by a manager or a boss. A Danish

Uber driver clarified this: *"I can work as much as I want. When I want to start working for Uber, I turn Uber partner app on, if I want to stop, I turn the app off. It's super easy and flexible. I don't have a boss that can tell me where to drive and when. I can also drive in wherever area I feel comfortable driving in and not to be associated with a particular area."* A Swedish Uber driver also explained the advantage of work flexibility: *"I have a long experience as a taxi driver. The worst thing in our job is the owner of the taxi license. First of all, with Uber I control my life."*

5.2.5 Rewards & Support

The expansion and growth of a DSP is based on increasing the degree of network effects. So, it is significant for platform owners to acquire enough numbers of riders to attract drivers. Our analysis revealed that Uber offers coupons at high discount prices to new users. The coupons cover the whole sum and pay drivers their shares regardless of the coupon amount given to the riders. A Danish Uber driver illustrated: *"I know that Uber gives a lot of coupons... But, I don't know if the passenger is using a coupon or his own credit. At the end, I get paid on both ways whether he is using his coupon or credit card."* The data also shows that Uber can help drivers whose cars do not meet its car requirements to rent cars that they can use through dealership programs. A Danish Uber driver added: *"Actually I don't own my car but Uber helped me rent it for ride-sharing business. That's great I think, to be able to rent a car, use it and pay for the rent from Uber business."*

6 Discussion

According to Moran & Ghoshal (1996) exchange accounts for the actual realization of potential value and sets the stage for future value creation. In a DSP like Uber, exchange is a core process in service offering and realization. As suggested by our findings, value creation and realization occur through active resource combinations and exchanges among multiple parties including service platform owner (Uber), service offerers (e.g., Uber drivers), and service beneficiaries (e.g., riders). Table 3 below shows the value creation framework in DSPs. Our framework consists of three main parts. The first is the value sources part. We have identified eight major value sources in this study: transaction processing, review and rating system, publicity and exploitation, technology reliability, safety, membership and affiliations, work flexibility, and rewards and support. These value sources are grouped based on their relevance into three dimensions including DSP sales, DSP safety, and DSP operation. The second part refers to the creation of value and describes both value creation and realization processes. While value creation illustrates how value sources are combined and exchanged, value realization shows the allocation of opportunities, engaged parties, and perception of each value source. The third part is the service realization part. It consists of four service constructs. The first construct determines whether value associated with the service is based on knowledge or skills. The second construct determines whether value associated with the service is in-exchange or in-use (Vargo & Lusch, 2004). The third construct determines whether value resource associated with the service is tangible or intangible, and finally the fourth construct determines the type of service exchange either service for service or service for value.

6.1 Digital Service Platform Sales

DSP sales focuses on the combination of resources related to services sales (offering or delivery). There are three key value sources associated with service sales including transaction processing capabilities, review and rating system, and publicity and exploitation. For each of these value sources, the platform offers certain tangible and intangible resources that can be employed and leveraged by drivers to offer and exchange services. First, Uber platform provides tangible transaction-processing capabilities that make it easy for both drivers and riders to manage reporting and payment handling. There is an economic value in this value source which is beneficial, value-in-use (Vargo & Lusch, 2004), to drivers, riders, and Uber since it helps to settle any financial transactions associated with service exchange. Second, rating and reviewing is a source of intrinsic value for two parties: drivers and riders. The two parties employ this tangible resource to validate the quality of exchanged services as well as their own performances. The mutual reviews made by drivers and riders thus influence their recognition and status either negatively or positively, value-in-use, depending on the rating and content of the review. A driver with good reviews is likely to receive many requests from potential riders, while another with bad reviews may get discontinued from the platform. Similarly, a rider with high rating is likely to get her requests accepted, while another with low rating may possibly get no acceptance. Third, publicity and exploitation is a value source mainly for platform owner and service offerers. This is an intangible resource used by the platform owner to market services and reach out to potential customers. It is also leveraged by drivers in that customers may request their services. So, there is economic value, value-in-use, in the exchange of services that is beneficial for both parties. The platform owner gets a percentage of the cost and service offerers benefit from revenues of the exchanged services.

Table 3. Value Creation Framework in Digital Service Platforms

Value Sources	Value Creation Process					Service Realization							
	Value Creation		Value Realization			Service		Value		Resources		Exchange	
	Resource Combination	Resource Exchange	Opportunities	Parties	Perception	Knowledge	Skills	Value-in-exchange	Value-in-use	Tangible	Intangible	Service for service	Service for value
Transaction Processing		<i>Economic Value</i>	<i>Settlement</i>	<i>Drivers Riders Uber</i>	<i>Payment management for drivers</i>	X			X	X		X	
Review & Rating System	<i>Digital Service Platform Sales</i>	<i>Intrinsic Value</i>	<i>Recognition</i>	<i>Drivers Riders</i>	<i>Review influence drivers and riders</i>	X			X		X		X
Publicity & Exploitation		<i>Economic Value</i>	<i>Marketing</i>	<i>Drivers Uber</i>	<i>Matching drivers and riders</i>		X		X		X	X	
Technology Reliability	<i>Digital Service Platform Safety</i>	<i>Intrinsic Value</i>	<i>Reliability</i>	<i>Drivers Riders</i>	<i>Create trusted environment</i>	X			X	X			X
Safety		<i>Intrinsic Value</i>	<i>Trust</i>	<i>Drivers Riders Uber</i>	<i>Create safe environment</i>	X			X	X			X
Membership & Affiliations		<i>Intrinsic Value</i>	<i>Recruitment & Participation</i>	<i>Drivers Uber</i>	<i>Develop loyalty</i>		X	X			X	X	
Work Flexibility	<i>Digital Service Platform Operation</i>	<i>Intrinsic Value</i>	<i>Less Control & Engagement</i>	<i>Drivers Uber</i>	<i>Create work environment</i>		X	X			X	X	
Rewards & Support		<i>Economic Value</i>	<i>Campaigning</i>	<i>Drivers Uber</i>	<i>Setup future activities</i>		X		X	X			X

6.2 Digital Service Platform Safety

The second dimension is concerned with the combination of resources related to trusting the service platform. The two value sources associated with DSP safety are technology reliability and safety. First, drivers and riders leverage tangible technological resources and features of the digital platform to exchange services. Drivers make sure that the platform is reliable for them to offer services, and riders enjoy advanced features that help them for instance to locate drivers, request services, and even share their own locations for safety purposes. In this way, it is a mutual intrinsic value, value-in-use, for both parties that helps in creating trust in the platform. Second, safety in the service platform is maintained through transparency about drivers which saves riders from potential risks often associated with taxi services. Another safety aspect in the service platform is guaranteed fare prices. Sometimes, there is mistrust in the fares that drivers ask for their taxi services. The DSP, however, offers a number of options for fare prices that riders can choose from and feel comfortable about the money they are expected to pay. These are tangible resources leveraged by both drivers and riders that contribute into better reliability and increased safety of the DSP resulting in intrinsic value, value-in-use, for them.

6.3 Digital Service Platform Operation

The final dimension focuses on operation in the DSP. There are three value sources associated with this dimension: membership and affiliations, work flexibility, and rewards and support. First, membership and affiliations are intangible resources used by both the platform owner as well as service offerers. On the one hand, the platform owner provides resources that make it easy for potential drivers to join and become service offerers as well as maintain their service offerings through relaxed rules of operation. On the other, drivers get the opportunity to offer and exchange services without many requirements or compromises that could limit their prospect in joining the service platform. This describes a potential intrinsic value for the service platform owner and service offerers. So, it is only value-in-exchange since neither the owner knows it can recruit drivers nor drivers know they can participate. Second, work flexibility is a source of intrinsic value for drivers and the platform owner. The flexibility of working as an Uber driver makes it possible for service offerers to enjoy the work and at the same time stimulates engagement among them. However, this is value-in-exchange, or value proposition (Vargo & Lusch, 2004), for both parties since service offerers may leverage flexibility in a negative manner (e.g., causing harm to service beneficiaries) and the platform owner cannot be sure if flexibility to work can sustain their commitment to offer services via the platform. Third, rewards and support is a source for economic value, value-in-use, mainly for service offerers. The service platform owner makes available a variety of tangible resources to support service offerers in the exchange of services. For instance, by providing coupons and discounts to service beneficiaries, the platform owner supports its service offerers in getting a wider customer base that might be attracted to lower price fares. It also helps with obtaining essential tangible resources such as leasing cars to motivate service offerers.

7 Conclusions

In this paper, we synthesized the literature on value creation and the sharing economy to study processes of value creation in digital service platforms (DSPs). Based on a qualitative study of Uber drivers in Sweden and Denmark, we developed an empirical-based framework of value creation that emphasizes on novel sources of value made available by the platform owner as well as major areas where these value sources are leveraged by service offerers and beneficiaries. The framework thus provides a theoretical tool to study reciprocal interaction among multiple parties in DSPs and the employment of platform resources by service offerers. Theoretically, the paper offers an applied synthesis of classical value creation in a digital context which develops an understanding of how tangible and intangible digital resources play out in the process of service exchange and provision. This understanding of value creation in DSPs stresses active reuse and reallocation of platform resources through exchange (cf. Moran & Ghoshal, 1996) which supports literature on generativity of digital platforms. Finally, we believe that one important direction for further research can be focused on value appropriation by multiple parties in DSPs.

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