Exploring Value Co-Creation in Sharing Platforms by Applying DART Framework

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Abstract. *The spread and development of sharing platforms can be seen in many countries around the world, especially in emerging economies. However, sharing platforms face challenges in retaining users and attracting new ones. The value co-creation can be used as a tool to ensure competitiveness, develop innovation, and strengthen relationships with consumers. Thus, this study aims to explore value co-creation in sharing platforms from the perspective of platform developers by applying the DART framework. Case study analysis was applied to the empirical study. Its results indicate that the dialogue dimension unfolds through interaction; the access develops through information and tools; the risk-benefit reveals the disadvantages of sources and the possible risks of using the sharing platform; the transparency is exposed through transparency about user reliability. A new sub-dimension emerges in the dialogue dimension – 'networking', where platform actors can participate in value co-creation as user groups and foster innovation. Since information overload can lead to undesirable user behavior, we propose to assess the 'navigation' sub-dimension by analyzing the access dimension. The results of the study contribute to value co-creation scientific literature by extending and adapting the DART framework for sharing-based business models and provide useful practical insights for sharing platform developers.*

Keywords: value co-creation, sharing platform, DART framework, sharing economy

Introduction

Digitalization has provided the basis for the development of platforms which have become an integral part of the economy and society, and their dominance is not only changing the traditional business models, but also poses certain challenges and threats (Kenney & Zysman, 2015); yet, there is no doubt that they are driving innovations and increasing value (Mcintyre & Srinivasan, 2017). Digital technologies have also led to the emergence and development of new business models, such as the sharing-based business models (Bucher et al., 2016; Sutherland & Jarrahi, 2018), where digital sharing platforms act as intermediaries in the acquisition, trade and rental of tangible or intangible resources (Wirtz et al., 2019). The emergence of sharing platforms also leads to changes in customer behavior, such as a shift from the traditional consumption to collaborative consumption (Hamari et al., 2016; Benoit et al., 2017; Zhang et al., 2019). Over the past decade, various types of sharing platforms have developed rapidly around the world, especially in Asian markets, attracting scholars' interest and a diversity of scientific research, particularly in mobility and accommodation sharing platforms (Rojanakit et al., 2022). In Eastern Europe, the growth and development of sharing platforms is still gaining momentum and demands scientific research. Sharing platforms meet the challenges of competitiveness and market survival in the emerging markets (Yuan et al., 2022). The sharing economy has encouraged not only the development of innovative business models, but also a shift in customer decisions because they can offer fast and low-cost access to different resources (Akter et al., 2022). However, retaining the already existing users and attracting new ones remains extremely important for sharing platforms (Kumar et al., 2018). This challenge can be tackled through value co-creation, which has been argued in various scientific research as a way of strengthening the relationship between customers and the company (Prahalad & Ramaswamy, 2004a; Grönroos, 2011) and therefore acting as a driver of customer engagement and retention (Donato et al., 2017; Ranjan & Read, 2021). Considering this, a deeper understanding of value co-creation is needed for competitive sharing platform performance that can be evaluated through increased productivity, lower costs (Ramaswamy & Gouillart, 2010), problem-solving, and strengthening mutual relationships (Ranjan & Read, 2021).

Although most studies focus on value co-creation from the user's perspective (Zhang et al., 2018; Nadeem et al., 2020; Solakis et al., 2022, etc.), there is a lack of understanding how initiatives oriented to value co-creation could be improved by platform owners and developers. Thus, to fill this gap, this study **aims to** explore value co-creation in sharing platforms from the perspective of platform developers. This study is built on the DART (dialogue, access, risk-benefit, transparency) framework, suggested by Prahalad and Ramaswamy (2004a), which is an acknowledged instrument for value co-creation analysis; however, it has not been sufficiently employed for dealing with the case of sharing platforms and applied for the qualitative research approach. The present study

is expected to provide a holistic overview of value co-creation in sharing platforms that will contribute to a better understanding of the value co-creation processes in sharing platforms and bring insights to increase the user engagement and foster value co-creation from the side of the sharing platform developers. Moreover, the study reasons the purposefulness of applying the DART framework in more complex business models such as sharing platforms and suggests a valuable extension of the framework particularly relevant to the sharing-based business models.

1. Theoretical Background

1.1. Value Co-creation in Sharing Platforms

The scientific literature underlines that sharing platforms expose new value co-creation possibilities (Zhang et al., 2018; Nadeem et al., 2020), which induces the need for more profound scientific research. Sharing platforms play an important role in the sharing economy by providing short-term access to resources belonging to the platform or its members and by acting as an intermediary between the resource provider and the resource user (Wirtz et al., 2019). Acquier et al. (2019) indicate four types of sharing platforms: shared infrastructure providers, community-based platforms, mission-driven platforms, and matchmakers, which create different economic, environmental and social benefits (Acquier et al., 2019). Sharing platforms can be further categorized by the types of activity, such as hospitality, mobility, food industry, and others, or by the business form, such as profit or non-profit oriented (Acquier et al., 2019; Wirtz et al., 2019; Hossain, 2020). However, the common purpose of all digital platforms is to provide an effective intermediary between the resource provider or/and the resource user, along with the other relevant actors (Kumar et al., 2018; Acquier et al., 2019; Wirtz et al., 2019). The principle of a sharing platform connects multiple actors and enables them to act in different roles; for instance, a resource provider can be a resource user in the same platform, thus all actors in the process interact to co-create value (Lan et al., 2017; Alqayed et al., 2022).

There are several widely acknowledged definitions of value co-creation that can be found in the scientific literature, but Prahalad and Ramaswamy can be identified as the primary authors of the concept's emergence and formation (Saha et al., 2020; Ranjan & Read, 2021). This paper follows the definition proposed by Prahalad and Ramaswamy (2004a), which defines value co-creation as a mutual value creation through interaction and collaboration between a company and a customer, which brings continuous improvements in production, services, and innovation development (Prahalad & Ramaswamy, 2004a).

The last two decades have witnessed an increase in the value co-creation research. Two literature analyses of this concept support this assertion. The first is a systematic literature review of the phenomenon by Galvagno and Dalli, who distinguish two clusters

dividing research focused on the expansion of value co-creation theory and on value co-creation for new product innovation (Galvagno & Dalli, 2014). The authors highlighted the rapid growth of the value co-creation literature and the diversity of research streams. The growing interest in this phenomenon and the consequent increase in the amount of research has led to the bibliometric analysis by Saha et al. (2020), who identified three contexts of interest in value co-creation research: customer service, brand value, and service marketing applying service logic (Saha et al., 2020). Given these points, at the beginning of value co-creation research, scientists analyzed the concept and developed theories (Vargo & Lusch 2004; Prahalad & Ramaswamy, 2004b; Payne et al., 2008; Grönroos, 2008); later, it turned into research related to value co-creation for innovations and new product development (Romero & Molina, 2011; Lee et al., 2012); further, the interest of scientists turned to research on user involvement and experience (Etgar et al., 2008; Yi & Gong, 2013; Storbacka et al., 2016; Merz et al., 2018), sustainability-related issues (Lacoste, 2016; Lan et al., 2017), possible risks of value co-creation (Zhang et al., 2018; Dolan & Kemper, 2019), and ethical concerns (Nadeem et al., 2021), or even value co-destruction (Buhalis et al., 2020). This scientific interest and the diversity of research confirms the significance of this phenomenon.

Research on value co-creation in the context of sharing platforms is a relatively new study object, and it has mainly focused on value co-creation from the customer's perspective. It is noticeable that most scholars focus on consumer behavior research of a particular sharing platform, e. g., Airbnb (Camilleri & Neuhofer, 2017; Alqayed et al., 2022), or even on specific contexts, for instance, service quality (Akhmedova et al., 2020), sustainable consumption (Ma et al., 2019), ethical perceptions (Nadeem et al. 2020), and value co-destruction in accommodation sharing platforms (Buhalis et al., 2020). In this light, research on value co-creation in the context of sharing platforms is fragmented. Overall, research on value co-creation in sharing platforms tends to focus on the resource user's attitudes, intentions, and engagement, but lack research from the sharing platform developer side. Scholars give priority to identify and analyze the reasons for participation in the value co-creation, since the fundamental principle of the value co-creation is the shared value creation between the company and the customer (Prahalad & Ramaswamy 2004a). However, in the context of sharing platforms, the value co-creation involves more interacting stakeholders. In this context, knowledge of value co-creation from the perspective of a sharing platform is needed to understand the overall concept and its characteristics, as value co-creation is based on reciprocal relationships.

Although most scholars emphasize the benefits of value co-creation in strengthening relationships with customers, increasing loyalty, innovation, and customer satisfaction, Nedeem et al. (2021) highlight the possible negative sides of value co-creation related to ethical issues such as security, reliability, privacy, which directly affect the value co-creation intentions (Nadeem et al., 2021). Scholars use the term value co-destruction, which is directly related to the dark sides of the sharing economy in the context

of sharing platforms (Buhalis et al., 2020). Tax issues (Köbis et al., 2021), regulatory indeterminacy (Buhalis et al., 2020), ethical dilemmas (Chatterjee et al., 2022) and increasing consumerism (Park & Lin, 2019) are highlighted as the negative sides of the sharing economy. Thus, value co-creation can be beneficial, but it can also carry some risks. As value co-creation is often initiated by the sharing platform developers, it can be assumed that the benefits and risk reduction of it depend on their actions.

1.2. DART Framework for Value Co-creation

Prahalad and Ramaswamy (2004a) made a significant contribution to the value co-creation field by highlighting the essential role of customers in value creation and broadening the understanding of the value co-creation process by providing the DART framework. The authors argued that dialogue, access, risk-benefits, and transparency are the essential constituents for the interaction between the company and customers as well as the co-creation experience facilitation (Prahalad & Ramaswamy, 2004b).

Dialogue plays a crucial role in the value co-creation process. Prahalad and Ramaswamy (2004a) pointed out that dialogue is more than the company-and-customer communication as both parties are involved equally in communication for the purpose of shared learning. Moreover, an active dialogue evolves a loyal community (Prahalad & Ramaswamy, 2004b) and develops joint learning for mutual value exchange (Ballantyne, 2004). Through active dialogue, the company and the customer can interact, increase involvement in problem-solving or recurring participation, strengthen the relationship, and improve the tendency to act from both sides. Given these points, the sharing platform using its digital capabilities may increase the active dialogue with customers for engagement and innovation of services or products.

Prahalad and Ramaswamy (2004a) acknowledged that without *access* to information, active dialogue is hardly possible. Easily accessible information and digital tools allow the customer to access the needed information related to the company, its services, or its products. Further, for a meaningful dialogue, the *transparency* of information becomes critical (Prahalad & Ramaswamy, 2004b). Openness to the customer not only increases trust, but it also strengthens the mutual relationship. Transparent information related to the principles of company operations, its product or service prices, sources, resources, and even customer preferences have an impact on the overall customer understanding and decisions; consequently, it is denoted by the tendency to propose suggestions for improvement (Solakis et al., 2022).

As customers become co-creators of value, the need for more information on potential *risks* increases (Prócel & Zhang, 2019). Prahalad and Ramaswamy (2004a) raised the question of whether those customers who actively participate in value co-creation take responsibility for the risks. Although it is common sense that the company should assume all responsibility, on the other hand, the companies providing information on the risk related to the consumption, delivery, disadvantages of sources, and possible

risks of using a product or service provide understanding to the customer of the involved risk-benefits and allow the customer to decide. As the sharing platform operates as an intermediary, disclosing all possible risks for the user becomes extremely important because, in some cases, the sharing platform is not able to take all the risks.

To the best of our knowledge, the DART framework has not been applied to the study of value co-creation from the perspectives of sharing platforms yet, but there are several papers in the scientific literature that have applied the framework as a tool for assessing value co-creation. The DART framework has been used mostly in quantitative research to investigate consumer perceptions and engagement in value co-creation (Albinsson et al., 2016; Prócel & Zhang, 2019; Akter et al., 2022; Anshu et al., 2022; Solakis et al., 2022). For instance, Akter et al. (2022) applied the DART framework to assess the impact of value co-creation on perceived service innovation and patient well-being. Solakis et al. (2022) explored the role of value co-creation in consumers perceived quality and price in the hospitality services and discovered that transparency and risk affect hospitality guests' perceptions of price and quality. Among the scientific literature, there are also several qualitative studies using the DART framework. For example, Schiavone et al. (2014) explored value co-creation through social networks by applying traditional DART framework and suggested adding a fifth dimension – technology management – to the framework. Scholars argue that the effective use of social networks for value co-creation is realized if companies use technology not only to interact with consumers, but also to manage and use it as a strategic resource for realizing value co-creation and, therefore, innovation (Schiavone et al. 2014). Russo Spena et al. (2012) applied the model in exploring the value co-creation potential of physical temporary stores and indicated that these shops are a targeted space for value co-creation. Thus, the analysis of the scientific literature reveals that the DART framework has an unexplored potential for applicability in other contexts of qualitative research.

2. Research Method

2.1. Research Design

The aim of this research is to explore how sharing platform developers perceive and apply value co-creation in sharing platforms. To achieve this aim and evaluate the performance of value co-creation in a sharing platform, the DART framework is applied as the acknowledged instrument for value co-creation analysis. Although this framework has been used in quantitative research (Albinsson et al., 2016; Taghizadeh et al., 2016; Akter et al., 2022; Solakis et al., 2022), its dimensions and sub-dimensions, which reflect the core elements of the value co-creation, have led to the decision to use it for this research. Moreover, in this research, we aim not only to apply traditional DART framework, but also to explore and extend its boundaries, which would be specific to the sharing-based business models.

As the research seeks to understand the value co-creation performance in sharing platforms and identify the possible platform initiatives focused on value co-creation, it was decided to adopt the *qualitative research approach*. It provides deeper insights into value co-creation from the platform developers' point of view. Moreover, we assume that the qualitative approach of this study will allow us to uncover new, underlying aspects of the DART framework and will allow us to extend it in the context of sharing-based business models. This research applied *descriptive comparative case study analysis* to gain insight into the process of sharing platform value co-creation. The primary basis of the value co-creation process is the collaboration between the customer and the platform, hence, each sharing platform is analyzed through dialogue, access, risk-benefit, and transparency dimension, which are divided into more detailed parts. A more detailed description of the structure of the dimensions in the DART framework is given in Table 1.

Table 1

Dimensions and Sub-Dimensions of DART Framework (Prahalad & Ramaswamy, 2004a; 2004b)

Dimension	Sub-dimension	Features	Outcome
Dialogue	Interaction	Technical adaptability of the sharing platform to the user–platform interaction and the actions are applied by the platform appliers.	Shared Learning
	Engagement	Digital tools are used to engage the user in the dialogue.	
	Tendency to act	There are motivational tools that encourage the user to act and provide feedback.	
Access	Information	Information about the sharing platform and services is provided.	Shared information
	Tools	The platform provides tools for information search and the length of the information retrieval path.	
Transparency	About the price	Information about the price policy of the sharing platform is provided	Shared trust
	About the sources	Information about sources and their peculiarities is provided.	
	About the user	Information about the user and the requirements for the user are provided.	
Risk-benefit	Disadvantages of sources	The sharing platform provides information about possible risks related to sources.	Shared risk
	Possible risk by the usage of sharing platform	The sharing platform provides information on possible risks related to the use of the platform.	
	A platform for complaints and problem-solving	The sharing platform provides digital tools for complaints and problem solving.	

2.2. Case Selection, Data Collection, Coding, and Analysis

The case study research was carried out in Lithuania, and eight sharing platforms operating in Lithuania were selected as cases for the research. The selection of the sharing platforms was based on the diversity of services provided; the sharing platforms were analyzed by their descriptions according to each dimension of the DART framework and its adaptation to the sharing platform through the structure of the platform, the tools, and the information provided (see Table 2).

Table 2
Case Selection

Cases	Sharing platform	Services provided
Case A	Vinted	Clothes & accessories
Case B	FinBee	Finance
Case C	Wolt	Food services
Case D	CityBee	Mobility (cars)
Case E	Dalinuosi	Items rental
Case F	ADCRent	Mobility (cars)
Case G	Dalinkis knyga	Book sharing
Case H	Bolt	Mobility (scooters)

The hierarchic comparative case study analysis was chosen, and the analysis was divided into two stages. In the first stage, all eight cases were analyzed separately, whereas in the second stage, the results of each case were compared. For data collection, multiple information resources were combined – information was gathered from the sharing platforms, websites and apps and coded by the intensity of each sub-dimension from strongly expressed to moderately expressed, and to weakly expressed (see Table 3).

Furthermore, a *semi-structured interview* was conducted with the sharing platform developers. After analyzing the secondary data, we selected three sharing platforms whose developers were invited for interviews. The platforms were selected according to the occurrence of DART sub-dimensions. One platform was chosen where all the sub-dimensions were strongly expressed, the second platform to be explored was where the sub-dimensions were moderately expressed, whereas the third platform featured least-expressed sub-dimensions. The interview questions were divided into five sections starting from the four DART framework dimensions and ending with the sharing platform developers' understanding of value co-creation. Part of the interview questions was based on the logic of the Albinsson et al. (2016) 23-item scales for the analysis of dialogue, access, risk-benefit, and transparency dimensions. The interviews were transcribed, analyzed, and coded according to the assessment of the expression of

sub-dimensions while applying the qualitative content analysis method. Finally, all the results were aggregated and generalized.

Table 3

Data Coding and Analysis

Dimensions and sub-dimensions	Analyzed data	Coding system and analysis	
		Construct structure	**Comparative analysis**
DIALOGUE Interaction Tendency to act Engagement ACCESS Information Tools RISK-BENEFIT Disadvantages of sources Possible risk by usage Platform for complains and provided opportunities for issue resolving TRANSPARENCY About the price About the sources About the user	Secondary data (website, app) Primary data (interview)	Based on Prahalad and Ramaswamy (2004a; 2004b) Based on Albinsson et al. (2016) 23- item scales	• – weakly expressed •• – moderately expressed ••• – strongly expressed

3. Findings

The findings show that, out of the eight cases studied, case A adheres to all sub-dimensions of the dialogue dimension. To illustrate, in cases B and D, sharing platforms call the customer for a dialogue through interaction via social network sites, whereas engagement in communication proceeds by email; on the other hand, these platforms fail to allow the user to engage in the active dialogue through digital live tools (Table 4). For example, in case E, the platform developers argue that "*the feedback system* […] *is one of the basic values and principles of a sharing platform on which all loyalty is built* [...]." Yet, feedback is only compulsory for the suppliers to evaluate customers. Interestingly, the results reveal that suppliers and customers are willing to bring feedback for the improvement "[...] *we get a lot of emails from owners about what they don't like and how they would like the system to work* [...] *better for them.*" Furthermore, in case D, the sharing platform developers understand the benefits of the user feedback and are looking for ways to receive it "[...] *to find out what is the trigger for people to be more interested* [...] *what would make people more interested in using the app, whether it's some kind of discounts,*

or whether it's just a matter of price, or whether it's [...] a loyalty program [...]." Moreover, users are encouraged to give their opinion on the service: "*We have a variety of surveys, the most common being the NPS, which is done quarterly or semi-annually. [...] Surveys [are] live interviews on value creation for customers. You are fully aware that your imagination and the customer's imagination can be very different.*"

Table 4

Results of the Dialogue Dimension

		Case A	Case B	Case C	Case D	Case E	Case F	Case G	Case H
DIALOGUE	Interaction	•••	•••	•••	•••	•••	•••	•••	•••
	Engagement	•••	•••	•••	••	••	•••	••	••
	Tendency to act	•••	•	••	•••	••	••	••	•••

Note. ••• – strongly expressed; •• – moderately expressed; • – weakly expressed.

The sharing platform developers highlight platform forum groups and separate groups on the platform's social sites; the forum participants also engage in dialogue and co-create value "*[...] one thing that is extremely important for all platforms is a network [...] the platforms are built on it. How to be able to attract users to create an atomic mess that runs and drives itself? The platform itself does nothing but grow.*" In this context, another sub-dimension emerges in the dialogue dimension – '**networking**', where the increased number of participants and their connections may improve the service (see Table 8).

The access dimension is expressed in all cases (see Table 5). In the platform, the user can find "*[...] information on how the platform works, what the rules are, what the charging methods are, what the process is, what the options are [...] all the information you need to navigate the system.*" The platform developers agree on the importance of a searching tool and provide it as an easier and faster way of operation as "*[...] the search for a tenant is very important and the fewer steps the better [...] there are many filters [...].*" Platforms also use search tools to reach a larger number of transactions, which benefits all parties: "*[...] each platform has its own matching algorithm [...] we help you find the right buyer for the item [...].*" On the contrary, excessive amounts of information in different information channels may lead to confusion among users, which, in turn, leads to reverse reactions and behaviors related to the use of the platform and the engagement in co-creating value. Therefore, when assessing the access dimension, it is not sufficient to look at the availability of information and tools for search, but it is also fundamental to evaluate the amount of information and how fast and easily the users reach the necessary information. Given these points, we suggest adding '**navigation**' as a sub-dimension to assess the access dimension for the evaluation of the value co-creation performance (see Table 8).

Table 5

Results of the Access Dimension

		Case A	Case B	Case C	Case D	Case E	Case F	Case G	Case H
ACCESS	Information	•••	•••	•••	•••	•••	•••	•••	•••
	Tools	•••	•••	•••	•••	•••	•••	•••	•••

Note. ••• – strongly expressed; •• – moderately expressed; • – weakly expressed.

Furthermore, the platform developers understand that easy access to information and two-way communication strengthens the relationship between the platform and its users, thereby reflecting the fundamental principle of value co-creation: "[...] *I think the most important thing for them is the feeling that they are communicating with a person.*"

The most striking observation to emerge from the analysis was that, in all cases, the platforms provide information related to the disadvantages of the sources and the possible risks of the use of the sharing platforms, but more than half of them still lack tools for expressing and sharing complaints and dealing with the issues of problem-solving (see Table 6). To illustrate, the developers of case E platform explicitly state that "*We don't interfere, and we don't take responsibility* [...]," but they still provide information about the possible risks from the provider's and the customer's side in the user rules, and also "[...] *provide templates for filling in claims [...].*" Also, the platform can temporarily or permanently block a user. Moreover, the platform "[...] *only becomes aware of cases where we need to repay the money, but there are many cases where these parties are in the process of clarifying things between themselves and don't even reach out to us [...].*"

Table 6

Results of the Risk–Benefit Dimension

		Case A	Case B	Case C	Case D	Case E	Case F	Case G	Case H
RISK-BENE-FIT	Disadvantages of sources	•••	•••	•••	•••	•••	•••	•••	•••
	Possible risk by the usage of sharing platform	•••	•••	•••	•••	•••	•••	•••	•••
	Platform for complaints and problem-solving	•••	••	•	•••	•	••	•	•••

Note. ••• – strongly expressed; •• – moderately expressed; • – weakly expressed.

Most of the analyzed cases conform to the transparency dimension (see Table 7), and the platform developers argue that transparency is a fundamental principle and the basis for operation: "[…] *we're not hiding anything; all businesses should provide as much information to customers as possible* […]." Although "[…] *the pricing calculator is a key transparency tool that is very useful and important to us* […]," some cases provide vague and confusing information about the price.

Table 7

Results of the Transparency Dimension

		Case A	Case B	Case C	Case D	Case E	Case F	Case G	Case H
TRANS-PARENCY	About the price	•••	•••	•	•••	•••	••	•••	••
	About the sources	•••	•••	••	•••	••	•••	•••	•••
	About the user	•••	•••	•••	•••	••	•••	•••	•••

Note. ••• – strongly expressed; •• – moderately expressed; • – weakly expressed.

Table 8

Generalized Case Study Results

		Case A	Case B	Case C	Case D	Case E	Case F	Case G	Case H
DIALOGUE	Interaction	•••	•••	•••	•••	•••	•••	•••	•••
	Engagement	•••	•••	•••	••	••	•••	••	••
	Tendency to act	•••	•	••	•••	••	••	••	•••
	Networking	•••	•	••	••	•	•	•	•••
ACCESS	Information	•••	•••	•••	•••	•••	•••	•••	•••
	Tools	•••	•••	•••	•••	•••	•••	•••	•••
	Navigation	••	••	•••	•••	••	••	••	••
RISK-BENE-FIT	Disadvantages of sources	•••	•••	•••	•••	•••	•••	•••	•••
	Possible risk by the usage of sharing platform	•••	•••	•••	•••	•••	•••	•••	•••
	Platform for complaints and problem-solving	•••	••	•	•••	•	••	•	•••
TRANSPAR-ENCY	About the price	•••	•••	•	•••	•••	••	•••	••
	About the sources	•••	•••	••	•••	••	•••	•••	•••
	About the user	•••	•••	•••	•••	••	•••	•••	•••

Note. ••• – strongly expressed; •• – moderately expressed; • – weakly expressed.

Platforms also face various risks with the integrity of their users: "[...] *there is a risk that your users may be tricked in ways that you don't expect* [...], *you can't resolve all of these things, we're trying to block those users as quickly as possible* [...]," and the actions of some are quite strict: "[...] *we take all sorts of preventive measures* [...] *if you drink and drive, we don't need you anymore.*"

The overall assessment of the results indicates that, in sharing platforms, the dialogue dimension unfolds through interaction; the access dimension develops through information and tools; the risk-benefit dimension reveals the disadvantages of the sources and the possible risks of using the sharing platform; the transparency dimension highlights the transparency in terms of user reliability (see Table 8).

4. Discussion and Conclusions

This paper provides new insights into the value co-creation theory by exploring the value co-creation performance in sharing platforms. In this study, the DART framework (dialogue, access, risk-benefit, transparency), suggested by Prahalad and Ramaswamy (2004a), was tested in the case of sharing platforms by applying the scale developed by Albinsson et al. (2016). Although previously the DART framework was employed in quantitative research and often in identifying dimensions effects on consumer behavior (Prócel & Zhang, 2019; Akter et al., 2022; Solakis et al., 2022) or the significance of these effects for companies in the context of a value co-creation strategy (Russo Spena et al., 2012; Schiavone et al., 2014; Albinsson et al., 2016; Anshu et al., 2022), our study analyzed value co-creation from the sharing platform developers' perspective by applying a qualitative research approach to gain a deeper and holistic understanding of value co-creation. The results of the study confirmed that the DART framework is a useful tool to assess overall value co-creation and, as Albinsson et al. (2016) argued, it is also a tool for a company to evaluate and prepare itself for the development of a value co-creation strategy (Albinsson et al., 2016). Moreover, our exploration shows that the framework can be applied to qualitative research, as in Russo Spena et al. (2012) research on physical stores and Schiavone et al. (2014) research on social media, and by developing the framework, it can be applied to more complex business models such as sharing platforms. Considering the specificity of a sharing platform, we propose extending the DART framework with two additional sub-dimensions to make the applicability even more beneficial.

Taken together, the findings demonstrate that sharing platforms follow the DART framework to some extent. For instance, sharing platforms provide access to information for the platform users, yet, in some cases, lack of transparency about the price and resources becomes evident. While, on the one hand, the sharing platform is fully open to the user, still, on the other hand, it may lack trust nevertheless. Given these points, sharing platforms are not exploiting their potential to leverage value co-creation to their advantage. Another interesting aspect emerging from the analysis is that user engage-

ment in the dialogue is promoted through social sites, but there is lack of an active dialogue through digital tools so that more active feedback would be encouraged and thus more meaning to the goal of shared learning would be created. The literature analysis points out that all the dimensions are directly connected, but the fundamental dimension of the DART framework is the dialogue (Prahalad & Ramaswamy, 2004a), whose sub-dimensions, as the results of the study have shown, are expressed in a moderate way in most sharing platforms. It is, therefore, critical for the sharing platforms to ensure effective interaction with their users, to allow the user to act effortlessly, and to encourage user engagement in the dialogue. Furthermore, we suggest that whenever analyzing the value co-creation performance in a platform, the *networking* sub-dimension should be taken into account, which in itself can act as a multi-channel dialogue between users or groups of users and co-create value without having to interact directly with the developer. Platforms, by encouraging interaction and communication among their users, broaden the network and strengthen the relationship among all the stakeholders thus naturally encouraging engagement in value co-creation. For example, separate forums on the platform or separate groups on social sites may collaborate and jointly generate new innovations and new ideas for platform service improvement. This proposed structure of dialogue sub-dimensions can be applied to the assessment of any company's value co-creation performance.

Most cases indicate that sharing platforms lack tools for complaints and problem-solving; this makes it more difficult for the user to make suggestions and deliver complaints, and it can be assumed that platforms are losing the opportunity to collect a sizable part of the feedback that is directly related to improving the efficiency and reliability of the platform.

Although the access dimension is strongly expressed in all cases, the results of the study also show another risk associated with the excessive content of the information and/or overloaded steps for the users to reach the result, which can influence undesirable behaviors related to value co-creation. We argue that the *navigation* pertaining to information search must also be considered when assessing the access dimension in order to evaluate the value co-creation performance objectively.

Overall, results suggest that improvement to value co-creation in sharing platforms is needed if sharing platform developers seek to gain all the benefits that value co-creation may potentially bring. Furthermore, the application of the DART framework could be beneficial to sharing platforms for their self-evaluation and the development of future strategies of value co-creation. To fill the gap on how platform owners and developers can improve their initiatives focused on value co-creation, we provide four managerial implications:

- *Effective dialogue assurance through digital tools.* Sharing platform developers should encourage users' tendency for dialogue through customized digital tools and collect feedback from users regarding the sharing platform as intermediary

performance. Moreover, provision of detailed feedback to the user after receiving observations or suggestions is crucial for long-term relationship between the user and the platform development.

- *Multi-channel dialogue through networking.* Empowerment of the relevant networks and ecosystem stakeholders, and employment of all channels for dialogue with existing and potential customers should be considered as necessary for platform growth and competitive performance.
- *Easy and fast navigation through information.* Continuous exploration of the information on the sharing platform and reduction of its overload would guarantee that the user's journey in the platform would not end prior to the decision making. The main characteristics of effective navigation are speed and smoothness, and decisions should include not just the search feature but experience with the entire platform.
- *Empowering and encouraging users to report complaints and problems.* To ensure user protection and enhance the reliability of the platform, it is useful to encourage and enable users to conveniently report issues they face during the journey and complaints. These reports can be particularly useful for the improvement of the platform itself. Such a tool should be integrated into the platform system.

Furthermore, this study also revealed that value co-creation in sharing platforms is manifested not only among the resource provider, the resource user, and the platform itself, but it also involves a number of other interconnected parties which also participate in the value co-creation. To illustrate, mobility-sharing platforms connect other parties, such as fuel suppliers, car washing, and car marking service providers. Thus, future research extending the number of participants and studying them in a more explicit way would be beneficial from both scientific and practical points of view.

There are some limitations to this research. The most important limitation lies in the fact that the case study analysis was carried out only in one country, which limits the possibility of transferring the results to other countries or cultural contexts. Thus, extension of the research to different global or local cases would be beneficial from the theoretical point of view. Second, this study may be extended by conducting more interviews with the developers of the sharing platforms adding the suggested sub-dimensions into the discussion questions and in such a way strengthening their relevance particularly in the case of sharing platforms. Third, future studies should focus on different groups of participants (e.g., asset user and asset owner or representatives of other relevant stakeholder groups) in the sharing platforms, which would allow more in-depth analysis of value co-creation and reveal its potential benefits. Fourth, we recommend that future research should examine value co-creation by the platform type. As an example, this study has found that mission-oriented platforms partly reflect value co-creation, while profit-oriented platforms implement value co-creation in a more thorough way. However, this assumption needs further confirmation.

References

Acquier, A., Carbone, V., & Masse, D. (2019). How to Create Value (s) in the Sharing Economy: Business Models, Scalability, and Sustainability. *Technology Innovation Management Review*, 9(2), 5–24. http://doi.org/10.22215/timreview/1215

Akhmedova, A., Machuca, M. M., Marimon, F. (2020). Value co-creation in the sharing economy: The role of quality of service provider by peer. *Journal of Cleaner Production*, 266. https://doi.org/10.1016/j.jclepro.2020.121736

Akter, S., Babu, M. M., Hossain, M. A., & Hani, U. (2022). Value co-creation on a shared healthcare platform: Impact on service innovation, perceived value and patient welfare. *Journal of Business Research*, 140, 95–106. https://doi.org/10.1016/j.jbusres.2021.11.077

Albinsson, P. A., Perera, B. Y., & Sautter, P. T. (2016). DART Scale Development: VDiagnosing a Firm's Readiness for Strategic alue Co-creation. *Journal of Marketing Theory and Practice*, 24(1), 42–58. https://doi.org/10.1080/10696679.2016.1089763

Alqayed, Y., Foroudi, P., Kooli, K., Foroudi, M. M., & Dennis, C. (2022). Enhancing value co-creation behaviour in digital peer-to-peer platforms: An integrated approach. *International Journal of Hospitality Management*, 102, 103140. https://doi.org/10.1016/j.ijhm.2022.103140

Anshu, K., Shankar, A., Behl, A., Pereira, V., & Laker, B. (2022). Impact of barriers of value co-creation on consumers' innovation resistance behavior: Investigating the moderation role of the DART framework. *Technological Forecasting and Social Change*, 184. https://doi.org/10.1016/j.techfore.2022.122033

Ballantyne, D. (2004). Dialogue and its role in the development of relationship specific knowledge. *Journal of Business & Industrial Marketing*. https://doi.org/10.1108/08858620410523990

Benoit, S., Baker, T. L., Bolton, R. N., Gruber, T., & Kandampully, J. (2017). A triadic framework for collaborative consumption (CC): Motives, activities and resources & capabilities of actors. *Journal of Business Research*, 79, 219–227. https://doi.org/10.1016/j.jbusres.2017.05.004

Buhalis, D., Andreu, L., & Gnoth, J. (2020). The dark side of the sharing economy: Balancing value co-creation and value co-destruction. *Psychology and Marketing*, 37(5), 689–704. https://doi.org/10.1002/mar.21344

Bucher, E., Fieseler, C., & Lutz, C. (2016). What's mine is yours (for a nominal fee) – Exploring the spectrum of utilitarian to altruistic motives for Internet-mediated sharing. *Computers in Human Behavior*, 62, 316–326. http://dx.doi.org/10.1016/j.chb.2016.04.002

Camilleri, J. & Neuhofer, B. (2017). Value co-creation and co-destruction in the Airbnb sharing economy. *International Journal of Contemporary Hospitality Management*, 29(9), 2322–2340. https://doi.org/10.1108/IJCHM-09-2016-0492

Chatterjee, S., Chaudhuri, R., Vrontis, D., & Foroudi, P. (2022). Dark Side of Sharing Economy: Examining the Unethical Practices and its Impact on Coopetition and Firm Performance. *Journal of Business-to-Business Marketing*, 29(1), 69–85. https://doi.org/10.1080/1051712X.2022.2039479

Dolan, R., Seo, Y., & Kemper, J. (2019). Complaining practices on social media in tourism: A value co-creation and co-destruction perspective. *Tourism Management*, 73, 35–45. https://doi.org/10.1016/j.tourman.2019.01.017

Donato, H. C., Farina, M. C., Donaire, D., & Santos, I. C. D. (2017). Value co-creation and social network analysis on a network engagement platform. *RAM. Revista de Administração Mackenzie*, 18, 63–91. https://doi.org/10.1590/1678-69712017/administracao.v18n5p63-91

Etgar, M. (2008). A descriptive model of the consumer co-production process. *Journal of the Academy of Marketing Science*, 36(1), 97–108. DOI 10.1007/s11747-007-0061-1

Fraanje, W., & Spaargaren, G. (2019). What future for collaborative consumption? A practice theoretical account. *Journal of Cleaner Production*, 208, 499–508. https://doi.org/10.1016/j.jclepro.2018.09.197

Galvagno, M., & Dalli, D. (2014). Theory of value co-creation: A systematic literature review. *Managing Service Quality*, 24(6), 643–683. https://doi.org/10.1108/MSQ-09-2013-0187

Grönroos, C. (2008). Service logic revisited: who creates value? And who co-creates?. *European Business Review*. https://doi.org/10.1108/09555340810886585

Grönroos, C. (2011). Value co-creation in service logic: A critical analysis. *Marketing Theory*, 11(3), 279–301. https://doi.org/10.1177/1470593111408177

Hamari, J., Sjoklint, M., & Ukkonen, A. (2016). The Sharing Economy: Why People Participate in Collaborative Consumption. *Journal of The Association for Information Science and Technology*, 67(9), 2047–2059. https://doi.org/10.1002/asi.23552

Hossain, M. (2020). Sharing economy: A comprehensive literature review. *International Journal of Hospitality Management*, 87, 102470. https://doi.org/10.1016/j.ijhm.2020.102470

Kenney, M., & Zysman, J. (2015). Choosing a Future in the Platform Economy: The Implications and Consequences of Digital Platforms. *Kauffman Foundation New Entrepreneurial Growth Conference* (156160(18), 1689–1699).

Köbis, N., Soraperra, I., & Shalvi, S. (2021). The Consequences of Participating in the Sharing Economy: A Transparency-Based Sharing Framework. *Journal of Management*, 47(1), 317–343. https://doi.org/10.1177/0149206320967740

Kumar, V., Lahiri, A., & Dogan, O. B. (2018). A strategic framework for a profitable business model in the sharing economy. *Industrial Marketing Management*, 69, 147–160. https://doi.org/10.1016/j.indmarman.2017.08.021

Lan, J., Ma, Y., Zhu, D., Mangalagiu, D., & Thornton, T. F. (2017). Enabling Value Co-Creation in the Sharing Economy: The Case of Mobike. *Sustainability*, 9(9), 1504. https://doi.org/10.3390/su9091504

Lacoste, S. (2016). Sustainable value co-creation in business networks. *Industrial Marketing Management*, 52, 151–162. https://doi.org/10.1016/j.indmarman.2015.05.018

Lee, S. M., Olson, D. L., & Trimi, S. (2012). Co-innovation: convergenomics, collaboration, and co-creation for organizational values. *Management Decision*. https://doi.org/10.1108/00251741211227528

Ma, Y., Rong, K., Luo, Y., Wang, Y., Mangalagiu, D., & Thornton, T.F. (2019). Value Co-creation for sustainable consumption and production in the sharing economy in China. *Journal of Cleaner Production, 208*, 1148–1158. https://doi.org/10.1016/j.jclepro.2018.10.135

McIntyre, D. P., & Srinivasan, A. (2017). Networks, platforms, and strategy: Emerging views and next steps. *Strategic Management Journal*, 38(1), 141–160. https://doi.org/10.1002/smj.2596

Merz, M. A., Zarantonello, L., & Grappi, S. (2018). How valuable are your customers in the brand value co-creation process? The development of a Customer Co-Creation Value (CCCV) scale. *Journal of Business Research*, 82, 79–89. https://doi.org/10.1016/j.jbusres.2017.08.018

Nadeem, W., Juntunen, M., Shirazi, F., Hajli, N. (2020). Consumers' value co-creation in sharing economy: The role of social support, consumers' ethical perceptions and relationship quality. *Technological Forecasting & Social Change, 151*. https://doi.org/10.1016/j.techfore.2019.119786

Nadeem, W., Juntunen, M., Hajli, N., & Tajvidi, M. (2021). The Role of Ethical Perceptions in Consumers' Participation and Value Co-creation on Sharing Economy Platforms. *Journal of Business Ethics, 169*, 421–441. https://doi.org/10.1007/s10551-019-04314-5

Park, H. J., & Lin, L. M. (2020). Exploring attitude–behavior gap in sustainable consumption: Comparison of recycled and upcycled fashion products. *Journal of Business Research*, 117, 623–628. https://doi.org/10.1016/j.jbusres.2018.08.025

Payne, A. F., Storbacka, K., & Frow, P. (2008). Managing the co-creation of value. *Journal of the Academy of Marketing Science*, 36(1), 83–96. DOI 10.1007/s11747-007-0070-0.

Prahalad, C. K., & Ramaswamy, V. (2004a). Co-creating unique value with customers. *Strategy & Leadership*, 32(3), 4-9. https://doi.org/10.1108/10878570410699249

Prahalad, C. K., & Ramaswamy, V. (2004b). Co-creation experiences: The next practice in value creation. *Journal of Interactive Marketing*, *18*, 5–14. https://doi.org/10.1002/dir.20015

Prócel, D., & Zhang, J. (2019). DART Antecedents and Customer Loyalty Consequences of Customer Participation: An Empirical Study. *Journal of Marketing Development and Competitiveness*,*13*(1). https://doi.org/10.33423/jmdc.v13i1.685

Ramaswamy, V., & Gouillart, F. (2010). Building the Co-Creative Enterprise. *Harvard Business Review*, *88*(10), 100–109.

Ranjan, K. R., & Read, S. (2021). An ecosystem perspective synthesis of co-creation research. *Industrial Marketing Management*, 99, 79–96. https://doi.org/10.1016/j.indmarman.2021.10.002

Rojanakit, P., de Oliveira, R. T., & Dulleck, U. (2022). The sharing economy: A critical review and research agenda. *Journal of Business Research*, *139*, 1317–1334. https://doi.org/10.1016/j.jbusres.2021.10.045

Romero, D., & Molina, A. (2011). Collaborative Networked Organisations and Customer Communities: Value Co-Creation and Co-Innovation in the Networking Era. *Production Planning & Control*, *22*(5-6), 447–472.

Russo Spena, T., Caridà, A., Colurcio, M., & Melia, M. (2012). Store experience and co-creation: The case of temporary shop. *International Journal of Retail & Distribution Management*, *40*(1), 21–40. https://doi.org/10.1108/09590551211193586

Saha, V., Mani, V., & Goyal, P. (2020). Emerging trends in the literature of value co-creation: a bibliometric analysis. *Benchmarking: An International Journal*. https://doi.org/10.1108/BIJ-07-2019-0342

Schiavone, F., Metallo, C., & Agrifoglio, R. (2014). Extending the DART framework for social media. *International Journal of Technology Management*, *66*(4), 271–287. https://doi.org/10.1504/IJTM.2014.064967

Solakis, K., Vinces, J. O., & Bonilla, J. M. L. (2022). Value co-creation and perceived value: A customer perspective in the hospitality context. *European Research on Management and Business Economics*, *28*(1). https://doi.org/10.1016/j.iedeen.2021.100175

Storbacka, K., Brodie, R. J., Böhmann, T., Maglio, P. P., & Nenonen, S. (2016). Actor engagement as a microfoundation for value co-creation. *Journal of Business Research*, *69*(8), 3008–3017. https://doi.org/10.1016/j.jbusres.2016.02.034

Sutherland, W., & Jarrahi, M. H. (2018). The sharing economy and digital platforms: A review and research agenda. *International Journal of Information Management*, *43*, 328-341. https://doi.org/10.1016/j.ijinfomgt.2018.07.004

Taghizadeh, S. K., Jayaraman, K., Ismail, I., & Rahman, S. A. (2016). Scale development and validation for DART framework of value co-creation process on innovation strategy. *Journal of Business & Industrial Marketing*, *31*(1), 24-35. https://doi.org/10.1108/JBIM-02-2014-0033

Yuan, R., Luo, J., Liu, M. J., & Yu, J. (2022). Understanding organizational resilience in a platform-based sharing business: The role of absorptive capacity. *Journal of Business Research*, *141*, 85-99.

Vargo, S. L., & Lusch, R. F. (2004). Evolving to a New Dominant Logic for Marketing. *Journal of Marketing*, *68*(1), 1-17. https://doi.org/10.1509/jmkg.68.1.1.24036

Wirtz, J., So, K., Mody, M., Liu, S., & Chun, H. (2019). Platforms in the peer-to-peer sharing economy. *Journal of Service Management*, 30(4), 452-483. https://doi.org/10.1108/JOSM-11-2018-0369

Yi, Y., & Gong, T. (2013). Consumer value co-creation behavior: Scale development and validation. *Journal of Business Research*, *66*(9), 1279-1284. https://doi.org/10.1016/j.jbusres.2012.02.026

Zhang, T., Lu, C., Torres, E., & Chen, P. J. (2018). Engaging customers in value co-creation or co-destruction online. *Journal of Services Marketing*. https://doi.org/10.1108/JSM-01-2017-0027

Zhang, T. C., Jahromi, M. F., & Kizildag, M., (2018). Value co-creation in a sharing economy: The end of price wars? *International Journal of Hospitality Management, 71*, 51–58. https://doi.org/10.1016/j.ijhm.2017.11.010

Zhang, T. C., Gu, H., Jahromi, M. F., (2019). What makes the sharing economy successful? An empirical examination of competitive value propositions. *Computers in Human Behaviour, 95*, 275-283. https://doi.org/10.1016/j.chb.2018.03.019