

Article

Impact of Value Cocreation on Customer Satisfaction and Loyalty of Online Car-Hailing Services

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Abstract: The theory of value cocreation has been applied widely in the research of a lot of fields, including the field of travelling. At present, online shared cars have become one of the main modes of travel for urban residents, which have caused people to think about the quality of its service and its customer satisfaction. The objective of this research is to explore the impact of value cocreation by both the platform and drivers on customer satisfaction and user loyalty using Didi as an example. We propose five factors that can measure value cocreation behaviors, among which system availability and privacy count for value cocreation by online platform and perceived usability, consistency and competence are indicators of value cocreation by drivers. In total, 338 questionnaires were distributed to retrieve data and further investigate the users' willingness of taking shared-cars, their satisfaction and loyalty towards Didi in order to help the corporate progress. This study provides suggestions for service-oriented corporations related to the sharing economy in order to enhance their user loyalty as well as improve their management ability.

Keywords: online-to-offline; commerce; online car-hailing; value cocreation; customer satisfaction; loyalty

1. Introduction

The proliferation of information technology and the sharing economy has opened a new realm of travelling during recent years around the world. In recent years, the sharing economy phenomenon is booming, and it is not a temporary trend, but is a new format that may change the traditional economic mode around the globe [1]. The sharing economy, which can provide a certain online platform for strangers to integrate idle goods and labor and share with each other based on the existence of communities [2], gave birth to a lot of corporations with new concepts (e.g., Uber, Airbnb). Based on electronic commerce, online car-hailing is a brand-new business model adaptation on the Internet platform and smart phones. Specifically, in China, the corporate company called 'Didi' has occupied a huge market share and has become an absolute leader and monopoly in the market of online car-hailing. In 2016, Didi announced a strategic agreement with Uber Global to acquire all Uber business in China. Furthermore, in 2017, the platform provided more than 7.43 billion mobile travel services (excluding bicycle and owner services) to 450 million users in more than 400 cities across the country, whose scale is larger than Uber already. This is equivalent to the average number of people who have used Didi five times in the past year. The prosperity of this company is eye-catching. Despite this, it has also caused a series of problems related to its service. Since 2015, there have been dozens of cases of drivers deliberately killing, sexually assaulting, slandering, robbing, etc., which has caused peoples' concern about its security. Since Didi is a typical company in the context of sharing economy that offers unprofessional practitioners a platform to provide services, the study of its management is of great significance for the whole industry under this new mode.

There is a growing body of literature that studies online car-hailing. Previous research mainly focuses on the differences on the mode of operation between and influence of traditional car-hailing services [3,4]; the affecting factors of the adoption of shared-cars [5]; its enhancement on urban mobility [6]; and exploring its regulations [7]. There are also some researchers who have studied service quality or loyalty from a traditional perspective. Wenming Zuo et al. applied the process chain network (PCN) to describe the process of online car-hailing services in order to upgrade its service quality [8]; and Xusen Cheng et al. has done some research on customer satisfaction from online and offline perspectives [9].

However, there is still a lack of investigation that regard its service as a process of value cocreation and look into its influence on customer satisfaction and user loyalty. The concept of value cocreation has been widely applied in the field of tourism [10]. Gebauer et al. studied the case of a Swiss Federal Railway operator and found that the company is not only a value facilitator, but also a value cocreator [11]. As a new form of service in e-commerce and sharing economy, the service of online car-hailing has not been studied from a special perspective that differs from a traditional business mode. How value cocreation behavior by the platform and by drivers impacts customer satisfaction and loyalty is unexplored. Meanwhile, since the frequent accidents and the crisis of Didi's reputation, the service offered by drivers may be especially cared about by the passengers, and thus impact their intention to use this platform.

Aiming at the short-comings of the existing literature, we will study customers' satisfaction and loyalty towards Didi's service on the basis of online-to-offline commerce mode, as well as pay special attention to value cocreation by drivers that may play an essential role in the whole process. Didi constructs a platform to connect the drivers' supplies and passengers' demands and thus complete transactions, which can involve both the platform's and driver's services during the whole process. Online platforms and drivers need to work together in order to create and demise value for the passengers.

This study contributes to the literature by looking into the satisfaction and loyalty of online car-hailing from the perspective of value cocreation using Didi as an example. Our study sheds light on value cocreation by both the online platform and drivers and how they can cooperate to create value for customers. This form enriches value cocreation theory and provides a new point of view. Meanwhile, our paper innovatively explores the influencing factors of customer satisfaction and loyalty in the service industry in the respect of value cocreation, thereby expanding the theory of service quality and customer satisfaction. The results of the research can have some practical implications for corporates like Didi and solve their current problems.

The remainder of this paper is organized as follows: In the next section, we provide results of our literature review, followed by the study's hypotheses. After that we propose the methodology and the results. Finally, the conclusion and implications of this study are provided together with the limitations of our study and directions for future research.

2. Literature Review and Hypotheses

2.1. Value Cocreation

The idea of value cocreation can be traced back to the 19th century, mainly in the field of service economics research. Further, modern value cocreation theory comes from two schools. One is the theory put forward by Prahalad and Ramaswamy from the perspective of competition theory [12], the other is the theory proposed by Vargo and Lusch based on Service Dominant (S-D) logic [13]. Prahalad and Ramaswamy believe that the core of the value creation between customers and enterprises is to jointly create consumer experiences and the key to realize value creation is interacting well between participants. However, value-in-use is emphasized by Vargo and Lusch: they consider customers create value by integrating and utilizing resources during consumption activities. In the context of

online car-hailing service, we synthesize the viewpoints above and believe that value cocreation is a process where all sides work together to generate a better experience for customers [13].

The research on value cocreation from the perspective of the customer can be divided into two dimensions: customer participation behavior and customer citizenship behavior [14]. Each dimension has four components: customer participation behavior includes information seeking, information sharing, responsible behavior and personal interaction, while customer citizenship behavior includes feedback, advocacy, helping and tolerance. In the process of value cocreation, both the customer and the corporation are participants [15]. Meanwhile, there are some other research concern about value cocreation. Tregua et al. analyzed value cocreation in the context of ethical consumption by extending the focus to customers and their relational contexts [16]. How service contexts can shape consumers' motives to cocreate is also investigated in order to promote their willingness to cocreate value in different environments [17]. Lee et al. examined the specific benefits that customers anticipate from engaging in certain cocreation activities based on expectancy-value theory [18]. Kim et al. looked into C2C (customer-to-customer) value cocreation and codestruction in sporting events [19].

However, most studies pay attention to the interactions between manufacturers and customers, while few of them focus on the context of multiparty participation. As an O2O (online-to-offline) travel platform, Didi provides a space for drivers to serve and interact with passengers (the platform serves online while the driver serves offline). Under this circumstance, the platform and the driver need to cocreate and transfer value to the passengers in order to ensure their travel experience. It is still lacking in literature that looks into value cocreation behavior in the context of online car-hailing services.

2.1.1. Value Cocreation by Online Platform

The travel process can be divided into three stages: placing an order, taking a car and paying. The first and the third stage happens online via the online platform. A platform is defined as a design for products, services and infrastructure which can facilitate users' interactions [20]. During the online process, passengers use the platform to order, after which the platform releases corresponding position and destination to the drivers. If one of the drivers responds, the passenger will see the information from the platform, including the driver's last name, length of service, license plate number of his car, how far he is now, etc. Therefore, value cocreation by online platform refers to the platform tries its best to guarantee the accuracy of information and the experience of passengers while using the APP.

Service quality can be an indicator of value cocreation behavior [21]. In this context, we adapt two dimensions of the E-S-QUAL model to evaluate value cocreation behavior by the platform. E-S-QUAL was proposed by Parasuraman in 2005, in order to assess the service quality based on websites. It consists of four dimensions, including efficiency, fulfillment, system availability and privacy. According to Parasuraman, e-service quality refers to the extent to which a certain website meets the users' expectation on usability and efficiency [22]. Various other researchers have applied this instrument to different fields like government service [23] and luxury brands beyond traditional concepts [24].

We select two dimensions here: system availability and privacy. Firstly, system availability refers to the correct technical functioning of a certain site [22]. In our context, it means that the service of the APP enables users to be picked up and get prompt response. It can be measured by the accessibility of the shared-cars, the responsiveness of its backstage system and so on. Secondly, according to Holloway and Beatty, privacy means security of credit card payments during or after the sale in the context of e-commerce [25]. With regard to the car-hailing industry, we define privacy as the security of online payments and personal information during and after the ride.

2.1.2. Value Cocreation by Drivers

When passengers are in the car, the driver needs to provide services for them and the interactions are inevitable. In this process, what passengers care about is the driver's behavior [26]. Their study shows that passengers may fail to experience value during the drive because of unexpected resource

loss (physical, emotional, financial, etc.). For example, they might encounter offensive language, poor communication, ignorance, overcharging, etc. Such value codestruction behavior can create a bad travel experience and reduce customers' satisfaction. We set three factors in value cocreation behavior by drivers: perceived usability by passenger, consistency and competence. Additionally, we will further investigate their influence on customer satisfaction.

Firstly, as Flavián et al. pointed out, usability reflects the perceived ease of using the functions of a certain website or purchasing something via it [27]. Moreover, Wu et al. have concluded that usability is an essential opponent of customers' value in mobile hotel booking context, which can further impact their satisfaction [28]. While taking shared-cars, perceived usability of customers is influenced by the ease and convenience during the ride and enhancement of the efficiency of their life after using the product.

Secondly, consistency of a certain type of service means it can provide a set of services that conform to each other [29]. In the shared-car context, it indicates that the information of the shared-car and the driver presented online is consistent with that of offline, as well as the route and the payment is the same with online information.

Thirdly, Golfetto et al. figured out ways to translate competence to value for customers [30]. The service provider should anticipate customers' needs and meet them. In our context, competence refers to the capability of the service provider to complete the offline services [9]. That is, the car that the system assigned can pick up and send passengers on time as well as the physical condition of the shared-car and the service provider are good.

2.2. Customer Satisfaction

According to expectation–confirmation theory (ECT), satisfaction is determined by the interactions of expectations, perceived performance and disconfirmation of beliefs. ECT works during a process and has been adopted in many scientific fields. It indicates that before the purchase behavior, an initial expectation of a certain product or service is formed by the customers. Then during the process of purchasing, customers will develop their impression on the service or product and compare their expectations and perceptions to figure out the extent to which the expectations are confirmed. Ultimately, the degree of satisfaction is formed. Daniel M. Eveleth et al. applied ECT to the research on the function of the corporations' website [31] and Xuemei Fu et al. used ECT to study the overall service performance of public transit services and the passengers' satisfaction and loyalty [32]. Some scholars also studied customer satisfaction from other aspects. Wikhamn and Wajda explored how sustainable human resource management practices impact the innovation–customer satisfaction relationship, taking Swedish hotels as an example [33]. Wahab and Khong conducted a questionnaire survey to investigate the relationship between parcels' distribution design factors and online shopping customer satisfaction [34].

In addition, as Franke and Schreier pointed out, when the cocreation behavior is consistent with customer needs, the process will be seen as a rewarding experience and thus improve the customer satisfaction [35]. In a healthcare context, it shows that patients are more satisfied if value cocreation happens [21]. When it comes to car-sharing services, we put forward that value cocreation behavior by the platform and the driver can enhance passengers' satisfaction.

On the basis of former analysis, the following hypotheses are posited:

H1: Value cocreation by the platform has a positive influence on customer satisfaction.

H1a: System availability has a positive influence on customer satisfaction.

H1b: Perceptions of privacy have a positive influence on customer satisfaction.

H2: Value cocreation by drivers has a positive influence on customer satisfaction.

H2a: Perceived usability has a positive influence on customer satisfaction.

H2b: The consistency of the service has a positive influence on customer satisfaction.

H2c: Competence of the company has a positive influence on customer satisfaction.

2.3. User Loyalty

Loyalty refers to an aspiration to rebuy a certain product or service consistently despite the environment and situation are likely to cause switching behavior in the future according to Oliver. As for Didi, we consider that the loyalty means the customers' preference to it compared with other taxiing methods in a long period of time. Caruana put forward a mechanism of action where service quality influences consumer satisfaction and satisfaction influences consumer loyalty [36]; Dennis C. Ahrholdt et al. worked out the influence of delight on both satisfaction and loyalty [37]. The relationship between customer satisfaction and user loyalty has been validated and extended in many other literatures and has been adopted in numerous fields. ShinYoung Hwang et al. used it to study the impact of mIM experience on the satisfaction and loyalty towards O2O services [38]; Fatma Demirci Orel et al. did a research in retailing field, which studied the self-checkout service of supermarkets to investigate its customer satisfaction and loyalty [39]. Simultaneously, we have interviewed people of different jobs and ages, who expressed that their satisfaction towards the shared-cars will lead them to use it continuously and frequently. Furthermore, researchers have also investigated the relation between value cocreation and loyalty. Thiruvattal studied value cocreation by external and internal stakeholders of logistics service organizations and found out it has a strong positive impact on customer loyalty [40].

Thus, we posit the following hypothesis:

H3: Satisfaction has a positive influence on user loyalty.

3. Methodology

3.1. Measures

To construct the measures for the research, we adapted the model shown in Figure 1, which divided the indicators into 5 factors based on existing literature. The adjusted factors were: system availability, privacy, perceived usability, consistency and competence. Among them, system availability, privacy and corporate reputation belong to factors of platform while the other 3 belong to factors of drivers. The relationships between the factors are shown in the figure below (Figure 1). We used a t-test to verify the hypotheses with SPSS and calculated the path coefficient of each hypothesis with AMOS.

3.2. Data Collection Procedures

In order to measure peoples' attitudes towards each dimension, we adapted a 5-point Likert scale ranging from 1 to 5, which means strongly disagree to strongly agree. We designed a questionnaire and distributed it at universities, mainly in Haidian District, Beijing, as well as via the Internet. Some of the measurement items were adapted from existing studies and some were self-developed. We mainly referred to the studies by Parasuraman, Rotchanakitumnuai, etc. The references are shown in the table. Finally, we retrieved 356 questionnaires, which were from different parts of China (e.g., Beijing, Shanghai, Jiangsu Province, Zhejiang Province, Jilin Province, etc). Some of the respondents filled out the questionnaire at will and thus the initial data were incomplete or inconsistent and could not support our further study. Those data were all rejected before the research. Ultimately, we had 338 valid questionnaires. Table 1 shows the items and the questions and the participants' distributions in gender, age and education are showed in Table 2. It is worth noting that among all the samples, young people that are from 18 to 40 years old accounted for 75%, because most users of Didi are college students and young white-collar workers. Thus, this age distribution was acceptable. Table 3 shows the results of descriptive statistics. The mean of each dimension was above 3, indicating that the passengers overall had a positive attitude towards the services provided by Didi. By further calculating the ratio of skewness to standard deviation, the data as a whole obeyed a normal distribution.

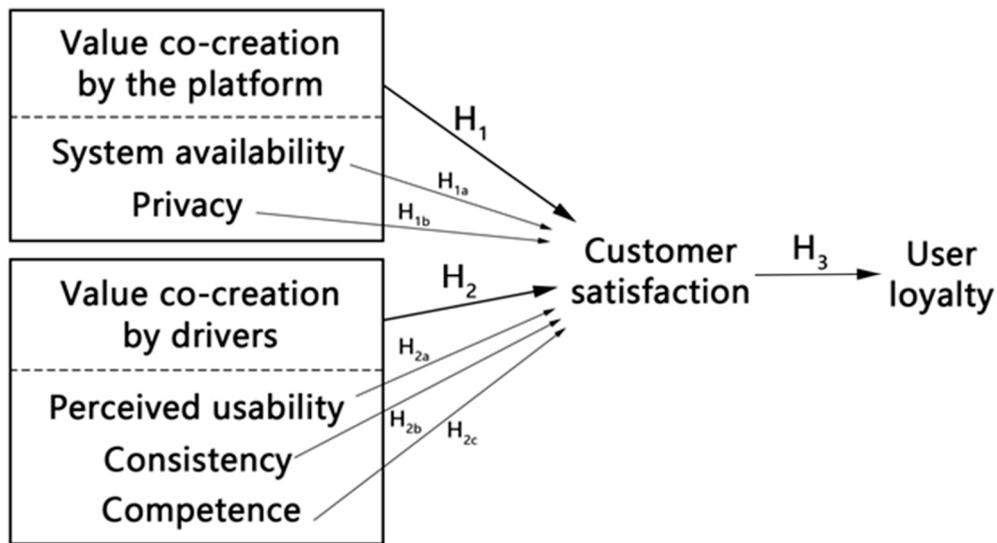


Figure 1. Model of study.

Table 1. Measurement items.

Dimensions	Measurement Items (Likert 5-Point Scale)	References
System availability	I think the Didi platform is always functional. (SA1)	[22]
	I think Didi app is available whenever I need it. (SA2)	[22,41,42]
	I think the Didi app can help me to call a taxi quickly. (SA3)	Self-developed
	I think the employees of Didi give prompt replies to my inquiries and complaints. (SA4)	[42]
Privacy	I think Didi protects information about my car-hailing behavior. (PR1)	[22]
	I think it does not share my personal information with other sites. (PR2)	
	I think it protects my payment information. (PR3)	
Perceived usability	I think calling a taxi via Didi is easier and more convenient than using traditional modes. (PU1)	Self-developed
	I think the actions of the drivers and their attitude towards me are satisfactory. (PU2)	
	I think the alarm function of the app can help assure my safety. (PU3)	
	I think the rides booked through the app are safe. (PU4)	
Consistency	I think the vehicle and driver information displayed on the platform is consistent with the actual situation. (CO1)	Self-developed
	I think the driver's driving route is consistent with the system planning route. (CO2)	
	I think the final payment amount is consistent with that estimated after the final booking. (CO3)	
Competence	I think the pickup time will match the arrival time of the pickup estimated by the system. (CP1)	
	I think I will be taken to the destination on time, based on the estimated arrival time shown by the system. (CP2)	[25]
	I think the shared-cars of Didi are in a good condition. (CP3)	
Satisfaction	I am satisfied with the rides booked through Didi. (S1)	[43,44]
	I think the ride booked through Didi was as good as I expected. (S2)	
	I think Didi met my pickup needs. (S3)	[45]
Loyalty	I think I am likely to use the Didi app to book a ride in the future. (LO1)	[43]
	I think I am likely to recommend others to use Didi to book a ride. (LO2)	[45]
	Even if new types of apps emerge, I will continue to use Didi to book a ride. (LO3)	

Table 2. Demographic information of respondents.

Items	Category	Frequency	Ratio
Gender	Male	147	43.49%
	Female	191	56.51%
Age	Below 18	16	4.73%
	18–30	204	60.36%
	31–40	50	14.79%
	41–50	49	14.5%
	Above 50	19	5.62%
Education	Master or higher	18	5.33%
	Bachelor	238	70.41%
	Others	82	24.26%

Table 3. Descriptive statistics.

	Mean	Standard Deviation	Skewness	Kurtosis
System availability	3.3765	0.764	-0.380	1.037
Privacy	3.0976	0.899	-0.049	0.123
Perceived usability	3.4704	0.684	-0.505	1.832
Consistency	3.3373	0.753	-0.439	0.721
Competence	3.4941	0.726	-0.405	0.926
Satisfaction	3.4783	0.727	-0.54	1.283
Loyalty	3.2801	0.813	-0.368	0.682

4. Results

4.1. Reliability and Validity of Measures

We used SPSS 21 and AMOS 21 to analyze the reliability and validity of questionnaire data. We analyzed the reliability and validity of the data at first, and then conducted confirmatory factor analysis (CFA). Before CFA, we performed factorability indicators Kaiser–Myer–Olkin (KMO) test and Bartlett’s test of sphericity. It showed that the KMO value is 0.928 and Sig. = 0.000, which reflects that the data were suitable for further analysis. We conducted reliability analysis to test the reliability of each indicator, and Cronbach’s α were all above 0.7, which indicated the data were reliable. On top of that, the loadings of each question were all above 0.7, composite reliability (CR) were all above 0.6 and the value of average variance extracted (AVE) were above 0.5. All these indicators confirmed that the data were internally consistent (Table 4).

The intercorrelation of the constructs is showed in Table 5. We can claim that the discriminate validity of samples is good because the diagonal elements are significantly larger than the correlation of a certain construct with any of the other constructs and all values are above 0.5. Therefore, we can conclude that reliability and validity of the data is confirmed and hypothesis test can be done with the collected data.

Table 4. Test for reliability and convergent validity.

Latent Variables	Indicators	Loadings	Cronbach's α	CR	AVE
System availability	SA1	0.734	0.765	0.852	0.592
	SA2	0.808			
	SA3	0.829			
	SA4	0.699			
Privacy	PR1	0.84	0.917	0.894	0.737
	PR2	0.884			
	PR3	0.851			
Perceived usability	PU1	0.734	0.803	0.873	0.633
	PU2	0.821			
	PU3	0.744			
	PU4	0.848			
Consistency	CS1	0.848	0.793	0.881	0.713
	CS2	0.9			
	CS3	0.78			
Competence	CP1	0.892	0.829	0.898	0.746
	CP2	0.908			
	CP3	0.786			
Satisfaction	S1	0.894	0.862	0.916	0.784
	S2	0.907			
	S3	0.855			
Loyalty	LO1	0.868	0.861	0.915	0.783
	LO2	0.907			
	LO3	0.879			

Table 5. Analysis of discriminate validity.

	1	2	3	4	5	6	7	8
1. SA	0.769							
2. PR	0.451	0.858						
3. PU	0.504	0.435	-0.102	0.796				
4. CS	0.494	0.34	-0.074	0.479	0.844			
5. CP	0.446	0.384	-0.03	0.52	0.55	0.864		
6. S	0.572	0.407	-0.12	0.588	0.522	0.589	0.885	
7. L	0.55	0.476	0.182	0.49	0.458	0.457	0.609	0.885

4.2. Hypothesis Test

SPSS 21 was used to conduct the hypothesis test. Table 6 shows that customer satisfaction is significantly affected by system availability ($\beta = 0.309, p < 0.001$), perceptions of privacy ($\beta = 0.342, p < 0.001$), perceived usability ($\beta = 0.23, p < 0.001$), consistency of services ($\beta = 0.103, p < 0.01$) and competence of the company ($\beta = 0.367, p < 0.001$). All the factors have a positive influence on customer satisfaction. The influence of customer satisfaction on user loyalty is also significant ($\beta = 0.814, p < 0.001$)—the more satisfactory the consumer is, the more likely he or she will continue to use this platform in the future. The t-values are also above the acceptable values. Thus, all hypotheses

can be accepted according to the results. The mechanism is: system availability and perceptions of privacy serve as value cocreation by online platforms, while perceived usability, consistency and competence of the company serve as value cocreation by drivers to influence satisfaction directly, which is a mediator between value cocreation and user loyalty. Moreover, after that we classified all the factors of online platforms into one class while putting all the factors of drivers into another to study their influence on customer satisfaction. The result shows that factors of drivers ($\beta = 0.898$, $p < 0.001$) have a greater impact on customer satisfaction than factors of online platform ($\beta = 0.627$, $p < 0.001$), which is consistent with our prediction.

Table 6. Hypotheses test results.

Hypothesis	Path Coefficient	<i>p</i> -Values	<i>t</i> -Values
H1	0.627	0.000	11.375 ***
H1a	0.309	0.000	7.535 ***
H1b	0.342	0.000	2.109 ***
H2	0.898	0.000	20.403 ***
H2a	0.23	0.000	11.219 ***
H2b	0.103	0.002	6.599 **
H2c	0.367	0.000	11.075 ***
H3	0.814	0.000	10.574 ***

** Denotes significance at the 0.01 level. *** Denotes significance at the 0.001 level.

5. Discussion

5.1. Main Findings

As a new business mode related to sharing economy, online car-hailing requires satisfying services in order to improve its user loyalty, including efforts from the platform and the driver, especially from the driver according to our study. On the basis of the results above, below we will talk about the findings of the research.

First, for both online and offline value cocreation, the factors we proposed turn out to have significant influence on customer satisfaction. For value cocreation of the platform, system availability and privacy protection are decisive indicators that can affect satisfaction. Further, perceived usability, consistence and competence are indicators of value cocreation by drivers that can further determine customer satisfaction. Then, customer satisfaction has a direct relation with user loyalty.

Second, the result shows that the service from drivers is more important than that from the platform for the company in order to enhance its customer satisfaction and loyalty. The customers care more about the services they receive during the ride, which can let them experience value during the interaction process. The higher the perceived quality is, the more satisfied the customers are. Moreover, the indicator of competence is essential for drivers, which means a nice attitude, short wait time, less time expenditure to get to the destination, etc.

5.2. Theoretical Implications

This study has the following theoretical implications. Firstly, it contributes to the theory of value cocreation by constructing a model of value cocreation which has a multiparty participation under the context of O2O commerce. It expands the application of value cocreation and finds out that joint efforts of online and offline service providers are effective in enhancing customer satisfaction and loyalty. Secondly, this article improves the comprehension of the theory of user loyalty in the context of O2O services. Besides the factors related with the platform, proposed by Parasuraman as system

availability and privacy, the customers tend to care more about the consistency of online information and offline services they receive, as well as the usability they really perceive.

5.3. Practical Implications

Our study applied value cocreation in the context of online car-hailing services. For companies in the service industry, service quality should always be the core goal of their pursuit. Especially, according to our study, the online platform and offline servant (the driver) should make concerted efforts to create value for passengers. This can help the corporations understand the way to improve their customer satisfaction and user loyalty. In addition, the data we collected and showed are of assistance for online car-hailing service providers and can tell them what method they can offer to better the services for passengers.

As the former results show, companies (like Didi) should pay attention to its construction of the platform as well as the service of drivers. Didi is currently in a monopoly position in China's online car-hailing industry, but many new companies are entering this market to compete with it. As time goes by, they are bound to have an impact on the current status of Didi. Thus, improving security and reducing drivers' bad behavior is an urgent problem to be solved to obtain this goal, they need to adjust their admission mechanism of shared-car drivers and provide uniform training of drivers in order to ensure the service quality that passengers feel during the ride, which counts in building their satisfaction and loyalty. Additionally, they ought to upgrade their platforms and handle the complaints at an opportune time. Corporate reputation has not been attached enough importance to, and actions are still lacking to rebuild their trust after those accidents.

5.4. Research Limitations

One limitation of this research is that most samples are from first-tier and second-tier cities, where the transportation system is more developed, and may have neglected the situation in less-developed cities or other areas. Additionally, most of the objects of this study are young people such as college students and white-collar workers. Though they are the main users of online car-hailing services, it may reduce the universality of the results. On the other hand, the sample size is relatively small regarding the large audience of the service. The sample size may need to be enlarged to enhance the accuracy of the outcome. Another limitation is that we only looked into the case of Didi and because of the existence of other car-sharing companies such as 'Shouqi' in China, who has adapted a mode that is totally different from that of Didi. It is an automobile manufacturer, and thus can use the cars it produces to provide car-sharing services. Meanwhile, it hires drivers and trains them in order that they obtain the ability and qualification to serve passengers. We didn't compare their service and figure out their differences, which can affect the result. This may reduce the universality of our model. Further, we did not investigate people's past travel habits and their ideas about new technology and their acceptance for new travel modes, which may influence their use of online car-hailing services. Meanwhile, our model does not involve value cocreation of the passengers, which can also impact their satisfaction. Finally, the government has introduced relevant policies to constrain the behavior of those companies, especially Didi, which may have urged them to strengthen their supervision and adjust the service mechanism. This can cause consumers to change their perceptions towards Didi, and such changes cannot be reflected by our data.

6. Conclusions

This study aimed to investigate the impact of value cocreation behaviors on customer satisfaction and user loyalty under the context of online car-hailing services. We built a model with four dimensions: value cocreation by online platform, value cocreation by drivers, satisfaction and loyalty. All of the dimensions consisted of several indicators. The questionnaire was designed and distributed in some major cities in China. The results showed that value cocreation behaviors of both online platform and offline service providers (drivers) had a significant impact on passengers' satisfaction, and further

influenced their loyalty. What's more, value cocreation by drivers had a greater impact. Further, we can generalize the findings to the context of O2O commerce. The study established a value cocreation mechanism of multiparty participation under an O2O context, in which online and offline service providers can work together to create (or to transfer) value to customers so as to enhance their satisfaction and promote their adhesiveness. During this process, the efforts of offline service providers are more effective. It indicates that service-oriented O2O companies should pay attention to the training of their employees who serve the customers face to face, as well as to improving the performance of their platform.

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