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The Effects of Online Trust-Building Mechanisms on Trust in the Sharing Economy: The Perspective of Providers

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Abstract: Trust is considered to be one of the key factors influencing the sustainable development of the sharing economy. In this paper, we focus on the trust issue of peer-to-peer accommodation models like Airbnb and Xiaozhu, which are among the most common examples of a sharing economy. This research divides trust into two types from the perspective of an accommodation provider in the context of peer-to-peer accommodation sharing: trust in the sharing platform and trust in consumers. The purpose of this paper is to provide a comprehensive view of how the three types of online trust-building mechanisms affect providers' trust in the sharing platform and trust in consumers. The structural equation modelling with partial least square method was used to empirically test the influence of the online trust-building mechanisms of a sharing economy platform on provider's trust in the platform and provider's trust in consumers, based on a sample of 209 providers on online short-term rental platforms in China. The empirical results show that perceived personal safety mechanisms, perceived property safety mechanisms, and perceived review mechanisms are positively related to a provider's trust in the platform. Provider's trust in the platform has a positive effect on trust in consumers, while perceived personal safety and review mechanisms have a positive effect on provider's trust in consumers by the mediation of trust in the platform. This study has theoretical and practical significance for the promotion of the research and development of trust mechanisms in the sharing economy.

Keywords: sharing economy; trust; provider's perspective

1. Introduction

With the spread of mobile internet, sharing economies have become a hot topic worldwide. It is estimated that the size of the global sharing economy will increase from 15 billion dollars in 2015 to 335 billion dollars by 2025 [1]. China has witnessed an explosive growth in its sharing economy, whose market trade volume topped 4.92 trillion RMB in 2017, and the sharing economy is estimated to account for over 10% of China's GDP by 2020, according to a report by the State Information Center (SIC) in China [2]. More than 700 million people participated in China's sharing economy in 2017, including about 70 million service providers [2].

The term "sharing economy" lacks an unified definition. There are many terms related to the sharing economy, ranging from narrow definitions to broader ones. Broadly speaking, sharing economy models cover commercial or non-commercial models based on the aim of sharing [3], the sharing of physical goods and service delivery based on shared resources [4], and a peer-to-peer model, a business-to-consumer model, and a business-to-business model based on the actors in the sharing economy [5]. Narrowly speaking, the term "sharing economy" is commonly used to describe peer-to-peer trading [6] and the sharing of underutilized goods and services via online platforms without the transfer of ownership [7].

Sharing economies have been considered to be an important social and economic phenomenon with the potential to contribute to the sustainable development of society [1,4,5]. Sustainability is a concept encompassing environmental, social, and economic benefits for society over time [8]. By providing flexible employment opportunities and generating extra income for individuals, a sharing economy contributes to the economic dimension of sustainable development [5,7,8]. By promoting sustainable uses of resources and alleviating environmental problems, a sharing economy contributes to the environmental dimension of sustainable development [5,7,8]. By enhancing social connections among people, a sharing economy contributes to the social dimension of sustainable development [5,7,8].

Two of the most prominent and widely cited examples of the commercial sharing economy are Uber (ride sharing platform) and Airbnb (accommodation sharing platform) [7]. The basic components of such sharing economy models include service providers, sharing service users, and platform. Through sharing platforms like Uber and Airbnb, asset owners can share products or services, such as spare rooms and cars, with consumers they are unacquainted with. The unacquainted individuals complete the transfer of the right to use products or services through a sharing economy platform. For sharing among unacquainted peers, trust is crucial [9,10]. A sharing economy is a business model developed between strangers based on technology and trust. A potential premise for its operation is the establishment of trust. It was found that 89% of users attributed the success of their sharing transactions to trust towards each other [1]. The sustainable growth of a sharing economy greatly depends on trust [10].

Compared to the explosive growth of sharing economies in practice, academic research on sharing economies is still scare. Many studies have been made on trust issue in an e-commerce context, but very little research has been done on trust in the context of sharing economies, especially from the perspective of providers. Trust in the context of a sharing economy is different to that found in e-commerce [11,12], thus, it is necessary to carry out research on trust issues in the context of a sharing economy.

In this paper, we focus on peer-to-peer accommodation sharing models like Airbnb and Xiaozhu. The development of the peer-to-peer sharing economy depends on the trust and participation of both providers and consumers. In the sharing economy context, both the consumer and the provider also face risks such as theft, robbery, property damage, and even risk to their personal safety. Thus, research on the influencing factors of provider's trust in a sharing economy is also necessary. Current research about trust in sharing economies mainly focuses on the trust of consumers, and little research has been done on suppliers' trust building mechanisms in the sharing economy. To understand how the trust of providers in the sharing economy is influenced, this paper has carried out an empirical study on trust-building mechanisms from the perspective of suppliers. The purpose of this paper is to extend the current literature on trust-building mechanisms in the sharing economy and provide a comprehensive view of how the perceived usefulness of three types of online trust-building mechanisms affect providers' trust in the platform and trust in the consumers.

This paper studies how the perceived institutions of sharing platforms motivate the providers to trust the sharing platform and the consumers with data collected from 209 providers on online short-term rental platforms in China. A model is developed and tested by the partial least square and structural equation model methods.

The paper is organized as follows. Section 2 reviews the literature on online trust-building mechanisms and trust in a sharing economy. Section 3 introduces the research model and hypotheses. Section 4 explains the research method and data collection. Section 5 presents the empirical results. Conclusions, including discussions, theoretical contributions, practical implication limitation, and future research, are provided at the end.

2. Theoretical Background and Literature Review

2.1. Trust-Building Mechanisms in the Sharing Economy

When providers supply products or services on sharing economy platforms like Airbnb, not only an online interaction but also direct offline contact with consumers is required [11,12], which in turn leads to higher risks regarding personal and property safety. To mitigate risk, reduce uncertainty, and ensure safety, many online trust-building mechanisms, such as a two-sided rating mechanism and insurance coverage, have been developed.

Pavlou and Gefen [13] confirmed that trust-building measures such as the feedback mechanism, third-party authentication service, and credit card guarantee, can promote the formation of trust in online e-commerce environments. Keetels [14] proposed that the mechanism of a peer-to-peer collaborative consumption platform includes audit mechanisms, privacy protection systems, monitoring systems, payment security systems, guarantee security systems, audit systems, and information disclosure systems. Kamal and Chen [15] argued that criminal background review, security insurance, identity authentication, online interaction, etc. enhance the interpersonal trust between the supply and demand sides in the sharing economy. Yang et al. [16] believed that factors affecting the establishment of trust of guests in the Airbnb platform include security and privacy protection, system quality and platform characteristics. Teubner and Dann [17] classified the trust-building mechanisms in the sharing economy into four categories—transaction-based assessments, expressive user profiles, identity verification, and display of implicit information. Besides, the sharing platform also provides measures to mitigate risks, which includes insurances and warranties, escrow payment services, and privacy assurances etc. [17,18].

Although many online mechanisms have been developed for providers on sharing economy platforms, these online mechanisms can be mainly divided into three types based on the roles of these trust-building measures: trust-building measures to reduce the risks of personal life safety of providers, trust-building measures for protecting the property and fund safety, or trust-building measures on how providers view and feel about the potential consumers.

The first mechanisms to build trust are measures to ensure the provider's safety of personal life, which refer to institutions like criminal background check, identity authentication, privacy protection and safety protection insurance, etc. According to a survey published by Lloyd of England in April 2018, the top one risk of global users to use and provide sharing economy services is personal safety [19]. The personal safety systems vary from company to company. The house-sharing platform Airbnb, for example, offers identity verification and life accidence insurance for guests and hosts provided by third-party insurance companies. Task Rabbit, a peer-to-peer task service platform, goes through four background screening processes for users of their services [15]. By providing institutional assurances, perceived personal safety systems are effective measures intended to reduce opportunistic behaviors [20] and protect provider's physical safety in sharing economy transactions.

The second mechanisms to build trust are measures to ensure the safety of the provider's property and fund, which refer to institutions like secure payment and property protection insurance, etc. A prominent feature of the sharing economy business model is the temporary sharing of private property by the platform with no transfer of ownership rather than a resale of goods [3,11,21], which in turn causes the issues of proper treatment and the expected return in a good condition of shared goods by the consumers during the rental process [11]. A provider's concern about the damage to a certain resource due to hidden actions by a consumer is a key impediment to sharing [21]. Taking the hosts on Airbnb for example, they put their houses and rooms at the risks of robbery, loss of property and house damage etc. In order to dispel the worries of hosts, a property damage protection of up to $1 million USD for every host and every listing is provided by Airbnb. The insurance can be considered as an innovative measure to build trust in the context of the sharing economy [11].

The third mechanisms to build trust are the online review systems. Feedback and reputation systems, applied widely in the consumer to consumer(C2C) platforms like Ebay and Taobao, are

considered to be an effective means to reduce asymmetric information and build trust in online environments. Different from the traditional C2C e-commerce context, the peer-to-peer sharing economy uses a two-sided review system whereby providers and consumers can review each other. If hosts on Airbnb want to know more about guests before accepting their reservation request, they can check and read reviews from past hosts. Online review mechanisms help providers gather information about the consumer's reputation from previous transaction behaviors. Reputation and feedback mechanisms are crucial to the success of the sharing economy [22].

2.2. Two Types of Trust for Providers in the Sharing Economy

The typical sharing economy consists of four components: platform, providers, consumers and shared products or services. The platform enables the transfer of usage of shared goods among unacquainted individuals. The sharing of private property with complete strangers leads to unprecedented levels of risks such as psychological and physical risks [10]. A prerequisite for transactions between strangers is trust. Trust is a belief that the trading partner will act in good faith and in a favorable way [23]. In order to reduce risks, providers require a sufficient amount of trust to overcome these barriers [4,24]. To better understand the trust-building mechanism in the sharing economy, clarifying the differences between different trust targets is critical. According to different targets of trust, there exists at least a "triad of trust relationships" [11] which includes trust towards peers, platform and products [9]. Ye et al. [25] differentiated between a guest's trust in host and trust in the platform. Yang et al. [16] clarified cognitive-based trust towards the Airbnb and affective-based trust towards the hosts. Liang et al. [26] proposed that trust in Airbnb is an institution-based trust and trust in hosts is the disposition to trust.

From the perspective of the service providers, there are two types of trust—trust in the platform and trust in consumers. For example, providing a room on Airbnb does not only require hosts to trust the platform but also to trust the potential guests to behave in a considerate and respectful manner.

Providers' trust in the platform is the providers' belief that the platform provides a safe and reliable environment and helps them to overcome perceptions of risk and insecurity [11–13]. For providers, the first step to provide the sharing service is to choose a reliable platform. Trust in the platform can convince a provider that providing shared products or services to an unknown consumer is safe and not risky. Hawlitschek et al. [9] found that hosts' trust in Airbnb positively affects their intention to provide. Kim et al. [27] confirmed that trust in the platform is a direct antecedent of consumer's participation intention in the sharing economy.

Providers' trust in consumers is the providers' belief that a consumer is honest and keeps the supplier's interests in mind [9]. Compared to the trust in vendor in the e-commerce context, trust towards peers has become central in the sharing economy [28]. Trust in the consumers reduces provider's concerns about the risks on personal and property safety during the sharing process. Without the supplier's trust in the consumers, it seems difficult to realize the transaction. Hawlitschek et al. [9] found that trust towards the sharing platform has a positive effect on the use intentions of the supply and the demand sides.

2.3. Antecedents of Trust in the Sharing Economy

Several studies have researched the antecedents of consumer's trust towards the sharing platforms. Wang et al. [29] found that social antecedents (i.e., social value orientation and social utility), technical antecedents (i.e., system quality, service quality, and information quality), economic antecedents (i.e., monetary rewards), and privacy assurance antecedents (i.e., perceived effectiveness of privacy policy) can positively influence hosts' trust toward Airbnb. Kong et al. [30] discovered that social referrals, information quality and transaction safety can positively affect users' trust towards the sharing commerce platform. Aw et al. [31] found that perceived personalization, perceived usefulness of rating system and service personal values can significantly influence consumer's trust in on-demand ride-sharing services like Uber and Grab in the context of Malaysia.

Consumer's trust in providers in the sharing economy environments has also been explored by some researchers. Some studies found that photo, host description, self-uploaded information about providers and online review content have significant influences on user's trust towards providers on Airbnb [10,32]. Agag & Eid [33] confirmed that website quality, natural propensity to trust, and third-party recognition have positive effects on guests' trust towards hosts in the peer-to-peer accommodation context in Egypt.

Some studies differentiated consumer's trust in platforms and trust in providers. Yang et al. [16] proposed that Airbnb guests have two objects to trust: Airbnb platform and hosts, and found that trust in the platform is built by the cognitive factors like security and privacy while trust in hosts is built by the affective factors like reputation. Mittendorf [34] confirmed the positive effect of trust in platforms and trust in providers on use intention in the collaborative consumption environments.

The above studies have examined the role of different antecedents on the trust from the perspective of consumers, and few studies have been made on the trust-building mechanisms of providers in the sharing economy. Mittendorf [35] differentiated trust in guests and trust in platforms from the perspective of hosts and confirmed that disposition to trust and familiarity with Airbnb have positive effects on trust in guests and trust in Airbnb from the perspective of hosts.

3. Research Model and Hypotheses Development

3.1. Research Model

Online trust-building mechanisms have been found to enhance consumer's trust towards sellers and platforms in the context of C2C and B2C e-commerce [13,18] and increase consumer's trust in the sharing economy [16,17,22,31,33]. These trust-building measures vary from company to company. Different from previous studies focusing only on the effect of specific trust-building measures such as privacy policy and secure payment, this study divides these trust-building measures into three types based on their roles from the perspective of provider's perception: perceived personal safety system, perceived property system and perceived online review system.

To understand how the trust of providers in the sharing economy is built, this study proposes a research model to examine the effect of three trust-building mechanisms on provider's trust in the sharing platform and trust in consumers. Trust in the sharing platform is also included as the mediator between three trust-building mechanisms and trust in potential consumers in this model. Demographics including age, gender, income, education and marriage are included as control variables in the model. Figure 1 presents the research model and the theoretical logic of each research hypotheses will be described in the next section.

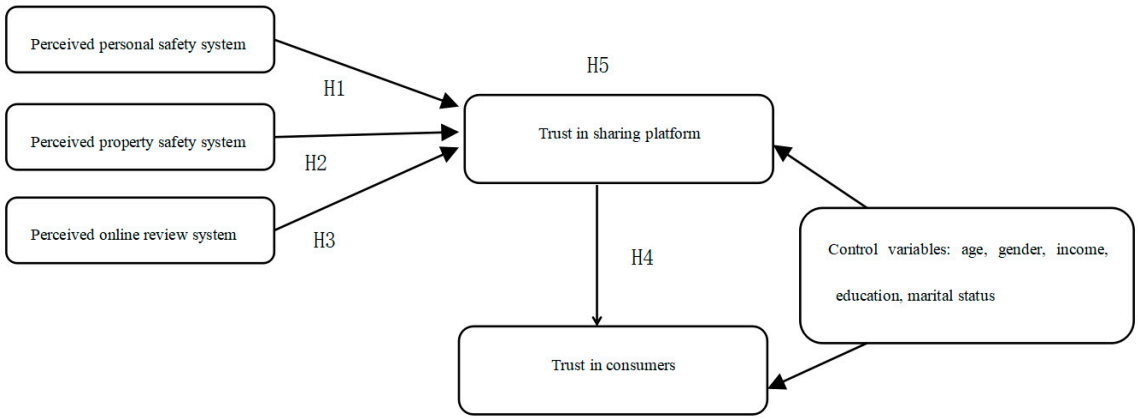

Figure 1. Research Model.

3.2. Perceived Personal Safety System and Trust

In the B2C or C2C e-commerce context, buyers and sellers generally do not need to contact offline, but in a peer-to-peer sharing economy context, the supply and demand sides not only have an online interaction, but also have a face-to-face physical contact and interaction. The actual face-to-face contact between supply and demand sides brings about personal safety issues. Suppliers are always hesitant to provide shared goods due to concerns about personal safety. The top one risk of global users to use and provide sharing economy services is personal safety and 60% of respondents in US in 2018 stated they worried about the risks about personal safety from interacting with strangers in the sharing economy [19]. The perceived personal safety system refers to the providers' perception of the institutions contributing to guarantee their personal safety, including user background check, identity authentication, privacy protection and personal safety insurance etc. The sharing economy platform acts as an intermediary between the service providers and the consumers. Platform operators provide functions, such as facilitating communication, payment and safety through institutions. Without the structural assurance of the platform, the transaction between the supply and demand sides can not be produced. The perceived personal safety system makes providers feel that the sharing economy platform can fulfill the obligation of personal safety of users, reduce the risk of transactions with strangers and increase their trust in the platform. Thus, the following hypothesis is made:

Hypothesis 1. *Perceived personal safety system positively affects providers' trust in the sharing platform.*

3.3. Perceived Property Safety System and Trust

In addition to the personal safety, the suppliers also face property security risks such as payment and product security when providing shared products or services. For example, in the peer-to-peer accommodation context, the hosts face property security risks such as a damage to houses and belongings losses. Such Reports as drivers have had their vehicles damaged by rowdy passengers and hosts have had their properties trashed by inconsiderate guests exist online. In the early days of the Airbnb, there were news reports about a guest who totally ransacked a host's apartment. This incident pushed Airbnb to put measures into place that would give more protection to hosts and their properties. The perceived property safety system refers to the providers' perception of the institutions such as property protection insurance and secure payment contributing to guarantee their financial and property safety. Yang et al. [16] found that security and privacy protection have a positive effect on user's trust in Airbnb. The perceived property safety system makes providers feel that the sharing economy platform would behave in a favorable way, mitigate and overcome the risk and insecurity of providing their properties to unknown consumers. Thus, the following hypothesis is made:

Hypothesis 2. *Perceived property security system positively affects providers' trust in the platform.*

3.4. Perceived Online Review System and Trust

The online review system has been proven to be an effective mechanism to promote consumer's trust in the online environments. In the traditional C2C e-commerce environments, generally only the sellers are rated and reviewed by buyers and buyers can use this information to choose whom to interact with. On the peer-to-peer sharing economy platform, buyers and sellers can review each other. The reviews can accumulate information on the past transaction behaviors and the reputation of buyers and sellers. Online review system allows consumers and providers to make sure they are transacting with someone deemed trustworthy enough to participate in the transaction [36]. Liang et al. [37] confirmed that the reputation of the fundraisers has a significant impact on the trust of investors on the P2P lending platform. Lu et al. [38] confirmed that buyers' perception of online market feedback mechanism has a positive impact on buyers' trust in the social commerce context. Thus, the following hypothesis is made:

Hypothesis 3. *Perceived review system positively affects service providers' trust in the platform.*

3.5. Relationship between Trust in the Platform and Trust in Consumers

A number of prior studies have found a positive relationship between trust in the C2C e-commerce platform and trust in sellers. As an intermediary connecting and matching the supply and demand sides, the sharing economy platform manages the entire transaction process between buyers and sellers through a series of rules and systems. The platform provides not only the technical infrastructure, user interfaces, and process guidance but also services such as insurance and reputation systems; thus, it takes a critical role in building and maintaining trust between providers and consumers [9,17]. Depending on the sharing economy platform and its institutional guarantees, the sharing transactions between strangers can be completed. A sharing platform is an enabler for interpersonal trust among providers and consumers, which plays a mediating role between institutional guarantees and trust [11]. Mittendorf [39] confirmed that passenger's trust in the Uber platform has a positive impact on trust in drivers. Möhlmann [11] found that guests' trust in Airbnb can significantly affect their trust in the hosts on the platform. Wu and Shen [40] found that institutional trust (trust in the platform) has a positive influence on trust in shared products and trust in host in the context of Airbnb. Thus, the following two hypotheses are made:

Hypothesis 4. *The service providers' trust in the sharing platform positively affects their trust in the consumers on the sharing platform.*

Hypothesis 5. *Trust in the sharing platform plays a mediating role between the perceived personal safety system (a), property security system (b), online review system (c), and trust in consumers.*

4. Data and Methods

4.1. Measurement Development

We measured all the items on a five-point Likert scale ranging from "strongly disagree" to "strongly agree." Measurement items used in this research were adapted from previously validated measures and modified to the sharing economy context in China. Table 1 provides the details of constructs, items, and sources of the measures used in this study.

Table 1. Measurement and source.

Construct	Items	Source
Trust in the sharing platform (TP)	The platform is trustworthy. The platform intends to keep its promises and commitments to hosts. The platform keeps the interest of hosts in mind. The platform means no harm to hosts.	Hawlitschek (2016) [9], Mittendorf (2016) [35]
Trust in consumers (TC)	The guests on the platform are reliable. The guests on the platform are honest. The guests on the platform mean no harm to hosts.	Hawlitschek (2016) [9], Mittendorf (2016) [35]
Perceived Personal Safety System (PS)	I believe that the background screening system in the platform is effective. I believe that the authentication mechanism in the platform is effective. This platform provides personal safety insurance for hosts.	Kim et al. (2008) [41], Hsu et al. (2014) [42]
Perceived Property Safety system (PSS)	I believe that the escrow services can ensure the fund safety. I believe that the escrow services are useful. This platform provides the property insurance for hosts.	Pavlou and Gefen (2014) [13]
Perceived Online Review system (ORS)	I believe that online review system provides useful information. I believe that online review system provides reliable information. I believe that online review system provides accurate information.	Lu et al. (2016) [38]

4.2. Data collection

This study takes hosts on the peer-to-peer accommodation platforms like Airbnb and Xiaozhu (a Chinese plaform similar with Airbnb) as survey objects. We used a paid online survey platform to

collect data and gathered 209 valid questionnaires from users in China who have used the short-term rental platforms such as Xiaozhu and Airbnb during October–December 2018. A pilot study was conducted before the final data collection. Descriptive statistics for the sample are shown in Table 2. Respondents are approximately 50% male, with the majority (84.2%) aged below 40 years old and married (92.3%). Among respondents, 46.4% has average monthly incomes between 5000 and 10,000 Yuan RMB.

Table 2. Demographics.

Variables	Category	Percentage	Variables	Category	Percentage
Gender	Female	53.6	Education	High school and below	4.8
	Male	46.4		College	87.6
Age	26–30	31.6		Postgraduate and above	7.7
	31–40	52.6	Income	Below 5000	19.6
	41–50	27		5000–10,000	46.4
	51–60	2.9		10,001–15,000	24.4
Marriage	Married	92.3		Above 15,001	9.6
	Single	7.7			

4.3. Methods

In this paper, the model is tested and estimated based on the partial least squares structural equation modeling (PLS-SEM) using SmartPLS 3.2.8 software (SmartPLS GmbH, Germany). PLS-SEM is appropriate if the research objective is theory development and prediction. Since the aim of our study is to predict the influence of three trust-building measures on trust, it is appropriate to use PLS-SEM approach. Moreover, the PLS-SEM method keeps minimal restrictions on the sample size and residual distribution under conditions of non-normality. Due to the small research sample, this study applied the PLS-SEM method to verify the hypotheses.

5. Empirical Results

5.1. The Measurement Model

We assessed the validity of constructs in terms of indicator reliability, internal consistency, convergent validity, and discriminant validity. Composite reliability (CR) were used to evaluate the internal consistency.

It can be seen from Table 3 that the CR values of all constructs are greater than the recommended threshold value of 0.7, indicating that the scale has a good internal consistency reliability. The factor loadings of all latent variables are greater than 0.7, indicating that the measurements of the constructs have a good indicator reliability. The average variance extracted (AVE) value is greater than 0.5, indicating that the variables have a good convergent validity. Table 4 shows that the square root of each construct AVE is greater than its correlation coefficient with other constructs, indicating that the measurement model has a good discriminant validity.

Table 3. Construct reliability and validity analysis.

Construct	Items	Factor loading	AVE	CR
Trust in platform (TP)	TP1	0.722	0.548	0.829
	TP2	0.748		
	TP3	0.732		
	TP4	0.759		
Trust in consumers (TC)	TC1	0.837	0.635	0.839
	TC2	0.780		
	TC3	0.771		

Table 3. *Cont.*

Construct	Items	Factor loading	AVE	CR
Perceived personal safety system (PS)	PS1 PS2 PS3	0.767 0.779 0.776	0.599	0.817
Perceived property safety system (PSS)	PSS1 PSS2 PSS3	0.794 0.735 0.743	0.574	0.801
Perceived online review system (ORS)	ORS1 ORS2 ORS3	0.797 0.743 0.840	0.631	0.836

Table 4. AVE and latent variables correlations.

	ORS	PS	PSS	TC	TP
ORS	0.794				
PS	0.529	0.774			
PSS	0.511	0.565	0.758		
TC	0.461	0.507	0.475	0.797	
TP	0.568	0.584	0.522	0.544	0.740

Note: The diagonal (in bold) are the values of AVE squared root.

5.2. The Structural Model

The t-significance test of the path coefficients is performed by the bootstrapping method in the Smart PLS. The significance results of each path coefficient are shown in Figure 2. It can be seen from the results that the four hypotheses of H1, H2, H3, and H4 have been verified.

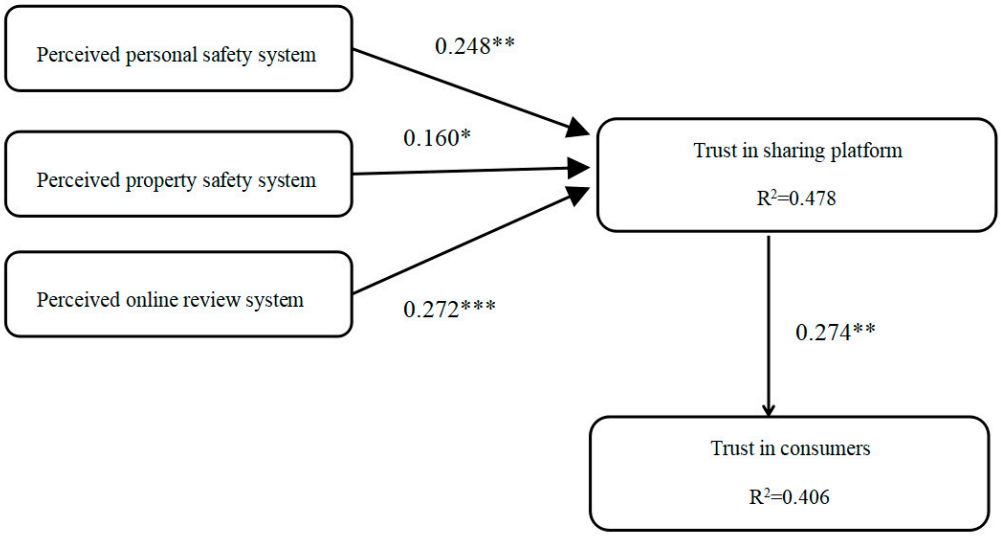

Figure 2. Structural model analysis. Note: T test are significant at: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Among the institutional factors, the perceived review system has the highest impact on trust in the sharing platform with the path coefficient of 0.272, followed by the perceived personal safety system with the path coefficient of 0.248, and finally the perceived property safety system with the path coefficient of 0.160. Trust in the sharing platform is positively associated with trust in the consumers with the path coefficient of 0.274, indicating that provider's trust in the platform promotes the trust in potential consumers. In addition, Figure 2 suggests that the R^2 value of three trust-building measures

on trust in the platform are 0.478 and the R^2 value of trust in the platform on trust in the consumers are 0.406. The results demonstrate a good explanatory power of the research model.

5.3. Mediating Role Test

The bootstrapping method is applied to test the mediating role of trust in the sharing platform between three trust-building measures and trust in consumers. Firstly, the model that does not include the mediating variable is tested. As shown in Table 5, the perceived property safety system has no significant impact on trust in consumers, indicating that trust in the platform has no mediating role, so H5b is refused. The perceived personal safety system and online review system have a significant impact on trust in consumers, indicating that trust in the platform might have a mediating role. Secondly, the mediator variable was included in the model. A bootstrapping procedure generating 5000 random samples of size of 209 was used to estimate the significance of indirect effects. Table 6 shows the results. The T value of PS's influence on TC through TP is 2.378, and the indirect effect is 0.068, so H5a is supported; the T value of the ORS's influence TC through TP is 2.053, and the indirect effect is 0.074, so H5c is supported.

Table 5. Significance of path coefficients without the mediator.

Path	Path Coefficient	T Value
PS→TC	0.203 *	2.344
PSS→TC	0.163	1.915
ORS→TC	0.174 *	2.392

Note: * means significant at the level of 0.05.

Table 6. Indirect effect with the mediator.

Hypothesis	Path	Indirect Effect	T Value	Significance Level
H5a	PS→TC	0.068 *	2.378	0.05
H5c	ORS→TC	0.074 *	2.053	0.05

Note: * means significant at the level of 0.05.

To estimate the size of the indirect effect, the paper used the variance accounted for (VAF) value, which equals the ratio of the indirect effect to the total effect. As shown in Table 5, the direct effect of PS on TC has a value of 0.203, while the indirect effect via TP has a value of 0.068. Thus, the VAF has a value of 0.3350. Consequently, 33.5% effect of PS on TC is explained via the TP mediator. The direct effect of ORS on TC has a value of 0.174, while the indirect effect via TP has a value of 0.074. Thus, the VAF has a value of 0.408. Consequently, 40.8% effect of ORS on TC is explained via the TP mediator.

The above results show that provider's trust in the sharing platform plays a partial mediating role between perceived personal safety system, perceived online review system, and trust in consumers.

6. Conclusions and Discussions

6.1. Conclusions

From the perspective of providers in the sharing economy, this study explored the effects of three trust-building mechanisms on provider's trust in the sharing platform and trust in consumers. Empirical results show that: perceived personal safety system, perceived property safety system and perceived review system are positively related to provider's trust in the platform; provider's trust in the platform has a positive effect on trust in consumers, indicating the trust transfer relationship from trust in the platform to trust in potential consumers; perceived personal safety system and online review system have a positive effect on provider's trust in consumers by the partial mediation of trust in the platform, while the effect of perceived property safety system on trust in consumers is not significant. Among the three trust-building measures, the effect of perceived online review system on

trust in the platform is the biggest, followed by the perceived personal safety system and perceived property safety system.

6.2. Discussions

The model had a good explanatory power in explaining provider's trust in the sharing platform, implying that trust-building measures of property safety, personal safety and online review system are important factors that influence the provider's trust in the sharing platform. The sharing of private property with unacquainted individuals leads to unprecedented levels of risk on personal safety and property safety in the context of sharing economy. Previous studies have confirmed that trust-building measures have positive effects on consumer's trust in e-commerce context [18,43] and sharing economy context [11,16,17,30], while this study confirmed that these trust-building measures are also important for providers since the sharing platform is a two-sided market. It is very important for the sharing platforms like Airbnb to provide such trust-building measures to counteract providers' risks and enhance providers' trust in the sharing economy.

The results confirm that trust in the sharing platform enhances trust in peers on the platform, which are consistent with the previous studies of Mittendorf [34,35,44] in the context of Airbnb and Uber. Some studies from the perspective of consumers in the context of sharing economy report similar findings. For example, Mittendorf found that passenger's trust in Uber has a positive effect on trust in drivers [44]. Möhlmann found that consumer's trust in Airbnb has a positive effect on trust in providers of Airbnb [11]. Thus, the results confirm the trust transfer relationship from trust in the platform and trust in peers.

Consistent with findings of Möhlmann [11], the results show that trust in the sharing platform plays a partial mediation role between trust-building measures (perceived personal safety system and online review system) and trust in consumers, indicating that providers on sharing platforms are concerned about their personal safety and the trustworthy of potential consumers. However, the mediation effect of trust in the platform between perceived property safety system and trust in potential consumers is not significant. One possible explanation may be that the financial and property risks in the sharing economy environments have not been fully perceived yet by the providers in China compared to the obvious risks on personal safety.

6.3. Theoretical Contributions

For theoretical implications, this study makes at least three major contributions to the current literature in sharing economy.

First, this paper contributes to the growing literature on trust in the sharing economy context from the perspective of providers instead of consumers. Current research about trust in the sharing economy mainly focuses on the trust of consumers and little research has been done on the provider's trust-building mechanisms in the sharing economy. To our knowledge, this is one of the few studies that empirically examines the antecedents of trust in the sharing economy from the perspective of providers.

Second, this paper explores the roles of perceived personal safety system, perceived property safety system and perceived online review system on provider's trust. Unlike previous studies only examined the roles of specific trust-building measures like privacy policy and insurance coverage, this study classifies the trust-building measures into three types based on the roles of these trust-building measures and examines their effects on trust. Specifically, our results indicate that three institutional trust-building mechanisms have a significant influence on trust in the platform, which adds to the growing evidence on the effect of structural insurance on institution-based trust by confirming its applicability in the context of sharing economy.

Third, this paper distinguishes trust in the sharing platform and trust in peers in light of the trust targets of providers on sharing economy platform and explores the relationship between them. In addition, this paper also examines the mediating roles of trust in platform between trust-building measures and trust in potential consumers. Specifically, our results indicate that provider's trust in the

platform has a positive effect on trust in potential consumers and plays a mediating role between two trust building measures (i.e., personal safety system and perceived online review system) and trust in consumers, which extends the extant literature of trust transfer from the online e-commerce context to the sharing economy context and enriches the literature on trust transfer from consumer's perspective to provider's perspective in the context of sharing economy.

6.4. Practical Implications

For practical implications, this study provides guidelines for the sharing economy platforms to attract providers and establish effective institutional mechanisms for providers.

First, as a typical two-sided market connecting the demand and supply sides, in order to enhance user's trust in the sharing economy, the sharing economy platforms should pay attention to not only consumer's trust but also provider's trust.

Second, the platform should recognize that online review system is the most significant antecedent in building provider's trust in the sharing platform. In order to enhance provider's trust, the platform should endow providers the right to review on consumers.

Third, the platform should focus on the institutional measures like identity authentication, background check and life insurance protection to ensure the personal safety of providers since perceived personal safety system has a significant effect on provider's trust.

Fourth, in order to enhance provider's trust in the platform, the sharing economy platforms should also pay attention to institutional measures like property insurance protection to reduce the provider's risks toward property safety.

6.5. Limitations

This study has some limitations that should be addressed in future research.

First, this study collected data through online survey platform at one point in time and a longitudinal data collection or data from different sources would enrich the robustness of the model.

Second, the data was collected from providers on peer-to-peer accommodation platforms such as Airbnb and Xiaozhu in China. Although the peer-to-peer accommodation platform is one of the popular models of sharing economy, future research is necessary to improve the validity and generality of the results based on the different types of sharing economy platforms since the difference of goods to be shared might influence provider's trust.

Third, since this research focuses especially on the three trust-building measures with respect to the two types of trust, models by adding moderation variables regarding provider's experience or the difference of shared goods in the future might provide new insights to the trust-building mechanisms of providers in the context of sharing economy.

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