Trust to Share: Investigating the Key Factors to Influence Tenants' Participation in Online Short-Term Rent

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ABSTRACT

The concept of sharing economy has received rich attention in recent years. As a typical type of business model in the sharing economy, online short rent has been paid attention by both industry and academia. In this study, we find trust to be a critical determinant to the success of online short rent platforms. Based on three dimensions of trust theory, i.e., ability, benevolence and integrity, we investigate the factors influencing tenant' willingness to participate in online short rent. We further examine the extent to which trust can influence the number of sales and comments of rooms listed at online short-term rent platforms, which can represent tenant' willingness to participate in the sharing economy. The results show that the trust dimensions represented by a landlord's personal characteristics have significant positive correlations with the number of sales and comments. For example, the real name authentication and the sesame score can represent the trust integrity; online replay ratio and the average confirmation time representing the trust sincerity, and the order acceptance ratio representing the trust ability. On this basis, we proposed some recommendations for both platforms and landlords. For example, the landlords can improve the tenants' trust by authenticating his/her real name, replying actively and timely. For platforms, when they make housing list ranking rules, they can take the landlord's personal attributes that may affect trust into consideration. Moreover, platforms can also allow landlords to supply value-added services to improve service quality and ultimately promote the virtuous circle of the platform ecosphere. Through conducting the empirical research on a particular application of the sharing economy, we aim to fill the research gap of this field in China and provide theoretical and practical contributions to the future development of online short rent.

Keywords: Sharing Economy, Online short rent, Theory of Trust, Willingness to participate

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I. Introduction

The sharing economy, which is also known as collaborative consumption, gig economy or collaborative economy, has received wide attention in recent years (Li et al., 2016). Since the business models of sharing economy were first proposed in 2002 (Benkler, 2004), both scholars and practitioners have been increasingly focusing on this field and discussing the potential of the sharing economy in the future (Avital et al., 2015; Botsman and Rogers, 2011). At the same time, the development of communication and network technology provides technical support for the commercialization of sharing business models. Under this circumstance, sharing economy has entered a new stage of development and received much wider acceptance among a large crowd of consumers (Albinsson and Perera, 2012; Belk, 2007; Belk, 2010; Belk, 2014; Lamberton and Rose, 2011; Ozanne and Ballantine, 2010).

As a typical model of sharing economy, online short-term rent gradually rose in China since 2010. It can make better use of the available housing resources and reduce vacancy cost. Essentially, the online short-term rent platform is a bilateral market platform connecting tenants and landlords. Compared to the traditional accommodation market, online short-term rent has the following obvious advantages.

Firstly, landlords can make better use of the idle housing resources to make profits. Secondly, the online short-term rent has a wide coverage and various types of houses which is cost effective, and can supply more diversified choices for tenants, tenants can obtain personalized services that cannot be provided by hotels within the same price level. Thirdly, the platform provides a guarantee mechanism, which can effectively reduce transaction risks by solving moral risks and adverse selection problems in the

regular rental market, and the platform can earn economic benefits in the process of promoting and facilitating transactions, which will finally achieve win-win results among the three parties.

With these benefits, more and more people pay attention to the sharing economy in China, especially in recent years. There are many sharing economy companies, such as Didi and Uber in the travel market, Tujia in the short-term rental market, the Panda Star Kitchent in the kitchen sharing market, and Wework in the office space sharing. There are many researches on sharing economy, but there are few empirical researches on localized sharing enterprises in China. However, there are differences between Chinese culture and western culture. The development of many foreign-funded enterprises in the Chinese market is not always smooth, so many foreign research results are not applicable in China. In this study, we conduct our research based a Chinese company. What's more, in sharing economy, there still remains the critical problem of mutual trust between the participants and the service providers, who are usually strangers to each other. It is important for both the landlords and the tenants to think carefully about allowing a stranger in their houses or living in a stranger's house. In the housing market, tenants are faced with varieties of options, and their engagement is closely related to the future development of the platform. By investigating online short rentals market from the perspective of tenants, we can help landlords understand tenants' preferences when choosing a residence and put forward suggestions for landlord and platform to better meet tenants' requirements. This will be conducive to the long-term healthy development of online short rental. Therefore, this paper will mainly start from the trust theory to discuss the factors affecting the willingness of lessee to participate.

This paper proposes a research framework and conducts an empirical analysis on the tenants' participation willingness from the three dimensions of trust: ability, benevolence and integrity (Mayer et al., 1995). The data has two parts, the first part, collected from the one of the major online short-term rent platform in May 2017, contains the housing source information, landlord information and so on. The second part is the GDP data of cities at the municipal level and above in China collected from the bureau of statistics in 2016. Key variables include the number of housing list, real-name authentication information, sesame score offering information, online replay rates, average confirm time, order acceptance rate, type of housing, the appropriate numbers of people to live, housing Price, the related cities' GDP in 2016, order amount and comments. We take two steps to measure willingness to participant: (1) We choose the landlords who only have one listed house, and use the sales volume to indicate the tenant's willingness to participate. (2) We do not limit the number of listed houses, and use the number of reviews to represent the tenants' willingness to participate.

Results highlight that when the landlords have only one housing list: (1) regarding the effect of *integrity*: sales volume is negatively correlated with real-name authentication and positively correlated with sesame score; (2) regarding the effect of benevolence: online reply rate and average confirm time is positively correlated with sales volume; and (3) regarding the effect of ability: order acceptance rate is positively correlated with sales volume. When we don't limit the number of housing lists, results show that: (1) regarding the effect of *integrity*: real-name authentication and sesame score is positively correlated with comments; (2) regarding the effect of benevolence: comment number is positively correlated with online reply rate and negatively correlated with

average confirm time; (3) regarding the effect of ability: comment number is positively correlated with order acceptance rate.

Thus, we suggest that landlords can improve the trust of tenants by authenticating his/her real name and providing active and timely service to improve the tenant's participation willingness and obtain more economic benefits. In addition, the platform can include the landlord's personal characteristics that may affect trust, like online reply rate and the average confirm time and so on, into the housing list ranking rules. Therefore, not only tenants are more likely to have access to good landlords and thus have a good user experience, but also landlords can be motivated to improve service quality and ultimately promote the virtuous circle of platform ecosphere. Although many scholars have conducted research on online short rent, there are few relevant empirical studies in China, due to the differences between western and eastern culture, the factors affecting online short-term rent at home and abroad may be different. Through taking a major domestic online short-term rent platform as example, we can fill the gap in relevant domestic research and provide valuable advice for landlord and platform, which will have a profound impact on the healthy development of domestic online short rent.

Π . Literature Review

2.1. Sharing

Online short-term rent is one of the typical business models of the sharing economy. The concept of "sharing", has a long history and has been studied by scholars for many years. Belk (2007) defines it as "the act or process by which people give their

own things to others or use them from others". Benkler (2004) gives a more concise definition of sharing, which is a kind of non-reciprocal social behavior. Furthermore, some sociologist believe that "sharing" is the most basic form of economic distribution in human society for recent centuries (Avital et al., 2015; Price, 1975).

In 2010, Belk explores the generation and evolution of sharing economy from the perspective of the sharing nature, and distinguishes the sharing model from "gift giving" and "commodity exchange". Commodity exchange is generally based on money, and gifts giving, which is not required to be rewarded nominally, may actually have a process of mutual delivery. Only the sharing does not require any feedback. Therefore, sharing behavior will occur more among acquaintances, but much less with stranger. When sharing is expanded outside the family, it can involve either sharing out or sharing in. If the recipient feels they are part of the family, it called "sharing in" which is an inclusive act. If we provide some one-off items(i.e., extra change or some extra time) to strangers, sharing happens between strangers, which is called "sharing out".

In addition, Belk (2010) proposed many factors would affect people's sharing behavior, such as awareness of property rights, personal awareness and protection of their private space. Nowadays, with the development of some new channels (such as the Internet), many private boundaries have been broken and people are more and more involved in sharing. Provide an affordable place to live for those who do not own their own home and benefit from it which is essentially a commodity exchange for its own benefit. Therefore, "sharing" is an ancient human behavior, bur "sharing economy" is a product of the internet ear (Belk, 2014).

Robin Chase, the founder of Zipcar, has proposed

that the foundation of the sharing economy is overcapacity, sharing platforms, and everyone's involvement, that is: (1) the excess capacity around us the computers, the cameras, the dilapidated household items, etc. which are not used normally are everywhere. Compared to purchase new items, using these surplus resources can lower the cost without affecting the realization of the essential function. Besides, idle resources can be seen everywhere in our lives, therefore we don't need to spend a lot of time and effort to find, produce or invest a lot of resources; (2) Idle resources are everywhere but it is relatively difficult to find the proper one, therefore we need a platform to collect these rich idle resources and provide users with search services to ensure that users can obtain matching resources at a low cost, which makes sharing easier and easier; (3) In the matching process, the platform can allocate resources based on the user's personal characteristics, which can improve the utilization of excess resources, and ultimately transform it into social wealth. In this business model, the landlord can obtain rental income by sharing his idle housing resources, and the tenant can obtain more economical accommodation options than traditional hotels, the platform can secure certain transaction commissions, which can achieve a three-way win-win situation.

In the empirical aspect, many scholars have studied the consumer behavior, economic and social influence of the sharing economy. Social exchange theory argues that individuals tend to choose the scheme that maximizes their benefits based on their subjective judgment of costs and benefits and comparison of alternatives (Kim et al., 2015). Sharing platforms could reduce moral hazard and enables users to get better returns compared with traditional industries (i.e., ride-hailing, automobile, renting, et al.). About 30 percent of people in Nowak's study said they would rather not travel or stay outside for too long without Airbnb (Nowak et al., 2015). Guttentag and Smith (2017) also found that nearly two-thirds of people use Airbnb as an alternative to hotels. In the car market, research shows that sharing platforms reduce consumers' willingness to own a car by giving them an entirely new option. (Abhishek et al., 2017; Fraiberger and Sundararajan, 2015; Horton and Zeckhauser, 2016). However, trust and economic and social benefits are still a major factor in choosing sharing model (Kim et al., 2015). The power of platforms to reduce moral hazard and transaction costs is limited. For example, Uber drivers will still detour in cases of surged airport trips, while they generally do not detour and are more likely to follow the optimal route than taxi drivers (Liu et al., 2018). Therefore, trust in the sharing economy is still a very important and worthy point to study.

2.2. Online Short Rent

The sharing economy based on Internet platforms has received extensive attention in recent years (Li et al., 2016). Online short rent, as a typical form of sharing economy, has encouraged people to allocate their surplus resources to increase the overall social benefits. That is, through renting out idle housing resources, the utilization rate of houses is increased and the vacancy rate is reduced. On the one hand, tenants can get personalized and cost-effective accommodation services. On the other hand, landlords can get value-added income. According to the statistics of the National Bureau of Statistics, domestic tourism expenditures (such as transportation expenditure) reached nearly 60 million dollars in 2017, with a year-on-year increase of 12.8%, indicating that the tourism industry's rapid increase of the demand for accommodation (iResearch, 2017). Thus,

the demand for short-term accommodation also surge and facilitate the growth of the online short rent industry.

Compared with the domestic market, the development of foreign homestay industry has the following characteristics: (1) the cost performance is higher. Due to the relatively mature development of foreign homestays, landlords pay more attention to soft clothes and more diverse soft clothing styles. Therefore, consumers can enjoy personalized services and choices that are not available for hotels at the same price; (2) there is a higher acceptance of the short rent form. Because the western culture is more inclusive and emphasizes sharing, people usually have higher tolerance to accept strangers to live in their own homes. Moreover, compared with hotels, homestay can not only satisfy the needs of the guests' holiday accommodation but also satisfy their sense of belonging in the trip, providing a good user base in foreign countries; (3) the relatively mature credit system provides a guarantee for the sharing economy (iResearch, 2017).

The development of online short rent industry has been relatively mature in the western market. For example, Homeaway, founded in 2004, is dedicated to creating an online service website for holiday rentals. As the world's largest online short rent platform, Airbnb, established in 2008, earn profits by charging landlords and tenants a different percentage of service fees. In the domestic market, although the homestay industry started relatively late, it also experiences a rapid development and change. "Love Day Rent" is the first online short rent platform in China and was officially put into operation in 2011. Subsequently, similar products continued to go online. Since 2013, Tujia, Xiaozhu, and Ant Short-term rent have become the three biggest online short rent platforms in China.

However, there are also some problems remaining to be solved in the online short-term rent market. Firstly, the current level of social integrity and the credit system need to be improved. There is no uniform standard for the quality of the property, the quality of the property in the industry is very different, although the platform largely reduces the search cost caused by information asymmetry in the transaction, and it cannot completely solve the problems of adverse selection and moral hazard between landlords and tenants. Secondly, there is absent for legal regulations to supervise the online short rent industry, such as "second landlords" with extremely high legal risks, the validity of whether the property can be offered to strangers to obtain income in many cities has not been clearly determined. Thirdly, there still exists some problem such as sufficient supply of housing in some cities, when comes to the peak tourist season, the supply of housing is insufficient (Chao and Zan, 2014; iResearch, 2017).

Many scholars have done empirical studies about online short-term rent from different perspective. Firstly, as for as the platform, Liu and Mattila (2017) studied Airbnb's listing advertising strategy and came to the following conclusion: people with different perceptions of power (high or low) have different preferences for the way that Airbnb ads display. The sense of belonging embodied in advertising is more attractive to people with low power, while the uniqueness is more likely to attract high-powered people.

Secondly, from the perspective of landlord, research shows there are still 22% of the bookings were rejected by the landlord, and another 75% of the landlords had refused to take orders from tenants (Karlsson et al., 2017). Compared to traditional hotels, the online short-term rent is quite novel in its form. Therefore, it is obviously unreasonable to explain the landlord's (rejection of orders) from the per-

spective of economic benefits, the landlord's motivation to participate in P2P housing leasing is very broad, and the economic benefits can only represent a small part of the motivation of participation (Karlsson and Dolnicar, 2016). When the landlords make a decision, they will not only refer to aspects directly related to travel (scheduled days, travel purposes, travel teams, etc.), but also consider the individual characteristics of tenants (gender, age and other personal information, even whether wearing sunglasses or the like in the photo).

Thirdly, from the tenant's perspective, consumers are more willing to choose sellers with higher ratings and are willing to pays a higher price (Moreno and Terwiesc, 2014). Airbnb has also made a lot of attempts to improve the quality of the landlord's service, such as providing some owners with a "Superhost" badge. The "Superhost" badge does make the tenants more inclined to comment and give high scores, and these tenants are also willing to pay a higher rent for the superhost (Liang et al., 2017). However, Zervas et al. (2015) find that 95% of rooms on Airbnb received ratings of 4.5 and 5 stars, and after compared with TripAdvisor, there exists a significant difference. TripAdvisor's average star rating is 3.8 stars with a high level of differences in evaluation. In view of the above phenomena, the evaluation may be influenced by some of the following mechanisms: (1) Herding effect, which means that the previous evaluation (such as high score) may influence the subsequent consumers' scoring; (2) the two-way evaluation mechanism, that means when we evaluate the landlords, because the evaluation is based on both sides, one party may be worried about the other party's low score (retaliation), thus tenants tend to give the landlords a high score; (3) self-selection, that means the person who participates in the sharing economy itself is also more inclined to play higher scores.

Therefore, choosing strangers' house is still a considerable issue for tenant when he booking a listing. The online short rent platform provides the landlord with the opportunity to display their house, and provides the search function for tenants to obtain the housing that meets their needs, which solves the problem of information asymmetry in the traditional rental market in a sense. However, information asymmetry still exists in the online short rent market, and their access to the other party's information is limited. When tenants book a listing, trust is the foundation to conclude the transaction (Ert et al., 2016; Kim et al., 2015). Therefore, in this paper, we will mainly discuss the factors affecting tenant's participation willingness based on the trust theory.

2.3. Theory of Trust

Trust plays a key and complex role in almost all sharing economy interactions (Hawlitschek et al., 2018). Ert et al. (2016) investigated the impact of landlord photos displayed on Airbnb on tenant's selection. The research found that tenants will judge whether the landlord is trustworthy based on the landlord's photos, and users are willing to pay a higher price for this trust. Conversely, the impact of other tenants' evaluations and scoring on tenants does not seem to be obvious. Therefore, trust plays an important role in short-term rent market, but little related research has been done domestic.

In recent years, with the development of the Internet and the sharing economy, the issue of online trust has received extensive attention from the academic community. The concept of trust has been thoroughly discussed in sociology, psychology, management and other fields. Rotter (2010) suggests that trust is the expectation which establishes in a relation-

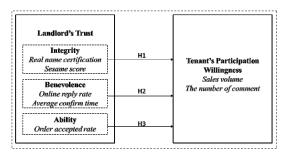
ship between the two parties. Mcknight et al. (2002) argue that trust is the degree of goodwill, ability, honesty that trust subjects demonstrate to trust goals.

The current research summarizes trust from the following two perspectives: (1) "existing cause" research. This type of research mainly explores the specific variables affecting trust, including the characteristics of the trusted party, the characteristics of the trustors and the characteristics of the interaction between the two parties; (2) "mechanism" research. From a theoretical perspective, this type of research mainly focused on how to build trust and the foundation to establish trust (Jin and Dong, 2004). From the perspective of tenants, trust includes trust in the platform and trust in the landlord. As a third party, the platform usually provides some policy mechanism to facilitate transactions.

In this study, we mainly want to know which factors of the housing list and landlord will affect the trust of tenants when they use the short rent platform for booking. Sztompka argues that a trustee's trustworthiness can be assessed by three criteria: reputation, performance, and appearance. Reputation is associated with record of past deeds, consistency of the record, and a certain unity of conduct over time. Performance refers to actual deeds, present conduct, and currently obtained results. Appearance is associated with one's look and self-presentation, which in offline contexts includes how people dress, bodily discipline and civility, as well as ascribed statuses (Sztompka, 1999). Mayer et al. proposed three attributes or characteristics for predicting the fiduciary trustworthiness: ability, benevolence, and integrity. Ability is that trustees (landlords) have the required skills and characteristics that enable them to be perceived as competent within a specific domain. Benevolence is that trustees (landlords) are believed to feel interpersonal care and concern and be willing to do good to trustors (tenants) beyond egocentric profit motive. Integrity is that trustees (landlords) are perceived to adhere to a set of principles that trustors (tenants) consider to make the trustees dependable and reliable (Mayer et al., 1995). Many studies have applied the three dimensions to assess trustworthiness of exchange partners in offline and online (Cheung and Lee, 2006; Colquitt and Rodell, 2011; Tussyadiah and Park, 2018). Therefore, in this study, we will also study which factors will affect the willingness of tenants to participate from the three dimensions of trust: ability, benevolence and integrity.

Ⅲ. Hypothesis Development

Based on the trust formation mechanism, we conduct an empirical study on tenants' participation from three: ability, benevolence and integrity (Mayer et al., 1995). Nowadays, marketers are increasingly looking at the number of "click", "Like", "comment" and "share" on social media like Weibo and Facebook, which represent different degree of participation and all have value for company decision. The consumers' participation behaviors in sharing economy include searching, browsing, booking, commenting, sharing and so on. Booking and comments are two important forms of participation and easy to observe, so we use sales volume and the number of comments to represent the tenants' participation willingness. And there have been found that the higher of tenant's trusting, the higher of his trusting intention, including booking, comment (Tussyadiah and Park, 2018). Besides, Kim (2010) found that goodwill trust has a positive impact on distributor-supplier e-partnership, and Lee (2014) found that affective trust has a positive relationship with purchase intention.



<Figure 1> Research Framework

Therefore, in this study, we use sales volume and the comment quantity of housing list to represent tenants' different levels of participation. When tenants successfully book a house, the sales volume of the house increases and the tenant participation increases; after the order is completed, the tenant can evaluate and comment the quantity of the consumption, which will also increase the user's participation. The specific research framework are as follows.

Integrity is that trustees (landlords) are perceived to adhere to a set of principles that trustors (tenants) consider to make the trustees dependable and reliable (Mayer et al., 1995). Colquitt and Rodell (2011) and Ridings et al. (2002) proposed that can measure the integrity of landlord from "the landlord is honest with his/her guests", "the host has sound principles". In the Internet world, there are many virtual, false and other unreal information interfering with people's judgment. Therefore, providing real name authentication is an effective signal to show the honest of the landlord. In addition, with the development of Alipay in recent years, sesame score as a new credit evaluation mechanism generates and gradually becomes popular. It reflect the level of a person's creditworthiness. Therefore, providing sesame is also an effective signal to show the honest of the landlord. From this premise, we have generated the hypotheses 1.

H1: landlord's Integrity (real name certification, the provision of sesame score) and tenant's participation willingness (order volume and the number of comments) are positively correlated.

Benevolence is that the expectation that hosts feel interpersonal care and concern and are willing to do good to guests beyond egocentric profit motive (Mayer et al., 1995). Colquitt and Rodell (2011) and Ridings et al. (2002) proposed that can measure the benevolence of landlord from "the landlord is concerned about the welfare of his/her guests", "the landlord cares about his/her guests' needs" and so on. In the booking process, the tenant only needs to communicate with the landlord by text or voice through the short rent platform, and they could carry out other affairs during this period. If the landlord has higher online reply rate and shorter average confirmation time, it means that the landlord timely responds to the problems of the tenant. In other words, he pays more attention to the needs of the tenant and more Benevolence. Therefore, we use the reply rate and the average of confirmation time to agent the benevolence. From this premise, we have generated the hypotheses 2.

H2: landlord's benevolence (the reply rate, the average of confirmation time) have a significant relationship with tenant's participation willingness (order volume and the number of comments). Specifically, the reply rate is positively correlated with the willingness, and the average confirmation time is negatively correlated with the willingness.

Ability is that trustees (landlords) have the required skills and characteristics that enable them to be perceived as competent within a specific domain (Mayer et al., 1995). Colquitt and Rodell (2011) and Ridings et al. (2002) proposed that can measure the ability of landlord from "the landlord is qualified", "the landlord is skilled", "the landlord is experienced", "the landlord is capable". And the research show that the order *accepted* rate could partly explain the ability of the landlord (Xuemei and Jiaojiao, 2016). Therefore we use order acceptance rate to agent the landlord's ability in this study. When the order acceptance rate is higher, the landlord's ability is stronger. From this condition, we have generated the hypotheses 3.

H3: landlord's ability (the order accepted rate) is positively correlated with tenant's participation willingness.

IV. Method

4.1. Data

There is large difference between Chinese culture and Western culture, China is a country which values interpersonal relationship, the trust between people is especially more complicated. Many foreign-funded enterprises are not always enjoying smooth development since they step into Chinese market, so many foreign research results may be not applicable in China, so choose a local Chinese company to conduct research and investigate the factors influencing trust between landlords and tenants. Our data consists of two parts, firstly, we collected data from the one of the largest online short-term rent website in May 2017, including the housing source information (such as price, type, the appropriate number of live, internal facilities, traffic conditions, pictures, etc.), the landlord information(such as head portraits, whether the real-name authentication, reply rate, etc.) and so on. The online short-term rent platform was launched and operated in August 2012. It is an accommodation sharing platform and is one of the earliest enterprises in sharing economy in China. The platform advocates living liberalism and is committed to building an honest and safe bilateral platform connecting tenants and landlords, providing tenants with more cost-effective, personalized, belonging and social accommodation options. With good market development ability and market coverage ability, it has become one of the four biggest short rent platforms in China at present (iResearch, 2017). The reason why we choose this platform as the research object mainly have the following reasons: Firstly, it started earlier in the domestic housing sharing field and has a certain user base; secondly, it is a strong enterprise in the online short-term rent market with industry representativeness. In addition, we collected the GDP data of cities at the municipal level and above in China by the bureau of statistics in 2016. After data preprocessing, the data used in the research covered 278 cities, with a total of 48408 housing list.

The number of comments per housing list in the data represents the comment's number of this list, but the number of booking per housing list in the data represents the aggregation of all orders of this list's landlord. So only when the landlord only has one housing list, the number of booking in the database represents the sales volume of the list. Therefore, our research is divided into two steps. Firstly, we choose the landlord who only has one housing list (there are total 11113 data) and analyze the relationship between the landlord's integrity, benevolence and ability and sales volume. Then, we choose the landlord without limitation (there are total 48408 data) and analyze the relationship between the landlord's integrity, benevolence and ability and the number of comment.

4.2. Variables

After finishing the data collection and pre-processing, the specific variables we used are as follows: the number of housing list (House_Num), whether the real name is verified (Identify), whether sesame is provided (ZMscore), online reply rates (ReplyRatio), average confirmation time (ConfirmTime), order

< Table 1> Variables and Variable Descriptions

Name	Description
Identify	Whether the landlord real name authentication, use 1 for true and 0 for false
ZMscore	Whether provide sesame score, use 1 for true and 0 for false
ReplyRatio	Online Reply rate
OrderRatio	Percentage of orders accepted
ConfirmTime	Average confirmation time(units: minute)
House_Num	Number of properties owned by the landlord
HouseType	Housing type,1 means whole house, 2 means room, 3 means bed, 4 means sofa.
Num_Consumer	Number of persons suitable live in
Price	Price of the housing list
GDP	GDP at the municipal city level and above in 2016(units: 100 million)
OrderSum	The total order, when housing list is equal to 1, it represent housing sales
NumComment	Number of comments

acceptance rate (OrderRatio), type of housing (HouseType), the appropriate number of living people (Num_Consumer), housing Price (Price), the housing city's GDP in 2016 (GDP), total order (OrderSum) and number of comments (NumComment). The variable descriptions involved are shown in <Table 1>.

Among these variables, the independent variables are "whether the real name is verified" and "whether sesame is provided", which represent the trust integrity of landlord, "online reply rate", and "average confirmation time", which represent the trust sincerity of landlord, and "order acceptance rate" which represent the trust ability of landlord. The dependent variable is divided according to the number of housing list. When the number of listed house is 1, the sales volume is the dependent variable. When the number of listed house is not limited, the number of comments is the dependent variable. Housing information (number, housing type, population suitable for living, housing price etc.al.) and urban economic indicators (2016 GDP) were used as control variables.

4.3. Model

Regression analysis is an effective analysis method to study the relationship between dependent variables and independent variables. It estimates the relationship between two or more variables. By using regression analysis, we can understand the relationship between independent variables and dependent variables clearly, as well as the influence of multiple independent variables on the same dependent variable. In this study, the dependent variables are continuous whether the number of housing list is limited to one or not. Therefore, we use Multiple Linear Regression Model to explore the relationship between the order quantity, the comment quantity and trust

integrity, benevolence and ability. The specific model is as follows:

$$OS = \beta_1 ID + \beta_2 ZM + \beta_3 RR + \beta_4 CT + \beta_5 OR + \alpha_1 + \varepsilon_1$$
 (1)

$$NC = \beta_6 ID + \beta_7 ZM + \beta_8 RR + \beta_9 CT + \beta_{10} OR + \alpha_2 + \varepsilon_2$$
 (2)

The research is divided into two steps. In the first step, we screen out landlords with only one housing list, and use the total order quantity to represent sales volume, we use formula 1 to analyze the relationship between them. In the second step, the landlord's hosing list is not limited, and formula 2 is applied for the analysis. Where OS (OrderSum) represents the sales volume of housing list, NC (Num_Comment) represents the number of reviews, ID (Identify) indicates whether the real name is certificated, ZM (ZMscore) indicates whether the sesame score is provided, RR (ReplyRatio) represents the online reply rate of landlords, CT (CofirmTime) represents the average confirmation time, OR (OrderRatio) represents the order acceptance rate, α_1 , α_2 are the intercept, and $\mathcal{E}_1,\mathcal{E}_2$ are the error term.

V. Results

5.1. When the Housing List is 1

Before conducting the multivariate regression analysis, we make a descriptive statistical analysis of variable, and the results were shown in <Table 2>. The correlation coefficient matrix was shown in <Table 3>.

And the results of multiple linear regression analysis are shown in <Table 4>. The following conclusions can be drawn:

(1) Integrity: the sales volume has a significant negative correlation with the real name certification

<table< th=""><th>2></th><th>Descriptive</th><th>Statistical</th><th>Results</th><th>when</th><th>the</th><th>Number</th><th>of</th><th>Listed</th><th>House</th><th>is</th><th>1</th></table<>	2>	Descriptive	Statistical	Results	when	the	Number	of	Listed	House	is	1

	(1)	(2)	(3)	(4)	(5)
VARIABLES	N	mean	sd	min	max
Identify	11,113	0.710	0.454	0	1
ZMscore	11,113	0.456	0.498	0	1
ReplyRatio	11,113	0.732	0.370	0	1
ConfirmTime	11,113	11.80	43.23	0	699
OrderRatio	11,113	0.540	0.428	0	1
Price	11,113	343.2	483.7	14	20,000
HouseType	11,113	1.231	0.462	1	4
Num_Consumer	11,113	3.635	1.988	1	10
GDP	11,113	11,245	9,235	100.7	27,466
OrderSum	11,113	14.54	38.11	0	911

< Table 3> The Correlation Coefficient Matrix (When the Housing List is 1)

	Identify	ZMscore	ReplyRatio	logConfirm Time	OrderRatio	logPrice	logGDP	HouseType	Num Consumer	logNum Comment	logOrder Sum
Identify	1										
ZMscore	0.585***	1									
ReplyRatio	0.258***	0.212***	1								
logConfirmTime	0.072***	0.082***	0.326***	1							
OrderRatio	0.223***	0.213***	0.565***	0.430***	1						
logPrice	-0.029***	-0.059***	0.041***	-0.026***	0.012	1					
logGDP	0.175***	0.168***	0.153***	0.106***	0.177***	-0.020**	1				
HouseType	0.064***	0.102***	-0.019**	0.025***	-0.053***	-0.452***	0.241***	1			
NumComment	-0.021**	-0.086***	0.036***	-0.048***	0.008	0.618***	-0.282***	-0.404***	1		
logNumComment	0.230***	0.233***	0.420***	0.282***	0.602***	-0.027***	0.235***	-0.006	-0.056***	1	
logOrderSum	0.157***	0.184***	0.400***	0.456***	0.593***	-0.061***	0.242***	0.01	-0.101***	0.835***	1

and a significant positive correlation with sesame point. The relationship between real name certification and sales is inconsistent with hypothesis 1.

(2) Benevolence: online reply rate has a significant positive correlation with sales volume, the lower the reply rate is, the worse the service attitude of landlords will be and the less sincere they are, which will reduce users' willingness to participate. In addition, the average confirmation time has a significant positive correlation with sales, therefore H2 is partially supported. The average confirmation time is the time needed for landlords to make the decision of accepting or rejecting the order. The shorter the time, the faster the landlord will make the decision, that is, the landlord will response to the tenant's order more quickly.

(3) Ability: the order accepted rate has a significant positive correlation with sales, so H3 is supported.

<table 4=""></table>	Regression	Result	when	the	Number	of	Listed	House	is	1

	(1)	(2)	(3)	(4)
	Model1	Model2	Model3	Model4
VARIABLES	logOrderSum	logOrderSum	logOrderSum	logOrderSum
Identify	0.226***			-0.0663**
	(0.0345)			(0.0272)
ZMscore	0.385***			0.140***
	(0.0315)			(0.0246)
ReplyRatio		1.036***		0.221***
		(0.0314)		(0.0328)
logConfirmTime		0.380***		0.245***
		(0.00888)		(0.00837)
OrderRatio			1.892***	1.368***
			(0.0244)	(0.0298)
logPrice				-0.104***
				(0.0197)
HouseType				-0.138***
				(0.0249)
Num_Consumer				-0.0292***
				(0.00674)
logGDP				0.144***
				(0.00928)
Constant	1.346***	0.409***	0.659***	0.0233
	(0.0236)	(0.0248)	(0.0168)	(0.122)
Observations	11,113	11,113	11,113	11,113
R-squared	0.038	0.279	0.352	0.428

5.2. When Housing List is not limited

The descriptive statistics was shown in <Table 5> and the correlation coefficient matrix was shown in <Table 6>.

Since the OrderSum is the total order quantity of all the list owned by the landlord, which cannot represent the willingness of tenant participation of the housing list. Therefore, we choose the comment number of housing list to indicate the degree of user participation. The higher the number of comments are, the higher the degree of participation

will be. Multiple linear regression was conducted and the result are shown in <Table 7>.

- (1) Integrity: real name certification and sesame score have a significant positive correlation with the number of comments, which is consistent with hypothesis 1.
- (2) Benevolence: online reply rate has a significant positive correlation with the number of comments, and the average confirm time has a significant negative correlation with comments, which is consistent with hypothesis 2.
 - (3) Ability: order accepted rate has a significant

< Table 5> Descriptive Statistical Results when Housing List is not Limited

	(1)	(2)	(3)	(4)	(5)
VARIABLES	N	mean	sd	min	max
Identify	48,408	0.754	0.430	0	1
ZMscore	48,408	0.517	0.500	0	1
ReplyRatio	48,408	0.841	0.272	0	1
ConfirmTime	48,408	9.116	34.67	0	699
OrderRatio	48,408	0.722	0.346	0	1
GDP	48,408	11,547	9,109	61.48	27,466
HouseType	48,408	1.230	0.460	1	4
Num_Consumer	48,408	3.327	1.837	1	10
Price	48,408	333.2	675.5	1	99,999
OrderSum	48,408	82.36	199.9	0	3,194
Num_Comment	48,408	4.035	9.551	0	205

< Table 6> The Correlation Coefficient Matrix (When the Housing List is not Limited)

	Identify	ZMscore	ReplyRatio	logConfirm Time	OrderRatio	logPrice	logGDP	House Type	Num Consumer	logOrder Sum	logNum Comment
Identify	1										
ZMscore	0.590***	1									
ReplyRatio	0.281***	0.217***	1								
logConfirmTime	0.016***	0.012***	0.238***	1							
OrderRatio	0.263***	0.224***	0.602***	0.318***	1						
logPrice	-0.011**	-0.015***	0.006	-0.010**	-0.035***	1					
logGDP	0.154***	0.136***	0.151***	0.075***	0.158***	0.039***	1				
HouseType	0.089***	0.091***	0.014***	0.024***	-0.025***	-0.394***	0.198***	1			
Num_Consumer	0.022***	-0.012**	0.033***	-0.031***	-0.001	0.572***	-0.175***	-0.350***	1		
logOrderSum	0.233***	0.234***	0.429***	0.266***	0.567***	-0.077***	0.237***	0.030***	-0.071***	1	
logNumComment	0.222***	0.208***	0.309***	0.102***	0.402***	-0.078***	0.216***	0.056***	-0.033***	0.589***	1

positive correlation with the number of comments, which is consistent with hypothesis 3.

VI. Discussion and Conclusion

This study analyzes what factors affecting the tenant's participation willingness from three dimensions of trust: integrity, benevolence and ability. The results show as follows.

From perspective of integrity, the sales volume has a significant negative correlation with the real name certification and a significant positive correlation with sesame point. When comes to the number of comments, the real name certification and sesame score have a significant positive correlation with the

<Table 7> Regression Result when Housing List is not Limited

	(1)	(2)	(3)	(4)
	m1	m2	m3	m4
VARIABLES	logNum_Comment	logNum_Comment	logNum_Comment	logNum_Comment
Identify	0.372***			0.132***
	(0.0133)			(0.0126)
ZMscore	0.248***			0.147***
	(0.0115)			(0.0106)
ReplyRatio		1.163***		0.293***
		(0.0172)		(0.0199)
logConfirmTime		0.0320***		-0.0270***
		(0.00463)		(0.00447)
OrderRatio			1.218***	0.931***
			(0.0126)	(0.0161)
logPrice				-0.156***
				(0.00817)
HouseType				-0.00377
				(0.0105)
Num_Consumer				0.0266***
				(0.00294)
logGDP				0.132***
				(0.00378)
Constant	0.481***	-0.136***	0.0105	-0.555***
	(0.00934)	(0.0152)	(0.0101)	(0.0517)
Observations	48,408	48,408	48,408	48,408
R-squared	0.059	0.096	0.161	0.210

number of comments. This may be related to the platform policy allowing the landlord to choose to accept or reject the order. From the landlord's point of view, the motivation to participate in online short-term rent is not only because of renting a house for economic benefits, but also the personal information such as the purpose of the tenant's travel, the number of days, and the gender age of the tenant will also affect the decision of the landlord. (Karlsson et al., 2017). Landlords with real name verified may have higher requirements for honesty than landlords

who do not have real names. Therefore, their requirements for tenants will be more stringent. They would rather sacrifice orders than accept those orders that are not recognized. The provision of sesame seeds is significantly positively correlated with sales volume, indicating that sesame seeds are recognized as an emerging credit system in the minds of users. What's more, in online short rent market, tenants who have real-name certifications are more consistent in their online and offline behaviors, and therefore are able to attract more tenants and get more comments. The landlord who provides the sesame branch, as explained above, presents credit points with strong personal privacy to more powerfully will convince the tenant to book the property.

From perspective of benevolence, online reply rate has a significant positive correlation with sales volume and the number of comments. The lower the reply rate is, the worse the service attitude of landlords will be and the less sincere they are, which will reduce users' willingness to participate. the average confirmation time has a significant positive correlation with sales and significant negative correlation with comments. The average confirmation time is the time needed for landlords to make the decision of accepting or rejecting the order. The shorter the time, the faster the landlord will make the decision, that is, the landlord will response to the tenant's order more quickly. The result was unexpected for the sales volume, it may be due to the fact that the landlord's housing with a long average confirmation time is ranked high, due to the herding effect and the Matthew effect in the Internet, the landlords whose sales volume is good are not worried about the vacancy of the house, and the confirmation duration is not very concerned, which results in a positive correlation between the average confirmation time and the sales volume of the property.

From perspective of ability, the order accepted rate has a significant positive correlation with sales and the number of comments. When deciding whether to accept the order, the landlord will consider not only the economic benefits but also the tenant's plan, personal characteristics, etc. Furthermore, the landlord will also make a decision on whether the housing list can meet requirements according to the tenant's accommodation time, number of guests, arrival time, travel purpose, etc. The higher accepted rate indicates that the landlord is more receptive

to the order, which will bring the psychological implication that the tenant's order is more acceptable. On the contrary, tenants are more likely to perceive the psychological implication that their orders will be rejected by landlords whose order accepted rate is low.

Based on above analysis, we believe that the landlord should verify the real name and provide sesame score. Although the authentication of real name is negatively related to the sales volume when the number of housing list is equal to one, the authentication is positively related to the number of reviews when the number is not limited. Therefore, it is necessary for the landlord to carry out the authentication of real name and provide sesame score, but if the sesame score is too low, it may have the opposite effect. In addition, Landlords can increase tenants' sense of sincerity by providing timely responses and quick confirmation. Through these measures, landlords can improve tenants' trust, thus enabling tenants to book and comment and ultimately more economic gains. Furthermore, the platform can include the landlord's personal attributes that may affect trust into the housing list ranking rules. On one hand, tenants are more likely to have access to good landlords and thus have a good user experience. On the other hand, it can motivate landlords to improve service quality and ultimately promote the virtuous circle of platform ecosphere. Besides, the platform could offer value-added services for landlord to improve their quality of service such as message subscription.

This study not only has the above practical significance, but also has the theoretical contribution. First, online short-term rent has attracted the attention recently years, consumers are willing to pay higher prices for houses with higher rating (Moreno and Terwiesch, 2014). This study supports the opinion of previous research and conducts empirical analysis from the three dimensions of trust integrity, benevolence and ability, and verifies the importance of trust in P2P rent market. Then, this study using large scale data from an online short-term rent platform is a supplement to the existing research and fills the gap in this field at home. At present, there are abundant empirical studies on online short-term rent abroad, but there are few empirical analyses in China. In addition, this research studies the influencing factors of tenants' participation willingness, and finally puts suggestions for landlords and platforms, which is valuable for the decision-making of landlords and platforms. However, there are also some limitations in this study: (1) Integrity, Benevolence and Ability are the personal characteristics of landlords. However, it is not only the attributes of landlords that affect the perception of tenants' trust, but also the platform mechanism, policies and so on. The study is only care about the landlords' personal attributes, and future research can focus on other dimensions. (2) The data used in the study did not include time-related variables, which led to the limitations of the study. Variables with time dimension can be collected in subsequent studies and analyzed by using panel data. (3) The tenant' behavior not only includes booking and commenting, but also browsing, collecting, sharing and so on. Using sales and number of comments to represent the participation of tenants in this study has some limitations. Later research can try to take the click volume, collection and forwarding into account.

<References>

- Abhishek, V., Guajardo, J., and Zhang, Z. (2017).
 Business models in the sharing economy: manufacturi ng durable goods in the presence of peer-to-peer rental markets. Social Science Electronic Publishing. http://dx.doi.org/10.2139/ssrn.2891908
- [2] Albinsson, P. A., and Perera, B. Y. (2012). Alternative marketplaces in the 21st century: Building community through sharing events. *Journal of Consumer Behaviour*, 11(4), 303-315.
- [3] Avital, M., Carroll, J. M., Hjalmarsson, A., Levina, N., Malhotra, A., and Sundararajan, A. (2015). The sharing economy: Friend or foe. *Thirty Sixth International Conference on Information Systems*, Fort Worth.
- [4] Belk, R. (2007). Why not share rather than own. Annals of the American Academy of Political & Social Science, 611(1), 126-140.
- [5] Belk, R. (2010). Sharing. Journal of Consumer Research, 36(5), 715-734.
- [6] Belk, R. (2014). You are what you can access: Sharing and collaborative consumption online. *Journal of Business Research*, 67(8), 1595-1600.

- [7] Benkler, Y. (2004). Sharing nicely: On shareable goods and the emergence of sharing as a modality of economic production. Yale Law Journal, 114(2), 273-358.
- [8] Botsman, R., and Rogers, R. (2011). What's mine is yours: The rise of collaborative consumption. Harper Business.
- [9] Chao, L., and Zan, Z. (2014). Research on the development path of "Sharing Economy" in China-Taking online short-term rent as an example. Modern Management Science, 10, 36-38.
- [10] Cheung, C. M., and Lee, M. K. (2006). Understanding consumer trust in Internet shopping: A multidisciplinary approach. *Journal of the American society for Information Science and Technology*, 57(4), 479-492.
- [11] Colquitt, J. A., and Rodell, J. B. (2011). Justice, trust, and trustworthiness: a longitudinal analysis integrating three theoretical perspectives. *Academy* of *Management Journal*, 54(6), 1183-1206.
- [12] Ert, E., Fleischer, A., and Magen, N. (2016). Trust and reputation in the sharing economy: The role

- of personal photos in Airbnb. Tourism Management, 55, 62-73.
- [13] Fraiberger, S. P., and Sundararajan, A. (2015). Peerto-peer rental markets in the sharing economy. Social Science Electronic Publishing. http://dx.doi.org/10.21 39/ssrn.2574337
- [14] Guttentag, D. A., and Smith, S. L. J. (2017). Assessing Airbnb as a disruptive innovation relative to hotels: Substitution and comparative performance expectations. International Journal of Hospitality Management, 64, 1-10.
- [15] Hawlitschek, F., Notheisen, B., and Teubner, T. (2018). The limits of trust-free systems: A literature review on blockchain technology and trust in the sharing economy. Electronic Commerce Research and Applications, 29, 50-63.
- [16] Horton, J. J., and Zeckhauser, R. J. (2016). Owning, using and renting: Some simple economics of the "Sharing Economy". Social Science Electronic Publishing. http://dx.doi.org/10.2139/ssrn.2730850
- [17] iResearch (2017). China online short-term rental industry research report.
- [18] Karlsson, L., Kemperman, A., and Dolnicar, S. (2017). May I sleep in your bed, Getting permission to book. Annals of Tourism Research, 62, 1-12.
- [19] Karlsson, L., and Dolnicar, S. (2016). Someone's been sleeping in my bed. Annals of Tourism Research, 58, 159-162.
- [20] Kim, L. B. (2010). A trust model in a distributor-supplier e-partnership: The mediating role of perceived risk. Asia Pacific Journal of Information Systems, 20(4), 1-23.
- [21] Lamberton, C. P., and Rose, R. L. (2011). When is ours better than mine? A framework for understanding and altering participation in commercial sharing systems. Social Science Electronic Publishing, 76(4), 109-125.
- [22] Lee, J. (2014). Dual effect of price in e-commerce environment: Focusing on trust and distrust building processes. Asia Pacific Journal of Information Systems, 24(3), 393-415.
- [23] Li, Z, Hong, Y., and Zhang, Z. (2016). Do on-demand

- ride-sharing services affect traffic congestion? Evidence from uber entry. Social Science Electronic Publishing. http://dx.doi.org/10.2139/ssrn.2838043
- [24] Liang, S., Schuckert, M., Law, R., and Chen, C. (2017). Be a "Superhost": The importance of badge systems for peer-to-peer rental accommodationns. Tourism Management, 60, 454-465.
- [25] Liu, M., Brynjolfsson, E., and Dowlatabadi, J. (2018). Do digital platforms reduce moral hazard? The case of Uber and taxis. NBER Working Paper No.25015.
- [26] Liu, S. Q., and Mattila, A. S. (2017). Airbnb: Online targeted advertising, sense of power, and consumer decisions. International Journal of Hospitality Management, 60, 33-41.
- [27] Mayer, R. C., Davis, J. H., and Schoorman, F. D. (1995). An integrative model of organizational trust. Academy of Management Review, 20(3),709-734.
- [28] McKnight, D. H., Choudhury, V., and Kacmar, C. (2002). Developing and validating trust measures for e-commerce: An integrative typology. Information Systems Research, 13(3), 334-359.
- [29] Moreno, A., and Terwiesch, C. (2014). Doing business with strangers: Reputation in online service marketplaces. INFORMS, 25(4), 865-886.
- [30] Ozanne, L. K., and Ballantine, P. W. (2010). Sharing as a form of anti-consumption? An examination of toy library users. Journal of Consumer Behaviour, 9(6), 485-498.
- [31] Price, J. (1975). Sharing: The integration of intimate economies. Anthropologica, 17(1), 3-27.
- [32] Ridings, C. M., Gefen, D., and Arinze, B. (2002). Some antecedents and effects of trust in virtual communities. Journal of Strategic Information Systems, 11(3-4), 271-295.
- [33] Rotter, J. (2010). A new scale for the measurement of interpersonal trust. Journal of Personality, 35(4), 651-665.
- [34] Sztompka, P. (1999). Trust: A sociological theory. Cambridge, Cambridge University Press.
- [35] Tussyadiah, I. P., and Park, S. (2018). When guests trust hosts for their words: host description and trust in sharing economy. Tourism Management,

- 67, 261-272.
- [36] Xuemei, X., and Jiaojiao, S. (2016). An empirical study on the formation mechanism of consumer trust under the shared economy. *Technology Economics*, 35(10), 122-127.
- [37] Yufang, J., and Dahai, D. (2004). Empirical research
- on the influencing factors of consumer trust-based on process perspective. *Management World*, 7, 93-99.
- [38] Zervas, G., Proserpio, D., and Byers, J. (2015). A first look at online reputation on Airbnb, where every stay is above average. *Social Science Electronic Publishing*. http://dx.doi.org/10.2139/ssrn.2554500

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