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A Research on the Influential Factors of Listing Sales Based on

Online Information in Short Rental Markets

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Abstract: Recent years,sharing economy as a new business model has developed very well in the whole world and the online marketplace for peer-to-peer accommodation rental services such as XiaoZhu change people's life a lot.With the development of social media and information technology,consumers can not only pubulish text comments but also can share the photos taken by them on the paltform as a supplement.In order to study the impact of online information on the sales volume of houses under the background of sharing-economy, we collect data from XiaoZhu and use the correlation analysis and regression analysis. This research provides a new perspective for the sharing research and foucuses on China's online short-term rental market. The result shows that the total number of online reviews, the number of picture comments and the price have significant effects on home sales.

Keywords: sharing economy,short rental markets,online information, home sales

1. INTRODUCTION

As an important branch of the shared economy,online short-term retal service has brought great changes to people's live.Compared to the standard hotel accomodation,online short-term rental services make use of idle resources to provide multiply houses to meet different needs of tenants such as economic needs and social needs[1]. This new business model has its own unique features and strong competitiveness in rencent years.

Online short-term retal service is a new concept which is different from traditional tourist accommodation industry in a shared economic environment.Traditional hotel accomodation industry has been unable to fully meet the needs of individual users while online short-term retal service fill the gap in this market.Online short-term retal industry originated in th United States and the huge success of HomeAway and Airbnb indicates a bright future of the short retal industry.

China has become an important market in global sharing economy and people are increasing accepting the concept of sharing.XiaoZhu is a peer-to-peer platform. Levitt(1981) said that this marketplace offered intangible expericenced goods and the sellers are the coproducers of the service experience[2].Consumers cannot judge the real quality of renting an apartment on XiaoZhu before they start using the service[3].

Online information offers encough help to consumers when they need to make purchase decision.They can browse the web page to get useful message such as price and location of the house.With the development of review system, online user reviews have become an important source of information for consumers too[4].They will be affected by the comments posted online about the consumption expericence.Given to the important impact of online user reviews on potential consumer shopping decisions,XiaoZhu's online feedback system encourages consumers to comment and communicate.Especially, they can upload the actual photos to increase the authenticity and credibility of their words.

The realization of the picture comments not only enhances the dimension of the comment system, but also provides consumers with further decision-making information so that the online comments can add more value

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to potential customers[5]. At the same time, due to the picture comments to further restore the real products and service quality of merchants, it has played a supervisory and supervisory role in the uneven quality of products and services available to online merchants.

This paper will investigate the impact of online information upon buyers＇behavior use the data collected from XiaoZhu and provide useful information and pracitcal suggestions for the shorr-term retal services like XiaoZhu.

2. LITERATURE REVIEW AND HYPOTHESIS

2.1 Short rental markets

The most crucial factor that motivates people to start participating in the shared economy is cost. People may consider the cost factor when they book a room on short-term rental platform and researchers have made a great of reseraches on this issue. Huang(2009) said that when consumers purchase products especially pratical products, the price of products palyed a role in influencing the purchasing decision[6]. Wang & Nicolau(2017) said that a key dimension of the hospitality industry is pricing[7]. They identified the price determinats of sharing economy based accommodation offers in the digital marketplace.

H1: Housing price has a significant negative impact on home sales.

XiaoZhu as a typical representative of the C2C model provides an experiential product. When consumers purchase experiential service products in the network environment, the impact of information on decision-making will be even more significant[8]. XiaoZhu allows tenants to evaluate the overall experience of the property to reflect the user satisfaction with the availability. Zhang et.al(2013) found that the scores were siginificantly related to future sales by reseraching sales information on digital cameras on Amazon[9]. Zhang(2014), who reviewed the online data of restaurants on the mass audience, found that restaurant ratings had a siginificant impact on consumers＇choice and consumption[10].

H2: Housing overall grade has a significant positive impact on home sales.

2.2 Online reviews and picture comments

In order to serve consumers better and enable consumers to capture useful information within a short period of time ,the network evaluation system has developed a wide range of ratings in addition to the text message function so that visitors can be more fully evaluated by the customers who purchase the products information of products.Anderson(1998) found that extremely satisfied and extremely dissatisfied customers were more likely to become spontaneous word-of-mouth communicators[11]. Online consumer reviews are both information providers and product recommenders and offer important information to consumers when shopping online. Zervas(2015) made a research on the impact of online reviews＇timidity and the number of reviews on the sales of new products from the perspective of information providers[12]. Many scholars also studied from the attributes of comments which included usefulness, credibility, informational and persuasiveness. Mudambi and Schuff(2010)examined the factors that influence the usefulness of a comment when consumers make purchasing decisions[13]. Based on the theory of information economics, the experimental conclusion shows thar the product category can adjust the process of the extreme comments. Withe the development of internet technology, online comments system perfect the functions and constmers can make picture comments on the products.Herring and Dainas(2017) further concluded that simple picture comments on products and text comments have no difference on the perception of coustomers across different product categories[14].This conlusion was closely related to the selection of the picture comments and the conclusion does not have extensive praticablity so the impact of image comments has yet to be researched.

H3: The number of online reviews has a significant positive impact on home sales.

H4: The number of picture comments has a significant positive impact on home sales.

H5: Sunburn rate has a significant positive impact on home sales.

3.   RESERACH DESIGN

3.1 Research object

XiaoZhu was established in 2012. It is a typical C2C paltform in China which provides costomers with different humane,family-friendly,diversified and cost-effective accommodation options by displaying the idle resources of the landlord on the online platform.Various types of houses,including family apartments,special folk,holiday villas and other personalized short rental acconmmodation products are offered to five million active costomers in more than 300 cities across the country.

As a platform offered by information exihibition and online booking between consumers and landlords, XiaoZhu gradually improves the real-name authentication mechanism, personal credit supervision mechanism and property protection in oder to fully and effectively utilize the idle resources and provide bilateral service for platform users. Consumers can browse the homepage's basic structure, ratings and location information through the selected homepage and settled time of checking in while the detail information can be viewed by clicking on the detailed homepage[15]. Simiarly to other online platforms, XiaoZhu provides with the information feedback system so that consumers can score accoriding to the accommodation experience on the aspects of cleanliness, safety, cost performance, description of compliance, traffic convenience and so on, and make an object evaluation. At the same time, consumers can also upload actual photos as supplementary. By online comments, cosumers can get more realistic housing information before they make the purchase decision.

3.2 Data collection

This research selected housing source data of XiaoZhu as the research object and collected houding data of five cities like Hangzhou, Shanghai, Guangzhou,Xi'an and Chengdu until November 2017. This reaserach mainly focus on the impact of sales in the aspects of the number of online reviews, the number of picture comments, sunburn rate, price and the ovearall grade.

On the paltform of XiaoZhu, there are mainly three kinds of housing resouce including complete set, single room and shared rooms while the number of shared rooms is about only fourty suits and take a tiny part. So this reserach chosse the complete set and single room these two main product type. And in XiaoZhu, a landlord may have mutiple listings but the total orders showed on the host profile did not distinguish between each room inventory. In the same period of time, multisource landlord may have much more oders coompared to those single-source landlord and may have impact on the final reserach results[16]. The length of the registration time will also affect the sales data and the housing source may have more orders if they are earlier registered[17].Combine the above data processing steps, there are 477 listings crawled by availabilty of Python programs and processed by the tool of SPSS.Table1 shows the description and descriptive statistics of the data.

Table 1. Variable description and descriptive statistics

Variable name	Variable description	Average	Maximum	Minimum	Std
total_order	Total number of house orders	83	996	7	100.47
num_com	Total number of online comments	32	209	4	31.96
num_pic	Total number of online picture comments	7	56	0	7.95
grade	The overall scores	4.94	5	4.5	0.10
price	Present house price	271	1288	66	147.31
sunburrn rate	The rate of picture comments on total comments	0.23	0.91	0	0.16

4. ANALYSIS

4.1 Correlation analysis

From the results of the correlation analysis, there is a significant positive correlation between the total number of comments and total orders. The correlation between the total picture comments and total orders and the correlation between house price and total orders are also show significant positive. Overall score and baskets rate do not have siginicant correlation with total orders.The results are shown as the following Table2.

Table 2. Correlation analysis

	total_order	num_com	num_pic	grade	price	sunbum rate
total_order	1					
num_com	0.781**	1				
num_pic	0.504**	0.592**	1			
grade	-0.045	-0.015	0.431*	1		
price	0.052	0.006	0.110	0.148*	1	
sunburn rate	-0.205**	0.007	0.082	0.122*	-0.045	1

4.2 Regression analysis

In order to futher explore the impact on house saling, we use regression test to check the relationship among data.Before the regression analysis, we first conducted a multi-conlinearity test on the variables and the results show that the VIF values(variance expansion factors) of all the variables are far less than 10, and there is no multicolinearity in the model. The established regression model is suitable and effective. Regression analysis results are shown in the following Table3:

Table3. Regression analysis

Variable	cofficient	Standard deviation	T value	Sig	VIF
num_com	0.463	0.058	5.357	0.000	2.926
num_pic	0.326	0.043	3.554	0.000	3.296
grade	-0.140	0.066	-1.203	0.129	1.578
price	-0.045	0.068	-0.870	0.386	1.047
sunburn rate	-0.062	0.041	-2.975	0.018	1.037

The number of comments(β =0.463，p=0.000) and the number of picture comments(β =0.0.326，p=0.000) have a significant impact on the sales volume, that is, the larger the the number of comments and the number of picture comments, landlords get much more house orders. This results support the hypotheses H3 and H4. The house price(β =-0.062，p=0.018) alse have a significant negative impact on the sales volume. That is, the higher the price of the house,the fewer orders the landlord can get, which is consistent with the law of actual market conomy. The price and demand in a negative correlation so that the hypothesis H1 is supported. From the view of sunburn rate(β =-0.140， p>0.05), sunburn rate which means that the rate of picture comments in total online comments does not have a significant impact on sales growth so that the hyphothese H5 is not supported. Consumers may pay more attention to the number of comments and wonder is there any picture comments about products but they have less attention to the proportion of the number of picture comments. While the overall grade(β =-0.045，p>0.05) didi not pass the significance test so that hyphothese H2 is not supported. Through the analysis of actual dada, consumers can upload their evaluation in the form of grades according to the consumption experience. The higher the socre means the better the consumption experience,but in the reality, consumers prefer give great grades. Regarding the research data, the average of score is 4.94 and the miniimum is 4.5 while the full marks is 5. This shows that on the paltform of XiaoZhu, consumers' experience scores do

not make a big difference and in this condition, other consumers can not rely solely on socring data to make purchasing decisions.

5. GENERAL DISSCUSSION

This article chooses XiaoZhu as the research object which is the represent of short-rent sharing platform in China to explore the impact of online information such as reviews on the sales volume of houses. Research shows that the review data has the most significant impact. Housing orders will be much more if the total numbers of comments and picture comments are higher. At the same time, the price will also have an impact on sales while the overall score does not significantly affect it.

The specific discussion and guidance on the management of accomodation and the management of Internet platforms can be explored from the following three aspects:

Firstly,platforms and merchants need to place a high value on the number of online reviews in order to attract potential users. The number o f reviews is the most intuitive indicator of the popularity of the product and the greater the cumulative number of reviews, the more popular among customers. Previous studies also show that the cumulative amount of comments on products have a positive impact on its' slaes. As a rapidly developing new industry in sharing economy, XiaoZhu should pay more attention to consumer comment mechanism and provide potiential users with more realistic and valuable information. From the perspective of the landlord, they should pay more attention to communication with users and encourage users to timely upload housing evalution. On the one hand, this can solve the existiong probles in housing more intensively, on the another hand, this can attract more potential users to increase the housing income.

Secondly, the resluts of this study shows that the picture comments have a great influence on the sales of houses. Users can upload the actual taken photoes at the same time when they make the comments and grade the service so that they can give more vivid description of the literal expression. Potential users can make the judgement between picture comments and description of the house from owners and get more highly trust on the housing resource. Therfore, platforms and landlords should encourage consumers to upload reviews while upload more actual taken photos to increase the rate of unboxing to attract potential users.

Thirdly, housing price is also an important part of consideration when consumers choose short-term rental house. Previous studies show that travelers' participation in accommodation is mainly due to cost savings(economic attractiveness) and longing for local social relations(social attractive). According to the data of XiaoZhu, users are more sensitive to the price and when they have to make choices, they preper to consider the impact of housing price. Therefore, landlord should pay more attention to market feedback when they make pricing decisions and provide more attractive listing price on the foudation of high quality to expand consumer groups.

6. CONCLUSIONS

This article did not select the more familiar and more mature representative in online short-term rental industry like Airbnb but combined with the actual situation of China's domestic economy and the development of online short-term rental industry to choose XiaoZhu whose number of consumers and the condition of deal sum are on the top lines in China. The result shows that the total number of online reviews, the number of picture comments and the price have significant effects on home sales. This research make up for the blank of domestic short-term online industry to help researchers have deeper understanding of Chinese consumers'consumption choices. But the downside is that in the process of capturing and using panel data, only the data of several cities are selected and the reserach data of urban data of other more prosperous regions are lacking. This article only studies the impact of sales volume on the online short-term rental market form total

number of reviews, picture comments and onther quantitiative aspects, in the futher studies should consider the in-depth impact of image quality and graphic description consistency on sales volume.

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