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Digital trust in the sharing economy

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Abstract

Since its emergence, the sharing economy has maintained a sustained and rapid development, bringing trans-formative innovations and challenges in various traditional industries, such as shared travel and shared accommodation. The sharing economy is a social and economic ecosystem that matches the demand with the idle resources and cognitive surplus of a large number of scattered individuals or organizations through the network technology platform as an intermediary. However, the establishment of laws and regulations compatible with the sharing economy lags behind business practices, and the outbreak of many negative events will destroy the trust and confidence of participants in the sharing economy, thereby affecting their willingness to participate. How to ensure the sustainable and healthy development of the sharing economy is very important. Much research literature on online trust shows that trust plays a key role in reducing the complexity of online transactions and promoting successful online transactions. However, since the establishment of trust depends on the situational factors of exchange activities, there will be differences in the influencing factors and mechanisms of trust establishment in traditional commercial activities, e-commerce, and sharing economy. Therefore, it is of great theoretical and practical significance to study the trust building mechanism under the new scenario of sharing economy.

Keywords: Sharing economy, Airbnb, Trust transfer, Visual-based trust

Jel codes: B55, D16, Q55



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1. Introduction

1.1 Statement of the problem

In the era of sharing, digital knowledge and information have become key production factors, and the digital economy, represented by modern information networks and cloud computing and big data analysis technology, plays an important driving role. The current digital economy has penetrated into all aspects of human production and life, constantly integrating and innovating industries. The construction and promotion of online trading platforms, as well as the widespread application of digital technology in the fields of production, distribution, exchange, and consumption, have directly promoted the emergence of various new formats and business models in the sharing economy, promoted economic and transformation and upgrading, and brought earth shaking changes to future business operation models and people's lives.

The sharing economy refers to a new economic model in which the main purpose of obtaining certain compensation is based on strangers and the temporary use of the right to use articles. Its essence is to integrate idle goods, labor, education and medical resources. Some also say that the sharing economy is that people enjoy social resources fairly, and each pays and benefits in different ways to jointly obtain economic dividends. This kind of sharing is more realized through the Internet as a medium. We focus on Airbnb because Airbnb may be the most prominent example of the travel- related sharing economy business. Airbnb is a market platform through which individuals (" landlords") rent out their own living space to other individuals ("customers") who seek accommodation short- term. There are now 1 million people staying on Airbnb every month" (Friedman, 2014). Airbnb is becoming an important player in the accommodation market. Guttentag (2015) examines Airbnb's disruption of the traditional accommodation market through disruptive innovation theory Potential. In fact, Zervas, Proserpio and Byers (2014) found that Airbnb is already challenging the traditional hospitality industry. Their estimates suggest that for every 1 % increase in Airbnb listings, hotel quarterly revenue will be lost by 0 . 05% . Tussyadiah And Pesonen (2015) suggested that the use of online accommodation may not only affect the accommodation market, but also affect the way consumers travel.

The emergence of the shared short lease economy has reduced market transaction costs and the role of intermediaries for producers; For consumers, it brings convenience and saves expenses. This more free trading mode compared to the traditional economy has to some extent improved the efficiency of economic operation and resource utilization.

In this study, we would like to find factors and their effects that contribute to the current normal of sharing economy. The sharing of accommodation is a good study of sharing economy because the percent of idle time, product value and, in consequence, latent hidden value are high thus making the results obvious for academic analysis.

1.2 Objective of the study

We will use Airbnb test trustworthiness of sellers from their photos ,self-description , online review , platform ratings can affect consumers choices in sharing economy market. It is almost impossible for two strangers to trust each other for currency transactions,so trust and reputation are crucial to the sharing economy. In fact, the face is one of the most important environmental sources of social information. Sometimes even showing only personal photos can promote trust.The sharing economy website provides more information by making extensive use of the seller' s personal photos as a means. Identity verification and emphasis on personal,social and interpersonal awareness. Services are intangible goods, so they cannot be verified before consumption. Therefore, the person providing the service becomes an important part of the experience. An example is the experience of Mike Silverman, who was attacked by the Airbnb host Rottweiler during his stay and lived in Salta, Argentina for two nights (Lieber, 2015a) . As the example shows, the nature of the travel service experience and the facts it exposes consumers risk making trust and reputation the right key operations in the sharing economy business. To promote online trust, the sharing economy website provides photos of sellers who obtain more information through the widespread use of personal information as a means of identity verification (Liu, 2012) . To emphasize personal, social, and human contact (Botsman Rogers, 2011 ; Tussyadiah & Pesonen, 2015) . On Airbnb, the photo of the room layout is next to the photo of the landlord, while verifying the identity of the landlord and cultivating the feeling of personal encounter.

1.3 Definitions

Sharing economy: refers to a new economic model in which the main purpose of obtaining certain compensation is based on strangers and the temporary use of the right to use articles.

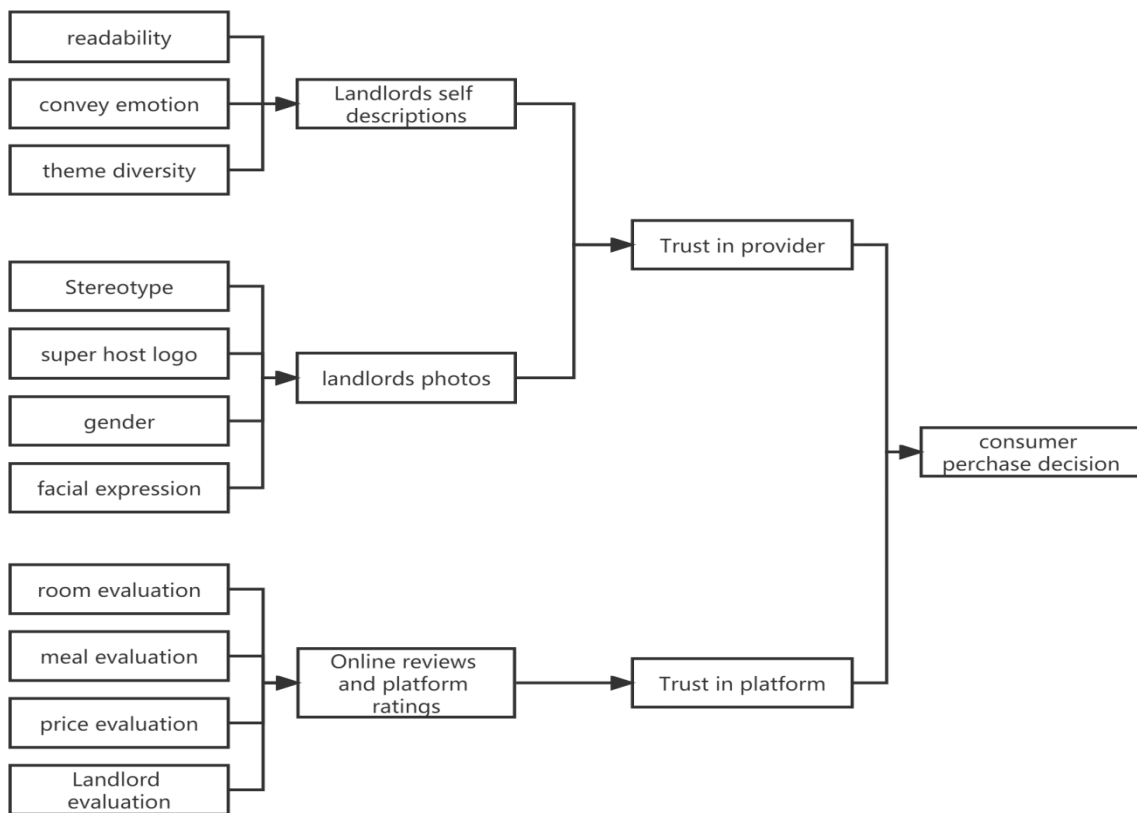
Airbnb : Airbnb is a marketplace platform through which individuals (‘ hosts’) rent a living space they own to other individuals (‘guests’) who seek accommodation on a short- term basis.

Visual- based trust : Customers make accommodation choices based on photo trustworthiness

Trust transfer: refers to the trust of a certain subject will affect the trust perception of other related subjects. In the sharing economy model, due to the limitations of information about products or services obtained by consumers, people will be more inclined to solicit opinions from friends or other users they trust, thus creating a process of trust transmission. The process of trust transfer involves three main roles: trustee, trusted person and third party. The trustee needs to judge whether the trusted person is credible. The trusted person is the party who conducts the trust evaluation of the trusted person, and the third party acts as an intermediary.

Trust: Trust is the necessary basis for human social communication activities. If there is no basic trust between people, any communication behavior cannot be realized (Granovetter, 1973). Fukuyama (2016) pointed out that all economic activities are realized through groups rather than individuals, "Groups are generated on the basis of mutual trust, that is, all economic activities are based on trust. Luhmann (1979) believes that , trust is to simplify due to the complex social mechanism, trust is a risk-taking behavior in the context of risk awareness (Luman, 2005). Zheng Yefu (2015) pointed out in the book "Trust Theory", "Trust must play its social role. To play a role, we must first play its psychological role. The role of trust in the human psyche is to simplify. Without simplified mechanisms, humans would be overwhelmed. Sztompka (1999) pointed out that "risks of all kinds, including trust risks, are indeed pervasive and permanent features of human society" and that "risks are related to the growing importance of trust as a method of taming risk and coping with uncertainty". Any risk prevention measures are incomplete. It can be understood that people live in a risk society and there is no risk-free exchange behaviour.

2. Data & Methodology



2.1 Data

Questionnaire

1: Use Questionnaire Star to conduct a survey(CHINA apps)

2: Set up questionnaire screening questions, if you have not used airbnb to stay in a homestay, you will not be able to participate in the questionnaire survey(target for collect data : People who have stayed in a homestay)

3: Collect survey results to prove data validity

Questionnaire collection results

Sample size 272

2.2 Propositional hypothesis

Hypothesis 1: Landlord self-description has a positive impact on customer trust

Hypothesis 2:The more attractive and happy the host 's photos are, the more customers trust them

Hypothesis 3: Online reviews and platform ratings will affect consumers' trust

2.3 Method

(1) Reliability test

Table 1. Reliability Statistics

scale	Cronbach's Alpha	N of Items
Landlord self description	0.848	3
landlord photos	0.857	6
Online Reviews and Platform Ratings	0.853	3
trust	0.820	3
General Questionnaire	0.874	15

It can be seen from the table that the reliability coefficient of the scale items is relatively high, so the survey data is considered to be relatively reliable.

(2) Validity analysis

Table 2. KMO and Bartlett's Test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.860
Bartlett's Test of Sphericity	Approx. Chi-Square	1900.648
	df	105
	Sig.	0.000

The KMO value is greater than 0.7, the significance of the Bartlett sphericity test statistical value is $0.000 < 0.01$, and the data is considered suitable for factor analysis.

Table 3. Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% Variance	ofCumulative %	Total	% Variance	ofCumulative %	Total	% Variance	ofCumulative %
1	5.599	37.326	37.326	5.599	37.326	37.326	3.431	22.872	22.872
2	1.865	12.434	49.760	1.865	12.434	49.760	2.378	15.856	38.728
3	1.652	11.012	60.772	1.652	11.012	60.772	2.356	15.705	54.433
4	1.388	9.255	70.027	1.388	9.255	70.027	2.339	15.594	70.027
5	0.636	4.240	74.267						
6	0.599	3.997	78.264						
7	0.545	3.632	81.896						
8	0.452	3.015	84.911						
9	0.398	2.653	87.564						
10	0.369	2.458	90.022						
11	0.348	2.318	92.340						
12	0.319	2.124	94.464						
13	0.300	2.000	96.464						
14	0.272	1.813	98.277						
15	0.258	1.723	100.000						

Extraction Method: Principal Component Analysis.

Table 4. Rotated Component Matrix^a

	Component			
	1	2	3	4
Landlord self description1			0.837	
Landlord self description2			0.847	
Landlord self description3			0.862	
Landlord photo1	0.676			
Landlord photo2	0.720			
Landlord photo3	0.699			
Landlord photo4	0.746			
Landlord photo5	0.749			
Landlord photos6	0.753			
Online reviews and platform ratings1		0.863		
Online reviews and platform ratings2		0.857		
Online reviews and platform ratings3		0.845		
Trust1				0.827
Trust2				0.822
Trust3				0.777

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

In summary, each measurement item of the questionnaire is divided into four aspects, and the effect of factor analysis is good. Each index has passed the KMO and Bartlett test, and the variance explained by the extracted factors is greater than 60%, and the loading of each factor is greater than 0.5. The dimension division is distinguishable, and the items under the same dimension are consistent, so it meets the requirements, indicating that the data Has good validity.

Table 3. Frequency analysis

Frequency		Percent	Valid Percent	Cumulative Percent
Valid	Male	134	49.3	49.3
	Female	138	50.7	50.7
	Total	272	100.0	100.0

Descriptive analysis

Table 4. Descriptive Statistics

Mean	Std. Deviation		N
Trust	3.338	1.0463	272
Landlord self description	3.544	0.6965	272
landlord photos	3.410	0.6932	272
Online Reviews and Platform Ratings	3.441	0.9723	272

It can be seen from the above table that the scores in all aspects are higher, indicating that the subjects are more likely to accept this.

regression analysis

Table 5. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.535a	0.287	0.279	0.8886

a. Predictors: (Constant), Online reviews and platform ratings, host self description, host photos

Table 6. ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	85.052	3	28.351	35.906	0.000 ^b
	Residual	211.608	268	0.790		
	Total	296.660	271			

a. Dependent Variable: Trust

b. Predictors: (Constant), Online reviews and platform ratings, host self description, host photos

Table 7. Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	0.012	0.340		0.035	0.972		
	Landlord description	self0.223	0.084	0.148	2.645	0.009	0.845	1.184
	landlord photo	0.566	0.089	0.375	6.379	0.000	0.769	1.300

Online and Ratings	Reviews0.176 Platform	0.060	0.163	2.944	0.004	0.866	1.155
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a. Dependent Variable: trust

It can be seen from the fitting test that the R square is 0.287, indicating that 28.7% of the dependent variable can be explained by the regression equation. The significance of the F test is less than 0.05, reaching the significance level, indicating that the established regression model is effective. VIF is less than 5, indicating weak col-linearity. The significance of the landlord's self-description (beta=0.148, P<0.05) is less than 0.05, and the regression coefficient is greater than 0, indicating that it has a significant positive impact on trust.

The significance of landlord photos (beta=0.375, P<0.05) is less than 0.05, and the regression coefficient is greater than 0, indicating that it has a significant positive impact on trust. The significance of online reviews and platform scores (beta=0.163, P<0.05) is less than 0.05, and the regression coefficient is greater than 0, indicating a significant positive impact on trust.

2.4 Equation

Regression analysis is based on a large number of observations and experiments on things, looking for connections between phenomena or things that seem to be ordinary and irregular. We can also describe regression analysis from a mathematical perspective. That is, if we know a value of X, but the value of Y cannot be completely determined, we will express it through a certain probability distribution. Then the function expression of Y when X is given can be written as

$$f(x) = E(y | x) \quad (1)$$

$$E(y | x) = \alpha + \beta x \quad (2)$$

$$\hat{y} = \hat{\alpha} + \hat{\beta} x \quad (3)$$

$$f(x_1, x_2, x_3, \dots, x_p) + \varepsilon$$

$$Y = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k + \varepsilon \quad (4)$$

$$Trust = \beta_0 + \beta_{1hostself-description} + \beta_{2hostphotos} + \beta_{3onlinereviews} + \beta_{4platformratings} + \varepsilon$$

3. Conclusion

First, we identify the importance of host self-description strategies in building trust with Airbnb tenants. According to the definition and characteristics of the sharing economy, shared accommodation on Airbnb can be regarded as a kind of social communication, and there is a mixed interaction mode between the host and the tenant (ie online first, offline later). In this social interaction, tenants face higher risks and higher costs than landlords, because they participate with the intention of expecting diverse life experiences, building social relationships, and understanding different cultures. But their expectations and quality of service can only be guaranteed after they experience it. In addition, tenants may also face the risk of unreliable landlords and even personal safety. Therefore, tenants will try their best to fully understand the landlords they care about, and infer the credibility of the landlords based on their own knowledge. Existing studies have found that information such as landlord verification, photos, and "super-landlord" logos are significantly correlated with tenant trust. In the face of high risk and uncertainty, tenants can reason about trust using whatever information they have. In particular, the host's self-description can convey the host's hobbies, work, values and personality. This allows the tenant to get a fuller picture of the landlord. Specifically, we analyzed the impact of landlord self-reported texts on tenant trust from four aspects: readability, information content, topic diversity, and emotional orientation. We also compared the contribution of different semantic themes contained in landlord self-report texts to building trust, and found

that themes such as openness, warmth, hospitality, and ability to provide better service were helpful in building trust for tenants.

Second, the findings in this paper shed light on the impact of host photos (facial attractiveness, smile level, gender) on tenant trust. The research conclusions can provide some practical guidance for landlords of short-term rental platforms, so as to better present themselves to tenants and gain more tenants' trust and reservations. Specifically, the poster can choose a photo with a moderate smile intensity as the photo of the personal homepage.

Finally, it is clarified that both online reviews and platform ratings have become an important basis for consumers to make purchase decisions. Online reviews are one of the sources of information trusted by consumers. More and more consumers obtain information about products through online reviews. At the same time, landlords (individuals) or businesses are also paying more and more attention to the promotional role of online reviews in order to attract more potential consumers.

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