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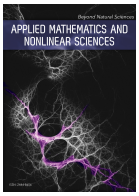

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Impact of Web Page House Listing Cues on Internet Rental

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Abstract

Based on a questionnaire survey combining the stimulus-organism-response (S-O-R) theory with the cues theory, this paper establishes hypotheses and uses partial least squares structural equation modelling (PLS-SEM) to study and analyse the impact of web page house listing cues on Internet rental from the perspective of users. The results indicate that: (1) the relevant cues of Internet renting platforms are effective and worthy of attention, (2) the subjective arousal of the tenants triggers their behavioural changes to a large extent, and (3) the sensitivity of the tenants' behavioural approaches to their feelings is greater than their purchasing intentions. In the context of the rapid development of the online market, understanding the user's response to target information is essential to promote the optimisation of the Internet rental platform, to improve the efficiency of online housing selection, and to encourage healthy development of the rental housing market.

Keywords: house-listing cues, Internet renting behaviour, S-O-R theory, cues theory, PLS-SEM

1 Introduction

With the support of relevant policies, China's rental housing market has gradually developed in a healthy and stable manner (Guo, 2020). The popularity of online shopping has changed the consumer environment and consumption patterns (Hsieh et al., 2014). People who wish to rent are no longer limited to traditional offline rental platforms, and availability and operational convenience have become important criteria in evaluating the quality of rental platforms (Xie, 2019). Indeed, the lack of information on Internet rental platforms is a common phenomenon (Liang, 2018). China, this study's target country, is an example. The listings on many Chinese Internet house-rental platforms lack information, particularly in terms of the display of the surrounding environment and supporting facilities, and some listings exclude this information altogether, and at the same time, the authenticity of the source has not been verified (Xie, 2019). In addition, most websites lack a clear interface layout, which affects user operation efficiency (Xie, 2019). Individual buying behaviour and intentions often stem from their perceptions of product performance (Cheng, Yeh, & Wong, 2014). Consumers' perceptions of product and service performance are essential to articulate individual behavioural intentions (Cheng, Yeh, & Wong, 2014). To display information such as product performance and to promote customer consumption, it

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is important to enrich the housing information provided on Internet rental platforms from the perspective of potential tenants. Chebat and Michon (2003) found that consumers' emotions (e.g. arousal and pleasure) affect their spending. Internet rental platforms should therefore strive to improve users' experiences and satisfy their tailored needs to attract more users (Yan, 2016).

In researching web page information, stimulus-organism-response (S-O-R) theory and cues theory are both effective. Marketing researchers Donovan and John introduced S-O-R theory into the traditional retail field in 1982. Nearly 2 decades later, Eroglu et al. (2001) proposed an improved S-O-R model suitable for online shopping. Eroglu et al. (2001) believed that the information in the online shopping environment included all the cues that online consumers can see or hear, and they posited that visual cues carry more key product information than auditory cues and play an important role in consumption guidance. High-task-relevant cues (HTRCs) include product-related descriptions displayed on the screen to facilitate and enable visitors to achieve their shopping goals, such as product information, prices and pictures of the product (Eroglu et al., 2001). In this version of the S-O-R theory, cues in the online consumption environment were divided into two categories based on their relevance to shopping tasks: HTRCs and low-task-relevant cues (LTRCs). HTRCs are also directly referred to as task-relevant cues and are the relevant elements in the web page description that encourage consumers to complete their purchase of the product or service in question (Eroglu et al., 2001). Such cues are key in promoting consumer tasks while effectively and efficiently completing those same tasks, and the higher the reference value is, the more likely the value is to become the basis for decision-making, meaning it is also considered functional (Eroglu et al., 2001; Zhang, 2013). On the other hand, those elements of the web page that are essential to the enhancement of the consumers' experience and are relatively minor to the realisation of consumers' shopping goals are called LTRCs (Parboteeah et al., 2009; Zhang, 2015). LTRCs are relatively insignificant for completing shopping tasks, such as website link design and advertisement (Eroglu et al., 2001). The purpose of setting up such cues on shopping website pages is to make up for the consumer experience that cannot be satisfied by HTRCs, improve consumers' emotions, or gain consumers' attention and enhance their experience and pleasure (Babin et al., 1994).

There have been many studies on the factors affecting consumer behaviour, but few researchers have extended the problem to the field of Internet rental housing. Therefore, this paper constructs partial least squares structural equation modelling (PLS-SEM) based on the S-O-R theory and the preliminary theory, studies the direct and indirect effects of web page house-listing prompts on consumer perception and response and analyses the impact of web listing prompts on Internet rent from the user's point of view.

2 Literature review and hypothesis development

2.1 Literature review

In 1997, Sherman et al. improved the Mehrabian-Russell (M-R) environmental psychology model proposed by Mehrabian and Russell in 1974 and proposed the S-O-R theory shown in Figure 1. This theory was then introduced into the traditional retail field by marketing researchers, such as Donovan and John (1982).

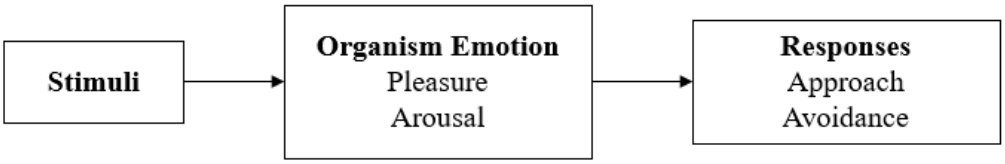

Fig. 1 S-O-R theory. *Note.* This figure is based on the S-O-R model developed in 'Store Environment and Consumer Purchase Behaviour: Mediating Role of Consumer Emotions' by E. Sherman, A. Mathur, and R. B. Smith, 1997, *Psychology & Marketing*, 14, 361-378.

2.1.1 S: stimulus variables

Evaluation, price, etc., as information cues in online shopping scenarios, are an important basis for consumers to consider and evaluate product quality and have a significant impact on consumer decision-making. Information such as commodity prices, online reviews and feedback and store reputation in the online shopping context will all have an impact on consumers' online shopping behaviour. For example, Utz et al. (2012) studied the impact of product or store evaluation on consumer trust. The results showed that product or store evaluations for online stores had a higher impact on consumer trust than the store's reputation. Moreover, Bigne et al. (2020) found that online reviews have an impact on consumer decision-making, and Cho et al. (2020) found that product quality and convenience will also affect consumer perception.

2.1.2 O: organism variables

The 'organism' refers to the customers' affective and cognitive condition and it consists of the entire process that intervenes in stimuli and responses to the customers (Loureiro & Ribeiro, 2011). Mehrabian and Russell (1974) divided emotions into three dimensions: pleasure, arousal and dominance. Pleasure referred to the individual's positive feelings towards environmental stimuli, i.e. feelings of joy and satisfaction. The state of being aroused after being stimulated by the environment includes feelings of alertness and excitement. Olney et al. (1991) studied the relationships between advertising content, consumer emotional response and consumer attitude and found that advertising content significantly affects two dimensions of emotional response: pleasure and stimulation. Lastly, dominance referred to the individual's ability to control the situation (Mehrabian & Russell, 1974), which was later deleted in Sherman et al.'s (1997) research. Sherman et al. only retained pleasure and arousal in their model, which form the organism variables in S-O-R theory.

Additionally, consumer psychology also puts forward the concept of perceived value; that is, in the process of purchasing decision, consumers comprehensively evaluate the product's utility after weighing the product's costs and benefits. Consumers' perceived value in the online shopping environment is mainly divided into functional price, cognitive value and perceived loss. Researchers such as Kim et al. (2012) have confirmed that perceived value is the net income generated by consumers' purchases compared to the cost of consumption, which can help identify consumers' cognitive experiences. Therefore, this research also regards perceived value as one of the dimensions of organism variables in S-O-R theory.

2.1.3 R: response variables

The consumer's response is based on the consumption intention or similar consumption behaviour proposed by psychology, which is manifested as consumers' willingness to purchase a certain product or service. In other words, when consumers have such desire or willingness to consume, they will make corresponding consumption behaviours. Therefore, this consumption willingness as a manifestation of consumer purchase behaviour can be used to judge or predict future consumer behaviour. This part of the research focuses on three aspects: consumer attitudes, maximum perceived value and minimum perceived risk (Russell, 1980). Yang et al. (2011) found that, for imported goods, the image of the exporting country and the attributes of the goods have a positive impact on consumers' purchase intentions and brand attitudes; Zhao and Ji (2012) constructed a perceived value model and studied the influencing factors of consumers' purchase intentions mediated by trust and perceived risk.

2.2 Research hypotheses

In the S-O-R model framework proposed by Eroglu et al. (2001), 'stimulus' is conceptualised as a variable that can stimulate and influence the organism's emotions and intentions. HTRCs can accurately convey the attributes and characteristics of the product, help consumers to easily locate the product in a happy mood, arouse consumers' desire to shop and then complete the shopping task efficiently (Eroglu et al., 2003; Hsieh et al., 2014). Although the cues relevant to low tasks will not directly affect consumers' task completion, they can create an atmosphere that makes the shopping experience more enjoyable and relaxing, attracting consumers' attention through advertisements, preferential information, etc. and subtly altering consumers' perceptions of

products or websites by indirectly promoting the completion of a transaction. This study's research discusses the impact of a web page's HTRCs (e.g. the location of the house, price, pictures and key indoor and outdoor features) and LTRCs (e.g. agency information, website link design and advertising recommendations) on the potential tenant's intuitive experience when viewing house listings online.

The following hypotheses were made regarding the impact of HTRCs and LTRCs on the organism.

H1: HTRCs will affect the tenant's perceived value, pleasure and arousal.

H1a: HTRCs will have a positive effect on the tenant's perceived value.

H1b: HTRCs will have a positive effect on the tenant's sense of pleasure.

H1c: HTRCs will have a positive effect on the tenant's sense of arousal.

H2: LTRCs will affect the tenant's perceived value, pleasure and arousal.

H2a: LTRCs will have a positive effect on the tenant's perceived value.

H2b: LTRCs have a positive effect on the tenant's pleasure.

H2c: LTRCs will have a positive effect on the tenant's arousal.

In general consumer environments, rational consumers make judgements and trade-offs based on the use-value of commodities and the price of a product or service and then make decisions on whether to purchase or not. In this process, consumers' judgement of the value in the face of product information cues is called 'perceived value' (Foxall, 1997). Studies have shown that perceived value is an important factor driving purchasing behaviour (Schwarz & Clore, 1988; Eggert & Ulaga, 2002; Weathers et al., 2007; Ozturk et al., 2016). In the online consumption environment, perceived value can positively affect consumers' willingness to buy online (Cho et al., 2020); that is, the higher the consumer's perceived value of the product, the stronger their willingness to consume it. In the process of renting a house on the Internet, while browsing the housing information page, the tenant can make an overall assessment of the housing (accommodation, service, rent etc.) and the performance of the physical characteristics of the house (liveability, safety, sanitation, accessibility etc.). After judgement and weighing, the intention to rent the house or the intention to continue browsing and save the website may be generated. This study explores the extent to which tenants' perceived value of listing information displayed online affects their willingness to consume and their approach behaviour. It develops the following hypotheses:

H3: Perceived value can have an impact on tenants' purchase intentions and approach behaviour.

H3a: Perceived value can positively affect tenants' purchase intentions.

H3b: Perceived value can positively affect tenants' approach behaviour.

In related studies, scholars have claimed that, in an online shopping environment, the extent of consumers' pleasure and arousal can deepen their purchasing intentions (Babin & Babin, 2001; Wu et al., 2008) and generate a desire to continue browsing other products (Eroglu et al., 2003). In terms of online shopping environments, Day et al. (2006) found that an increase in the number of video ads on web pages can enhance consumers' sobriety, which in turn accelerates the process of their online consumption decisions. Picture information related to consumer products can also attract consumers' attention and affect their response (Li et al., 2016; Bigne et al., 2020). Web page design elements (such as background colours and music) can evoke pleasure and excitement in consumers, thus promoting online consumption and their desire to browse (Wu et al., 2008; Hsieh et al., 2014). Emotions have a positive impact on consumers' behavioural intentions (Ruiz-Mafe et al., 2018). Taking clothing e-commerce websites as an example, Eroglu et al. (2003) used the S-O-R model to study the effects of the pleasure and arousal caused by various web information cues on consumers' reactions to exploration, shopping or liking the website. They found that sense and arousal can promote consumers' willingness to consume and their approach behaviour toward products or web pages. Therefore, this paper will study the extent to which pleasure and arousal, when browsing online housing listings, exerts an effect on tenants' consumption intentions and approach behaviour. This study proposes the following hypotheses:

H4: Pleasure can have an impact on the tenants' purchase intentions and approach behaviour.

H4a: Pleasure positively affects the tenants' purchase intentions.

H4b: Pleasure positively affects the tenants' approach behaviour.

H5: Arousal can have an impact on the tenants' purchase intentions and approach behaviour.

H5a: Arousal positively affects the tenants' purchase intentions.
H5b: Arousal positively affects tenants' approach behaviour.

3 Method

3.1 Participants

The survey data for this study come from China's 31 provinces and municipalities, covering 112 cities. The survey method is a questionnaire survey. The subjects of the survey are Internet rental platform users and potential users. The results show that 67.79% of the respondents had visited an Internet rental platform when they had the intention to rent a house, and 71.94% had used an online rental platform. Only 17.79% had not browsed an online rental platform, and 0.59% of respondents believed that Internet rental platforms are unreliable. The survey results show that these survey objects are suitable for research goals.

3.2 Procedure

To improve the reliability and accuracy of the sample data, before distributing questionnaires on a large scale, a pre-survey using offline distributed questionnaires was conducted on a small scale. Questionnaires were then modified and adjusted based on the results of the pre-survey evaluation. A total of 1,164 questionnaires were received. Questionnaires with low authenticity, such as those filled out in a short amount of time or demonstrating multiple selections of the same option, were examined and evaluated rigorously. Ultimately, 1,012 valid questionnaires were obtained.

3.3 Measures

Based on the S-O-R theory and cues theory, this research constructed a research model of stimulus, organism and response, using the PLS-SEM method for analysis. SEM includes the covariance-based SEM (CB-SEM) and variance-based SEM (VB-SEM) or PLS-SEM methods (Chin & Newsted, 1999). Since data often has normality problems in social science research (Osborne, 2010) and PLS is commonly used to address normality problems, PLS-SEM is more suitable for use here than CB-SEM (Ali et al., 2019).

This study designed questionnaires regarding the influence of housing information on Internet rental. These questionnaires were divided into four sets, and each set of questionnaires was divided into two parts. The first part consisted of a basic survey of the interviewees, and the second part was a survey of experiences and willingness to use Internet rental platforms. In the second part of the questionnaire, the study investigated respondents' most commonly used ways of obtaining housing information, the frequency with which they use Internet rental platforms and their degree of familiarity with and trust of the platforms. Three sets of housing information pages based on multiple listing cues were provided, and the respondents were asked to answer six groups of questions about HTRCs or LTRCs, perceived value, pleasure, arousal, purchase intentions and approach behaviour according to their true feelings after browsing the pages. This comprised the main section of the questionnaire. The sets of housing information pages containing task-related cues consisted of three pictures, each with a pixel size of 1280×1024. All pictures were screened and produced based on the real share house page of a well-known Internet rental platform. The differences between the four groups of questionnaires were that the pictures contained different amounts of information to simulate multiple Internet rental platforms that contain different information. The rest of the content was kept consistent to reduce the influence of interference factors on the subjects' decision-making. Since the shared-house information page contained the same information as the whole-house information page with the addition of information about roommates, the shared-house page information is richer and more comprehensive. Therefore, the questionnaire adopted a shared-house source page approach.

When constructing the PLS-SEM, the authors set HTRCs, LTRCs, perceived value, pleasure, arousal, pur-

Fig. 2 Example of housing information page prompted by multiple lists in the questionnaire.

chase intentions and approach behaviour as the latent variables of the model, with each latent variable corresponding to approximately three observation variables. The item setting of the observation variable was obtained from existing research (Foxall, 1997; Hassanein & Head, 2005; Loiacono et al., 2007; Mehrabian & Russell, 1974; Parboteeah et al., 2009; Zhang et al., 2015). To increase the accuracy of the scale measurement, each observed variable in this study was divided into seven levels, and the 7-point semantic difference scale was used to measure pleasure and arousal. The corresponding relationship between latent variables and observed variables and the concept of each observed variable are shown in Table 1.

4 Analysis and results

4.1 Sample feature analysis

After collecting the questionnaire responses, this article used SPSS19.0 and SmartPLS3.0 statistical analysis tools to analyse the data. This research used the Kruskal–Wallis (K–W) non-parametric hypothesis test to analyse the impact of interviewee characteristics on consumer response. Consumer response was expressed by the total scores of each dimension of the purchase intention and the proximity behaviour scale. The higher the score, the stronger the consumer response. Among the respondents, men accounted for 40.02%, and women accounted for 59.98%. Despite the difference in the gender ratio, the non-parametric test results show that gender did not have a significant impact on the consumer willingness of Internet rental platform users. Of the interviewees, 10.77% (109) were under the age of 20, and 88.99% of the 109 were undergraduate students. This is significant because they are in the stage of sharing dormitories at the school and will soon face rental problems after graduation. Therefore, it is meaningful to study their willingness to spend on Internet rental platforms. The age of the respondents is mainly concentrated in the 20–40 years age bracket, accounting for 79.45% of the total, which is in line with Huang and Liu's (2007) conclusions on the rate of homeownership and rental options among Chinese residents of different ages. This indicates that the sample selection has a certain degree of representative. Many Chinese people have deeply rooted conceptions of buying a house and getting married. According to a market survey conducted by the Shell Data Research Institute in 2019, the potential house purchasing age in Nanjing, China, is 31.2 years, which is similar to the age for marriage. This also shows that unmarried people comprise the main group of renters. Our survey results show that 71.64% of

Table 1 Latent variables and their corresponding observation variables.

Frame	Latent variables	Observed variables
Stimulus (S)	HTRC	$HTRC_1$, Number of HTRC
		$HTRC_2$, Effectiveness of HTRC
		$HTRC_3$, Degree to which HTRC meets demand
	LTRC	$LTRC_1$, Rationality of LTRC layout
		$LTRC_2$, Attractiveness of LTRC content
		$LTRC_3$, Degree to which LTRC meets trust
Organism (O)	PV	PV_1, The tenant's overall assessment of the house listing
		PV_2, The tenant's knowledge about the house performance
	P	P_1, Level of happiness the tenant feels
		P_2, Level of satisfaction the tenant feels
		P_3, Level of comfort the tenant feels
	A	A_1, Level of sobriety the tenant feels
		A_2, Level of excitement the tenant feels
		A_3, Level of enthusiasm the tenant feels
Response (R)	PI	PI_1, The extent to which the tenant intends to choose one of the existing listings for consumption
		PI_2, The financial extent to which the tenant intends to spend on this website
		PI_3, The extent to which the tenant is willing to use the website again
	AB	AB_1, The extent to which the tenant is willing to recommend the website
		AB_2, The extent to which the tenant is willing to browse the website on weekdays
		AB_3, The extent to which the tenant is willing to know the website's advertising or promotional information

A, arousal; AB, approach behaviour; HTRC, high-task-relevant cues; LTRC, low-task-relevant cues; P, pleasure; PI, purchase intentions; PV, perceived value.

the respondents were unmarried, which is more in line with China's basic national conditions. The respondents with no rental experience accounted for 48.72%, and 51.28% of the respondents had some rental experience. The K–W non-parametric test results show that age and marital status have a significant impact on the consumer willingness of Internet rental platform users, which is consistent with the results of Y. T. Guo's (2020) research on the characteristics of rental consumption of different groups. Consumers with or without renting experience react differently to the information pages of Internet renting platforms, which is also in line with the research results of Hsieh and Stiegert (2012) on the impact of consumption experience on purchase intention.

Likert's seven-level scale and seven-level semantic difference scale were both adopted in this study; that is, the options of each item were divided into seven levels, corresponding from 1 to 7 points. Table 2 indicates the descriptive statistics of each type of item on the questionnaire scale and shows that the average of HTRCs and LTRCs are both greater than 4.6, indicating that respondents recognise both HTRC and LTRC in the listing page to a certain degree. In terms of perceived value (PV), pleasure (P) and arousal (A), house-listing cues possess the strongest stimulus to the respondents' P and the weakest to their A. There is little difference between the average of purchase intentions (PI) and approach behaviour (AB), indicating that the respondents recognise the house listing information page to a certain degree after browsing. This, in turn, reflects the fact that the respondents are willing to visit the web page again or are willing to recommend the website to others.

Table 2 Descriptive statistics of each type of item on the questionnaire scale.

Variable		Mean of measurement	Standard deviation	Skewness	Kurtosis	Mean
HTRC	HTRC1	4.55	1.479	–0.388	–0.238	4.617
	HTRC2	4.82	1.273	–0.414	0.152	
	HTRC3	4.48	1.425	–0.221	–0.388	
LTRC	LTRC1	4.75	1.366	–0.404	–0.083	4.613
	LTRC2	4.88	1.246	–0.396	–0.102	
	LTRC3	4.21	1.394	–0.036	–0.310	
PV	PV1	4.75	1.337	–0.399	–0.088	4.705
	PV2	4.66	1.380	–0.387	–0.165	
P	P1	4.91	1.168	–0.366	0.295	4.847
	P2	4.74	1.214	–0.300	0.118	
	P3	4.89	1.184	–0.363	0.196	
A	A1	4.87	1.221	–0.324	–0.012	4.453
	A2	4.34	1.416	–0.363	–0.091	
	A3	4.15	1.427	–0.189	–0.035	
PI	PI1	4.18	1.632	–0.361	–0.591	4.533
	PI2	4.74	1.483	–0.628	0.070	
	PI3	4.68	1.421	–0.579	0.374	
AB	AB1	4.53	1.530	–0.592	0.426	4.500
	AB2	4.41	1.550	–0.408	–0.301	
	AB3	4.56	1.551	–0.452	–0.339	

A, arousal; AB, approach behaviour; HTRC, high-task-relevant cues; LTRC, low-task-relevant cues; P, pleasure; PI, purchase intentions; PV, perceived value.

4.2 Reliability and validity tests

The reliability test of the scale adopted the method of a composite reliability (CR) coefficients test, which is based on the four indicators of squared multiple correlation (SMC), CR coefficients, average variance extracted (AVE) and Cronbach's α. Latent variables selected the value of Cronbach's α based on the standard items, and the observation variables selected the deleted value of Cronbach's α. Under ideal conditions, the CR, AVE and Cronbach's α will exceed 0.6, 0.5 and 0.8, respectively, indicating that the measurement results are reliable. The CR of the measurement results (shown in Table 3) of the scale was tested based on the above indicators. It is evident that the indexes calculated according to these measurement results meet the requirements, proving that the scale has good reliability.

Table 4 shows the correlation coefficient between the square root of the latent variable AVE value and the latent variable (the square root of each latent variable AVE value is located on the diagonal of the table, each of which is higher than the Pearson correlation coefficient with other latent variables), in accordance with Fornell and Larcker's (1981) criterion, and indicates that the scale has good discriminant validity.

4.3 Partial least squares structural equation modelling

This research used the goodness-of-fit (GoF) index, as proposed by Tenenhaus et al. (2005), to confirm the global validity of the model. The results indicate that the GoF is 0.671, which is higher than the value of GoF_{large} (GoF_{small} = 0.1, GoF_{medium} = 0.25, GoF_{large} = 0.36). Therefore, the model in this research has a good explanation and fully validates the PLS-SEM model (Wetzels et al., 2009).

Table 5 and Figure 3 reveal that the path coefficients of HTRC pointing to PV, P and A are 0.447, 0.340 and 0.267, respectively. The path is of high significance, with T-values >1.96. It means that HTRCs in the

Table 3 Combination reliability test.

Variable	Variable	CR	AVE	Cronbach's α	
	HTRC1				0.959
HTRC	HTRC2	0.903	0.756	0.838	0.959
	HTRC3				0.958
	LTRC1				0.959
LTRC	LTRC2	0.883	0.715	0.800	0.959
	LTRC3				0.959
PV	PV1	0.95	0.906	0.896	0.958
	PV2				0.958
	P1				0.958
P	P2	0.935	0.827	0.895	0.958
	P3				0.959
	A1				0.959
A	A2	0.893	0.736	0.819	0.959
	A3				0.959
	PI1				0.959
PI	PI2	0.905	0.761	0.843	0.96
	PI3				0.958
	AB1				0.958
AB	AB2	0.918	0.789	0.866	0.959
	AB3				0.959
Total				0.961	

A, arousal; AB, approach behaviour; HTRC, high-task-relevant cues; LTRC, low-task-relevant cues; P, pleasure; PI, purchase intentions; PV, perceived value.

Table 4 Discriminate validity test.

Variable	AVE	HTRC	LTRC	PV	P	A	PI	AB
HTRC	0.756	0.869						
LTRC	0.715	0.822	0.846					
PV	0.906	0.761	0.75	0.952				
P	0.827	0.733	0.757	0.727	0.909			
A	0.736	0.65	0.685	0.635	0.776	0.858		
PI	0.761	0.68	0.691	0.648	0.698	0.681	0.872	
AB	0.789	0.616	0.681	0.63	0.688	0.71	0.776	0.888

Note: The discriminate validity is the square root value of AVE on the diagonal and the Pearson correlation coefficient of the latent variable below the diagonal.
A, arousal; AB, approach behaviour; AVE, average variance extracted; HTRC, high-task-relevant cues; LTRC, low-task-relevant cues; P, pleasure; PI, purchase intentions; PV, perceived value.

information pages of shared-house listings can have a positive influence on the PV, P and A, assuming that H1a, H1b and H1c are all supported. The result indicates that, in the process of online house listing cues' impact on the organism, HTRCs play an important role in provoking emotions and promoting cognition of the web page.

LTRCs can also have significant effects on PV, P and A (path coefficients are 0.383, 0.478 and 0.465, respectively), which indicates support for H2a, H2b and H2c. This shows that LTRCs, such as web page maps, viewing buttons and other web design features, can arouse viewers' interest and evoke positive emotions.

Table 5 Modified path coefficient and its significance.

Assumption number	Path			Standardised path coefficients	Significance	T statistics
H1a	HTRC	→	PV	0.447	***	9.834
H1b	HTRC	→	P	0.34	***	9.198
H1c	HTRC	→	A	0.267	***	6.407
H2a	LTRC	→	PV	0.383	***	8.025
H2b	LTRC	→	P	0.478	***	13.179
H2c	LTRC	→	A	0.465	***	11.423
H3a	PV	→	PI	0.252	***	6.606
H3b	PV	→	AB	0.217	***	6.136
H4a	P	→	PI	0.276	***	6.025
H4b	P	→	AB	0.216	***	5.05
H5a	A	→	PI	0.307	***	8.109
H5b	A	→	AB	0.404	***	10.681

Note: *** means *P*-value is less than 0.001.
A, arousal; AB, approach behaviour; HTRC, high-task-relevant cues; LTRC, low-task-relevant cues; P, pleasure; PI, purchase intentions; PV, perceived value.

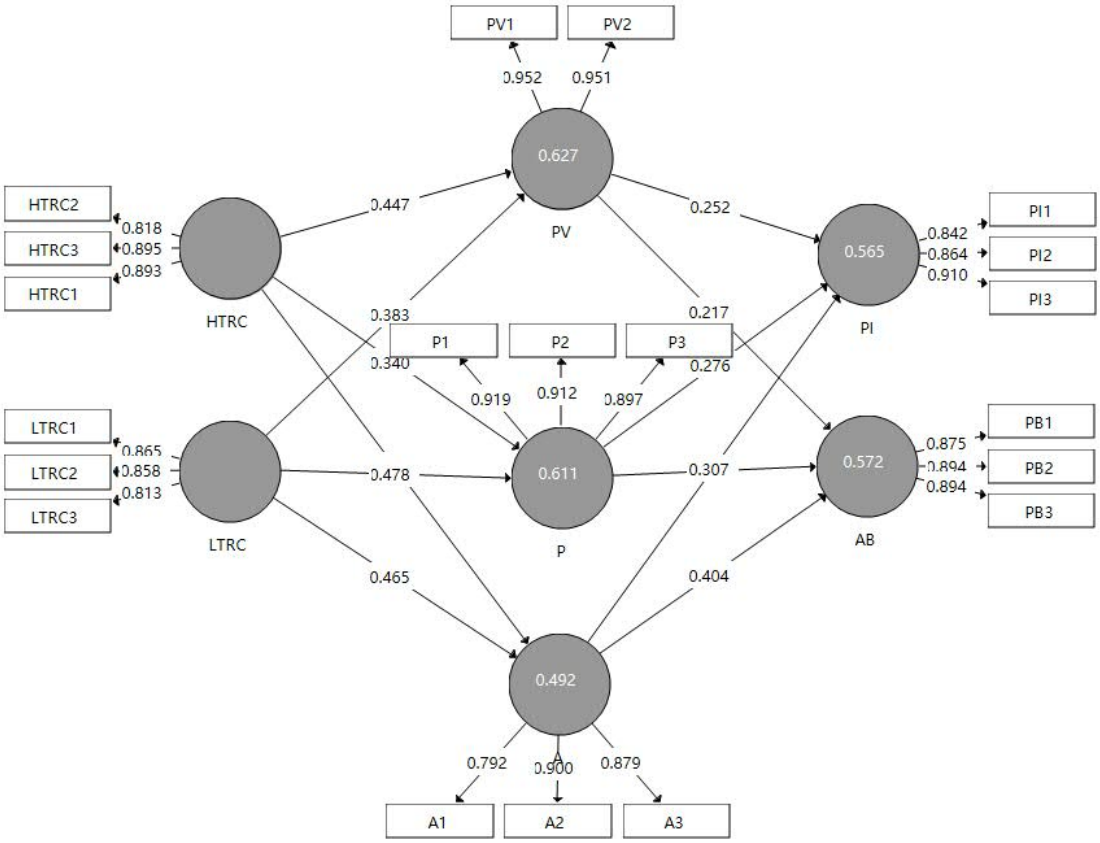

Fig. 3 PLS-SEM model. A, arousal; AB, approach behaviour; HTRC, high-task-relevant cues; LTRC, low-task-relevant cues; P, pleasure; PI, purchase intentions; PV, perceived value.

According to Table 5 and Figure 3, the path coefficients of PV to PI and AB are 0.252 and 0.217, respectively, and the T-value is >6, which shows the assumptions of H3a and H3b are supported. The PV generated by tenants when browsing the information page of a shared-house listing has a positive impact on their purchase intention and behaviour. P has a significant impact on PI and AB, with path coefficients of 0.276 and 0.216, respectively, indicating that hypotheses H4a and H4b are also supported. The pleasure generated by tenants when browsing the shared-house information page will positively affect their purchase intention and approach behaviour. The path coefficients of A to PI and AB are 0.307 and 0.404, respectively, and the significance level is high. So, hypotheses H5a and H5b are also supported.

It should be noted that although it is assumed that H3, H4 and H5 are all supported, the difference in the path of influence still needs to be addressed. In the process of the tenants' evaluations of their feelings and responses, the pleasure tenants experience when browsing the pages has a greater effect in promoting purchase intentions (path coefficient 0.276) than approach behaviour (path coefficient 0.216). Meanwhile, arousal plays the opposite role: The promotion effect of tenants' approach behaviour (path coefficient 0.404) is greater than that of purchase intentions (path coefficient 0.307). Compared to the more significant effects of pleasure and arousal, the positive effect of the tenants' perceived value on their approach behaviour (path coefficient 0.217) is slightly weaker, and the effect on their purchase intentions (path coefficient 0.252) is less obvious. In the process of influencing the tenants' feelings on their response behaviour, the tenants' subjective arousal becomes the leading factor in the promotion of their behavioural change, followed by pleasure and perceived value. This finding differs from the previous research conclusions on general consumer goods, which have claimed that perceived value dominates consumer behaviour. On the other hand, tenants' approaching behaviours are more sensitive to their feelings than purchase intentions, and this observation indicates that rational consumers will still carefully evaluate and judge the housing resources based on actual experience and make prudent behavioural decisions, even if those rational consumers are in a research environment that does not constitute real transactions.

Table 6 shows the indirect effects of HTRC and LTRC on PI and AB through organisms. It can be seen from the table that the T-values of the 12 indirect paths are all >1.96, and all effects are significant. HTRC stimulates PI mainly by influencing users' PV and enhances users' AB by influencing A. Compared with P and PV, LTRC has a greater impact on PI and AB through A. Overall, LTRC has a greater influence on PI and AB than HTRC.

5 Discussion

Based on the S-O-R theory and the cues theory, this study established a model of the influence of housing cues on consumers' response to Internet rental. The path of the model was calculated through data from 1,012 valid questionnaires, and the proposed hypotheses were tested.

On the one hand, the path analysis and hypotheses test results proved the availability and effectiveness of web-listing cues; that is, tenants can experience positive changes in emotion, cognition and reaction during the process of browsing various information cues on the Internet. Emotions increase awareness of the housing and then help form the corresponding willingness-to-consume or approach behaviour. On the other hand, the path coefficients reveal the different effects the task-related cues produce; that is, tenants' cues related to high tasks are also related to low tasks. The perception and response levels of the cues are different, and the stimuli caused by LTRCs are greater than those caused by HTRCs.

The research results show that the S-O-R model can be used to explain the influence of web-based housing information cues on Internet rental behaviour. The information stimulus on pages of housing resources and the HTRCs or LTRCs on shared-house pages can each have an influence on tenant behaviour (rent-related consumption or approximate consumption behaviour) by regulating tenants' bodily responses (perceived value, pleasure and arousal), which is similar to previous studies (Eroglu et al., 2001; Hsieh et al., 2014; Kim et al., 2012; Olney et al., 1991). The influencing process consists of three parts: the influence of web-based house resource cues on the organism, the influence of tenants' feelings on their responses and the impact of listing information on consumer response.

Table 6 Indirect effects of HTRC and LTRC on responses.

Effects	Path	Standardised path coefficients	Significance	T statistics
	HTRC → P → AB	0.074	***	4.397
Indirect effects	HTRC → PV → AB	0.097	***	5.502
	HTRC → A → AB	0.108	***	6.004
Total effect	HTRC → AB	0.278	***	10.509
	HTRC → P → PI	0.094	***	4.658
Indirect effects	HTRC → PV → PI	0.113	***	5.202
	HTRC → A → PI	0.082	***	4.986
Total effect	HTRC → PI	0.288	***	11.619
	LTRC → P → AB	0.103	***	4.633
Indirect effects	LTRC → PV → AB	0.083	***	4.528
	LTRC → A → AB	0.188	***	7.05
Total effect	LTRC → AB	0.374	***	13.833
	LTRC → P → PI	0.132	***	5.6
Indirect effects	LTRC → PV → PI	0.096	***	5.216
	LTRC → A → PI	0.143	***	6.445
Total effect	LTRC → PI	0.371	***	14.492

A, arousal; AB, approach behaviour; HTRC, high-task-relevant cues; LTRC, low-task-relevant cues; P, pleasure; PI, purchase intentions; PV, perceived value.

In the process of the impact of web-listing cues on the organism, HTRCs play an important role in promoting cognition of the web page, have a strong reference value for the completion of rental tasks and can accurately convey the key attributes of the listing and features, which is the same as Eroglu et al.'s (2001) conclusions. LTRCs mainly arouse positive emotions in users. This contrasts with Babin et al. (1994) and Hsieh et al. (2014). The research conclusions are consistent, helping tenants process the acquired visual information in a pleasant psychological state and easily grasp the information provided in the housing listing.

In the process of changing the residents' perception of their response behaviour, the residents' subjective arousal becomes the main factor that prompts them to change their behaviour, followed by the sense of pleasure and perceived value. This is different from previous research conclusions on general consumer products, which concluded that perceived value dominates consumer behaviour (Schwarz & Clore, 1988). The possible explanation for this may be the cultural difference between this study's Chinese sample and the research sample of Schwarz and Clore (1998). Culture influences consumers' responses to online store atmosphere, particularly when differentiating between collectivist and individualist values (Davis et al., 2008; Mazaheri et al., 2011). Members of a collectivist, high-context culture, such as that in China, likely sense greater pleasure and arousal when they are derived from LTRCs (Davis et al., 2008; Mazaheri et al., 2011).

On the other hand, tenants' entry behaviour is more sensitive to their feelings than their willingness to buy. This shows that consumers are cautious in making rental decisions. The pictures of housing information displayed online are not sufficient for consumers. They require more information to assist in decision-making, such as an evaluation of the property, intermediaries, websites etc.; a real view of the property; and a careful evaluation based on actual experience. Even in simulated research situations, interviewees tend to make prudent behavioural decisions, which reflect that the display of information on Internet rental platforms has a limited impact on consumer responses. The Internet leasing platform is tested by the quality and authenticity of the information and has restrictions on layout and human-computer interaction. At present, it is still an auxiliary transaction platform and has not yet become the standard for promoting rental housing transactions. Nevertheless, the research results show that the HTRCs and LTRCs of the Internet platform can also have a significant positive impact on consumer willingness and proximity response through the organism, and the impact

of LTRCs is greater than that of HTRCs. Both can affect consumer response to a certain extent. Therefore, it is still necessary to improve the information on the Internet platform and optimise the platform design.

Based on the model analysis and the conclusions of the hypotheses testing, this study proposes three questions and points out suggestions for future optimisation in online rental platforms. The conclusions are: (1) Although it is difficult to present the practical value of the listing through LTRCs, these cues are an important part of the design and inspire user pleasure and arousal. The design of the web page, image information and other content help improve users' experiences with the platform. The positive feelings associated with the Internet rental platform are worthy of attention. (2) In the process of the tenant's perception leading to the reaction behaviour, the tenant's subjective arousal has become a factor in their behaviour change, which is inconsistent with the existing research (Eggert & Ulaga, 2002), indicating that the information on the webpage is suspected of inducing the tenant's consumption motivation. (3) The sensitivity of the tenant's approaching behaviour to their feelings is higher than their willingness to consume; that is, after eliminating time-pressure and budget factors, the urgency and willingness of tenants to enter a leasing agreement immediately after browsing the web information is not very strong. For these reasons, Internet rental platforms have not yet become the main way tenants facilitate housing rental transactions. Rental sites should learn from the development trend of social media to ensure the authenticity and completeness of housing information and enhance customer trust (Hsieh et al., 2014). For example, these platforms should optimise the display of user reviews and feedback. They should also actively maintain LTRCs, pay attention to the characteristics and needs of the tenants and try to maintain accurate listings (Keller, 2010). Ha and Im (2012) also proved that LTRCs, such as colour and multimedia functions, are central factors in website design. Tenants need to be aware of the consumption inducements of real estate platforms or intermediaries, make prudent decisions and choose houses rationally. The market supervision department should further introduce relevant policies to regulate and supervise the behaviour of rental platforms, protect the interests of the tenants and promote the orderly and healthy development of the rental housing market. The optimisation and promotion of multiple entities will help improve the efficiency of online housing selection and promote the establishment of leasing relationships as soon as possible.

This research expands the application fields of the S-O-R theory and the cues theory in online shopping scenarios and explores the feasibility and research conclusions of the model's application in the study of Internet rental behaviour through the relatively considerable model operation results, which is a way of enriching the behaviour of microscopic entities in the real estate market. The research results have made a certain contribution to this field by analysing, in detail, the effect of housing cues on internet rental behaviour, which will help provide an optimised direction for the design of Internet rental platforms from the perspective of user needs, improve the efficiency of online housing selection and promote the healthy development of the Internet rental market.

The article still has insufficient research. When designing the organism variables, this study selected tenants' perceived value, pleasure and arousal as its areas of focus. However, the complexity of individual renting behaviour determines the complexity of the factors affecting individual perception. In the future, research variables should be expanded based on sufficient theories and previous studies, and more factors affecting tenants' browsing experiences and renting behaviour (such as risk perception, economic and time pressures etc.) should be explored in depth and the observation of latent variables should be increased to improve the comprehensiveness of the research as much as possible.

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