

The Impact of Information Recommendation Services on Online Purchase Intention: A SOR Model Perspective within the Context of Chinese Face Culture

Yan Zhenwei^{1,2}, Asad Ur Rehman

¹PhD Candidate, Graduate School of Management, Postgraduate Centre, Management & Science University, 40100, Selangor, Malaysia

²Lecturer, School of Logistics and e-Business, Henan University of Animal Husbandry and Economy, 450000, Zhengzhou, China

2Professor, Dr, Graduate School of Management, Postgraduate Centre, Management & Science University, 40100, Selangor, Malaysia

Correspondent author: Asad Ur Rehman Muhammad Sadiq asad_ur@msu.edu.my

ABSTRACT

This study investigates the influence of information recommendation services on consumers' online shopping intentions within the context of Chinese cultural values. Utilizing the Stimulus-Organism-Response (SOR) theoretical model, the research explores how factors such as information arrangement, visual attraction, information reliability, degree of personalization, and face consciousness satisfaction affect consumers' emotional responses – namely perceived pleasure and perceived arousal – and, in turn, influence their purchasing intentions. Empirical evidence from 208 valid responses was collected and analyzed using structural equation modelling and bootstrapping techniques to test the proposed hypotheses. The findings reveal that information reliability, personalization, and face consciousness significantly impact consumers' emotional states, while perceived arousal plays a vital mediating role in translating these emotional responses into actual shopping intentions. This study provides actionable insights for e-commerce platforms seeking to optimize personalized recommendation strategies, enhance user experience, and align marketing practices with cultural nuances in China.

Keywords: Information Recommendation Service; SOR Theory; Perceived Pleasure; Perceived Arousal; Face Consciousness; E-commerce in China

INTRODUCTION

The provision of an information recommendation service by the e-commerce platform is an attempt to attract consumers, increase sales and satisfy consumers' purchase intentions. The information recommendation service is distinguished by its timeliness, convenience and efficiency, and it is becoming an increasingly important part of the online shopping process. The iResearch indicates that the recommendation system of Chinese e-commerce platforms (e.g. Taobao and Jingdong) covers more than 800 million users and contributes more than 35% of platform GMV (iResearch, 2023). A notable benefit of Alibaba's utilization of personalized recommendation algorithms is evident in the substantial enhancement of conversion rates, as evidenced by a case study demonstrating a 31% surge. However, it is important to note the potential drawbacks of this approach. A study by McKinsey (2023) highlighted that 63% of users abandon their purchases due to what they perceive as "overly invasive recommendations". This highlights the need for a balance between personalization and user experience. The practical question that arises from these considerations is how to design information recommendation services that provide consumers with a satisfactory shopping experience. Furthermore, it is crucial to explore how Chinese unique cultural values (face) interact with the impact of recommendation information services. To date, the aforementioned problems have received scant attention from scholars.

Anchored in contemporary S-O-R research on digital retailing, we model four recommendation-service cues—personalization, information reliability, visual attraction, and information arrangement—as stimuli that elicit consumers' affect (perceived pleasure and arousal) and, in turn, purchase intention (Rayburn et al.,

2022). Personalization and information reliability raise perceived relevance, build online trust, and lower risk, which strengthen intention (Jadil et al., 2022). Visual attraction and clear arrangement improve processing fluency, thereby elevating positive affect and nudging approach behaviors (Preßler et al., 2023). In China, face (mianzi) can further magnify responses to prestige-congruent recommendations, linking cultural motives with arousal and intention (Sun et al., 2021).

The present study aims to address this research gap by recommending an information service characteristics as an independent variable, combined with China's unique cultural environment (face consciousness) as a new mediator variable. This study will analyse the influence of consumer purchase intention and behavior mechanism according to the SOR model theory. Finally, this study will put forward development suggestions, which can be beneficial to China's e-commerce platform for network marketing and personalized service. The remainder of this article is organised as follows: Section 2 reviews the literature related to information referral services and customer purchase intention; Section 3 deals with research hypotheses; Section 4 designs form and collects data; Section 5 deals with data analysis and empirical results; and Section 6 summarizes the research and discusses the implications for academia and industry.

1. LITERATURE REVIEW

In the domain of psychology, the Stimulation-Organism-Response (SOR) theory is frequently utilized to analyse the impact of external environmental stimulation on an individual's emotions and behaviour. Mehrabian and Russell's seminal work postulated that individuals are susceptible to the stimuli and influences exerted by external factors. The initial impact of environmental factors (S) such as visual images and sounds on individuals' internal state (O) is followed by psychological changes which further influence their behaviour (R). With the advent of e-commerce, SOR theory has been widely applied in the field of online shopping. Recently, online retailers have increasingly tended to use information recommendation services to promote their products. In light of this, this study aims to explore the impact of different types of information recommendation services on consumers' purchase intentions. Zhou and Tao (2012) have highlighted that traditional information recommendation services only focus on the information of the recommended objects and user needs, and fail to meet the needs of personalized information recommendation in the era of mobile Internet. Addressing this lacuna in the field, scholars both domestically and internationally have directed their research towards two primary areas: personalized information organization and situational perception services. At the same time, Zhou and Tao (2012) also pointed out an intermediary role for emotional state in influencing consumers' purchase intentions.

Furthermore, academic research indicates that Chinese consumers, influenced by collectivist cultural values, are more inclined to accept group recommendations, which significantly enhance their purchase intentions. For example, Jung et al. (2020) found that social norms play a critical role in shaping Chinese consumers' attitudes and behavioral intentions toward sustainable apparel products, highlighting the importance of group opinions in purchase decisions. Moreover, another research indicates that consumers' propensity to prioritize face significantly influences their inclination to purchase luxury goods, with individuals possessing a pronounced face consciousness being more inclined to demonstrate their economic affluence and social standing through the acquisition of luxury items (Bao et al., 2022). This study delineates this unique cultural adaptation phenomenon in China as mianzi (face consciousness), and explores the role of the purchasing intention generated by consumers. This study's contributions can be summarized as follows: firstly, it determines the positive influence of information recommendation services on purchase intention in network behaviour based on the SOR model and applies the model to explain new marketing phenomena. Secondly, this study explores the intermediary role of consumer perception in the relationship between information recommendation services and consumers' purchase intention, thus helping scholars and managers to fully understand the "black box" when consumers make purchase decisions in live broadcasts. Thirdly, this study tests the regulatory role of faces in the consumer decision-making process in Chinese culture, which helps scholars and practitioners to understand the circumstances in which the model is more robust.

2. RESEARCH HYPOTHESES

2.1. The relationship between information arrangement and emotional state of the consumers

The arrangement of information constitutes the basis of the establishment of information recommendation services, and it is only through the judicious organization of information that effective recommendations can be formulated. The effective organization of information has been demonstrated to engender an improvement in the emotional state of consumers, thereby facilitating their ability to discern the value and allure of the information conveyed. Personalized recommendation services place significant emphasis on the arrangement and classification of recommendation information during the information recommendation process, thus ensuring that customers are not subjected to a protracted search. The perceived usefulness of the website interface has been shown to enhance perceived pleasure and perceived arousal, which, in turn, results in purchase intention. It can thus be inferred that a reasonable information arrangement will enhance the emotional response of consumers when browsing commodity information, thereby promoting purchase intention. Based on these findings, the following assumptions are proposed:

H1a: The information arrangement exerts a significant positive influence on consumers' perceived pleasure.

H1b: The information arrangement exerts a significant positive influence on consumers' perceived arousal.

2.2. The relationship between visual attraction and the emotional state of consumers

In the context of practical implementation, the integration of visual design and associated elements within information recommendation services is imperative to enhance the visual appeal of recommended content, thereby optimizing the efficacy of the information recommendation and the user experience. The visual attractiveness of a product or advertisement exerts a significant influence on consumers' emotional state, given the pivotal role of vision in perceiving and recognizing the world, which directly impacts emotional responses. The observation of aesthetically pleasing and appealing products or advertisements frequently evokes feelings of joy and enthusiasm, thus fostering heightened interest and affirmation in the product. This perceived arousal connection has the potential to influence consumers' decision-making behaviour, making them more likely to purchase a product or service. It is recommended that the promotion of the audience's willingness to be awakened and to have a better emotional experience be considered. On the basis of the aforementioned, this study proposes the following hypothesis:

H2a: Visual attraction exerts a significant positive influence on consumers' perceived pleasure.

H2b: Visual attraction exerts a significant positive influence on consumers' perceived arousal.

2.3. The relationship between information reliability and consumers' emotional state

The quality and effectiveness of information recommendation services is contingent upon the reliability of the information provided; should the recommended information be of substandard quality, whether due to its inaccuracy or its unknown origin, it will prove misleading to users, engendering harm and reducing the reputation and use value of the information recommendation service. The influence of information reliability on consumers' emotional responses and their level of satisfaction is a significant consideration. When consumers hold the conviction that the information is highly reliable, they are more likely to experience satisfaction with the product or service and to feel content. Conversely, when information reliability is deemed low, consumers may experience dissatisfaction or even disappointment, leading to negative emotions. As Komiak (2006) demonstrated, consumers tend to believe that the reliability of information has a significant impact on their perception of risk and their inclination to recommend the commodity. However, consumers may also experience a lack of confidence in the reliability of the information, potentially leading to a decline in their willingness to recommend the commodity. The consumers' perception of reliability leads to an increased inclination to consume, which in turn generates emotional satisfaction and cultivates a propensity to engage in consumption. In light of these observations, the following hypotheses are put forward in this study:

H3a: Information reliability exerts a significant positive influence on consumers' perceived pleasure.

H3b: Information reliability exerts a significant positive influence on consumers' perceived arousal.

2.4. The relationship between the degree of personalization and the consumer's emotional state

The extent to which a recommendation service is personalized has a direct impact on its ability to meet the specific needs of users and provide accurate and meaningful information. The recommendation of related products and the promotion of personalized content according to users' search and purchase records has been shown to improve purchasing efficiency, meet the personalized needs of users, and make them feel more happy and satisfied (Mican & Sitar-Tăut, 2024; Wang et al., 2024). The personalization of information is achieved through the analysis of consumer personality traits and browsing and purchase records, utilising big data analysis to provide consumers with personalized information, maximize the mining of buyer preferences, and evoke positive emotions in consumers (Mican & Sitar-Tăut, 2024). It is asserted that recommended services should be based on consumer personal preferences to provide consumers with the necessary information to facilitate purchase decisions, and that they can offer commodity consulting services to consumers at the initial stage (Wang et al., 2024). The following assumptions are made:

H4a: The degree of individuation exerts a significant positive influence on consumers' perceived pleasure.

H4b: The degree of individuation exerts a significant positive influence on consumers' perceived arousal.

2.5. The relationship between the degree of face consciousness satisfaction and the consumer's emotional state.

Guo (2015) has demonstrated that the satisfaction of face consciousness is essentially related to the expressive needs in consumption. The advent of the consumer society has precipitated a substantial enhancement in the material lives of people. The pursuit of consumption has evolved beyond the pursuit of use value, with consumers increasingly seeking symbolic meanings (Sun et al., 2021). In this context, the pursuit of face consciousness is particularly pronounced in Chinese society, where Confucian culture exerts a dominant influence, and recent work also links mianzi to contemporary purchase intentions (Lv, Zhao, Liu, Wu, & Hou, 2024). Bao et al. (2003) indicated that Chinese college students possess a stronger sense of face in their study on consumption behaviours of Chinese and American college students. When their face consciousness is satisfied, they tend to experience a relatively intense sense of pleasure and consumption temptation (Sun et al., 2021; Lv et al., 2024). The following assumption is made:

H5a: The satisfaction of face consciousness exerts a significant positive influence on consumers' perceived pleasure.

H5b: The satisfaction of face consciousness exerts a significant positive influence on consumers' perceived arousal.

2.5.2.6. The relationship between consumers' emotional state and consumers' Online Purchasing Intention

Affective states encompass a multitude of emotions, including both pleasurable and evoked emotions. The concept of "willingness to buy online" is defined as the decision or degree of desire of consumers when engaging in online shopping. Empirical evidence has demonstrated that consumers' positive emotional states have a significant impact on their purchasing intentions (Zhang, Zhang, & Daim, 2023; Ngo et al., 2024). The experience of emotion, specifically perceived pleasure and perceived arousal, has been shown to enhance consumers' positive attitude towards buying products, thereby promoting their online shopping behaviour (Ngo et al., 2024; Zhang et al., 2023). The present paper proposes the hypothesis that:

H6a: Perceived pleasure exerts a significant positive influence on consumers' purchasing intention

H6b: Perceived arousal exerts a significant positive influence on consumers' purchasing intention

3.7 The presentation of the conceptual model

Based on the above assumptions, the conceptual model diagram of this study is shown in Figure 1.

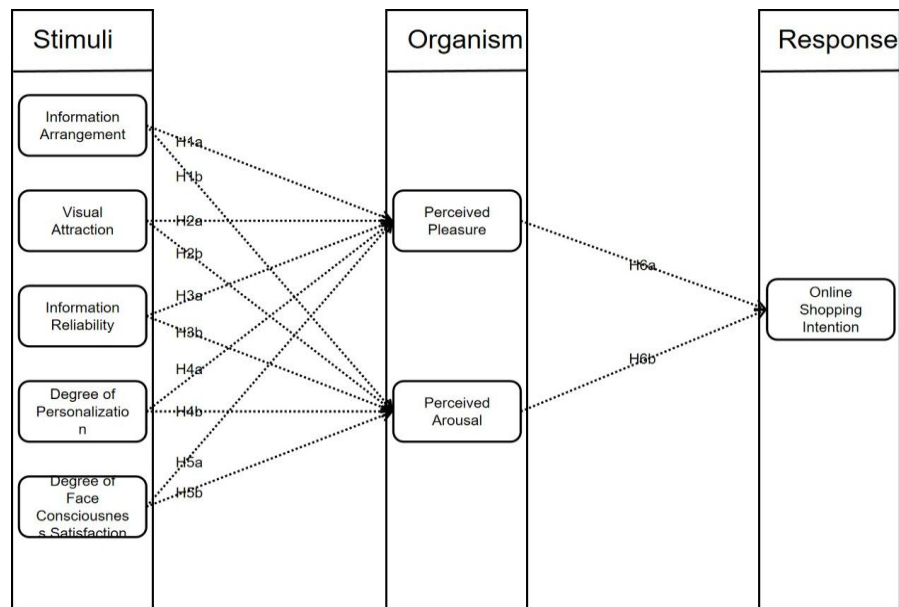


Figure 1. Conceptual Model Diagram of the Influencing Factors and Mechanisms of Consumers' Online Shopping Intention

4. Form Design and Data Collection

4.1 Form Design

A review of the extant literature on the impact of information recommendation services on consumers' online shopping intentions was conducted, and the influence of information recommendation services was found to be generally classified into four aspects: information arrangement, visual attraction, information reliability, and degree of personalisation. This study introduces a novel dimension, namely face consciousness, to the existing framework. The present study draws upon the research of experts such as Cai (2008), Ju (2012), Komiak (2016), Hu (2021), Wu and Wang (2014), and Doods (2016). This study measures the influence of information recommendation services from the perspectives of purchasing and recommendation. The detailed options are shown in Table 1.

Table 1. Form Design

Measurement Variables	Questionnaire Items	Source
Information Arrangement (IA)	IA1: The position where the recommended information appears is reasonable.	Cai (2008)
	IA2: The recommended information is arranged in an orderly manner.	
	IA3: The recommended information is arranged by category.	
Visual Attraction (VA)	VA1: The information is vivid and interesting.	Ju (2012)
	VA2: The information includes pictures and videos, presenting a three - dimensional image.	
	VA3: The information interface is very aesthetically pleasing.	

Information Reliability (IR)	IR1: The word - of - mouth quality of this information is very high and it will not provide false information.	Komiak (2006)
	IR2: I am very satisfied with the products purchased through the recommended information on this platform before.	
	IR3: The products provided by this platform are reassuring.	
Degree of Personalization (DP)	DP1: The recommended products in the information are exactly what I am interested in.	JJH et al. (1978)
	DP2: The platform can recommend some products that match the previously purchased ones.	
	DP3: The prices of the recommended products in the information are within my affordability range.	
Degree of Face Consciousness Satisfaction (FC)	FC1: The products recommended by the information tend to be brands with luxury attributes.	Guo (2015)
	FC2: The products recommended by the information make me feel that I can be regarded as tasteful by others after purchasing them.	
	FC3: The products recommended by the information can meet the emotional value needs beyond functionality.	
Perceived Pleasure (PP)	PP1: I think the arrangement of the recommended information is novel, reasonable and orderly, which can bring me pleasure.	Hu (2021)
	PP2: I think the recommended information is presented in the form of videos and pictures, which is visually attractive and can bring me pleasure.	
	PP3: I think the recommended information is based on personal preferences, which saves search time and can bring me pleasure.	
Perceived Arousal (PA)	PA1: I really like the products recommended in the information.	Wu and Wang (2014)
	PA2: I really approve of the products recommended in information.	
	PA3: I am really interested in the products recommended in the information.	
Online Shopping Intention (SI)	SI1: The possibility that I will purchase the recommended products is very high.	Doods (2016)
	SI2: I think the recommended products are well worth buying.	
	SI3: I will recommend relatives and friends to buy the recommended products.	
	SI4: The possibility that I will continue to purchase these products in the future is high.	

4.2 Data Collection and Sample Description

4.2.1 Data Collection

The data was collected via online surveys, utilizing the Wenjuanxing online questionnaire platform. The data collection period lasted for a duration of two weeks, and a total of 83 questionnaires were collected. The subsequent presentation of the sample characteristics is facilitated by Table 2.

Table 2. Sample Characteristics Statistics

Characteristic Variable	Type	Sample Size	Proportion
Gender	Male	88	42.31%
	Female	120	57.69%
Age	18 years old and below	11	5.29%
	19 - 25 years old	127	61.06%
	26 - 35 years old	49	23.56%
	36 - 45 years old	13	6.25%
	46 years old and above	8	3.85%
Education Level	High school and below	17	8.17%
	Junior college	25	12.02%
	Undergraduate	138	66.35%
	Master's degree and above	28	13.46%
Occupation	College students	96	46.15%
	Staff in public institutions	23	11.06%
	Enterprise employees	51	24.52%
	Freelancers	21	10.10%
	Others	17	8.17%
Monthly Online Shopping Expenditure	500 yuan and below	79	37.98%
	501 - 1000 yuan	56	26.92%
	1001 - 2000 yuan	39	18.75%
	2001 - 3000 yuan	19	9.13%
	3001 yuan and above	15	7.21%
Online Shopping Frequency per Month	5 times and below	84	40.38%
	6 - 10 times	79	37.98%
	More than 10 times	45	21.63%

4.2.2 Sample Description

A thorough analysis of the data presented in Table 2 reveals the following key characteristics of the samples in this data collection: Firstly, with regard to gender, the proportion of females participating is relatively high, accounting for 57.69%. Secondly, with respect to age distribution, the majority of the samples are concentrated in the age group of 19 - 25 years old (61.06%), while a considerable number of respondents are between 26 - 35 years old (23.56%). Thirdly, with regard to educational attainment, the majority of respondents possess a bachelor's degree (66.35%) and a master's degree or above (13.46%). Fourthly, with regard to occupation, the majority of the samples are composed of college students (46.15%). The fifth aspect pertains to the respondents' expenditure on online shopping, which is distributed primarily within the range

of 500 yuan and below (37.98%) and 501 - 1000 yuan (26.92%). Finally, with regard to the monthly frequency of online shopping, the samples are predominantly distributed in the range of five times and below (40.38%) and six to ten times (37.98%).

In conclusion, it is evident that the purchasing power and age distribution of the subjects in this questionnaire survey are highly representative and typical. The survey's demographic characteristics align closely with the overall profile of China's online shopping population, exhibiting a tendency towards female-oriented, younger-oriented, and predominantly student-dominated trends.

5. Data Analysis and Empirical Results

5.1 Reliability and Validity Tests

Reliability refers to the stability and consistency of the results of a questionnaire survey when the same method is used to conduct an investigation on the same object. The Cronbach's Alpha coefficient is the standard measurement index. The Cronbach's Alpha coefficient is a measure of internal consistency, with values ranging from 0 to 1. Higher values indicate greater reliability, suggesting stronger internal consistency within the scale, i.e. greater correlation among items and more effective measurement of the concept being investigated. Typically, an Alpha coefficient exceeding 0.7 is indicative of a scale with adequate internal consistency.

In this study, the SPSS software was utilised to conduct a reliability analysis of the questionnaire. The outcomes of this analysis are presented in Table 3.

Table 3. Reliability Analysis of Research Variables

Variable	Project Quantity	Cronbach 's α
Total	33	0.945
Information Arrangement (IA)	3	0.867
Visual Attraction (VA)	3	0.855
Information Reliability (IR)	3	0.871
Degree of Personalization (DP)	3	0.850
Degree of Face Consciousness Satisfaction (FC)	3	0.867
Perceived Pleasure (PP)	3	0.861
Perceived Arousal (PA)	3	0.895
Online Shopping Intention (SI)	4	0.901

The Cronbach's α coefficient value of the overall questionnaire is 0.945, which is greater than 0.9. The Cronbach's α coefficient values of each sub-scale are between 0.850 and 0.901, all greater than 0.8. This finding suggests that the data obtained in this study are reliable.

Validity is defined as the degree to which the measured results correspond to the content to be measured. This study employs the KMO (Kaiser-Meyer-Olkin) test, where the coefficient ranges from 0 to 1. The closer the KMO value is to 1, the higher the validity of the questionnaire. According to prevailing academic standards, a KMO value of at least 0.8 signifies that the dataset is deemed suitable for factor analysis.

Table 4. KMO and Bartlett's Test

KMO and Bartlett's Test			
KMO value			0.952
Bartlett's Test of Sphericity	approximate chi - square		11651.567
	df		300
	p		0.000***

The results of the KMO test demonstrate that the KMO value is 0.952. Concurrently, the outcomes of Bartlett's Test of Sphericity reveal a significant P-value of 0.000***, which is deemed to be substantial at the corresponding level. This finding indicates the rejection of the null hypothesis, thereby suggesting the

presence of a correlation between among the variables. The factor analysis is deemed valid, with the suitability level being considered appropriate.

Table 5. Factor analysis

variable	name	Standardized Factor Loading	Composite Reliability	Average Variance Extracted
IA	IA1	0.844	0.882	0.719
	IA2	0.837		
	IA3	0.855		
VA	VA1	0.812	0.854	0.655
	VA2	0.814		
	VA3	0.802		
IR	IR1	0.841	0.875	0.707
	IR2	0.810		
	IR3	0.865		
DP	DP1	0.805	0.844	0.654
	DP2	0.731		
	DP3	0.762		
FC	FC1	0.813	0.852	0.657
	FC2	0.814		
	FC3	0.804		
PP	PP1	0.857	0.866	0.677
	PP	0.792		
	PP3	0.815		
	PP4	0.815		
PA	PA1	0.861	0.895	0.746
	PA2	0.863		
	PA3	0.866		
SI	SI1	0.851	0.911	0.691
	SI2	0.839		
	SI3	0.809		
	SI4	0.854		

5.2 Model Estimation and Hypothesis Testing

In this study, the maximum likelihood method (ML) in AMOS 26 software is employed to conduct a confirmatory factor analysis (CFA) on the model. The modification indices (MI) are utilised to revise the structural equation model, and the covariance relationship between two sets of error variables is added. A thorough analysis of the model estimation results, as presented in Table 4 and Figure 3, reveals that all goodness-of-fit indices meet the fundamental requirements of the structural equation. Specifically, the chi-square to degrees of freedom ratio is 2.848, the goodness of fit index (GFI) is 0.923, the root mean square error of approximation (RMSEA) is 0.068, the comparative fit index (CFI) is 0.949, the normed fit index (NFI) is 0.928, and the non-normed fit index (NNFI) is 0.946. The model has been found to demonstrate a high degree of compatibility, thus supporting its utilization in the verification of the aforementioned hypotheses.

Table 6. Estimation Results of the Conceptual Model

Relationship	Standardized path coefficient	Unstandardized path coefficient	S.E.	C.R.
PP←IA	-0.458	-0.465	0.112	-0.74
PP←VA	0.768	0.766	0.254	0.294

PP←IR	0.477**	0.55	0.312	2.007
PP←FC	0.482**	0.51	0.575	2.009
PP←DP	0.648**	0.67	0.247	2.084
PA←IA	0.282	0.289	0.268	1.079
PA←VA	-0.105	-0.202	0.467	-1.625
PA←IR	-0.136	-0.19	0.499	-1.485
PA←FC	0.522*	0.492	1.495	1.713
PA←DP	0.773	0.74	1.161	0.29
SI←PP	0.264	0.206	0.185	1.116
SI←PA	0.532***	0.523	0.184	6.247

Note: *** represents a high level of significance with $p < 0.001$, ** represents significance with $p < 0.05$, and * represents a tendency towards significance with $p < 0.1$.

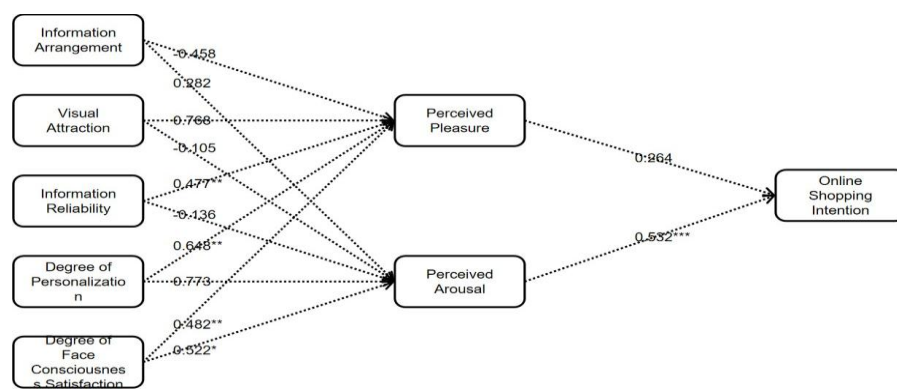


Figure 2. Standardized estimation results of the conceptual model

The findings presented in Table 6 and Figure 3 indicate that the arrangement of information and its visual appeal do not exert a substantial influence on users' perceived enjoyment. Conversely, information reliability, the degree of personalization, and the degree of face-consciousness satisfaction have been found to exert a significant influence on users' emotional responses at the 0.05 level of significance. Consequently, Hypotheses H1a and H2a cannot be verified, while Hypotheses H3a, H4a, and H5a are verified. In terms of perceived arousal, the degree of face consciousness satisfaction significantly affects consumers' emotional changes at the 0.05 significance level, while information arrangement, visual attraction, information reliability, and the degree of personalization do not significantly affect users' emotional experiences. Consequently, Hypothesis H5b is verified, while Hypotheses H1b, H2b, H3b, and H4b cannot be verified. However, perceived arousal has been found to have a significant impact on consumers' online shopping intentions at the 0.001 level, thereby verifying Hypothesis H6b.

5.3 Mediating Effect Test

The present study employs the methodology outlined by Hayes (2013) to conduct a Bootstrap test for multiple mediating effect analysis. The multiple mediating effect analysis model is presented in Figure 4.

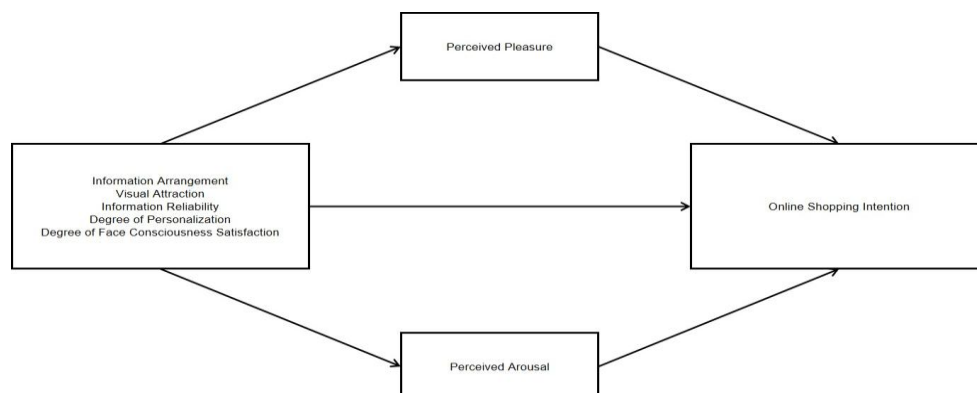


Figure 3. Multiple Mediating Effect Analysis Model

The present study employed the Process plug-in provided by Hayes, selected Model 4, and set the sample size to 5,000, as well as setting the confidence interval to 95%. The Bootstrap sampling method was set as the bias-corrected non-parametric percentile method. The mediating effect test procedure proposed by Wen Zhonglin et al. (2014) was then followed, with data analysis being carried out accordingly. The specific analysis results are as follows.

(1) An analysis of Table 7 reveals that the combined impact of the information reliability factor and the degree of personalization factor on consumer online shopping intention reached a substantial level of significance. The 95% confidence intervals of the Bootstrap test did not include 0. Specifically, the total effect size of the information reliability factor was 0.277, while the total effect size of the degree of personalisation factor was 0.075. This finding suggests that both factors exert a substantial influence on consumers' online shopping intentions, potentially impacting them in a favourable manner.

Table 7. Bootstrap Estimation Results of the Total Effect

Model	Total Effect	Standard Error	t	p	Confidence Interval
IA→ SI	0.056	0.043	0.19	0.056*	(-0.029 , 0.137)
VA→ SI	0.006	0.052	0.928	0.005***	(-0.096 , 0.105)
IR→ SI	0.277	0.051	0	0.276	(0.18 , 0.364)
DP→ SI	0.075	0.058	0	0.519	(0.454 , 0.688)
FC→ SI	0.054	0.056	0.355	0.052*	(-0.058 , 0.163)

(2) As demonstrated in Table 8, it is evident that both pleasant emotions and evoked emotions exert a substantial mediating influence on the pathways through which visual appeal factor, Degree of Face Consciousness Satisfaction, and personalization degree factor influence consumers' online shopping intentions. However, in the paths through which the information arrangement factor and the information reliability factor affect consumers' online shopping intentions, their mediating effects are not significant, and the confidence intervals of the Bootstrap test include 0.

Table 8. Bootstrap Estimation Results of the Total Effect

Model	Mediating Effect	Standard Error	t	p	Confidence Interval
1:IA→ M1→ M2→Y	0.056	0.005	0.871	0.381	(-0.007 , 0.014)
2:VA→ M1→ M2→Y	0.027	0.013	2.29	0.021**	(0.005 , 0.053)
3:IR→ M1→ M2→Y	0.013	0.007	1.571	0.119	(-0.004 , 0.025)
4:FC→ M1→ M2→Y	0.039	0.018	2.032	0.042**	(0.002 , 0.073)
5:DP→ M1→ M2→Y	0.025	0.013	2.31	0.022**	(0.005 , 0.045)

(3) As demonstrated in Table 9, both the information reliability factor and the degree of personalization factor have been shown to exert a significant direct influence on consumers' intentions to engage in online shopping. The confidence intervals of the direct effects do not include 0, specifically the direct effect of the information reliability factor is 0.184, while the direct effect of the degree of personalization factor is 0.327.

Table 9. Bootstrap of the Direct Effect

Model	Total Effect	Standard Error	t	p	Confidence Interval
IA→ SI	-0.013	0.038	0.724	0.014***	(-0.088 , 0.061)
VA→ SI	-0.087	0.047	0.063	0.087***	(-0.18 , 0.005)
IR→ SI	0.184	0.045	0	0.189	(0.094 , 0.27)
DP→ SI	0.327	0.058	0	0.295	(0.212 , 0.439)
FC→ SI	-0.07	0.052	0.177	0.068***	(-0.173 , 0.032)

In summary, the multiple mediating effect analysis model established in this study demonstrates that not all of the individual mediating effects of perceived pleasure and perceived arousal are significant. Furthermore, the combined mediating effects of these factors are only partially significant, with perceived pleasure exhibiting a more pronounced mediating role. The visual appeal, reliability, comprehensiveness, and personalisation of the recommendation system have been demonstrated to influence consumers' perceived pleasure and arousal, which in turn have been shown to influence their intentions to shop online. Consequently, it can be concluded that perceived pleasure plays a pivotal mediating role in the context of information recommendation services.

5. Research Conclusions and Managerial Implications

6.1 RESEARCH CONCLUSIONS

The present study is founded upon the Stimulus-Organism-Response (SOR) theory. It establishes a multiple mediating effect model of information recommendation services on consumers' online shopping intentions and draws the following conclusions through empirical analysis:

Firstly, the reliability of information recommendations, the degree of personalisation, and the degree of face-consciousness satisfaction all influence consumers' perceived pleasure. Additionally, it is noteworthy that the degree of face consciousness satisfaction exerts a significant influence on perceived arousal, thereby impacting consumers' online shopping intentions. The present study thus demonstrates that perceived pleasure assumes a critical mediating role in information recommendation services. The information reliability factor and the degree of personalisation factor have significant direct impacts on consumers' online shopping intentions. Secondly, information recommendation services influence consumers' online shopping intentions through multiple dimensions affecting perceived pleasure and perceived arousal. Specifically, personalisation degree has the strongest impact on perceived pleasure, followed by significant effects from information reliability and degree of face consciousness satisfaction. Visual attractiveness and information arrangement have comparatively weaker influences on perceived pleasure. This finding suggests that information recommendation services can enhance consumers' perceived pleasure and purchase intentions through personalised product recommendations. Furthermore, the reliability of information and the satisfaction of face consciousness have also been demonstrated to enhance perceived pleasure and assist consumers in making more informed decisions. Furthermore, this study found that perceived arousal positively impacts consumers' intentions to shop online. Once consumers experience a certain level of perceived pleasure, it serves as a catalyst for their purchase intentions.

Thirdly, the present study demonstrates that perceived arousal serves as a mediator in the relationship between information recommendation services and consumers' online shopping intentions. While information recommendation services can directly influence purchase intentions, the role of perceived arousal in consumers' perception of these services cannot be overlooked. Consequently, it is imperative for Chinese e-commerce platforms to prioritise the enhancement of user experience in the development of information recommendation services. This should encompass the improvement of visual appeal, the

reliability of information, the degree of personalisation, and the satisfaction of face-consciousness. By optimising the formation of perceived arousal, these platforms can enhance consumers' online shopping intentions.

6.2 Managerial Implications

The findings of this study suggest that information recommendation services exert a considerable influence on Chinese consumers' online shopping intentions. Consequently, it is imperative for Chinese e-commerce platforms to prioritise the following aspects when enhancing the quality of information recommendation services:

Firstly, there is a necessity to prioritise enhancing the personalisation degree of information recommendation services in order to meet consumer needs. Personalised recommendations facilitate the identification of products that align with consumer preferences, thereby enhancing satisfaction and stimulating purchase intentions. E-commerce platforms can leverage consumers' browsing history, purchase records, and personal profiles to tailor personalised recommendation services.

Secondly, the reliability and accuracy of information recommendations must be ensured. During online shopping, reliable information enhances consumer trust and purchase intentions. Consequently, it is incumbent upon e-commerce platforms to guarantee the accuracy of product information and to provide credible data, such as product evaluations, customer reviews, and after-sales service ratings, in order to strengthen consumer trust.

Thirdly, it is essential to augment the consideration of face consciousness satisfaction in recommendations. Research has demonstrated that consumers who experience satisfaction with their face consciousness are more likely to make purchase decisions. Consequently, e-commerce platforms should offer supplementary options for luxury brands and exclusive selections for high-end items when making recommendations.

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