Factors Influencing Chinese Consumers' Intentions to Purchase Museum's Cultural and Creative Products

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Abstract. The sales of cultural and creative products can bring substantial profit for the museums. Facing the impact of the COVID-19 pandemic, higher sales of cultural and creative products are pivotal for the sustainable development of museums. This study, based on the decomposed Theory of Planned Behavior (TPB), constructed a model of factors influencing the intentions to purchase Museum's Cultural and Creative Products and analyzed the 1,115 questionnaires returned. The empirical results showed good fit and explanatory power of the model and validated the decomposed TPB.

1 Introduction

The COVID-19 pandemic and the resulting lockdowns have severely impacted the museum industry, and museum revenues plunged due to smaller numbers of visitors and lower government funding. According to a UNESCO survey, museums have been seriously battered by the pandemic, 43% of which are on the brink of closure, with profits reduced by an average of 80%. The drop in income badly affects museum operations.

In such a context, the sales of cultural and creative products have become a key factor that makes up for the losses of museums and realizes the sustainable development of museums. Museum's Cultural and Creative Products are products that related to the specific museums or their collections and sold in museum shops. Selling cultural and creative products can significantly increase the income of museums. For example, in 2021, the total sales of cultural and creative products by the Suzhou Museum hit RMB 42,029,900 despite the impact of the pandemic, accounting for 30% of the museum's total income. This example suggests that cultural and creative products can reap great profits for museums and play a crucial role in tiding museums over in difficult times.

The suitability of products for consumers is of vital importance to the design of popular cultural and creative products. To help museums achieve this goal, this study investigates consumers' willingness to buy cultural and creative products (i.e., purchase intention) and analyzes factors related to the willingness to buy these products, in a bid to provide a reference for museums and help them develop better products.

2 Literature review

Purchase intention refers to the likelihood that consumers are willing to adopt specific purchase behaviors. In the exploration of factors affecting willingness to buy, the Theory of Planned Behavior (TPB) is widely used because of its good predictive power and explanatory power for individual behavior. Madeline Judge et al. (2019) used the theory to study and predict intentions to purchase sustainable housing, and the results showed that attitudes, subjective norms, perceived behavioral control, and green consumer identity independently predicted higher intentions to purchase a sustainability-certified dwelling and that these two types of elements altogether accounted for 65% of the variance in intentions [1].

The TPB has greater explanatory power for individual behavior, and many researchers have applied it to the museum industry to study visitors' behavioral intentions. For example, Naoko Yamada (2012) [2] used the TPB to analyze beliefs underlying the act of visiting the Indiana State Museum; Heesup Han (2017) integrated the TPB with the Norm Activation Theory to analyze the drivers of customers' decision to visit an environmentally responsible museum [3]; Timothy Jung (2017)[4] adopted the TPB to investigate customers' intentions to use wearable augmented reality devices in art galleries.

Along with the need to explore the psychological perceptual elements that influence individual behavior, the belief dimension of the TPB was refined and generalized, with the decomposed Theory of Planned Behavior developed. The decomposed TPB was proposed by Taylor and Todd (1995)[5], which

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decomposes the three core components of the TPB, namely attitude, subjective norms, and perceived behavioral control, to explore deeper factors affecting individual behavior. This variation of the TPB shows its explanatory power on examing people's acceptance of new technologies (Taylor and Todd, 1995[5]; Hyang Jin Huh (2009)[6]; Ahmed ,2016[7]) and achieved very good results. Meanwhile, this theory has been applied in studies on other topics in addition to information technology, such as online shopping (Lin, 2007)[8]. Both the study by Lin(2007)and the study by Hyang Jin Huh (2009) suggested that the decomposed TPB has greater explanatory power for behaviors and behavioral intentions than the TPB, indicating that the decomposed TPB is more advanced[6][8].

In addition, the TPB has been widely used in surveys on consumption intention. Amaro (2015)[9] used the decomposed TPB in a survey on consumers' intentions to purchase tourism products online. Tsai et al. (2015)[10] employed the decomposed TPB to analyze the antecedent factors that influence consumer purchase of organic food. The results of those study indicate that decomposed TPB is suitable for the analysis of factors influencing purchase intention. As the decomposed TPB can classify beliefs in a structured and purposeful way through the theoretical classification of premises and assumptions, it can have a deeper understanding of the reasons why the people develop their behavioral intentions and performing behaviors than the TRA and the TPB, thus understanding individual behavior more accurately.

In summary, the TPB and the decomposed TPB have been adopted by researchers to study behavioral intentions in various fields such as green consumption, e-commerce, and family insurance, and investigate factors affecting consumers' purchase intentions. However, among studies focused on the museum industry, factors affecting the willingness to buy cultural and creative products have been rarely studied. Consumers' willingness to buy Museum's Cultural and Creative Products and their purchase behaviors belong to the scope of consumers' purchase intentions, so it is essentially about the relationship between attitude, behavioral intention, and behavior. The decomposed TPB is suitable for research on such a topic as it fits well with surveys on consumer demands for Museum's Cultural and Creative Products due to its detailed classification of factors, broad application, and great explanatory power. Therefore, the theory was used in this study as a basis to explore factors affecting consumers' intentions to purchase Museum's Cultural and Creative Products. In addition, a questionnaire survey and a structural equation modeling analysis were conducted to verify the results, providing insights into the design, promotion, and marketing of these products.

3 Research hypotheses

The conclusion that both attitudes and subjective norms significantly affect behavioral intentions has been widely verified in the TRA, the TPB, and the decomposed TPB, and research has shown that consumers' purchase intentions are stronger when their attitudes are more positive and subjective norms are more favorable to them. In addition, in many empirical studies applying the TPB and the decomposed TPB, perceived behavioral control can also well explain individuals' behavioral intentions and behaviors, and higher perceived behavioral control of individuals is more likely to motivate their behavioral intentions. This paper suggests that consumers' purchase of Museum's Cultural and Creative Products is a thoughtful and planned behavior that is rational and their purchase intentions are rational behavioral intentions. Therefore, consumers' purchase intentions are affected by attitude, subjective norms, and perceived behavioral control, and the following hypotheses were formulated.

H1: The more positive consumers' attitudes toward purchasing Museum's Cultural and Creative Products are, the more their purchase intentions are.

H2: The more favorable consumers' subjective norms for Museum's Cultural and Creative Products are, the more their purchase intentions are.

H3: The higher consumers' perceived behavioral control over Museum's Cultural and Creative Products is, the more their purchase intentions are.

In the decomposed TPB, Taylor and Todd divided factors affecting attitude into perceived usefulness, perceived ease of use, and compatibility. The emphasis of perceived ease of use is relative to the complexity of information systems, and compatibility is about the extent to which new systems match the individuals' ways of working. As these two variables do not fit well with the case of buying Museum's Cultural and Creative Products, they were not incorporated into the model in this paper, and only perceived usefulness was selected.

The unique cultural factors of museums can increase their added value and improve their market competitiveness. Factors related to intellectuality (e.g., the museum's features, heritage beauty, cultural profundity, and indigenous customs) are ones that consumers consider first when purchasing Museum's Cultural and Creative Products.

The development of cultural and creative products based on the collections of museums includes extensive use of creative thinking and integration of creative elements. Consumers attached great importance to factors such as cultural connotation and unique creativity when choosing products.

In this paper, attitude is divided into three dimensions, namely perceived usefulness, perceived culture, and perceived creativity, and the following hypotheses were formulated.

H4: The stronger consumers' perceived usefulness from Museum's Cultural and Creative Products is, the more positive their attitudes toward purchase are.

H5: The stronger consumers' perceived culture from Museum's Cultural and Creative Products is, the more positive their attitudes toward purchase are.

H6: The stronger consumers' perceived creativity from Museum's Cultural and Creative Products is, the more positive their attitudes toward purchase are.

This study argues that consumers are affected by groups of people, the mass media, and the commercial environment around them when purchasing Museum's Cultural and Creative Products. Therefore, the following hypotheses were formulated.

H7: A more positive interpersonal influence of consumers' purchase of Museum's Cultural and Creative Products is more favorable for their subjective norms.

H8: A more positive social influence of consumers' purchase of Museum's Cultural and Creative Products is more favorable for their subjective norms.

Self-efficacy refers to a consumer's self-assessment of his or her capabilities to shop online, and facilitating conditions reflect the availability of Internet equipment, time, and money needed by online shoppers. Higher self-efficacy and more favorable facilitating conditions make individuals think that it is easy to perform a certain behavior. In this study, control beliefs are divided into self-efficacy and facilitating conditions. The following hypotheses were formulated.

H9: When consumers are buying Museum's Cultural and Creative Products, the higher their self-efficacy is, the stronger perceived behavioral control is.

H10: When consumers are buying Museum's Cultural and Creative Products, the more facilitating conditions are, the stronger perceived behavioral control is.

A theoretical model of consumers' intentions to purchase Museum's Cultural and Creative Products can be constructed based on the above theories and hypotheses, as shown in Figure 1.

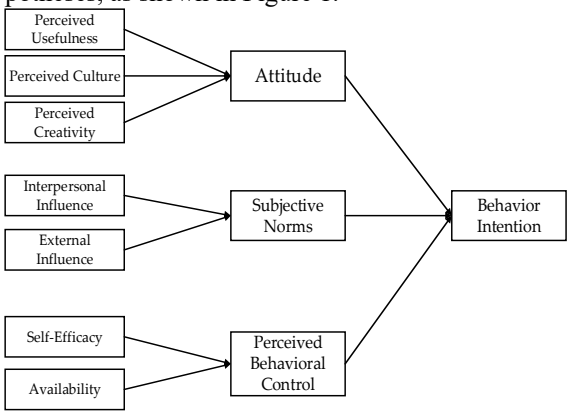

Figure 1. Theoretical model

4 Methodology

4.1 Questionnaire Design

The questionnaire consists of three parts: the basic situation of the respondent's purchase of museum cultural and creative products, the measurement items of the re-search variables, and the basic personal information of the respondent. The first part, the basic situation of the respondent's purchase of museum cultural and creative products, includes five items: the frequency of visiting museums, the frequency of buying cultural and creative products, the price range of products, the way of purchase, and preferences. The second part, the measurement items of the research variables, includes 11 latent variables and 35 items, in which a 5-point five-point Likert scale was used for the measurement (1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strong agree).

The third part is the basic personal information of the respondent, including gender and education.

4.2 Data Collection

Convenience sampling was used in the questionnaire survey of this study, and the questionnaires were distributed and collected in three different ways. 1,207 questionnaires were collected. Those completed within an unreasonably short time or with highly consistent answers were removed, and 1,115 valid question-naires were obtained, with a recovery rate of 92.38%. SPSS26.0 and AMOS26.0 were used for data analysis and model construction.

4.3 Analysis of the Demographic Characteristics of the Sample

The demographic characteristics of the sample collected by the questionnaire survey include gender, age, education, occupation, and monthly disposable income.

In terms of the gender of the respondents, 42.0% were male, and 58.0% were female. In terms of the highest education degree of the respondents, most of them had obtained a bachelor's degree and above, accounting for 77% of the total, with those with a bachelor's degree making up 56.5%, and those with a master's degree and above making up 20.4%. Respondents with a degree from a junior college or those with a degree from a senior high/technical secondary school and below accounted for 17.0% and 6.0%.

5 Results

5.1 Reliability and Validity Analysis

The reliability of questionnaire data can be measured by Cronbach's α. As shown in Table 1, the reliability of each item is greater than 0.8. The variables showed good internal consistency, and the answers were reliable. Construct validity of the scale was tested from two perspectives, namely convergent validity and discriminant validity. The convergent validity of the scale was measured by the composite reliability (CR) and the average variance extracted (AVE). According to Table 1, the value of CR ranges from 0.84 to 0.92, exceeding the recommended threshold, and all the AVE values are greater than 0.6, indicating good convergent validity of the scale.

Table1. Reliability and convergent validity

Variable	Standardized factor loading	CR	AVE	Cronbach's α
Perceived usefulness(PU)		0.867	0.623	0.864
PU1:I think Museum's Cultural and Creative Products have good quality.	0.926			
PU2:I think Museum's Cultural and Creative Products are commemorative.	0.787			
PU3:I think Museum's Cultural and Creative Products have a decorative function.	0.655			
PU4:I think Museum's Cultural and Creative Products are good gifts.	0.765			
Perceived culture		0.917	0.734	0.911
PCU1:I think I can learn historical knowledge from Museum's Cultural and Creative Products.	0.897			
PCU2:I think Museum's Cultural and Creative Products have special cultural meanings.	0.932			
PCU3:I think Museum's Cultural and Creative Products have profound historical significance.	0.763			
PCU4:I think Museum's Cultural and Creative Products have artistic value.	0.826			
Perceived creativity		0.86	0.673	0.855
PCR1:I think Museum's Cultural and Creative Products are unique.	0.747			
PCR2:I think Museum's Cultural and Creative Products are creative.	0.906			
PCR3:I think Museum's Cultural and Creative Products are novel and interesting.	0.8			
Interpersonal influence		0.886	0.724	0.877
II1: My classmates/colleagues would like to buy Museum's Cultural and Creative Products.	0.795			
II2: My family members and friends consider it a good idea to buy Museum's Cultural and Creative Products.	0.754			
II3: My family members and friends recommend Museum's Cultural and Creative Products to me.	0.985			
Social influence		0.862	0.68	0.848
SI1: Museum's Cultural and Creative Products are frequently promoted by the media.	0.755			
SI2: Good comments on Museum's Cultural and Creative Products can be seen on social platforms.	0.721			
SI3: Stars and influencers recommend Museum's Cultural and Creative Products.	0.975			
Self-efficacy		0.886	0.723	0.882
SE1: It is easy to find the places that sell cultural and creative products in museums with the help of instructions or	0.954			
SE2: It is easy to collect information when purchasing Museum's Cultural and Creative Products.	0.784			
SE3:I can easily buy Museum's Cultural and Creative Products as long as I want to.	0.802			
Facilitating conditions		0.889	0.73	0.883
FC1:I am financially capable of buying Museum's Cultural and Creative Products.	0.797			
FC2:I have time to choose Museum's Cultural and Creative Products.	0.974			
FC3: Many stores sell Museum's Cultural and Creative Products.	0.779			
Attitude		0.895	0.742	0.889
AT1:I consider it a good idea to buy Museum's Cultural and Creative Products.	0.974			

AT2:I think it is a wise idea to buy Museum's Cultural and Creative Products.	0.785			
AT3:I think it is pleasant to buy Museum's Cultural and Creative Products.	0.813			
Subjective norm		0.844	0.646	0.835
SN1: The people I care about (classmates/colleagues/family members) support my purchase of Museum's Cultural and	0.914			
SN2: The people I care about (classmates/colleagues/family members) think that I should buy Museum's Cultural and	0.746			
SN3: People who can influence me (teachers/superiors) buy Museum's Cultural and Creative Products.	0.739			
Perceived behavioral control		0.927	0.81	0.925
PBC1: It is not difficult to buy Museum's Cultural and Creative Products.	0.861			
PBC2:I have time, resources, and opportunities to buy Museum's Cultural and Creative Products.	0.847			
PBC3: The purchase of Museum's Cultural and Creative Products is entirely decided by me.	0.985			
Purchase intention		0.883	0.718	0.876
PI1:I am willing to buy Museum's Cultural and Creative Products.	0.778			
PI2:I will actively search for and purchase Museum's Cultural and Creative Products.	0.958			
PI3:I would like to recommend Museum's Cultural and Creative Products to the people around me.	0.795			

Note: C.R=composite reliability; AVE = average variance extracted

Table2. Discriminant validity

	PU	**PCU**	**PCR**	**AT**	**II**	**EI**	**SN**	**SE**	**AVA**	**PBC**	**BI**
PU	0.789										
PCU	0.031	0.857									
PCR	-0.018	-0.004	0.82								
AT	0.112	0.098	0.081	0.861							
II	0.003	0.016	0.021	-0.015	0.851						
EI	-0.025	-0.004	0.006	0.016	-0.044	0.825					
SN	0.002	0.002	-0.032	0.033	0.076	0.026	0.804				
SE	0.061	0.046	0.002	-0.034	-0.089	0.021	0.029	0.85			
AVA	-0.022	-0.011	0.03	0.061	0.035	-0.015	-0.021	-0.014	0.855		
PBC	0.012	-0.039	-0.041	0.015	0.028	0.035	0.004	0.064	0.073	0.9	
BI	0.026	-0.042	0.054	0.142	-0.014	0.064	0.078	0.02	0.034	0.159	0.848

The discriminant validity of this model is analyzed and shown in Table 2, the square roots of the AVE of the factors in this model are greater than their correlation coefficients with other factors. Therefore, the scale had good discriminant validity.

5.2 The Structural Model

A scale that passes the reliability and validity tests can be further analyzed, and the hypotheses of the model can be assessed. Amos 26.0 was used to obtain fit indices of the model. The value of the model was 1.677, GFI was 0.955>0.9, AGFI was 0.948>0.9, NFI was 0.961>0.9, TLI was 0.983, CFI=0.984>0.9, and RSMEA=0.025<0.10. All the above fit indices met the criteria, indicating a good fit of the model. Table3 shows the standardized path coefficients and the significance of each path in the model. Despite H8, most research hypothesis are valid.

Table3. Standardize path coefficients and significance of each path

Hypothesis	Relationships	Path coefficient	Supported
H1	AT→PI	0.13^{***}	Yes
H2	SN→PI	0.08^{*}	Yes
H3	PBC→PI	0.14^{***}	Yes
H4	PU→AT	0.16^{***}	Yes
H5	PCU→AT	0.11^{**}	Yes
H6	PCR→AT	0.09^{**}	Yes
H7	II→SN	0.07^{*}	Yes
H8	SI→SN	0.03	No
H9	SE→PBC	0.09^{*}	Yes
H10	FC→PBC	0.1^{*}	Yes

Note: *p<0.05,**p<0.01,***p<0.001

6 Discussion

To investigate factors affecting consumers' intentions to purchase Museum's Cultural and Creative Products, this study demonstrated the influences of attitude, subjective norms, and perceived behavioral control on the intentions to buy Museum's Cultural and Creative Products and further explored factors affecting these three variables.

Research on attitudes demonstrates that the features of museums and the creativity contained in cultural and creative products are significant ways to attract consumers, and the uniqueness of a museum and the culture embedded in its collections should be highlighted in its development of cultural and creative products.

The result of subjective norm suggests that consumers' subjective norms are affected by peers and seniors, but not greatly affected by social influence. The reason might be that museum fans have not formed specific social groups yet despite the popularity of museums and Museum's Cultural and Creative Products are not heatedly discussed on social platforms. In addition, these products have not received much attention from the media, resulting in the fact that consumers' subjective norms are not influenced by social groups or the media.

The study on the factors influencing perceived behavioral control verified the previous research finding that consumers' assessments of their own situations and the convenience of purchases are important factors affecting perceived behavioral control. Museums can draw on this finding to improve their ways of selling cultural and creative products and adjust product prices to earn more profits.

7 Limitations and Suggestions

This study also has some limitations. Although most of the questionnaire respondents have purchased cultural and creative products, the scenarios in which the purchase intentions of those without such a purchasing experience might be different. In addition, this study has not examined whether differences in consumer characteristics (e.g., age, income, occupation, etc.) have an impact on the willingness to purchase cultural and creative products. Future research could focus on these two aspects and explore what features of products significantly affect consumers' purchase intentions from the perspective of cultural and creative products.

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