

## Article

# Sinicized Exploration of Sustainable Digital Fashion: Chinese Game Players' Intention to Purchase Traditional Costume Skins

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**Abstract:** Digitalization is not only blurring boundaries between the real world and virtual space, but, since COVID-19, it has also made the traditional fashion industry less reliant on physical materials. In this context, digital fashion and virtual design have emerged. Although China has started to digitally distribute cultural products based on the digitization of museums, there is still a gap in the field of digital fashion. In order to achieve the sustainable development of Chinese traditional costume culture and explore the Sinicization of digital fashion, this article proposes to transfer Chinese traditional costumes into a series of digitalized commodities, serving as computer game skins for online sales. This research involved the construction of a hypothetical model based on the technology acceptance model (TAM), including perceived usefulness, purchase price perceptions, perceived playfulness, cultural elements authenticity, satisfaction, and purchase intention through the related literature. In total, the survey data of 219 Chinese game players were collected, and a structural equation model (SEM) was constructed to verify these research hypotheses. The results showed that perceived playfulness and cultural elements authenticity had a positive effect on the players' satisfaction and purchase intentions, whereas perceived usefulness had a negative influence on the players' satisfaction and purchase intentions. In addition, purchase price perceptions had no significant negative effect on the players' satisfaction or their purchase intentions. Overall, this study contributes to the co-development of digital fashion and traditional costume culture in China, as well as the improvement of product design and marketing management for game companies.

**Keywords:** digital fashion; digitalized collection; online game; Chinese traditional costume; virtual game items; structural equation modeling



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## 1. Introduction

Global political and economic changes, coupled with the ongoing COVID-19 pandemic, have further instilled the necessity for rapid digital innovation in fashion [1]. Fashion designers and brands are attempting to enter the virtual space and computer game world in new ways [2]. The first virtual fashion brand, Tribute Brand, allows consumers to upload a photograph of themselves without consideration of size or gender; the consumers then receive a digital garment with zero pollution. The Fabricant, a Dutch fashion company, came under the spotlight after they auctioned a digital-only dress called Iridescence for cryptocurrency worth USD 9500 in May 2019 [3]. Furthermore, various luxury brands have collaborated with game companies to launch game character clothing. Gucci was the first brand to partner with Drest, a game in which players make themselves up as hyper-realistic supermodels. More recently, more than 200 other luxury brands, such as Prada, Off-White, and Christian Louboutin, have joined this trend [4]. Digital fashion refers not only to a processing tool for the development and visualization of virtual goods, but also as a marketing or educational tool for online shops and virtual museums to manufacture digital-only end goods for virtual use [5]. Recent examples of cooperation between fashion brands and game companies show that digital fashion might become an essential part of business management and fashion design practice [2].

In the post-epidemic period, China has formed a new creative cultural model, namely, “museums + digital collections” based on the digitization of museums [6]. To bequeath Chinese traditional culture, the National Museum of China, the most representative museum in China, has launched a series of digitalized collections through digitalization technology [6]. However, compared with foreign countries, China has paid little attention to digital fashion. Therefore, in order to achieve the sustainable development of Chinese traditional costume culture and explore the Sinicization of digital fashion, this paper proposes to transfer Chinese traditional costumes, dating from hundreds of years ago and now collected in museums, into digitalized commodities, serving as game character skins for sale. The paper also investigates the factors in Chinese game players’ intentions to purchase traditional costume skins by constructing theoretical models and hypotheses.

Prior studies centered on the positive effects of games. For example, online games bring not only leisure and pleasure to players [7], but they have also enhanced their cognitive abilities [8], learning capabilities [9], prosocial thoughts [10] and cooperation [11], aiming at specific problems or specific groups. However, further research about the intention to purchase virtual goods in computer games needs to be conducted. In their research about Habbo Hotel, an online game, Lehdonvirta et al. [12] found that even nonrealistic digital clothing is regarded as a commodity, and users are willing to pay for virtual goods. Therefore, the exploration of the factors influencing the purchase of virtual goods in computer games can reveal players’ intentions of use, and improve the service quality of game companies and the operating performance of online games. Laura Belmont, a fashion expert from a sustainability nonprofit, claims that this virtual clothing could help replace fashion-focused pieces that are worn just once, potentially reducing the amount of waste that this industry generates [4]. Furthermore, the combination of online games and traditional clothing can be considered as an attempt to lead modern fashion consumption and the sustainable development of Chinese traditional costumes in a digitalized manner [13].

The technology acceptance model (TAM) is currently the most influential model for explaining and predicting people’s behavior in their use of products and information technologies [14]. Considering the virtual items’ specificity, this paper presents some adjustments based on the TAM. Gefen and Straub classified the TAM according to the purpose of use, and argued that when the information technology or product is used as a tool to achieve other purposes, the perceived ease of use has no significant influence on the intention of use [15]. In this paper, after an interview with five players using traditional costume skins to play games, it was found that using game skins is not operationally difficult. Therefore, the perceived ease of use was removed from the research model in this paper.

## 2. Literature Review and Hypothesis Deduction

### 2.1. Perceived Usefulness

Perceived usefulness is the degree to which users think that using a particular service or product would enhance their job performance [16]. In the TAM, perceived usefulness is considered to be the main factor influencing users’ attitudes and intentions, both of which ultimately determine their behaviors. The positive effect between perceived usefulness and users’ attitudes was verified in previous studies, such as the willingness to use mobile networks [17], educational technologies [18], MOOCs [14] and virtual-reality simulations [19]. In the study of online game platforms, it was pointed out that if players perceive a game platform as useful, they will continue to use it, which will also positively affect their purchase intentions toward virtual goods on the platform [20]. Similarly, if a virtual item is perceived as useful, game players will be more likely to acquire positive emotions when using it and tend to purchase it. Therefore, the following hypotheses are proposed:

**Hypothesis 1 (H1).** *Perceived usefulness has a positive correlation with the Chinese players' satisfaction from using traditional costume skins.*

**Hypothesis 2 (H2).** *Perceived usefulness has a positive correlation with Chinese players' intentions of purchasing traditional costume skins.*

## 2.2. Purchase Price Perceptions

From the consumers' perspective, the purchase price is what is given up or sacrificed to obtain a service or a product [21]. Purchase price perceptions refer to the consumers' consideration of the price to evaluate something's worthiness or utility [22]. Previous research indicated that the higher purchase price perceptions negatively influenced the consumers' perceived value and purchase intentions, whereas lower purchase price perceptions were positively related to the consumers' perceived value and purchase intentions. Li et al. [23] concluded that perceived price perceptions negatively affected the users' willingness to pay for an online Q&A platform. Hsiao [24] found that perceived price perceptions had a negative influence on perceived value in the research of the willingness to pay for social networking services. Some game players may consider skins, a virtual good, as a low practical value commodity compared with a physical good. Others may think that they can obtain a similar game experience using some free skins, thus it is not necessary to pay for them. Therefore, the following hypotheses are proposed:

**Hypothesis 3 (H3).** *Purchase price perceptions have a remarkably negative correlation with the Chinese players' satisfaction from using traditional costume skins.*

**Hypothesis 4 (H4).** *Purchase price perceptions have a remarkably negative correlation with Chinese players' intentions of purchasing traditional costume skins.*

## 2.3. Perceived Playfulness

Perceived playfulness was used in the study of child behavior first. Barnett [25] defined it as the ability to draw satisfaction and fulfill one's intrinsic motives interacting with an activity or a behavior. Previous research showed that if users had a greater ability to perceive the playfulness trait, they would achieve more positive emotions and a higher level of satisfaction. In the study of computer usage, it was found that perceived playfulness positively influenced users' consumption behaviors. Martocchio et al. [26] concluded that perceived playfulness made users show a higher performance and higher emotional responses when performing computer training tasks. Moon et al. [27] found that perceived playfulness can increase individuals' perceptions about concentration, curiosity and enjoyment while using the World Wide Web, and it had a much more significant influence on use intentions than perceived usefulness and perceived ease of use. Game skins, a visually stimulating element in the game design, offer not only a specific image to game characters, but they have also provided a visual experience for game players. For players, game skins can bring them more excitement and pleasure, resulting in buying more game skins. Therefore, the following hypotheses are proposed:

**Hypothesis 5 (H5).** *Perceived playfulness has a positive correlation with the Chinese players' satisfaction from using traditional costume skins.*

**Hypothesis 6 (H6).** *Perceived playfulness has a positive correlation with Chinese players' intentions of purchasing traditional costume skins.*

#### 2.4. Cultural Elements Authenticity

Authenticity is often used to appeal to consumers in beverage and food advertisements because it is regarded as a criterion for evaluating cultural products [28]. Littrell et al. [29] noted that authenticity included “uniqueness and originality, workmanship, cultural and historical integrity, aesthetics, function and use, craftspeople and materials, as well as shopping experience and geniuses”. Laroche et al. [30] first proposed the term cultural elements authenticity and introduced it into the study of purchase intentions toward international brands using Chinese elements. According to Lee et al. [31], consumers’ attitudes toward traditional cultural products are divided into four levels, which are cultural/historical integrity, uniqueness, manufacturing properties and aesthetic properties. Cultural/historical integrity refers to conventional cultural products with authentic historical value and traditional cultural connotation, originated from the original culture. Aesthetic properties refer to the materialistic features of the pattern, color and design that conform to traditional aesthetic satisfaction. In addition, Lee et al. concluded that Chinese consumers pay more attention to cultural/historical integrity and aesthetic properties of cultural products, and both of them positively influence their purchase intentions.

Laroche et al. [30] borrowed Lee et al.’s [31] definition of traditional cultural product attitudes (TCPs) and defined cultural elements authenticity as cultural uniqueness originating from the original culture and consisting of integrity and aesthetic features. Laroche et al. [30] came to a conclusion that for Chinese consumers and Chinese immigrants, cultural elements authenticity had a positive impact on purchasing international brand products with Chinese cultural elements. Traditional costume skins with ancient Chinese clothing elements, such as traditional colors, patterns and styles, meet Chinese consumers’ aesthetic requirements and are consistent with cultural and historical values in modern society. Therefore, the following hypotheses are proposed:

**Hypothesis 7 (H7).** *Cultural elements authenticity has a significantly positive correlation with the Chinese players’ satisfaction from using traditional costume skins.*

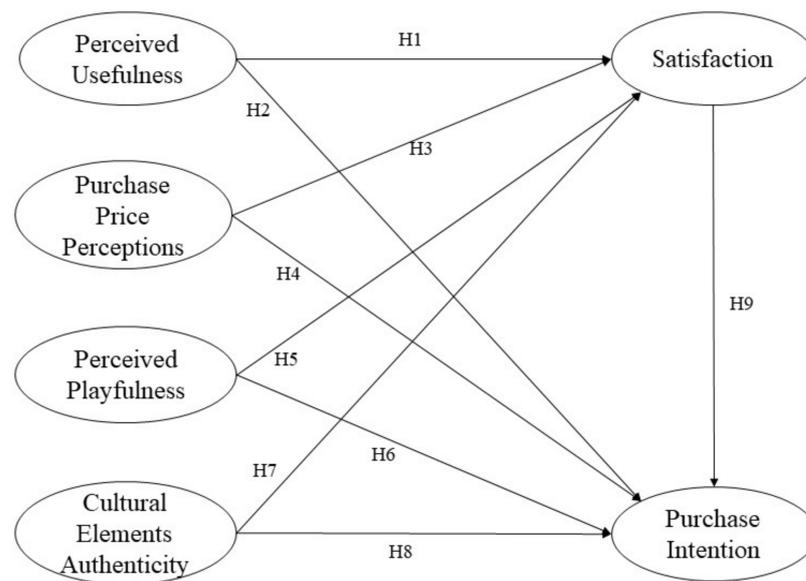
**Hypothesis 8 (H8).** *Cultural elements authenticity has a significantly positive correlation with Chinese players’ intentions of purchasing traditional costume skins.*

#### 2.5. Satisfaction and Purchase Intention

Consumer attitudes and purchase intentions have been studied in many models, such as the theory of planned behavior (TPB) [32] and technology acceptance model (TAM) [33]. Satisfaction is one of the consumer attitudes, referring to the consumers’ assessment of the service and product characteristics to meet their expectations [34]. Purchase intention is a tendency of consumers’ behaviors [32]. Previous studies [35,36] showed that the consumers’ satisfaction positively affected their purchase intentions. Therefore, the following hypothesis is proposed:

**Hypothesis 9 (H9).** *Satisfaction has a significantly positive correlation with Chinese players’ intentions of purchasing traditional costume skins.*

On the basis of the above theoretical discussions and research hypotheses, this research proposes the following model (see Figure 1). This theoretical model includes six constructs and nine relevant research hypotheses.



**Figure 1.** The theoretical model in this study.

### 3. Research Methods

#### 3.1. Data Collection

This research adopted a questionnaire survey to collect data via WENJUANXING, which is a professional online questionnaire survey platform in China (<https://www.wjx.cn/?source=baidu&plan=%E9%97%AE%E5%8D%B7%E6%98%9F%EF%BC%88%E6%AD%A3%E5%B8%B8%EF%BC%89PC&keyword2=%E9%97%AE%E5%8D%B7%E6%98%9F%E5%93%81%E4%B8%93%E6%A0%87%E9%A2%98>, accessed on 17 March 2022). The targeted respondents in this research were Chinese players who have played online games before. Before distributing questionnaires, we conducted a predictive test at first and then modified the questionnaire items according to the feedback. To acquire more authentic and credible research results, we set the first question as, “Have you played online games before?” If participants had not, the questionnaire would come to an end. A total of 251 questionnaires were collected in this survey. After removing 32 invalid samples, the number of valid ones remaining were 219, yielding an effective recovery rate of 87.25 percent. The analysis results of the sample characteristics are displayed in Table 1.

**Table 1.** Demographic characteristics of respondents.

Sample	Category	Number	Percentage
Gender	Male	77	35.2%
	Female	142	64.8%
Age	Under 18	5	2.3%
	18–25	144	65.8%
	26–30	67	30.6%
	31–40	2	0.9%
	Above 40	1	0.4%
Education	Below bachelor’s degree	35	16.0%
	Bachelor’s degree	107	48.9%
	Master’s degree	57	26.0%
	Doctoral degree	20	9.1%
Income (RMB)	Below 1000	20	9.1%
	1000–3000	116	53.0%
	3000–5000	20	9.1%
	5000–8000	24	11.0%
	8000–10,000	17	7.8%
	Above 10,000	22	10.0%
Occupation	Fashion industry	79	36.1%
	Non-fashion industry	140	63.9%
Experience of buying chinoiserie skins	Yes	147	67.1%
	No	72	32.9%

### 3.2. Variable Measurement

This paper involved six measurement items, namely, perceived usefulness (PU), purchase price perceptions (PPP), perceived playfulness (PP), cultural elements authenticity (CEA), satisfaction (SAT) and purchase intention (PI). All constructs and items were derived from relevant mature scales. All questionnaire items and reference sources are shown in Appendix A (Table A1). Perceived usefulness drew on the scale developed by Davis [16], and three items were adopted, such as, “Using traditional costume skins enables me to accomplish tasks more quickly”. Purchase price perceptions refer to the scale used in the research by Voss [37], for example, “The price I have to pay is very unreasonable”. Three measurement items for perceived playfulness were adapted from the research by Moon [27], such as, “Using traditional costume skins stimulates my curiosity”. The scales used in the study by Laroche [30] for cultural elements authenticity were referred to, such as, “Traditional costume skins look nice”. The measurement scales for satisfaction from Oliver [38] and Hsu [39] were used, and, for purchase intention, from Perriens [40] and Cronin [41]. The questionnaire items were adjusted appropriately according to the context and respondents in this study. All items included in this paper used the Likert 7-point scale. Among them, “1” means “strongly disagree” and “7” means “strongly agree”.

## 4. Empirical Analysis and Hypothesis Test Results

### 4.1. Reliability and Validity

SPSS 23.0 software (IBM, Armonk, NY, USA) was used to test the reliability of the measurements. As seen in Table 2, the Cronbach’s  $\alpha$  coefficient values of perceived usefulness, purchase price perceptions, perceived playfulness, cultural elements authenticity, satisfaction and purchase intention ranged from 0.898 to 0.964, which was well above the recommended acceptable level of 0.70, indicating high reliability of the measurements.

**Table 2.** Results of reliability analysis.

Construct	Item	Factor Loading	Cronbach’s $\alpha$	CR	AVE
Perceived Usefulness	PU1	0.851	0.908	0.908	0.766
	PU2	0.862			
	PU3	0.912			
Perceived Playfulness	PP1	0.883	0.927	0.928	0.812
	PP2	0.932			
	PP3	0.887			
Purchase Price Perceptions	PPP1	0.935	0.903	0.905	0.761
	PPP2	0.886			
	PPP3	0.790			
Cultural Elements Authenticity	CEA1	0.896	0.921	0.923	0.800
	CEA2	0.910			
	CEA3	0.877			
Satisfaction	SAT1	0.938	0.964	0.964	0.900
	SAT2	0.965			
	SAT3	0.943			
Purchase Intention	PI1	0.893	0.898	0.899	0.746
	PI2	0.863			
	PI3	0.835			

The validity test used AMOS 26.0 software to implement a confirmatory factor analysis to verify each construct validity. As presented in Table 2, the standardized factor load coefficients of each variable were between 0.790 and 0.965, which exceeded the reference value of 0.50. The combined reliability (CR) values of all constructs were greater than 0.80, manifesting a good convergence effect of the scales. Moreover, the average variance extracted (AVE) values of each variable ranged from 0.746 to 0.900, surpassing the judgment standard of 0.50. Furthermore, the square root of the AVE was more significant than the Pearson correlation coefficient between the variable and other variable (see Table 3), demonstrating that each construct has a high level of discrimination validity.

**Table 3.** Correlation matrix and AVE.

Construct	CEA	PP	PPP	PU	SAT	PI
CEA	0.894					
PP	0.534	0.901				
PPP	−0.146	−0.127	0.872			
PU	0.319	0.515	−0.381	0.875		
SAT	0.770	0.606	−0.247	0.446	0.949	
PI	0.749	0.703	−0.199	0.404	0.871	0.864

#### 4.2. Model Fitting

The AMOS 26.0 software was used to assess the goodness-of-fit indices of this model. Table 4 presents the statistical indicators of the model fit test. The CMIN value of this study was 226.155, of which lower is better. The CMIN/DF value was 1.885, meeting the criteria of 1.0 and 3.0. The values of CFI, IFI, TLI and NFI were 0.972, 0.972, 0.964 and 0.942, respectively, all of which outstripped the acceptable level of 0.90. In addition, the RMSEA value was  $0.064 < 0.08$  and the SRMR value was  $0.036 < 0.05$ , both of which showed that the fitting effect of this model is good.

**Table 4.** Main indicators of model fit test.

Model Fit Indices	Evaluation Index (Acceptable Level)	Values of the Model
CMIN/DF	$1.0 < \text{CMIN/DF} < 3.0$	1.885
CFI	$> 0.90$	0.972
IFI	$> 0.90$	0.972
TLI	$> 0.90$	0.964
NFI	$> 0.90$	0.942
SRMR	$< 0.05$	0.036
RMSEA	$< 0.08$	0.064

#### 4.3. Hypothesis Test

The results of hypothesis testing are shown in Figure 2 and Table 5. Perceived usefulness had a negative effect on satisfaction ( $\beta = 0.107, p = 0.069 > 0.05$ ) and purchase intention ( $\beta = -0.071, p = 0.178 > 0.05$ ). Purchase price perceptions did not have a significantly negative bearing on satisfaction ( $\beta = -0.091, p = 0.067 > 0.05$ ) and purchase intention ( $\beta = -0.016, p = 0.716 > 0.05$ ). Perceived playfulness engendered a significantly positive influence on satisfaction ( $\beta = 0.214, p < 0.001$ ) and purchase intention ( $\beta = 0.289, p < 0.001$ ). Cultural elements authenticity produced a positive influence on satisfaction ( $\beta = 0.608, p < 0.001$ ) and purchase intention ( $\beta = 0.141, p = 0.037 < 0.05$ ). Satisfaction positively affected purchase intention ( $\beta = 0.615, p < 0.001$ ). Therefore, the results support H5, H6, H7, H8 and H9, whereas H1, H2, H3 and H4 are invalid.

**Table 5.** Hypothesis testing results.

Hypothesis	Estimate	Std. Estimate	CR	<i>p</i>	Conclusion
H1 (PU → SAT)	0.098	0.107	1.818	0.069	Rejected
H2 (PU → PI)	−0.060	−0.071	−1.348	0.178	Rejected
H3 (PPP → SAT)	−0.090	−0.091	−1.828	0.067	Rejected
H4 (PPP → PI)	−0.015	−0.016	−0.363	0.716	Rejected
H5 (PP → SAT)	0.227	0.214	3.441	***	Supported
H6 (PP → PI)	0.286	0.289	5.022	***	Supported
H7 (CEA → SAT)	0.745	0.608	10.239	***	Supported
H8 (CEA → PI)	0.161	0.141	2.086	0.037	Supported
H9 (SAT → PI)	0.573	0.615	8.133	***	Supported

Note: \*\*\* means *p*-value is less than 0.001.

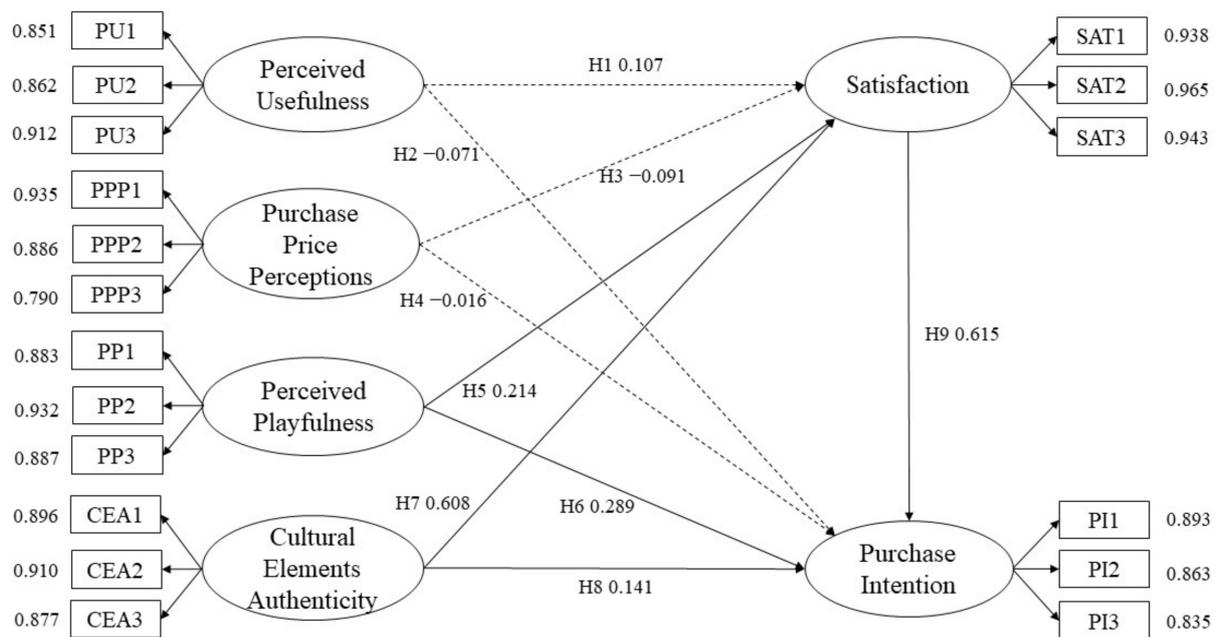


Figure 2. The influence between variables in the structural model.

#### 4.4. Mediating Effect Test

According to the analysis above, it was found that satisfaction has a mediating effect between perceived playfulness and purchase intention, and between cultural elements authenticity and purchase intention. The bootstrap method was conducted to test the mediating effect of satisfaction. The number of bootstrap samples was 5000. The test results are illustrated in Table 6.

Table 6. Mediating effect of satisfaction.

Path		Effect Size	Boot Standard Error	BootCI Confidence (Lower Bound)	BootCI Confidence (Upper Bound)
PP → SAT → PI	Indirect effect	0.130	0.056	0.034	0.258
	Direct effect	0.286	0.073	0.153	0.442
	Total effect	0.416	0.087	0.251	0.593
CEA → SAT → PI	Indirect effect	0.427	0.104	0.235	0.644
	Direct effect	0.161	0.106	-0.035	0.376
	Total effect	0.588	0.096	0.416	0.792

The results presented that the bootstrap 95% confidence interval of the direct influence of perceived playfulness on purchase intention and the mediating influence of satisfaction were (0.153, 0.442) and (0.034, 0.258), and did not contain 0 between the upper and lower limits. This indicates that perceived playfulness can directly predict purchase intention and pass the mediating influence of satisfaction to indirectly predict purchase intention. The direct effect action value was 0.286, and the satisfaction mediation effect action value was 0.130, accounting for 68.75% and 31.25% of the total effect. Concerning the mediating role in the relationship between cultural elements authenticity and purchase intention, the bootstrap 95% confidence interval of mediating effect did not contain 0, but that of direct effect contained 0. This means that cultural elements authenticity only passes the mediating effect of satisfaction to indirectly predict purchase intention.

#### 5. Discussion

This paper probed into the bearings of Chinese game players’ purchase intentions toward traditional costume skins. According to the empirical analysis results, perceived playfulness and cultural elements authenticity positively impacted satisfaction and purchase intention, whereas perceived usefulness engendered a negative effect on satisfaction

and purchase intention. Furthermore, purchase price perceptions did not have a significantly negative bearing on satisfaction and purchase intention. Finally, it was indicated that satisfaction played a partially mediating role in the link between perceived playfulness and purchase intention, and a full mediating role in the link between cultural elements authenticity and purchase intention.

First, H1 and H2 were rejected, as we demonstrated that using traditional costume skins did not improve game performance or accomplish tasks more quickly in the computer game, which is inconsistent with previous research [19,20]. Game items, designed to enhance the communication between online games and game players, provide functional, decorative and social values for game users in the virtual world [42]. The drivers of purchasing virtual items are classified into three categories, namely, functional attributes, hedonic attributes and social attributes [43]. Functional attributes refer to how virtual goods can provide performance advantages and new functionalities for game players, which is the same as perceived usefulness in this paper. Functional attributes of virtual items have a strong effect on users' purchase intentions, but many of the apparently highly desirable virtual goods lack these functionalities [43]. In this case, the goods' desirability can possibly be traced to the social or affective value that they contain. Traditional costume skins, a visual symbol, are the highly desirable virtual items that Lehdonvirta proposed. From the players' perspective, traditional costume skins neither help improve the game characters' performance and game players' concentration, nor advance the game process during the game. It is the reason why perceived usefulness has a negative correlation with the players' satisfaction and purchase intentions.

Second, the research findings indicated that purchase price perceptions did not have a significant negative influence on the players' satisfaction and purchase intentions, thus H3 and H4 were rejected, which is in alignment with the finding of adopting e-learning [44]. If the value consumers gain from a product or service is higher than the cost they pay, purchase intention will be formed. If the value is lower, users will reject this product or service. In the context of e-learning, when learners are truly glad to learn using a system, they are willing to trade costs to obtain a better learning performance [44]. Similarly, if game players truly like traditional costume skins, they are willing to pay for a better game experience. Before they purchase traditional costume skins, players will evaluate whether perceived values (playful and cultural attributes) of virtual items are higher than the cost or not. In fact, players value the more emotional and social values that traditional costume skins hold, and perceive risks brought by the expense relatively less.

Third, the research outcomes manifested that perceived playfulness exerted a significant positive effect on the users' satisfaction and purchase intentions, thus H5 and H6 were adopted. Perceived playfulness is the same as hedonic attributes mentioned in this paper, which are connected with aesthetic qualities. If the aesthetic aspects of virtual items are amply compelling, users may acquire hedonistic delight from experiencing them [43]. Game items centered on the affective value, such as game skins and hairstyles, can alter aesthetic properties and game scenes to make game users much more entertained [42]. Recent research on online games stressed the emotional value, demonstrating that games enable players to provoke increased pleasure and arousal [45,46]. Virtual items and augmented products in the game not only enhance the game characters' appearance and image [42], but also help players to regulate their negative attitudes into positive ones [47]. Therefore, traditional costume skins with a unique appearance can stimulate players' psychological arousal, making them feel pleased and excited, which eventually generates a positive influence.

Fourth, cultural elements authenticity produced a significant positive influence on the players' satisfaction and purchase intentions, in accordance with Laroche et al.'s finding [30]. Besides giving rise to individualistic hedonism, the visual appearance of traditional costume skins can also be considered as connected with their social value. The cultural elements authenticity reflects the same meaning as social attributes of virtual goods, but social attributes put more emphasis on cultural elements attached to virtual items compared with hedonic attributes [43]. Traditional costume skins, inspired by traditional costumes

dating from hundreds of years ago and collected in museums, have Chinese traditional cultural elements. Authenticity makes not only virtual goods valuable, but it also offers the emotional resonance and cultural identity to game players. By purchasing and displaying traditional costume skins, game players can express their love and pride in Chinese culture, and establish an affective bond with other players, which also strengthens the emotional communication among Chinese people.

## 6. Conclusions

### 6.1. Theoretical Implications

This paper provides some academic implications. At first, the introduction of cultural elements authenticity into the exploration of purchase intention of digital fashion expands the research perspective and scope of digital fashion. Atacac (2016–), Carlings' digital-only collection (2017–), and The Fabricant (2018–), the earliest commercial examples of digital fashion, have put more emphasis on how to transfer traditional and material practices into new digitized ones using 3D software [5], but there has been a lack of introducing traditional costume elements into the realm of digital fashion. Digital fashion is a much more sustainable and inclusive method for fashion practice [5]. This paper proposed the combination of digital fashion and a digitalized collection, exploring the possibility of this combination for a mixture of sustainability and the collectible value [48]. Overall, digital fashion promotes the sustainable development of Chinese traditional costume culture and points out a direction suitable for Chinese digital fashion.

Furthermore, this paper expands the TAM and applies it to the realm of digital fashion. Now, many developed extensions of the TAM are more suitable for the information age [44,49]. However, in the current context, it still has some shortcomings due to the lack of consideration on how social and cultural factors influence users' acceptance of technology [44]. This study introduces cultural elements authenticity into the TAM to analyze the influence of virtual goods on the consumers' satisfaction and purchase intentions from cultural perspectives. We also found that the influence of cultural elements authenticity on satisfaction is more significant than that of perceived playfulness, which suggests that cultural elements authenticity should be given priority when game companies design Chinoiserie game skins. In addition, this study also demonstrates that the perceived usefulness of traditional costume skins has no significant effect on the consumers' satisfaction and purchase intentions. It indicates that consumers value hedonic and social attributes of virtual goods more than functional attributes of physical goods in the digitalization era. Therefore, this study provides a rich and varied map for researchers who use the TAM aimed at physical goods and virtual items.

### 6.2. Managerial Implications

First, this study argues that the expense is not a major factor to prevent consumers from purchasing virtual goods, and Chinese players are willing to pay for game skins due to the matched entertainment value and cultural value, which is coincident with the findings of the intention to purchase digital clothing for online games [12] and to use e-learning systems [44]. Game companies have to care about the balance between costs and values that game players gain. Indeed, players want to be protected, and they usually assess the risk rather than the fee before buying a game item. Therefore, when designing skins, game companies should give priority to meeting players' needs for perceived playfulness and cultural elements authenticity. Meanwhile, perceived values including perceived playfulness and cultural elements authenticity compensate for perceived risks such as purchase price perceptions, which stimulate players' desire to purchase and maximize benefits of virtual goods. Furthermore, cultural elements authenticity of traditional costume skins could enhance the Chinese game players' cultural pride and cultural self-confidence, leading the young generation to form correct cultural values and life values, and promote the high-quality development of the digital culture industry.

Second, in order to enhance the players' experience, game companies should take into account the comprehensive utilization of various game objects with Chinese cultural elements. Narrative transportation theory can be applied to form an explanation. Narrative transportation refers to a distinct mental process, an integrative melding of the attention, imagery and feeling. When individuals are absorbed into a story, they will be immersed in events occurring in the story and feel some aspects of the world that are inaccessible [50]. When using Chinese cultural elements, game companies could adopt matching game characters, scenes and plots that conform to Chinese historical and cultural values. It could attract people to play the game and become lost in the narrative game, stimulating their curiosity, imagery and exploration, and in turn, increasing players' continuous intentions of playing the game [50]. Furthermore, using traditional costume skins could build affective bonds between game users and game characters, and enhance their cultural identity in the real world and well-being in the virtual world. Previous research showed that in order to increase game users' exposure to pleasurable stimuli, game companies should take aesthetic and emotional decorative game goods, for instance, character skins, into consideration [42]. Such innovative game items could provide value for game players, increasing their purchase intentions [47]. Therefore, this study reveals that game companies should take into account the game scene and game plot design that match character skins to evoke game users' positive emotions through narrative transportation.

### 6.3. Limitations and Future Research

There are still several limitations in this paper. First, prior research on digital fashion focused on three categories: communication and marketing, design and production, and culture and society [51]. The combination of digital collections in the museum and game skins proposed in this paper is connected with design and production, but does not fully show the digital fashion practice in China. Therefore, communication and marketing and culture and society should also be taken into account in terms of exploring the sinicized digital fashion. With the rapid development of digital fashion and the rapid reflection of the fashion industry in China, many Chinese fashion brands have stepped into the digital world. Taking Balabala, the best children's wear brand in China, as an example, it recently released the first digital girl in the world, called Gu Yu, and plans to have interactions with real models in the upcoming Metaverse show [52], which provides a digitally innovative experience for Chinese families and children.

Second, this study did not separately explore the respondents' purchase intentions toward traditional costume skins who have not purchased chinoiserie skins before. Analyzing the psychology and behavior of these potential customers could help game companies to design items that are suitable for more players.

Finally, this study did not consider the influence mechanism of some moderating variables on game players' purchase intentions. For example, it could be taken into consideration whether players' positive emotions stimulated by cultural pride or happiness could lead to higher purchase intentions when they see game items with Chinese elements. For future investigations, cultural pride and cultural identity developed by purchasing cultural products with Chinese elements are expected to be further analyzed.

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## Appendix A.

**Table A1.** Measurement items.

Construct	Items	References
Perceived Usefulness	PU1 Using traditional costume skins enables me to accomplish tasks more quickly.	Davis [16]
	PU2 Using traditional costume skins allows me to accomplish more missions.	
	PU3 I find the traditional costume skins useful while I play online games.	
Purchase Price Perceptions	PPP1 The price I have to pay is a rip-off.	Voss [37]
	PPP2 The price I have to pay is very unreasonable.	
	PPP3 I would not be pleased to pay this price.	
Perceived Playfulness	PP1 Using traditional costume skins stimulates my curiosity.	Moon [27]
	PP2 Using traditional costume skins leads to my exploration.	
	PP3 Using traditional costume skins arouses my imagination.	
Cultural Elements Authenticity	CEA1 Traditional costume skins look nice.	Laroche [30]
	CEA2 Traditional costume skins have traditional elements such as colors and patterns.	
	CEA3 Traditional costume skins conform to my cultural knowledge.	
Satisfaction	SAT1 I am satisfied with my decision to use traditional costume skins.	Oliver [38] Hsu [39]
	SAT2 I am pleased with the experience of using traditional costume skins.	
	SAT3 My choice to use traditional costume skins was a wise one.	
Purchase Intention	PI1 I would be tempted to try traditional costume skins.	Perrien [40] Cronin [41]
	PI2 I would be tempted to look actively for traditional costume skins.	
	PI3 I would recommend traditional costume skins to my friends.	

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