Proceedings of the 8th International Conference on Economic Management and Green Development
DOI: 10.54254/2754-1169/103/2024BJ0166

The Influence of "Ugly Cute" Intellectual Property Anthropomorphism on the Purchase Intention of Cultural and Creative Products Based on the Mediating Role of Intellectual Property Identity

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Abstract: Under the background of "museum fever" starting from intellectual property anthropomorphism (IP anthropomorphism), this paper introduces the variable of intellectual property identity (IP identity), constructs the functional path model of consumers' purchase of "ugly cute" cultural and creative products, and analyzes the data by using questionnaires and mathematical models to explore how IP anthropomorphism affects consumers' purchase intention and analyze the mediating function that IP identity carries out between IP anthropomorphism and consumers' purchase intention in the process. This study shows that both IP anthropomorphism and IP identity have a direct positive influence on consumers' purchase intention, and IP identity does play a mediating role in the influence of IP anthropomorphism on consumers' purchase intention. Based on the results of the study, this paper proposes creative suggestions about IP design to the design department in the museum in order to help the museum increase sales of cultural and creative products and make its products meet the different needs of consumers at the same time.

Keywords: Intellectual Property anthropomorphism, Intellectual Property identity, Consumers' purchase intention, Museum Cultural and Creative IP Products.

1. Introduction

Museums are the bridges of communication between history and the present, and as the saying goes, “a museum is a big school”, which carries the cultural roots of a country condensed in its long history. According to the latest data released by the State Administration of Cultural Heritage of China, Chinese museums have received 1.29 billion visitors in 2023, a record high. Under the situation of "museum fever" continuing to heat up, cultural and creative products are performing their different charms, shaping the great brand image of cultural and creative products and bringing huge economic benefits. The National Bureau of Statistics of China reports that, in 2023, operational revenue for firms in the cultural and allied industries that operate above the national scale climbed by 8.2%. As a leader in the museum's cultural and creative business, the Palace Museum in China has more than 9 million fans on mainstream online sales platforms, with more than 800 items on the shelves, of which anthropomorphic products, including panda ink ornaments, the Palace Cat Notebook, and so on, are

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even more favored by consumers. In this way, "ugly cute" cultural and creative products, as a kind of "aesthetic countertrend," came out of nowhere and soon established a countless following.

According to the data from the Taobao official platform, as the creator of "ugly cute" cultural and creative products, Gansu Museum has a total of 22 kinds of "ugly cute" intellectual property (IP) of the famous bronze statue called a Horse Stepping on a Swallow. Though their price is not low, sales are increasing. There are many other examples similar to those at the Gansu Museum. These museums have seized the current trend of "museum fever" and made their "ugly cute" anthropomorphism around the IP of museum cultural relics to the extreme, so that the IP image can be consistent with the values of the young consumers of the Internet generation and gain a sense of identity. In recent years, there have been a lot of studies on anthropomorphic marketing, but there are few studies focusing on the impact of "ugly cute" anthropomorphic IP on the purchase intention of cultural and creative products based on the cultural and creative products of museums. Based on this, this paper constructs the functional path model of consumers' purchase of "ugly cute" cultural and creative products and explores the mechanisms of "ugly cute" IP anthropomorphism and IP identity influencing consumers' purchase intention. It provides a theoretical basis for the development of "ugly cute" anthropomorphic IP and plays a practical guiding role in the development of cultural and creative products and the operation of IP in museums.

2. Literature Review and Research Hypothesis

A consumer is a natural person who makes purchases for the purpose of living. Consumers' purchase intention is defined as the possibility that consumers are going to buy the products [1].

Consumers' purchase intention is often influenced by consumers' personality characteristics, internal product cues, external product cues, and consumption contextual factors [2, 3]. Babin pointed out that the value and use value of a product have influence on consumers' purchase intention [4]; Bilkey and other scholars proposed that external product cues, including price and brand image, are important factors to help consumers grasp information about products and thus influence consumers' purchase intention [5]. Research on the factors influencing consumers' purchase intention has developed considerably, but the recently emerged "museum fever" needs to be further supplemented due to its relatively short period of time.

Anthropomorphism refers to giving non-human things human characteristics, motives, emotions, etc. [6]. Brand anthropomorphism refers to giving human characteristics to a brand to create a human-like perception [7]. IP anthropomorphism is derived from brand anthropomorphism. In modern society, the definition of IP has been given a broader meaning. IP can refer to a book, a game image, or even an idea. In the context of this paper, IP anthropomorphism refers to giving cultural and creative products in the museum human characteristics so that they are endowed with human-like images and emotions. Jarvenpaa and Leidner believe that brand anthropomorphism will reduce the risk of consumer perceptions and thus increase consumers' purchase intention [8]. It is inferred that IP anthropomorphism of "ugly cute" cultural and creative products will make consumers produce humorous emotions, which will trigger their love for the products and increase their purchase intention. Hence, the hypothesis was put forward as follows:

H1: IP anthropomorphism has a positive effect on consumers' purchase intention.

Brand identity can be seen as a degree that reflects consumers’ close attachment to a brand [9]. IP identity is derived from brand identity. In this study, IP identity is defined as the degree of consumer recognition of the museum's cultural and creative products. Consumers' recognition of the brand is an important basis for starting a transaction. Some scholars have pointed out that consumers have more trust in the products of their recognized brands and are more likely to generate positive evaluations and purchase intentions [10]. It is inferred that consumers' recognition of IP may also influence consumers' purchase intention. Hence, the hypothesis was put forward as follows:

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H2: IP identity has a positive effect on consumers' purchase intention.

IP anthropomorphism affects consumers' identification with the IP. Anthropomorphic communication can positively influence consumers' attachment to a brand, and Waytz et al. suggested that anthropomorphic messages can help a brand form and manage its image in consumers' minds, making consumers feel affectionate towards the brand and weakening their original sense of brand commercialism in order to establish positive emotions with the consumers [11, 12]. It is inferred that the IP anthropomorphism of "ugly cute" cultural and creative products will also weaken the brand's commercial sense and increase consumers' recognition of the IP's witty personality. Hence, the hypothesis was put forward as follows:

H3: IP anthropomorphism has a positive effect on IP identity.

H4: The association between IP anthropomorphism and consumers' purchasing intention is favorably mediated by IP identity.

The above four hypotheses constitute the functional path model of consumers' purchase of "ugly cute" cultural and creative products in this paper, as shown in Figure 1. The independent variable of the model is IP anthropomorphism, the dependent variable is consumers' purchase intention, and the mediator variable is IP identity.

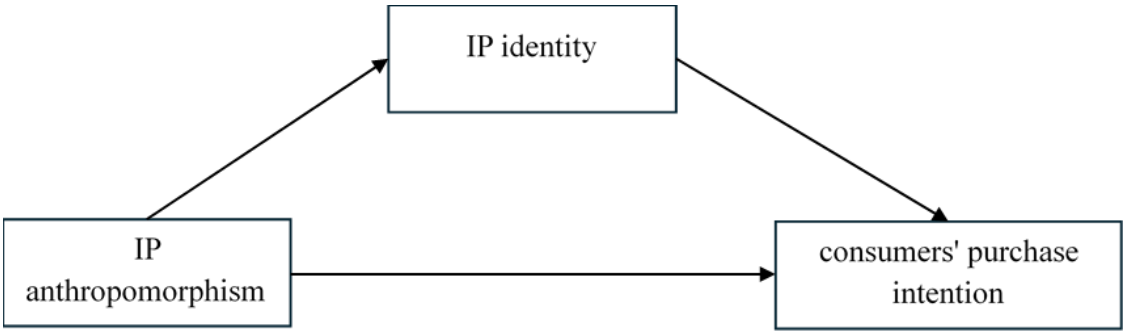

Figure 1: The functional path model of consumers' purchase of "ugly cute" cultural and creative products

3. Questionnaire Design

A questionnaire was used to collect relevant data for this paper. Three parts are included in the questionnaire: basic personal information, purchase experience, and variable measurement items.

First, personal data about the respondents, including their age, gender, and monthly disposable income, was gathered for this study. Second, the questionnaire gathered data regarding the respondents' shopping experiences, including how often they visited museums, how many times they bought cultural and creative products there, what kinds of products they bought, and why they bought them. Finally, based on the representative Gansu Museum's IP "Horse Stepping on a Swallow" as a reference object, the questionnaire was asked to the respondents, and a Likert 5-level scale was used. In order to ensure the validity of the scales, all the scales were borrowed from previous studies and adjusted according to the research context: the IP anthropomorphism scale was mainly based on the studies of Aggarwal et al. and Kim and McGill [13, 14]; the IP identity scale was based on the study of Rio [15]; and the consumer purchase intention scale was based on the studies of Kim and Arvola [16, 17].

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4. Empirical Analysis

4.1. Descriptive Analysis

This study utilized the Wenjuanxing platform to distribute the questionnaires, and a total of 264 valid questionnaires were collected. The specific descriptive statistics are shown in Table 1.

Table 1: Descriptive analysis of the sample

Variable	Item	Number of People	Proportion
Gender	Male	106	40.2%
	Female	158	59.8%
Age groups	Under 18	9	3.4%
	18-25	27	10.2%
	26-36	52	19.7%
	37-46	57	21.6%
	46	119	45.1%
Monthly disposable income	¥1000 and below	15	5.7%
	¥1001-2000	22	8.3%
	¥2001-3000	33	12.5%
	¥3001-4000	44	16.7%
	¥4001 and above	150	56.8%
Frequency of going to the museums yearly	0 times	42	15.9%
	1-3 times	166	62.9%
	4-6 times	37	14%
	6 times and above	19	7.2%
Number of times purchasing the products	0	68	25.8%
	1-2	142	53.8%
	3-5	40	15.2%
	5 or more	14	5.3%
Types of products	Dolls (e.g. pillows, etc.)	49	18.6%
	Stationery (e.g. notebooks, tape, etc.)	32	12.1%
	Ornament (e.g., refrigerator stickers, etc.)	65	24.6%
	Household items (e.g., cups, etc.)	49	18.6%
	Reproductions (e.g., postcards, stamps, etc.)	25	9.5%
	Other	44	16.7%
Intention of purchasing the products	Personal use	162	61.4%
	Give away	102	38.6%

In terms of the proportion of gender in the research, 106 males accounted for 40.2% of the total number of researchers, and 158 females accounted for 59.8%, with females accounting for more. In terms of the age distribution, participants over 46 years old accounted for the largest share of the total number of researchers, accounting for 45.1% of the total number of researchers, followed by 37–46 years old and 26–36 years old, which is consistent with the distribution of the average monthly

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disposable income of the research population, with more than half of the participants having an average monthly disposable income of ¥4001 and above.

It can be found that 62.9% of the participants go to museums 1-3 times a year, 53.8% of the participants buy 1-2 cultural and creative products on average, and more than 60% of the participants buy them for their own use. Ornament products are the most popular choices among participants, followed by dolls and household items. 43.2% of the participants choose to buy souvenirs that are representative of the museum, while 25% choose to buy cultural and creative products with practical value, and 21.2% choose cultural and creative products that could provide emotional value, as shown in Figure 2. It indicates that when purchasing cultural and creative products, more consideration is given to the practicality, appearance, and image of the products.

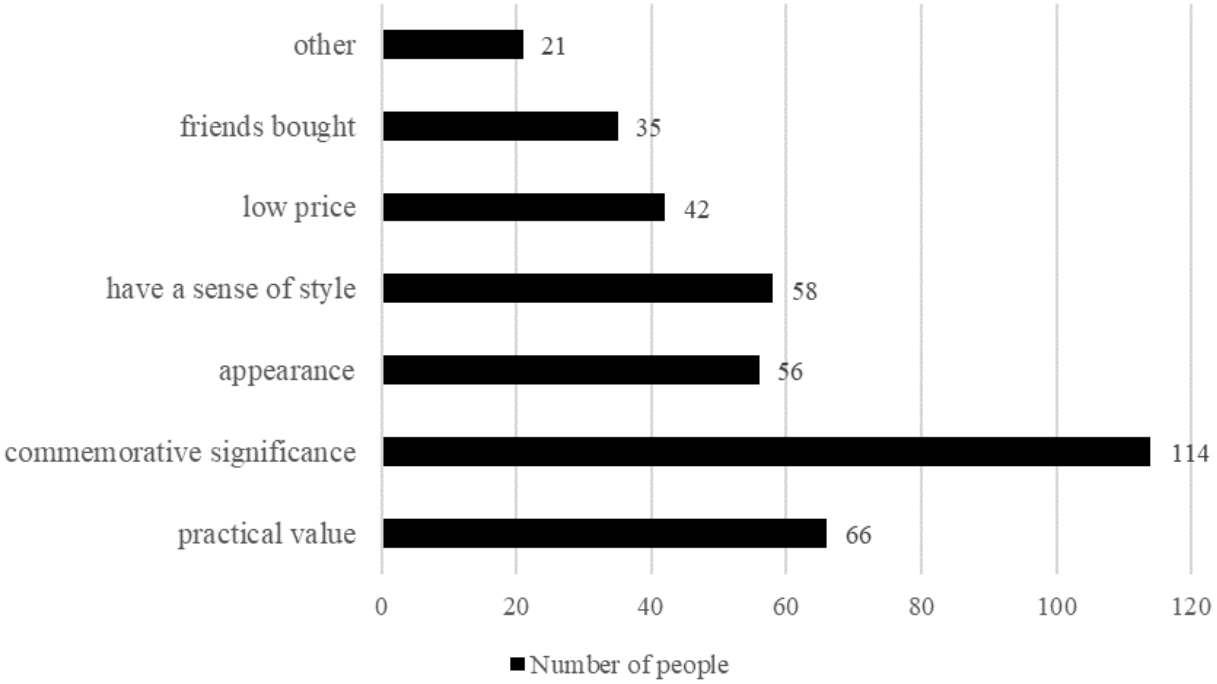

Figure 2: The reasons of purchasing the products

4.2. Reliability Analysis

From the data in Table 2, it can be seen that the Cronbach's alpha values of IP anthropomorphism, IP identity, consumers' purchase intention and the whole scale are respectively 0.915, 0.947, 0.922, and 0.948, which means the reliability coefficients of all dimensions are higher than 0.9. It indicates that the internal consistency of the scale is high, the reliability is good, and the collected data is relatively reliable.

Table 2: Reliability analysis

Dimensions	Cronbach's Alpha
IP Anthropomorphism	0.915
IP Identity	0.947
Consumers' Purchase Intention	0.922
Whole Scale	0.948

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4.3. Validity Analysis

The overall KMO value of the scale in Table 3 is 0.927. The significance of the Bartlett's test of sphericity is less than 0.001, which means that the overall validity of the questionnaire is good and can be used for factor analysis.

Table 3: Validity analysis

KMO		0.927
Bartlett's Test of Sphericity	Chi-Square	2766.968
	DF	55
	Significance	<0.001

The factors are extracted by principal component analysis, and it can be found that the overall questionnaire is able to extract three components, as shown in Table 4. The first component explained 31.071% of the variance. The second component explained 29.437% of the variance. The third component explained 23.749% of the variance. These three components are able to explain a total of 84.257% of the overall variance.

Table 4: Total variance explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative%	Total	% of Variance	Cumulative%	Total	% of Variance	Cumulative%
1	7.252	65.925	65.925	7.252	65.925	65.925	3.418	31.071	31.071
2	1.228	11.167	77.092	1.228	11.167	77.092	3.238	29.437	60.508
3	0.788	7.165	84.257	0.788	7.165	84.257	2.612	23.749	84.257
4	0.335	3.044	87.301						
5	0.304	2.760	90.061						
6	0.235	2.136	92.197						
7	0.222	2.017	94.215						
8	0.200	1.816	96.031						
9	0.169	1.532	97.563						
10	0.141	1.279	98.842						
11	0.127	1.158	100.000						

Extraction Method: Principal Component Analysis

According to Table 5, in the rotated component matrix, the first component is IP identification, the second component is IP anthropomorphism, and the third component is consumers' purchase intention, indicating that the overall questionnaire validity is good for subsequent in-depth analysis.

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Table 5: Rotated Component Matrix

	Component		
	IP Identity	IP Anthropomorphism	Consumers' Purchase Intention
The IP image is vivid (human-like)		0.737	
The IP image reminds me of human characteristics		0.798	
The IP image seems to have its own consciousness		0.854	
The IP image seems to have its own emotions		0.848	
The IP image matches my personality	0.817		
The IP image matches my values	0.818		
The IP image matches my personal taste	0.821		
The IP image matches my lifestyle	0.863		
I am willing to buy the cultural and creative products of this IP image			0.804
I like the cultural and creative products of this IP image			0.780
I would recommend this IP image to others			0.818

4.4. Regression Analysis

The benchmark model of this study is

$$Y = \alpha + \beta X \quad (1)$$

Y denotes the dependent variable. α and β denote the parameters to be estimated. X denotes the independent variable, containing the main and control variables.

To study the effects of the control variables on consumers' purchase intention, gender, age, and monthly disposable income are included in the regression equation, constructing Model 1. Then IP anthropomorphism is introduced into the regression equation as the independent variable, constructing Model 2. Introducing IP identity into the regression equation as the independent variable X, Model 3 is constructed. When IP anthropomorphism and IP identity are included as independent variables at the same time, Model 4 is constructed. Only introduce the control variables into the regression equation to study their effect on IP identity, constructing Model 5. Then introduce IP anthropomorphism as an independent variable into the regression equation, constructing model 6. The results are shown in Table 6.

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Table 6: Regression analysis

Variable		Model 1	Model 2	Model 3	Model 4	Mode l 5	Model 6
		Consumers' purchase intention				IP identity	
Control Variable	Gender	-0.006	-0.115	0.194	0.077	-0.275	-0.381
	Age group	-0.009	0.029	0.062	0.060	-0.098	-0.061
	Monthly disposable income	-0.146	-0.101	-0.052	-0.057	-0.130	-0.086
Independent Variable	IP Anthropomorphism		0.755***		0.388***		0.728***
Mediator	IP identity			0.725***	0.503***		
R^2		0.023	0.459	0.537	0.605	0.044	0.441
Adjusted R^2		0.012	0.451	0.530	0.597	0.033	0.432
F		2.062	55.034	75.111	78.868	3.971	51.021
Significance		0.106	***	***	***	0.009	***

*** indicates significant at the 0.001 level

Model 1 in Table 6 explores the effect of control variables on consumers' purchase intention. As shown by the data, the goodness of fit is 0.023 and the F-value is 2.062 (P-value 0.106). Regression model 2 is the regression result after adding IP anthropomorphism as the independent variable, and the goodness of fit is 0.459, which is better than that of model 1, so it can be indicated that the degree of explanation has been significantly improved. With an f-value of 55.034, the statistical analysis reveals that IP anthropomorphism has a noteworthy impact on consumers' purchase intention, with significance at the 0.001 level.

From its regression coefficientβ=0.755, it can be seen that when other control variables remain unchanged, for every 1-point increase in IP anthropomorphism, consumers' purchase intention increases by 0.755 points, which indicates that customers' purchasing intentions are positively impacted by IP anthropomorphism, and H1 is validated.

The regression model 3 in Table 6 is the regression result after introducing IP identity as the independent variable, and its goodness of fit is 0.537, which indicates that the explanation of the model has been significantly improved. The F value is 75.111, and it is significant at the 0.001 level, which indicates that IP identification has a significant impact on consumers' purchase intention. From the regression coefficient β=0.725, it can be seen that when other control variables remain unchanged, for every increase of 1 point in IP identity, consumers' purchase intention increases by 0.725 points, which indicates that IP identity has a positive effect on consumer purchase intention, and H2 is supported.

To test the mediating function of IP identity between IP anthropomorphism and consumers' purchase intention, this study adopts a three-step test. Firstly, test the effect of IP anthropomorphism on IP identity as in model 6. Secondly, test the effect of IP anthropomorphism on consumers' purchase intention as Model 2. Finally, test the effect of both IP anthropomorphism and IP identity on consumers' purchase intention as in Model 4.

Model 5 in Table 6 explores the effect of control variables on IP identity. From the data, it can be seen that at this point, the goodness of fit is 0.044 and the F-value is 3.971 (the P-value is 0.009).

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From the regression model 6 in Table 6, it can be seen that after adding IP anthropomorphism as the independent variable, the goodness of fit is 0.441, which is significantly improved. The F-value is 51.021, and it is significant at the level of 0.001, which means that IP anthropomorphism has a significant effect on IP identity. From its regression coefficient $\beta = 0.728$, it can be seen that with other control variables unchanged, for every 1-point increase in IP anthropomorphism, IP identity increases by 0.728 points, which shows that IP anthropomorphism has a positive effect on IP identity, and H3 is supported.

IP anthropomorphism and IP identity are simultaneously included in the regression equation to get Model 4. At this time, the goodness of fit is 0.605, which is improved compared with the data from Model 2 and Model 3. It indicates that Model 4 has a higher degree of explanation. The F-value is 78.868, and it is significant at the level of 0.001, which indicates that IP anthropomorphism and IP identity have a significant effect on consumers' purchase intention. Comparing IP anthropomorphism regression coefficient $\beta = 0.755$ in Model 2 and IP anthropomorphism regression coefficient $\beta = 0.388$ and IP identity regression coefficient $\beta = 0.503$ in Model 4, it suggests that IP identity plays a role in the beneficial impact of IP anthropomorphism on consumers' purchasing intentions, so the mediating effect of IP identity between IP anthropomorphism and consumers' purchase intention is supported, specifically the partial mediating effect. So H4 is supported.

In summary, all hypotheses are valid. First, both IP anthropomorphism and IP identity can enhance consumers' purchase intention. Customers are more inclined to purchase a product that clearly exhibits human traits in its appearance. When a product's image evokes empathy in them, consumers are also more likely to purchase it. Secondly, IP anthropomorphism can enhance consumers' sense of identification with the IP. The current popular "ugly cute" cultural and creative products in museums have precisely seized this characteristic. Customers are able to sense the "temperature" of museum-quality cultural and creative products, as well as the resonance of taste and even values, by imbuing them with a human image and emotions. Lastly, the relationship between IP anthropomorphism and consumers' purchasing intention by IP identity. This paper came to this conclusion by putting forward hypotheses and building a model. This helps to understand more deeply the role of cultural and creative products with anthropomorphized "ugly cute" IP in increasing consumers' purchase intention.

Therefore, this paper puts forward two suggestions for museum design departments. First, under the situation of "museum fever" continuing to heat up, museum design departments should continue to seize the "hot spot" of anthropomorphic "ugly cute" IP to design their creative products, and at the same time, they should promptly observe and capture people's spiritual resonance and combine it with creative products to attract more consumers. Secondly, during this survey, it was found that museum cultural and creative products with practicality and commemorative significance still occupy the main part of consumers' purchases of museum cultural and creative products. Therefore, instead of pursuing blindly anthropomorphic "ugly cute" IP, museums should combine the representative cultural relics in their museums and design cultural and creative products that are practical, meet the needs of consumers, and reflect the cultural heritage of the museums.

5. Conclusion

This study found that both IP anthropomorphism and IP identity can enhance consumers' purchase intention. Consumers are more likely to purchase a product when the product image has obvious anthropomorphic features or when they can get empathy from it. At the same time, there is also a positive relationship between IP anthropomorphism and IP identity: IP anthropomorphism can enhance consumers' identification with their IP. In addition, IP identity mediates the relationship between IP anthropomorphism and consumers' purchase intention.

The study showed that both IP anthropomorphism and IP identity could enhance consumers' purchase intention. Therefore, two suggestions are made to the museum's design department. It is

necessary to continue to innovate and design anthropomorphic, "ugly cute" IP cultural and creative products. Furthermore, it is vital to give full play to the educational significance and practical significance of the museum's creative products in the design process.

This paper analyzes consumers' purchase intention from the perspective of cultural and creative products in museums, which not only can deeply understand the reasons for the formation of the current phenomenon of "museum fever", to a certain extent, understand the design concept of the museum's "ugly cute" cultural and creative products and their sales mechanism.

The current research on consumers' purchase intention for museum "ugly cute" cultural and creative products is still limited to the psychological effects of IP identity and IP anthropomorphism on consumers. In addition, factors such as modern aesthetic trends and social attribute requirements may also affect consumers' consumption of museum "ugly cute" cultural and creative products. Due to the limited access to resources, this paper has not done sufficient exploration. Future research needs to further refine the research variables and enrich the research level to facilitate the in-depth study of this topic.

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