

A Study on Consumer Behavior of Intangible Cultural Heritage Food Design from the Perspective of Cultural Identity: Taking Chaoshan Kueh as an example

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Abstract. A part of scientific research on food design is diminishing experimental control and starting to explore the applications and practices of food designs in real life. As a traditional snack, Chaoshan Kueh carries the cultural nostalgia and memories of generations of Teochew people, and its production technique has been selected as one of China's provincial intangible cultural heritages (ICHs) in craftsmanship. Currently, however, the rapid transformation of people's lifestyles and consumption concepts is wiping traditional food production techniques away; rather, these techniques are facing challenges such as inheritor shortage and innovation deficit. Taking Chaoshan Kueh as a case, this paper combines product design and field survey to explore the influencing paths of cultural identity on consumers' purchase intention of ICH foods in the context of culture-tourism integration. An empirical analysis covering 453 valid samples is accomplished via structural equation modeling, and the results lead to the following observations: (1) the two dimensions of ICH cultural identity (i.e., self-esteem identity and behavioral identity) have a positive effect on consumers' perceived value and purchase intention, but the effect of attributive identity is insignificant; (2) functional value and social value play a partly mediating role in the process when self-esteem identity and behavioral identity influence purchase intention, and perceived value is fully mediating when attributive identity impacts purchase intention. Accordingly, targeted, feasible suggestions for reference based on the empirical results are proposed for ICH foods.

Keywords: Intangible Cultural Heritage Food Design; Cultural Identity; Perceived Value

1 Introduction

According to the *Convention for the Safeguarding of the Intangible Cultural Heritage* released by UNESCO, "intangible cultural heritage (ICH)" means the practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artifacts, and cultural spaces associated therewith – that communities, groups and individuals recognize as part of their cultural heritage. Chinese people honor food as the first necessity ever, so food is endowed with paramount significance. Chaoshan Kueh is one of the traditional snacks with abundant cultural connotations and a unique flavor in Chaoshan, Guangdong Province, China, and its production technique that carries the cultural nostalgia and memories of generations of Teochew people has been included in China's provincial ICH lists in 2013. In the contemporary context, the diversification and internationalization of the consumer market, in recent years, have been

erasing many precious ICHs. Undoubtedly, the ICH is imbued with diverse cultural attributes that maintain national cohesion and portray a cultural image and sense of identity for the locals [1]. While marketization is considered the key to the ICH's live transmission, ICH foods, in most cases, lack brand effect and innovation to confine this process [2]. Studies have shown that the attraction of a food picture is crucial to the advertising effect. In particular, attractive design elements of food can help appeal to consumers and manage their purchasing attitudes [3]. Above, this study aims to understand whether a food design with cultural attributes can effectively arouse consumers' cultural identity to the ICH food product and thus promote their purchase intention.

Taking Chaoshan Kueh as an example, this research is committed to exploring the practical implication of the ICH food design on consumer behavior. It involves a field interview of the inheritors in Chaoshan tourist attractions for the ingredients and production technique and design practice of appearance and package for Chaoshan Kueh. Based on the final design, an investigation on consumer behavior is then carried out to analyze the influence mechanism of the consumers' cultural identity to the ICH on their purchase intention, which is of great practical significance in guiding the scientific, sustainable development of ICH products.

2 Literature review

Cultural identity refers to an individual's acceptance of a specific cultural group and its values, beliefs, attitudes, and behaviors [1]. Shaped by both external and personal psychological factors, cultural identity enjoys a high degree of stability and inheritability, which explains the fact that every ethnic group is tied to its particular cultural heritage. Recently, research on cultural identity tends to focus on the dynamics and multidimensional nature of the construction of cultural identity, but there is no consensus on its measurement dimensions [2]. Through qualitative research, Huang and Lv (2019) constructed a cultural identity scale for ICH products, which included four dimensions: cultural self-esteem, affect commitment, group attribution, and product cognition [4]. In the study of digital cultural collections, Kuang and Zhan (2022) proposed four dimensions of cultural identity: product cognition, self-esteem identity, affect identity, and behavioral attribution [5]. Wang, Xia, and Luo (2022) researched the psychological mechanisms among students in 43 universities in China regarding Chinese cultural identity and suggested four dimensions: cognitive identity, affect identity, willing identity, and behavioral identity [6]. In this study, behavioral identity is considered the externalization of psychological identity, which refers to one's willingness to act under social norms and the formation of his/her routine set of lifestyles. In the study of Song brocade products, Li (2023) presented two dimensions of cultural identity: attributive identity and self-esteem identity. Attributive identity means a consumer's sense of belonging to one group formed based on collectivistic values, and self-esteem identity reflects a consumer's sense of pride in the national, ethnic, and/or local cultures [2]. Also, these studies have demonstrated the influence of cultural identity on consumers' perceived value and purchase intention. Above, this paper takes cultural identity as the theoretical basis and chooses three dimensions (i.e., self-esteem identity, behavioral identity, and attributive identity) according to the characteristics of ICH foods, so as to discuss the sense of cultural identity derived from the design and the design's influence path. The demonstration is described later.

2.1 ICH cultural Identity and purchase intention

Cultural identity is the core element in the marketing of ICH products [2]. Many studies have shown that the stronger a consumer's sense of cultural identity, the greater the purchase intention. For instance, Cheng and Chen (2023) demonstrated that cultural identity impacts directly and has a positive correlation with consumers' purchase intention [7]; Huang and Lv (2019) found that both cultural self-esteem and group attribution have a significant positive effect on consumers' purchase intention of ICH products [4]; Kuang and Zhan (2022), in the study of digital cultural collections, illustrated a significant positive correlation between behavioral attribution and purchase intention [5]; Li (2023) thought other variables may involve because attributive identity has a significant positive effect, but self-esteem identity, on a consumer's purchase intention of ICH products [2]. Thus, the following hypotheses are suggested.

H1: The (a) self-esteem identity, (b) behavioral identity, and (c) attributive identity of ICH culture identity have a positive impact on purchase intention.

2.2 The mediating effect of perceived value

The effect of perceived value on purchase intention has been proven for a wide range of products and can be used as an important indicator to predict consumer behavior [5][8]. For instance, Liu et al. (2021), in the study of ICH shadow puppetry souvenirs, demonstrated the significant positive effect of perceived value on purchase intention [9]. Even, the mediating effect of perceived value between cultural identity and purchase intention has been recognized in some literature [5][10][11].

In addition, existing research regarded perceived value as a multidimensional construct. For instance, Sheth, Newman, and Gross (1991) suggested five dimensions of perceived value, including functional value, social value, emotional value, epistemic value, and condition value [12]; in the study on ICH products, Liu (2022) recognized four dimensions (i.e., functional value, emotional value, support value, and educational value) and verified their positive effect on purchase intention [13]. Based on the pragmatic and gift-giving purposes of the ICH food (Chaoshan Kueh, in this case), this research divides perceived value into functional value and social value and hypothesizes that the stronger a consumer's cultural identity to the ICH food, the greater the perceived value and the purchase intention. Above, our research framework is summed up in Figure 1, and the following hypotheses are proposed:

H2: The (a) self-esteem identity, (b) behavioral identity, and (c) attributive identity of ICH culture identity have a positive impact on functional value.

H3: The (a) self-esteem identity, (b) behavioral identity, and (c) attributive identity of ICH culture identity have a positive impact on social value.

H4: Functional value has a mediating impact on the effect of (a) self-esteem identity, (b) behavioral identity, and (c) attributive identity on purchase intention.

H5: Social value has a mediating impact on the effect of (a) self-esteem identity, (b) behavioral identity, and (c) attributive identity on purchase intention.

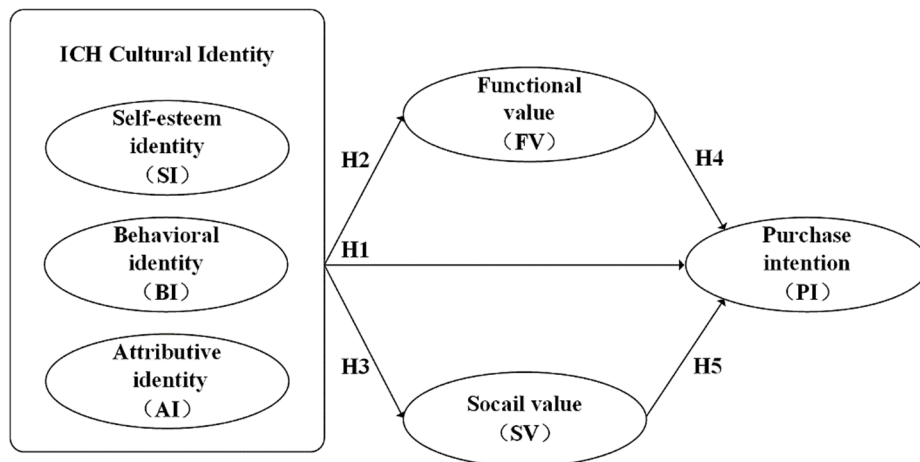


Fig. 1. Research framework.

3 Research method

Schifferstein (2023) pointed out that in recent years, scientific research on food design has gradually shifted its focus to the practical state of food and become committed to upgrading practicality [14]. These efforts allow more freedom in creation and abandon experimental control for co-creation activities by including food designers and chefs in the work, aiming at improving the practice research of food design upon industry-academy integration. In this study, we visited the Chaoshan region in Guangdong Province, China, and interviewed the Chaoshan Kueh inheritors for the ingredients, production technique, storage life, and common packaging methods. Later, we invited designers for the appearance and package design combining the classic patterns of Chinese traditional foods with the characteristics of the Chaoshan tourist attractions (Fig. 2). At last, a consumer behavior survey based on the final design was conducted.



Fig. 2. ICH food product and package designed by the researcher team.

3.1 Questionnaire design and measurement

The questionnaire consists of three parts. The first part aims to understand the participants' awareness level of Chaoshan Kueh with a front screening question of "Have you ever bought

Chaoshan Kueh?", ensuring the validity of the samples. The second part involves variable items, including three dimensions of ICH cultural identity (i.e., self-esteem identity, behavioral identity, and attributive identity), two dimensions of perceived value (i.e., functional value and social value), and purchase intention. The ICH cultural identity scale is referenced from Huang and Lv (2019) and Kuang and Zhan (2022), the perceived value scale is referenced from Sheth, Newman, and Gross (1991), and the purchase intention scale is referenced from Liu (2021); adapted and designed following the opinions of our scholars and experts, all 5-point Likert scales aim at exploring the purchase intention and influence factors of Chaoshan Kueh from the perspective of cultural identity. The third part collects the participants' basic information, including gender, age, education, and monthly disposable income, among others.

3.2 Pretest, sampling and data collection

To verify the validity of the measurement tool, the research conducted a pre-research and obtained 63 valid samples. Our pretest analysis shows that the Cronbach's α coefficients of all variables reach 0.70, and the corrected item-total correlation (CITC) values exceed 0.50, suggesting that the measurement tool passes the pretest and is available as a formal questionnaire. Launched in September 2023, the formal investigation was a combination of judgment sampling and snowball sampling, wherein the questionnaires were distributed offline in Chaoshan, Guangdong Province, China, and online on a survey platform. A cumulative of 453 valid samples were collected after deducting 32 samples answered at unreasonable speed and by those who did not know Chaoshan Kueh from a total of 485; the valid response rate was 93.40%. According to the descriptive analysis, the percentage of male participants (50.60%) was similar to the percentage of female ones (49.40%), and most of the participants were aged 19-29 (39.30%), with a bachelor's degree (70.40%) and a range of monthly disposable income of CNY 3,001 to 5,000 (64%). In addition, 93.60% of the participants were aware that Chaoshan Kueh had been recognized as an ICH by the country, and 72.10% of the participants had bought Chaoshan Kueh.

4 Empirical results

To verify the consumers' cultural identity to the ICH food and the effect of cultural identity on their perceived value and purchase intention, validity and reliability tests were conducted before the verification of the influence path of cultural identity.

4.1 Reliability and Validity

The scales were tested for validity and reliability on IBM SPSS 26.0 (Table 1). The results show that the Cronbach's α coefficients of all six constructs (e.g., three dimensions of cultural identity, two dimensions of perceived value, and purchase intention) are between 0.797 and 0.873, and the CITC values exceed 0.50, indicating favorable internal consistency of the scales. Furthermore, the Kaiser-Meyer-Olkin (KMO) values are above 0.70, and Bartlett's tests of sphericity are significant, which means the constructs are highly available for factor analysis. The factor loadings of all six constructs are between 0.743 and 0.869, and the accumulation percentage of explained variance are between 64.72% and 72.44%, suggesting that the scales have favorable enough convergent validity to interpret most of the information of the constructs.

Table 1. Reliability and validity.

Construct & Item		Cronbach's α	CITC	Factor loadin g
SI	1. I'm proud of the Chaoshan Kueh (the ICH food).	0.797	0.622	0.832
	2. I believe the ICH food(s) can be innovative.		0.673	0.864
	3. I think the ICH food(s) should be taken seriously.		0.627	0.835
BI	1. I would like to learn more about the ICH food.	0.859	0.715	0.846
	2. I would like to talk about ICH food with friends.		0.720	0.850
	3. I would like to visit the exhibition of ICH food.		0.688	0.828
	4. I would like to collect the materials for ICH food.		0.691	0.829
AI	1. I think Chaoshan Kueh has a kinship with Chinese culture.	0.840	0.662	0.814
	2. I think Chaoshan Kueh consumers have similar customs and habits.		0.698	0.840
	3. I think Chaoshan Kueh consumers have similar cultural characteristics.		0.664	0.817
	4. I think Chaoshan Kueh consumers belong to similar cultural groups.		0.669	0.819
FV	1. The design of Chaoshan Kueh is worth the money.	0.834	0.698	0.842
	2. The design of Chaoshan Kueh makes it a perfect gift.		0.630	0.792
	3. The design of Chaoshan Kueh can promote local tourism.		0.668	0.821
	4. The design of Chaoshan Kueh can promote cultural inheritance.		0.658	0.813
SV	1. I think giving Chaoshan Kueh as a gift would make a good impression.	0.818	0.650	0.813
	2. I think giving Chaoshan Kueh as a gift is to pass a sense of social responsibility.		0.667	0.826
	3. I think giving Chaoshan Kueh as a gift can reflect my cultural appreciation.		0.678	0.833
PI	1. I will consider buying Chaoshan Kueh.	0.873	0.754	0.869
	2. I will buy Chaoshan Kueh.		0.701	0.832
	3. I will recommend Chaoshan Kueh to friends.		0.740	0.860
	4. I would like to pay a higher price for Chaoshan Kueh.		0.716	0.843
Metrics		≥ 0.70	≥ 0.50	≥ 0.70

Note: SI=self-esteem identity; BI=behavioral identity; AI=attributive identity; FV=functional value; sv=social value; PI=purchase intention; CITC=corrected item-total correlation

4.2 Structural equation model

To verify the correlation between the consumers' ICH cultural identity (self-esteem identity, behavioral identity, and attributive identity) to Chaoshan Kueh and their perceived value (functional value, and social value) and purchase intention, the research constructed a structural equation model that takes ICH cultural identity, perceived value, and purchase intention as the independent variable, mediating variable, and dependent variable, respectively. IBM AMOS 28.0 was used for fitting testing. According to the fitting results in Figure 3, the values

($\chi^2/df=1.719$, $RMSEA=0.040$, $PGFI = 0.063$, $NFI = 0.930$, $IFI = 0.969$, $TLI = 0.963$, $CFI = 0.969$) exceed the recommended values, indicating a favorable fitting degree of the model.

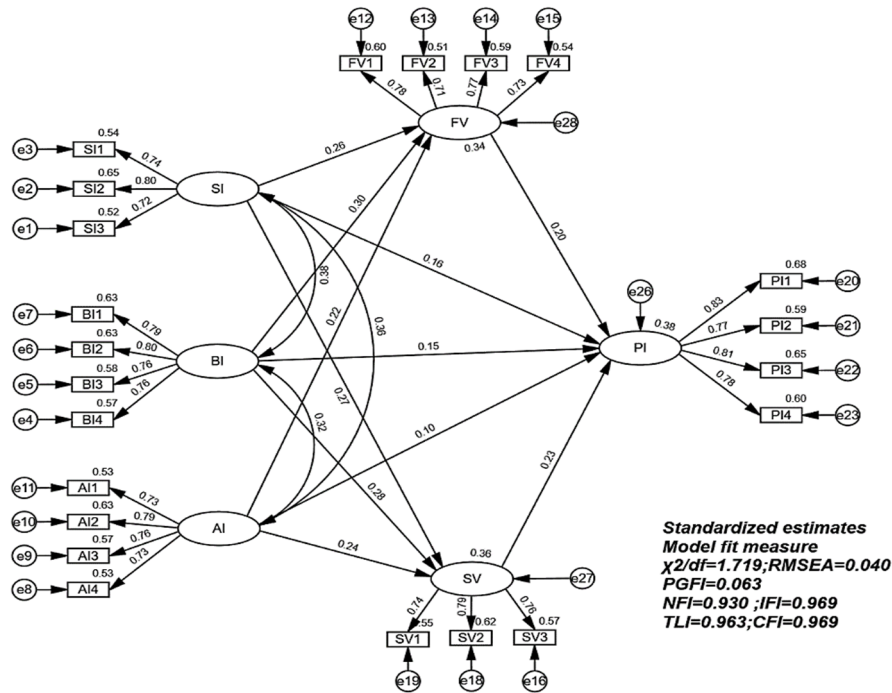


Fig. 3. Results of the proposed model.

It can be known from the path coefficients: (1) self-esteem identity and behavioral identity have a significantly positive correlation with purchase intention, but the effect of attributive identity is insignificant, for which H1(a) and H1(b) are verified, and H1(c) is invalid; (2) self-esteem identity, behavioral identity, and attributive identity have a significantly positive correlation with functional value and social value, which supports H2 and H3.

In the research, the mediating effect was tested via Bootstrap, with a sample size of 5000 and a confidence interval of 95%. The results show that attributive identity can influence purchase intention indirectly only through functional value and social value. In other words, perceived value plays a completely mediating role in the process when attributive identity impacts purchase intention. On the other hand, self-esteem identity and behavioral identity have a direct, positive effect and an indirect effect, through perceived value, on purchase intention, which suggests that perceived value plays a partly mediating role in the process when self-esteem identity and behavioral identity impact purchase intention. Therefore, H4 and H5 are verified.

5 Conclusion

As a spiritual sustenance of the Chinese Teochew people, Chaoshan Kueh is for variety, decent ingredients, fine production, and pleasant taste. Unfortunately, its unique production technique

is facing challenges in inheritance and innovation. This research considers cultural identity as the perspective to gain an insight into consumers' sense of pride, attributive identity, and behavioral identity towards Chinese and local cultures, by which several marketing strategies are proposed in an attempt to provide concrete and feasible suggestions for the inheritance and sustainable development of ICH foods. The results show that: (1) self-esteem identity and behavioral identity have a significantly positive effect on both perceived value and purchase intention, but the effect of attributive identity on purchase intention is insignificant. In other words, cultural identity can promote consumers' perceived value and purchase intention the ICH food and is highly capable of motivating their sense of pride and behavioral identity towards the product, but attributive identity is not the principal cause of their purchase behavior; (2) while perceived value plays a partly mediating role in the process when self-esteem identity and behavioral identity influence purchase intention and a fully mediating role when attributive identity impacts purchase intention. Therefore, consumers' sense of pride and behavioral identity towards the ICH food can promote consumption directly or indirectly via perceived value, but attributive identity can only induce purchase intention if a consumer is aware of the ICH food's functional value and/or social value. In other words, it is expected to improve sales and future development of ICH foods in case of the products and their package designs are capable of conveying effectively the values such as quality, practicability, image, and favor.

So far, the research would like to propose four suggestions: (1) to tell vivid ICH stories and create a profound cultural atmosphere. ICH brands should foster ICH scenarios with abundant cultural elements by means of cultural spaces and others that give consumers an insight into the brands and their stories, providing them with an immersive experience of the charm of ICH cultures. In this case, it enforces self-esteem identity; (2) to expand the influence of the ICH with digital and technological means. Digitalization and technicalization have opened up new channels of communication for ICH cultures. While metaverse-enabled technologies should reinvigorate the inheritance and development of ICH cultures, AI, AR, and VR can create multiple scenarios for consumers to be proactive in participating in experiencing ICH cultures. In this case, it improves behavioral identity and renders consumers ICH communicators and advocates; (3) to emphasize design value and endow ICH products with added values. ICH products should embrace the added values that flexible design may create, not only by testing consumers' perception of the designs of ICH products through field experiments and other research methods but also by continuing to create products that meet and even exceed expectations; (4) to make good use of new media and deepen the ICH's perceived value. On social platforms that are popular among the young, ICH accounts should be created to communicate ICH foods and other relevant appreciation activities, thereby allowing consumers to learn more intuitively about the features of ICH foods. Meanwhile, encouraging them to share their experiences holds immense significance. Once the communication and interaction among platform users are motivated, the perceived functional value and social value should improve.

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