

CULTURAL IDENTITY AS A MODERATOR BETWEEN CROSS-OVER INNOVATION AND PERCEIVED INNOVATIVENESS: EVIDENCE FROM CHINESE TIME-HONORED BRANDS

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Abstract

This study investigates the moderating role of cultural identity in the relationship between cross-over innovation and perceived innovativeness among young consumers of Chinese time-honored brands. Drawing on Social Identity Theory and the Diffusion of Innovation framework, the study uses survey data from 384 respondents and conducts moderation analysis. Results show that both product and marketing cross-over innovations significantly enhance perceived innovativeness, with cultural identity strengthening these effects. The findings highlight the importance of aligning innovation strategies with consumers' cultural values to increase brand relevance.

Keywords: Cultural Identity; Chinese Time-Honored Brands; Cross-Over Innovation; Perceived Innovativeness.

1. INTRODUCTION

1.1 Background and Context

In recent years, cross-over innovation has emerged as a key strategy for revitalizing Chinese Time-Honored Brands (THBs), enabling them to maintain cultural heritage while appealing to younger generations. This innovation model integrates traditional brand elements—such as historical craftsmanship, symbolic designs, and cultural narratives—with contemporary technologies, marketing strategies, and consumer preferences (Lulu et al., 2024a).

Notable examples include Tong Ren Tang's fusion of traditional Chinese medicine with modern wellness beverages (J. Zhang, 2024) and Maotai's collaboration with Luckin Coffee, which generated a 30% surge in consumer foot traffic and widespread online engagement (Zheng, 2024). These cases illustrate how THBs can successfully bridge tradition and modernity through cross-over initiatives that enhance brand visibility and commercial performance.

Despite such successes, cross-over innovation remains a complex and high-risk endeavor. Many THBs struggle to sustain consumer engagement beyond initial novelty effects, with some collaborations facing criticism for lacking authenticity or long-term strategic direction (Hyde & Fu, 2022).

At the core of this tension lies the challenge of balancing innovation with cultural continuity—a dilemma particularly relevant in urban markets like Wuhan, where young, culturally aware consumers increasingly demand both novelty and heritage (Guo & Kwon, 2018). Furthermore, the absence of standardized innovation frameworks and best practices poses additional risks to brand reputation and consumer trust (Miao, 2024).

Government support and a surge in national cultural confidence provide favorable conditions for THBs to innovate (Bonetti et al., 2024). However, successful transformation requires more than policy incentives. It demands a nuanced understanding of how consumers interpret and respond to hybridized branding efforts.

Research suggests that younger consumers not only seek functionality and aesthetic appeal in products but also use consumption as a form of identity construction—linking personal values to brand narratives (Manolică et al., 2019). In this context, cultural identity becomes a critical lens for examining consumer-brand relationships in cross-over innovation.

Although prior studies have investigated innovation, branding, and consumer engagement, few have examined how cultural identity moderates consumers' perceptions of brand innovativeness, particularly in the realm of THBs. This gap is significant given that perceived innovativeness plays a key role in shaping consumer attitudes and purchase intentions in rapidly evolving markets (Ahmad et al., 2023; Rachwal-Mueller & Fedotova, 2024).

As such, this study aims to explore the moderating effect of cultural identity on the relationship between cross-over innovation and perceived innovativeness in the context of Chinese THBs.

1.2 Problem Statement

As Chinese Time-Honored Brands (THBs) seek to engage younger consumer segments, cross-over innovation has become an increasingly adopted strategy. This approach enables THBs to rejuvenate their brand image by integrating traditional cultural elements with modern aesthetics, technologies, and marketing formats (Lulu et al., 2024a). While this strategy has generated short-term market buzz—such as Maotai's collaboration with Luckin Coffee (Zheng, 2024)—its long-term effectiveness remains uncertain. Many cross-over initiatives suffer from superficiality, lack of sustainable differentiation, or disconnection from core brand values, leading to consumer fatigue or brand dilution (Hyde & Fu, 2022).

Moreover, although functional innovation, aesthetic experimentation, social media marketing, and experiential campaigns are widely implemented, there is insufficient understanding of how these dimensions of cross-over innovation contribute to consumers' perceptions of a brand's innovativeness.

In particular, limited empirical research has been conducted on whether these innovation strategies resonate with the deeply rooted cultural identities of young Chinese consumers—an increasingly important audience in cities like Wuhan (Guo & Kwon, 2018). This disconnect raises concerns about the true value and strategic direction of such innovations.

Existing studies have largely focused on innovation adoption and branding outcomes, but few have explored the moderating role of cultural identity in the perceived effectiveness of cross-over innovation. This oversight leaves a significant gap in the literature. Cultural identity has been shown to influence how consumers evaluate a brand's authenticity and relevance (Bolan, 2024). For THBs, whose value proposition is inherently tied to national heritage, failing to account for this cultural dimension can lead to misalignment between brand strategy and consumer perception.

Therefore, the core problem addressed in this study is the lack of empirical clarity regarding how cultural identity moderates the relationship between different types of cross-over innovation (functional, aesthetic, social media, and experiential) and perceived innovativeness among young consumers. Understanding this relationship is crucial not only for optimizing innovation strategies, but also for preserving cultural authenticity while enhancing market relevance.

1.3 Research Questions

Previous empirical studies have underscored the significant influence of cultural identity on consumer-brand relationships, especially in contexts involving heritage or culturally embedded brands (He et al., 2023). In particular, cultural identity has been shown to moderate how consumers interpret brand messages, assess innovation authenticity, and evaluate the symbolic meaning of products. Building upon these findings, this study seeks to quantitatively examine the extent to which cultural identity moderates the relationship between cross-over innovation and perceived innovativeness among young consumers in the context of Chinese time-honored brands.

To address this research purpose, the study proposes the following two research questions:

- i. **RQ1:** To what extent does cultural identity moderate the relationship between product cross-over innovation and perceived innovativeness of Chinese time-honored brands?
- ii. **RQ2:** To what extent does cultural identity moderate the relationship between marketing cross-over innovation and perceived innovativeness of Chinese time-honored brands?

By focusing on these two research questions, the study aims to provide empirical evidence for the conditional effects of cultural identity, thereby contributing to a more nuanced understanding of consumer responses to innovation strategies in culturally significant brand contexts.

1.4 Objectives of the Study

In alignment with the research questions and building upon prior empirical studies on consumer perception, cultural identity, and innovation strategies, this study sets out to achieve the following objectives:

- i. To examine the moderating effect of cultural identity on the relationship between product cross-over innovation and perceived innovativeness of Chinese time-honored brands among young consumers.
- ii. To assess the moderating effect of cultural identity on the relationship between marketing cross-over innovation and perceived innovativeness of Chinese time-honored brands among young consumers.

Through these objectives, the study aims to deepen the empirical understanding of how cultural identity conditions consumer responses to cross-over innovation strategies, thereby offering practical insights for heritage brand revitalization.

2. LITERATURE REVIEW

2.1 Cross-over Innovation in Chinese Time-Honored Brands

2.1.1 Concept and Scope of Cross-Over Innovation

Cross-over innovation refers to the strategic integration of heterogeneous resources, technologies, or cultural elements across industries to generate new value and enhance brand relevance. For Chinese time-honored brands, it has become a vital strategy to revitalize their legacy and attract younger consumers amid growing market competition and evolving preferences (LeMay, 2023).

By fusing traditional cultural capital with contemporary trends, brands can overcome industrial inertia and respond to shifting cultural demands (Yuan & Wang, 2021). Unlike conventional innovation confined to product upgrades, cross-over innovation enables multidimensional transformation—spanning product form, aesthetics, brand storytelling, and communication. Collaborations with fashion, gaming, or pop culture entities allow heritage brands to create culturally resonant, limited-edition products (Cao et al., 2024).

Its scope includes product and marketing innovation. The former blends tradition with modern function or design; the latter leverages social media, experiential campaigns, and influencer narratives. Ultimately, cross-over innovation provides a pathway for time-honored brands to balance heritage with modern relevance, fostering stronger perceived innovativeness among new-generation consumers.

2.1.2 Product Cross-Over Innovation

Product cross-over innovation involves reconfiguring traditional offerings by integrating design, functionality, or symbolic elements from other industries. For Chinese time-honored brands, this strategy allows them to transcend legacy limitations and meet the evolving demands of younger consumers who value novelty, aesthetics, and cultural relevance (Boisvert & Khan, 2020).

A common practice is redesigning product form and packaging through collaborations with contemporary designers or IPs. Brands such as Daoxiangcun and Beijing Tongrentang have incorporated fashionable or culturally resonant motifs to refresh their visual identity, thereby enhancing emotional appeal and market competitiveness (Di et al., 2022). These collaborations reframe heritage products as trend-conscious and culturally adaptive. Functionality is another focus. Traditional food brands, for instance, have adapted to health trends by incorporating low-sugar or plant-based ingredients into classic recipes, aligning with the wellness values of younger demographics (Boinwad & Shinde, 2024). Such innovation bridges tradition and modern lifestyle, reinforcing cultural continuity while signaling brand evolution.

Rather than surface-level updates, product cross-over innovation represents strategic transformation. By embedding modern design and user-centered attributes, time-honored brands enhance perceived innovativeness and reposition themselves with differentiation in competitive markets.

2.1.3 Marketing Cross-Over Innovation

Marketing cross-over innovation refers to the integration of promotional strategies, communication channels, and experiential tactics from non-traditional or unrelated domains to rejuvenate the brand narrative of time-honored enterprises. In contrast to product-oriented innovations, this form of cross-over focuses on how the brand engages consumers emotionally, socially, and interactively through innovative marketing practices.

A prominent form of this strategy is social media-based innovation, where time-honored brands collaborate with internet celebrities, short video platforms, or trending cultural symbols to reshape their brand perception. For instance, brands such as Baihua Youyuan and Zhang Xiaoquan have leveraged platforms like Douyin and Weibo to create viral campaigns that blend heritage stories with modern digital narratives (Wang et al., 2023). These campaigns move beyond traditional advertising by encouraging user-generated content (UGC), thus amplifying reach and consumer participation.

Another critical component is experiential marketing, which uses physical and digital spaces to create immersive brand experiences. This includes pop-up stores, co-branded exhibitions, cultural events, or AR/VR interactions that allow young consumers to emotionally and sensorially engage with the brand (Palanisamy & Ravi, 2019). For example, Wuyutai's collaboration with local art spaces in Beijing and the launch of tea-themed immersive installations have drawn media attention and generated significant online discourse. These experiences not only make the brand more relatable but also reinforce its cultural authenticity in a contemporary context.

Marketing cross-over innovation serves as a bridge between traditional brand identity and contemporary consumer culture. It enables heritage brands to not only communicate innovation but to demonstrate it experientially, thereby increasing perceived innovativeness and influencing purchase decisions. Importantly, these strategies allow brands to embed themselves in the lifestyle and digital routines of younger audiences, enhancing brand relevance in highly competitive consumer markets.

2.2 Perceived Innovativeness

Perceived innovativeness refers to the degree to which consumers regard a brand or its offerings as novel, forward-thinking, and distinctive. For Chinese time-honored brands, this perception is crucial to maintaining relevance in a rapidly evolving market landscape. A brand perceived as innovative conveys adaptability and appeal, particularly to younger consumers.

The Stimulus-Organism-Response (S-O-R) model provides a theoretical basis for understanding how perceived innovativeness influences consumer behavior. According to this model, environmental stimuli—such as innovative brand presentations—affect consumers' internal cognitive or emotional states, which in turn shape their behavioral responses (Rahmawati & Kuswati, 2023). Within this framework, perceived innovativeness functions as a stimulus that evokes internal evaluations such as curiosity and excitement, ultimately impacting purchase intention.

Moreover, brands perceived as innovative are better positioned to attract innovation-seeking consumers and differentiate themselves in competitive markets (Chen et al., 2023). Thus, perceived innovativeness serves not only as a communication tool but also as a cognitive-emotional bridge linking brand heritage with modern expectations.

2.3 Cultural Identity as a Moderating Variable

2.3.1 Concept of Cultural Identity

Cultural identity is a multidimensional construct reflecting an individual's perceived alignment with the values, symbols, and practices of a cultural group (Bolan, 2024). Unlike ethnic or national identity, which often centers on ancestry or political boundaries, cultural identity emphasizes symbolic meanings and experiential affiliation within a sociocultural context (Andersson, 2023). Rather than being static, cultural identity evolves through social and psychological processes. It encompasses both material and spiritual dimensions of culture—such as values, rituals, and collective memory—shaped over time through socialization and exposure (Kipnis, 2015).

In consumer behavior research, cultural identity is recognized as a critical factor influencing purchase intention, particularly in markets where brands hold cultural or heritage significance (Habib & Hossain, 2015). For Chinese time-honored brands, this identity serves as a filter through which consumers evaluate brand authenticity and symbolic value.

Furthermore, cultural identity operates at both individual and group levels. Individually, it shapes consumption as a form of identity expression; collectively, it fosters emotional ties among consumers (Manolică et al., 2019). The dynamic tension between preserving root cultural identity and embracing adaptive identity is especially salient when brands engage in cross-over innovation (He et al., 2023).

2.3.2 Cultural Identity and Consumer Perception

Cultural identity significantly shapes how consumers perceive and interpret brand-related stimuli, particularly in contexts involving culturally embedded brands such as Chinese time-honored enterprises. This perception is not merely a cognitive evaluation but also involves emotional resonance rooted in the consumer's cultural self-concept (Hu et al., 2024). When a brand's symbolic elements, narratives, and design cues align with the consumer's internalized cultural values, it enhances the perceived innovativeness of the brand by reinforcing cultural relevance and authenticity (Ahmad et al., 2023).

At the individual level, cultural identity influences how consumers filter and internalize marketing messages. As noted by Kipnis (2015), consumers actively seek cultural symbols in consumption to construct and express their identities. This symbolic consumption allows them to validate personal values and social belonging. In the case of time-honored brands engaging in cross-over innovation, cultural identity determines whether such innovation is perceived as respectful enhancement of tradition or as inauthentic deviation from heritage.

At the collective level, cultural identity also functions as a heuristic for social validation. Bolan (2024) argues that shared cultural identity fosters communal endorsement of brands, where

consumers are more likely to trust and support products aligned with group values. This dynamic is especially critical when traditional brands engage in innovative collaborations that may initially appear unfamiliar. If consumers perceive these efforts as extensions of their cultural identity, rather than departures from it, the innovations are more likely to be embraced.

Moreover, cultural identity moderates the interpretation of innovation strategies. For instance, Li (2022) found that consumers with stronger cultural identification exhibited more favorable attitudes toward cross-over innovations by time-honored brands, particularly when those innovations reflected traditional aesthetics or values. Conversely, consumers with weaker cultural ties were more skeptical, often viewing such innovations as superficial or commercially driven.

In the context of rapidly modernizing markets like China, where young consumers navigate between global and local cultural references, the interaction between cultural identity and consumer perception becomes increasingly nuanced. He et al. (2023) underscores the importance of distinguishing between *root cultural identity* and *adaptive cultural identity*. While the former drives affinity for traditional brand narratives, the latter opens consumers to hybrid expressions of culture, thereby enhancing perceived innovativeness when brands integrate modern elements into their legacy identity.

2.4 Theoretical Underpinning

2.4.1 Stimulus–Organism–Response (SOR) Model

The Stimulus–Organism–Response (SOR) model, initially proposed by Mehrabian and Russell (1974), provides a foundational framework for explaining consumer behavioral responses to external environmental cues. According to this model, stimuli (S) from the external environment affect the organism (O)—an individual’s internal cognitive and affective states—which subsequently lead to a response (R) in the form of behavior. This theoretical lens has been widely adopted in consumer behavior studies to interpret the psychological mechanisms through which marketing strategies influence perception and decision-making (Chintagunta & Nair, 2010).

In the context of this study, cross-over innovation functions as the external stimulus. Product and marketing innovations by Chinese time-honored brands serve as sensory and symbolic cues that consumers interpret through cognitive processing. The organism component is represented by perceived innovativeness, reflecting consumers’ internal evaluation of a brand’s novelty, creativity, and distinctiveness. The response—though not the primary focus in this study—is ultimately linked to behavioral outcomes such as brand support or purchase intention, which are examined in the broader doctoral research framework.

What distinguishes this paper’s application of the SOR model is the integration of cultural identity as a moderating factor that influences how the stimulus is internalized by the organism. As cultural identity shapes the way consumers relate to brand messaging, it alters the perception of innovation efforts. For instance, a product innovation may be perceived as authentic and creative by culturally aligned consumers, but as dissonant or superficial by those with weaker

cultural identification. Thus, the strength of the stimulus-to-organism linkage is contingent on the individual's cultural lens. This approach aligns with previous research extending the SOR model to include identity-related moderators. In culturally embedded markets, the interpretive filter of cultural identity is essential for understanding why the same marketing stimulus evokes different responses across consumer segments. Therefore, the SOR model not only structures the conceptual logic of this study but also supports the investigation of cross-level interactions between innovation strategies and consumer identity constructs.

2.4.2 Social Identity Theory

Social Identity Theory (SIT), developed by Tajfel and Turner in the 1970s, offers a theoretical lens for understanding how individuals derive a portion of their self-concept from the social groups to which they belong (Hogg, 2016). These social groups may include familial units, professional associations, cultural communities, or even brand communities. Within this framework, identity is not merely a product of personal traits but also shaped through group membership, which exerts influence on attitudes, cognition, and behavior.

SIT identifies three key mechanisms in the formation of social identity: social categorization, social identification, and social comparison. Social categorization involves sorting people, including oneself, into defined groups based on shared attributes, thus forming an "us vs. them" cognitive structure (Hogan, 2023). This process simplifies social perception and allows individuals to establish group boundaries. Social identification follows, wherein individuals internalize the values, norms, and behaviors of their chosen group, reinforcing a sense of belonging and enhancing self-esteem. Lastly, through social comparison, individuals evaluate their in-group in relation to out-groups, often resulting in in-group favoritism and biased responses toward those perceived as outsiders (Gaffney & Hogg, 2023).

Importantly, SIT also emphasizes the dynamic and situational nature of social identity. People hold multiple social identities that vary in salience depending on context (Caprar & Walker, 2024). For instance, a consumer may express strong identification with their national culture in one context but shift to align with global lifestyle brands in another. This fluidity makes SIT particularly suitable for analyzing complex identity constructs such as cultural identity, which operates as both a stable sense of belonging and a context-dependent expression of values.

Within the field of marketing, SIT has been employed to understand how group affiliation influences brand attitudes and consumer behavior. Cultural identity, as a specific form of social identity, plays a crucial role in mediating how consumers interpret brand messages, especially in the context of heritage or culturally significant brands. When a brand reflects culturally resonant values or aesthetics, it can strengthen consumers' identification with the brand, subsequently enhancing perceived innovativeness and emotional attachment.

2.4.3 Diffusion of Innovations Theory

The Diffusion of Innovations (DOI) Theory, originally proposed by Everett M. Rogers in 1962, offers a robust conceptual foundation for understanding how innovations disseminate within a social system over time. Rogers defined diffusion as "the process by which an innovation is

communicated through certain channels over time among the members of a social system" (Miller, 2015). This theory has since been applied across diverse domains—including marketing, communication studies, and consumer behavior—to examine the mechanisms that underlie innovation adoption, particularly within evolving socio-cultural contexts (Guo & Huang, 2024).

A core contribution of DOI theory lies in its identification of five innovation characteristics that influence adoption decisions: relative advantage, compatibility, complexity, trialability, and observability. Relative advantage captures the perceived superiority of an innovation over current alternatives. Compatibility measures how well the innovation aligns with consumers' values, norms, and prior experiences.

Complexity pertains to the perceived difficulty of understanding and applying the innovation, while trialability refers to the degree to which an innovation can be experimented with on a limited basis. Observability assesses how visible and tangible the benefits of an innovation are to potential adopters. These five attributes collectively shape consumer evaluations and determine the speed and breadth of innovation diffusion within a target population.

In addition to innovation characteristics, the theory also segments adopters into five categories based on their willingness to adopt: innovators, early adopters, early majority, late majority, and laggards. These segments differ in terms of risk tolerance, innovativeness, and reliance on information sources. This classification not only supports targeted communication strategies but also guides the pacing and positioning of innovation campaigns to maximize reach and influence.

In the context of traditional Chinese time-honored brands, DOI theory is particularly relevant as these brands increasingly undertake modernization and cross-over innovation to appeal to younger consumers. As Liu (2019) notes, time-honored brands must emphasize innovation attributes that resonate with contemporary consumer values—particularly compatibility and relative advantage—to overcome historical inertia and enhance market responsiveness. Moreover, communication channels play a pivotal role in DOI. Both interpersonal networks and mass media platforms serve as vehicles for raising awareness and facilitating persuasion about the value of new innovations.

2.5 Hypotheses

Drawing upon the Stimulus–Organism–Response (SOR) model, Social Identity Theory (SIT), and Diffusion of Innovations (DOI) theory, this study conceptualizes **cross-over innovation**—both product-based and marketing-based—as external stimuli that influence consumers' cognitive evaluations (i.e., perceived innovativeness) within the context of Chinese time-honored brands. Within this framework, cultural identity is positioned as a moderator that shapes the strength and direction of this stimulus-organism relationship. Prior research has emphasized that consumers with strong cultural identification are more likely to perceive brand innovations from heritage brands as authentic and aligned with their value systems (He et al., 2023; Wang, 2024; Li, 2022).

According to DOI theory, the adoption of innovations is influenced not only by the intrinsic characteristics of the innovation (e.g., relative advantage, compatibility) but also by the social and cultural frameworks within which these innovations are interpreted (Liu, 2019). Meanwhile, SIT suggests that cultural identity—defined as an individual’s psychological affiliation with culturally significant values—can amplify or attenuate perceptions of innovativeness depending on the symbolic alignment between the innovation and the individual’s cultural self-concept (Caprar & Walker, 2024; Chen et al., 2015).

Based on these theoretical premises and in line with the study's research questions and objectives, the following hypotheses are proposed:

- H1:** *Cultural identity positively moderates the relationship between product cross-over innovation and perceived innovativeness of Chinese time-honored brands, such that the relationship is stronger among consumers with higher levels of cultural identity.*
- H2:** *Cultural identity positively moderates the relationship between marketing cross-over innovation and perceived innovativeness of Chinese time-honored brands, such that the relationship is stronger among consumers with higher levels of cultural identity.*

These hypotheses aim to test the conditional effects of cultural identity in shaping how young consumers perceive innovation efforts from culturally embedded brands. By incorporating moderation analysis into the structural model, the study contributes to a more granular understanding of how consumer heterogeneity—particularly rooted in cultural identity— influences innovation perception within traditional branding contexts.

The conceptual framework as shown in Figure 1:

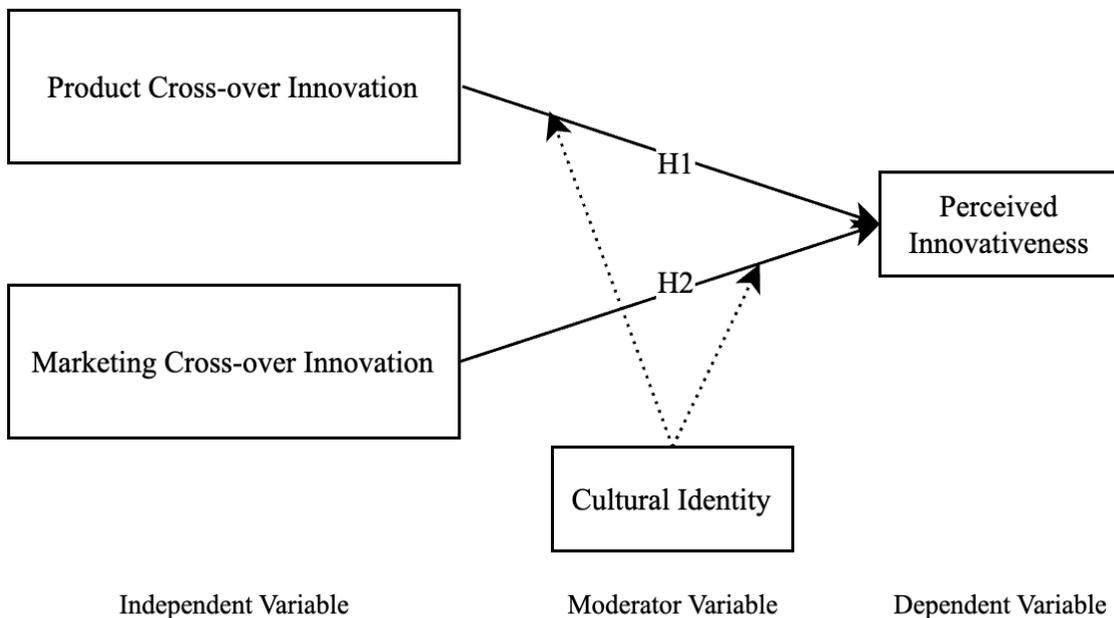


Figure 1: Conceptual Framework

3. METHODOLOGY

3.1 Research Design

This study adopts a quantitative research design to investigate the moderating role of cultural identity in the relationship between cross-over innovation and perceived innovativeness in the context of Chinese time-honored brands. Given the objective to test statistically whether cultural identity conditions the strength or direction of the effect of product and marketing cross-over innovations on consumers' perception of brand innovativeness, a hypothesis-driven approach was employed.

The research is grounded in Social Identity Theory, Diffusion of Innovations Theory, and the Stimulus–Organism–Response (SOR) model, which collectively provide a theoretical foundation for understanding how consumers interpret innovation strategies through the lens of cultural identity. These theories support the formulation of interaction-based hypotheses and justify the use of moderated structural equation modeling as the analytic technique. By adopting this empirical design, the study aims to produce generalizable, statistically verifiable findings that can inform both academic theory and practical strategies for brand revitalization among Chinese heritage brands.

3.2 Sampling and Data Collection

To empirically test the proposed hypotheses, this study targeted young consumers aged 18 to 25 residing in Wuhan, China. This group was selected because they represent a key segment for revitalizing Chinese time-honored brands, being both digitally active and culturally receptive. Moreover, prior research suggests that younger consumers are particularly sensitive to innovation strategies and cultural signals in branding (Wang, 2024; Li, 2022), making them a suitable population for studying the moderating effects of cultural identity.

A non-probability purposive sampling method was employed, focusing on respondents who (i) are familiar with at least one Chinese time-honored brand and (ii) have encountered marketing or product innovations from these brands. This ensured the relevance and validity of the data collected in relation to the study's constructs. Data were gathered via an online survey distributed through Wenjuanxing, a widely used platform for academic data collection in China.

To ensure sufficient statistical power for structural equation modeling (SEM) and moderation analysis, a minimum sample size of 300 was targeted, in line with recommendations by Hair et al. (2019). A total of 384 valid responses were collected after screening for completeness and response consistency. Prior to analysis, data were further examined to remove outliers and ensure adherence to assumptions such as normality and linearity.

3.3 Measurement Instruments and Scale Design

The constructs of this study—Product Cross-Over Innovation, Marketing Cross-Over Innovation, Cultural Identity, and Perceived Innovativeness—were measured using established scales adapted from prior validated research. All items were measured using a 5-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree, allowing for the assessment of respondents' level of agreement with each statement.

3.3.1 Product Cross-Over Innovation

Product cross-over innovation was assessed through two key dimensions: functional innovation and aesthetic innovation. The measurement items were adapted from the scale developed by Wang and Ahmed (2004), which has been widely applied in studies involving product innovation across sectors. The items capture aspects such as product functionality enhancements, material innovation, and visual design integration through cross-industry partnerships.

3.3.2 Marketing Cross-Over Innovation

Marketing cross-over innovation was evaluated using two sub-dimensions: social media innovation and experiential marketing innovation. Items measuring social media innovation were adopted from Kim and Ko (2012), focusing on brand engagement, content interactivity, and trend alignment. Experiential marketing items were adapted from Brakus et al. (2009), capturing sensory experience, emotional interaction, and brand event engagement.

3.3.3 Cultural Identity

Cultural identity was measured using the scale developed by Phinney (1992) and later adapted in marketing contexts by He et al. (2023). The items assess individuals' self-identification with cultural traditions, emotional attachment to national heritage, and alignment with cultural values. These items were refined to ensure relevance to Chinese cultural elements in the context of heritage brands.

3.3.4 Perceived Innovativeness

Perceived innovativeness was measured using a scale adapted from Tellis et al. (2009), which captures consumers' evaluations of a brand's novelty, originality, and its ability to offer new value. The scale includes items such as "This brand offers products that are different from those of competitors" and "This brand is perceived as forward-thinking." All scale items were originally in English and translated into Chinese using a back-translation method to ensure semantic accuracy and cultural appropriateness. A pilot test with 30 respondents was conducted to verify the clarity, reliability, and internal consistency of the instrument. Minor wording adjustments were made based on pilot feedback to enhance comprehension and contextual fit.

3.4 Data Analysis Procedures

The data analysis process followed a structured approach to ensure the validity and reliability of the moderation model. Since the primary aim of this study was to test the moderating effect of cultural identity on the relationship between cross-over innovation (product and marketing) and perceived innovativeness, the analysis focused on the construction, validation, and examination of interaction effects using structural equation modeling (SEM) with AMOS 26.0 and SPSS 26.0. First, a preliminary data screening was conducted to assess missing values, outliers, and normality of the dataset. All responses were verified to ensure completeness and compliance with the inclusion criteria. Descriptive statistics were calculated to summarize the demographic characteristics of the respondents and the distribution of key variables. Next, a reliability analysis was conducted to evaluate the internal consistency of all measurement

constructs using Cronbach's alpha and composite reliability (CR). Both indicators exceeded the minimum acceptable threshold of 0.70, indicating adequate internal reliability. Following this, confirmatory factor analysis (CFA) was performed to examine the measurement model's validity. Convergent validity was assessed through factor loadings (> 0.60), average variance extracted ($AVE \geq 0.50$), and CR values, while discriminant validity was evaluated using the Fornell-Larcker criterion.

To prepare for moderation analysis, the independent variables (product cross-over innovation and marketing cross-over innovation) and the moderator variable (cultural identity) were mean-centered to reduce multicollinearity. Interaction terms were then constructed by multiplying the centered independent and moderator variables. Moderation effects were tested by integrating the interaction terms into the structural model.

The significance of interaction path coefficients was assessed using SEM. A statistically significant interaction term indicates that cultural identity moderates the relationship between cross-over innovation and perceived innovativeness. Additionally, multicollinearity diagnostics were conducted using Variance Inflation Factor (VIF), with all VIF values falling below the recommended threshold of 5.0, confirming the absence of serious multicollinearity.

Finally, common method bias was assessed using Harman's single-factor test. The unrotated factor solution revealed that the first factor accounted for less than 50% of the total variance, suggesting that common method bias was not a major concern in this study.

4. FINDINGS AND ANALYSIS

4.1 Preliminary Data Screening

Prior to analysis, the dataset underwent a series of screening steps to ensure data quality and suitability for moderation analysis. After removing incomplete and extreme outlier cases based on Mahalanobis distance ($p < 0.001$), a final sample of 384 valid responses was retained. Missing values, which were minimal ($< 5\%$), were treated using mean substitution. Normality was confirmed through skewness and kurtosis values falling within acceptable ranges (± 2 for skewness, ± 7 for kurtosis), ensuring robust model estimation. Common method bias was tested using Harman's single-factor approach, with the first factor accounting for 32.4% of variance, below the 50% threshold, indicating no major bias concerns. These procedures confirmed the dataset's adequacy for subsequent SEM-based moderation analysis.

4.2 Descriptive Statistics

The demographic characteristics of the respondents provide important contextual insights into the interpretation of the moderation analysis. A total of 384 valid responses were obtained from young consumers currently residing in Wuhan, all of whom were aware of and had purchased Chinese time-honored brand products.

Gender distribution was relatively balanced, with females accounting for 48.4% and males 51.6%, indicating a nearly equal representation across genders in the sample (see Table 1).

Table 1: Gender Characteristics

Gender	Frequency	Percent
Male	198	51.6
Female	186	48.4
Total	384	100.0

Regarding educational background, the majority of respondents held undergraduate degrees (41.1%), followed by diploma holders (26.6%), those with postgraduate qualifications (22.7%), and a smaller proportion with secondary education or below (9.6%). This distribution indicates that most participants possess tertiary education, aligning well with the target demographic of young, informed consumers (see Table 2).

Table 2: Educational Characteristics

Education Level	Frequency	Percent
High School	37	9.6
Diploma	102	26.6
Bachelor	158	41.1
Master of Higher	87	22.7
Total	384	100

In terms of monthly income, the largest segment of respondents fell within the RMB 3,000–6,000 range (45.8%), followed by those earning above RMB 6,000 (30.2%) and those earning below RMB 3,000 (24.0%). This distribution reflects the economic realities of young working adults and university students (see Table 3).

Table 3: Income Characteristics

Income Level	Frequency	Percent
Below 3,000 RMB	92	24.0
3,000–6,000 RMB	176	45.8
Above 6,000 RMB	116	30.2
Total	384	100.0

For purchase frequency, 34.1% of respondents reported buying time-honored brand products once per month, followed by 19.8% purchasing 2–3 times per month or more. Only 8.1% indicated they had never purchased such products, suggesting most participants have relevant consumption experience (see Table 4).

Table 4: Purchase Characteristics

Frequency Category	Frequency	Percent
Never Purchase	31	8.1
1–2 times per year	71	18.5
Once per quarter	75	19.5
Once per month	131	34.1
2–3 times per month or more	76	19.8
Total	384	100

4.3 Measurement Model Assessment

4.3.1 Reliability Analysis

To ensure internal consistency of the measurement constructs, Cronbach’s Alpha was calculated for all multi-item scales. As shown in Table 5, all Cronbach’s Alpha values exceeded the acceptable threshold of 0.70, indicating strong reliability across constructs. Specifically, Product Cross-over Innovation and Marketing Cross-over Innovation recorded values of 0.884 and 0.883 respectively, while Cultural Identity achieved 0.822. Perceived Innovativeness demonstrated the highest internal consistency with an alpha of 0.900. These results confirm that the measurement items for each variable are reliable and suitable for further analysis.

Table 5: Reliability Analysis Results

Dimension	Items	Cronbach’s Alpha
Product Cross-over Innovation	6	0.884
Marketing Cross-over Innovation	6	0.883
Cultural Identity	3	0.822
Perceived Innovativeness	4	0.900

4.3.2 Validity Analysis

Construct validity was assessed using the Kaiser–Meyer–Olkin (KMO) measure and Bartlett’s Test of Sphericity. The KMO value was 0.853, exceeding the recommended minimum of 0.60, indicating that the sample was adequate for factor analysis. Bartlett’s Test of Sphericity was significant ($\chi^2 = 5106.892$, $df = 231$, $p < 0.001$), suggesting that the correlation matrix was not an identity matrix and thus appropriate for structure detection (see Table 6). Together, these results validate the suitability of the dataset for subsequent regression-based moderation analysis.

Table 6: KMO and Bartlett’s Test Results

KMO Value		0.853
Bartlett's Test of Sphericity	Approximate Chi-Square	5106.892
	df	231
	p Value	0.000

4.4 Moderation Analysis

To examine the moderating role of cultural identity in the relationship between cross-over innovation (product and marketing) and perceived innovativeness, two hierarchical regression models were constructed. Each model introduced the interaction term between cultural identity and the respective type of cross-over innovation. Prior to analysis, all continuous variables were mean centered to reduce multicollinearity concerns.

4.4.1 Moderation Effect of Cultural Identity on Product Cross-Over Innovation

The regression results (see Table 7) reveal that product cross-over innovation has a significant positive effect on perceived innovativeness ($\beta = 0.455$, $p < 0.01$). Cultural identity also demonstrates a significant main effect ($\beta = 0.184$, $p < 0.01$). Importantly, the interaction term

between product cross-over innovation and cultural identity is significant ($\beta = 0.222, p < 0.01$), indicating a positive moderation effect.

The inclusion of the interaction term leads to an increase in the explained variance ($\Delta R^2 = 0.045, \Delta F = 24.381, p < 0.01$), suggesting that cultural identity strengthens the positive impact of product cross-over innovation on perceived innovativeness. The simple slope analysis (see Figure 2) confirms that the effect of product cross-over innovation is stronger among consumers with high levels of cultural identity.

Table 7: Moderation Analysis Results for Product Cross-over Innovation

	<i>B</i>	Standard Error	<i>t</i>	<i>p</i>	β
Constant	4.912	0.073	67.109	0.000**	-
Product Cross-over Innovation	0.574	0.059	9.762	0.000**	0.455
Cultural Identity	0.23	0.056	4.092	0.000**	0.184
Product Cross-over Innovation×Cultural Identity	0.186	0.038	4.938	0.000**	0.222
R ²	0.301				
Adjusted R ²	0.295				
F Value	<i>F</i> =54.499**				
ΔR^2	0.045				
ΔF Value	<i>F</i> =24.381**				
Dependent Variable: Perceived Innovativeness					
* <i>p</i> <0.05 ** <i>p</i> <0.01					

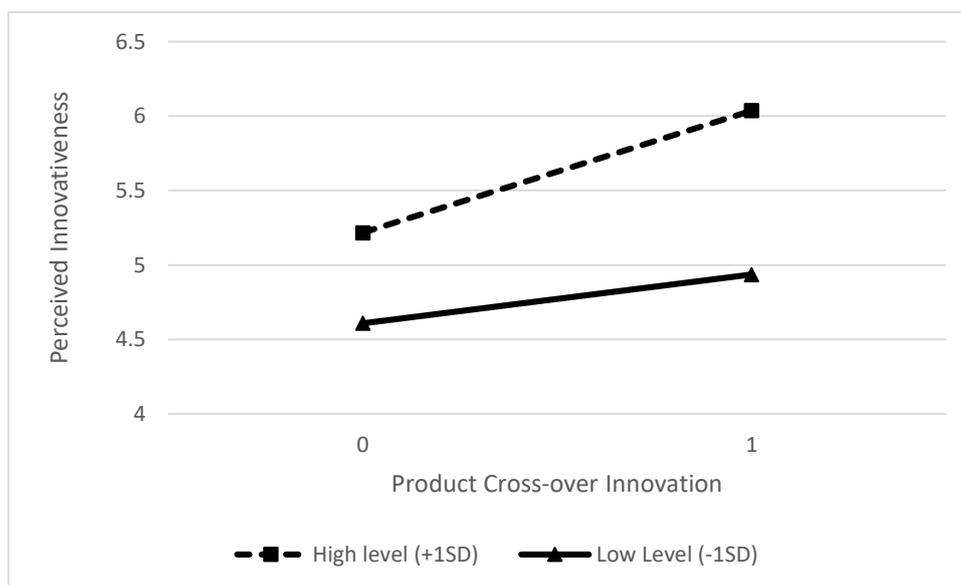


Figure 2: Moderation Graph for Product Cross-over Innovation

4.4.2 Moderation Effect of Cultural Identity on Marketing Cross-Over Innovation

Similarly, the results (see Table 8) indicate that marketing cross-over innovation significantly predicts perceived innovativeness ($\beta = 0.338, p < 0.01$), as does cultural identity ($\beta = 0.108, p < 0.05$). The interaction between marketing cross-over innovation and cultural identity is also

significant ($\beta = 0.310, p < 0.01$), providing evidence for a moderating effect. The inclusion of the interaction term results in a substantial increase in explained variance ($\Delta R^2 = 0.091, \Delta F = 46.662, p < 0.01$), confirming that cultural identity enhances the relationship between marketing cross-over innovation and perceived innovativeness. As illustrated in Figure 3, the positive influence of marketing innovation is notably stronger for individuals with high cultural identity.

Table 8: Moderation Analysis Results for Marketing Cross-over Innovation

	<i>B</i>	Standard Error	<i>t</i>	<i>p</i>	β
Constant	4.862	0.073	66.249	0.000**	-
Marketing Cross-over Innovation	0.441	0.059	7.435	0.000**	0.338
Cultural Identity	0.135	0.056	2.424	0.016*	0.108
Marketing Cross-over Innovation * Cultural Identity	0.276	0.04	6.830	0.000**	0.31
R ²	0.256				
Adjusted R ²	0.25				
F Value	<i>F</i> =43.590**				
ΔR^2	0.091				
ΔF Value	<i>F</i> =46.662**				
Dependent Variable: Perceived Innovativeness					
* $p < 0.05$ ** $p < 0.01$					

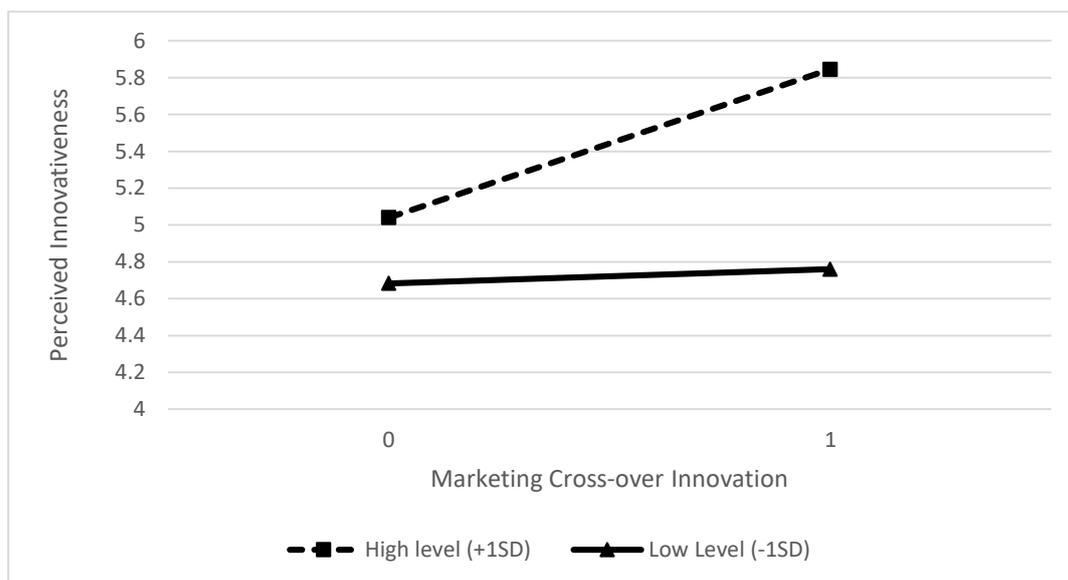


Figure 3: Moderation Graph for Marketing Cross-over Innovation

4.4.3 Summary of Hypothesis Testing

Table 9 summarizes the hypothesis testing outcomes. Both hypothesized moderation effects (H1 and H2) are statistically supported, indicating that cultural identity significantly conditions consumer responses to both product and marketing cross-over innovations in shaping perceived innovativeness.

Table 9: Moderation Effect Hypotheses Testing Results

Hypothesis	Results
H1: Cultural identity positively moderates the relationship between product cross-over innovation and perceived innovativeness of Chinese time-honored brands, such that the relationship is stronger among consumers with higher levels of cultural identity.	Supported
H2: Cultural identity positively moderates the relationship between marketing cross-over innovation and perceived innovativeness of Chinese time-honored brands, such that the relationship is stronger among consumers with higher levels of cultural identity.	Supported

5. DISCUSSION

This study aimed to explore the moderating effect of cultural identity on the relationship between cross-over innovation (product and marketing) and perceived innovativeness in the context of Chinese time-honored brands. The findings from the moderation analyses provide robust empirical support for both hypothesized relationships.

Firstly, the results reveal that product cross-over innovation significantly enhances perceived innovativeness and that this relationship is positively moderated by cultural identity. This suggests that consumers with a strong sense of cultural identity are more receptive to innovative reinterpretations of traditional products. As supported by previous studies (He et al., 2023; Wang, 2024), culturally engaged consumers tend to perceive heritage brand innovation not as a disruption of tradition, but as a meaningful evolution aligned with their own identity values.

Secondly, marketing cross-over innovation also shows a significant positive effect on perceived innovativeness, with cultural identity again acting as a significant moderator. This finding aligns with earlier research indicating that culturally grounded consumers evaluate marketing cues through a symbolic lens (Zhou, 2023) and are more likely to interpret cross-over campaigns as authentic extensions of brand heritage rather than mere promotional tactics.

Moreover, the differential increase in R^2 values across the two models (0.045 for product and 0.091 for marketing innovation) suggests that the moderating effect of cultural identity may be even more pronounced in marketing contexts. This can be attributed to the fact that marketing messages often serve as cultural signifiers, carrying narratives and aesthetics that resonate with consumers' collective memory and personal identity (Mueller & Fedotova, 2024).

6. CONCLUSION

This study contributes to the growing body of literature on cross-over innovation and cultural branding by empirically validating the moderating role of cultural identity in the innovation-perception nexus of time-honored brands. Based on a sample of 384 young consumers in China, the study demonstrates that both product and marketing cross-over innovations significantly enhance perceived innovativeness, and that these effects are amplified among consumers with higher levels of cultural identity.

Theoretically, the study integrates Social Identity Theory and the Diffusion of Innovation framework to explain how identity-relevant factors shape consumer evaluations of innovation in heritage brand contexts. This offers a nuanced understanding of consumer heterogeneity and

addresses the call for more culturally embedded models in innovation research. Practically, the findings offer strategic guidance for managers of time-honored brands. Instead of adopting a one-size-fits-all innovation approach, firms should tailor their cross-over initiatives to reflect culturally resonant elements that align with the identity values of target segments. This approach not only enhances perceived authenticity and innovativeness but also strengthens emotional connections between consumers and brands.

Looking forward, future research may explore how generational differences, media channels, or nostalgia interact with cultural identity to shape innovation perception. Additionally, extending the current study to other emerging markets with strong heritage brands could further validate and refine the proposed framework.

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