

Perceived Risk as a Mediator Between Brand Trust, Perceived Fit, and Brand Extension Success: Case Study of China Time-honored Brand

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Abstract

This study aimed to explore the causal relationship and impact of perceived risk on brand extension success, with a particular focus on insights drawn from China Time-honored brand. The primary research question addressed in this study is: Does perceived risk mediate the effects of brand trust and perceived fit on brand extension success? Based on perceived risk theory, categorization theory, this study constructs a research model by adopting China time-honored brand as the research subject. The study collected 605 valid survey responses using a self-filled questionnaire, employing a combination of purposive and random sampling methods in the location of the parent brands. Quantitative analysis was conducted using partial least squares structural equation modeling (PLS-SEM) to test 4 research hypotheses. The findings indicate that: In the brand extension process of China time-honored brand, 1) perceived risk transmits effects of brand trust to brand extension success; 2) perceived risk transmits effects of perceived fit to brand extension success. These discoveries underscore the importance of considering consumers' perceived risk in the formulation and implementation of brand extension strategies. This study contributes to understanding the causal relationships and impacts of perceived risk in the brand extension of time-honored brands. The empirical evidence provided can serve as a reference for the development of extension strategies and marketing management for China time-honored brands and other heritage brands.

Keywords: Perceived Risk, Brand Extension, Brand Trust, Perceived Fit, Time-Honored Brand

1. Introduction

Time-honored brands often enjoy significant brand recognition. The old in their designation signifies not only their classic appeal and historical heritage but also presents challenges related to the outdated image of their products. Throughout their prolonged development, these venerable brands must continually navigate and balance continuity with innovation to sustain their vitality. Presently, a major issue confronting time-honored brands is the obsolescence of product designs and the limited range of offerings, which fail to satisfy the contemporary consumers' craving for novelty and variety. To address this challenge, brand extension has emerged as a crucial strategy for traditional brands to overcome decline, adapt to market changes, and meet consumer demands. This approach enables these brands to rejuvenate their image, expand their market reach, and enhance overall competitiveness while preserving their core values.

Brands frequently adopt brand extension as a key strategic guide for new product development, aiming to uncover fresh growth avenues. Statistically, more than 70% of new market entries are facilitated through brand extension strategies. However, the success rate of brand extension is not optimistic, with approximately 70-80% not reaching successful fruition [1]. In the U. S., merely 30% of new Packaged Consumer Goods developed through brand extension maintain sales in their first two years [2]. Furthermore, unsuitable brand extension strategies can weaken consumers' identification with the brand's flagship product, dilute its market influence, and lead to investment losses [3]. Consequently, adopting a scientifically grounded and judicious brand extension strategy emerges as crucial for promoting a brand comprehensive market extension, enabling flexible adaptation to rapid changes, and securing sustainable business growth [4].

Attracting consumers constitutes the fundamental objective of any business. Consumer cognitive responses play a pivotal role in the success of commercial endeavors [5]. Consumers opt for specific products over others, believing in

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their superior utility or value. At the core of consumer perceived value is a trade-off between perceived benefits and risks, indicating that enhancing perceived value can be achieved by increasing perceived benefits or reducing perceived risks [6]. Some studies have shown that consumers making purchasing decisions tend to avoid risks rather than maximize benefits, with perceived risk being a more potent and robust explanatory factor in consumer behavior [7].

In the brand extension realm, a fundamental hypothesis posits that established brands may reduce the perceived risk associated with purchasing extension products [8]. However, this does not imply that brand extension can entirely eliminate consumers' perception of risk. Due to information asymmetry, consumers may find it challenging to assess new products in advance when lacking information related to brand extension. They may still perceive purchasing risks and maintain skepticism about whether the new product can effectively uphold and extend the parent brand's value [9]. Consumers' perceived risk is widely recognized as a challenge to business success. In various domains, such as e-commerce, social networking services, and new energy vehicles, reducing perceived risks can increase consumers' willingness to try innovative products [10]. Nevertheless, there are also studies that present different findings. For example, in research on the acceptance of autonomous vehicles, perceived risk did not directly impact users' willingness to use them [11]. Given that, this study selects a China time-honored brand as study subject to explore whether perceived risk mediates the effects of brand trust and perceived fit on brand extension success.

2. Literature and Research Framework

2.1. Perceived Risk

Perceived risk is widely recognized as consumers' assessment of outcome uncertainties and the potential for negative consequences in the outcome of making purchase decisions [12]. This form of risk is subjective, capturing consumers' psychological reactions and cognitive evaluations of various objective risks encountered during the decision-making process [13]. Faced with such subjectively perceived risks, consumers may undertake actions or implement strategies to mitigate or circumvent these risks, including seeking additional information, changing brands, acquiring insurance or warranties, postponing purchasing decisions, or exploring return or exchange policies [14]. Given that consumers are more inclined to avoid negative outcomes rather than maximize utility, the perceived risk theory provide a powerful explanation of how consumers perceive risks and evade negative outcomes when making purchase.

Perceived risk is a multifaceted construct encompassing dimensions such as performance, financial, psychological, social, physical risks, and time risk. In general, the importance of these perceived risks can vary considerably based on the specific context or research scenario. Kaplan et al [15] found that among these, performance risk contributes most significant explanatory power for overall risk, followed by psycho-social risk and financial risk.

2.2. Heritage Brand Extension

Heritage brand represent a unique intersection of past, present, and future, projecting a perennial promise that draws from their longevity, core values, historical achievements, and symbolic meanings [16]. Examples of corporate heritage brands can be found in every country and region, underscoring their significance in providing a sense of certainty in an uncertain world. The world we live in is constantly changing, and the change is dramatic. Adapting to contemporary market demands while preserving the integrity of heritage brands is a significant challenge. It requires a fine balance between maintaining historical continuity and embracing innovation and relevance in today dynamic marketing environment [17]. Currently, many heritage brands, especially in China, face significant challenges, with only 10% of China time-honored brands (heritage brands) thriving and about 30% showing good development. Currently, many heritage brands, especially in China, face significant challenges, with only 10% of China time-honored brands (heritage brands) thriving and about 30% showing good development [18].

Brand extension has emerged as a strategic approach for many heritage brands to foster growth. Brand extension, leveraging an established brand for new products, enhances profitability by utilizing the brand existing image and recognition, thereby reducing marketing costs and risks [2]. However, success rates for brand extensions are low [19]. The factors that influence brand extension evaluation can be summarized into the following dimensions: parent brand characteristics, relationship between the parent brand and the extension product, extension product category, marketing activities, consumer traits, and other external factors [20]. Fit between the parent brand and its extension is recognized as the most influential factor for success in comprehensive research.

A great deal of research has been conducted to understand the factors influencing the success of brand extensions, typically assessed by consumer evaluations such as consumer attitudes and purchase intentions toward the extension. Furthermore, the willingness of consumers to accept a price premium for brand extensions is also regarded as a dimension for measuring success [21].

2.3. Brand Trust

Consumer trust in a brand hinges on its ability to fulfill promises, rooted in expectations of reliability and consistency in honoring commitments [22]. In uncertain situations, brand trust becomes crucial in alleviating consumer anxiety and doubt [23]. Additionally, brand trust is considered an essential precursor to cultivating brand loyalty and enhancing brand equity [24].

Brand trust is a complex, multi-dimensional construct encompassing trust in the brand product quality, that is, reliability, ability, and credibility, its image, i.e., honesty, integrity, and benevolence, and trust based on consumer satisfaction [25]. This notion emphasizes that enduring brand trust depends on the interplay of high-quality products, a positive brand image, and elevated customer satisfaction, underscoring the intertwined nature of these factors in the formation of brand trust.

2.4. Perceived Fit

Perceived fit is interpreted as the consumer's perception of the similarity or consistency between extension product and parent brand [26]. A fair number of studies indicate that perceptions of fit or similarity between the extension product and the parent brand have a strong influence on consumers' attitude toward the extension. The perception of fit enables the transfer of knowledge or emotions from the brand to the extension category. The higher the perceived fit of the brand extension, the more likely it is to receive positive evaluations [27]. As previously mentioned, perceived fit play a most important factor in influencing consumer attitudes towards brand extensions. The evaluation of brand extension fit often involves aspects such as product functionality, characteristics, usage scenarios, resource utilization, and target markets. Recently, [2] built upon previous research to suggest that consumers' perception of brand extension fit encompasses three dimensions: product features, usage occasions, and image of both the parent brand and the extension.

2.5. Research Framework and Hypothesis

The characteristics of heritage brands, passed down through generations, grant them a significant competitive advantage: a mutual trust between the brands and their customers [28]. Brand trust is a key component of brand equity that can enhance consumer attitudes and behavioral intentions. Trust acts as a heuristic that individuals rely on to evaluate danger, playing a vital role in navigating uncertainty and assessing risks. As a consumer-based component of brand equity, brand trust simplifies decision-making by enabling individuals to make purchase decisions with limited information. When consumers trust a brand, they are more likely to accept its extensions because trust reduces perceptions of uncertainty. In situations involving multiple risk factors, particularly where knowledge is scarce, trust is often a key determinant in evaluating potential benefits and risks, thereby influencing their evaluations of new products [29]. As such, we set forth that brand trust (BT) affects brand extension success (BES) by influencing consumer perceived risk (PR). Consequently, it can be postulated that: Hypothesis 1 (H1), Perceived risk (PR) transmits effects of BT to BES.

Perceived fit influences the process by which consumers classify new products, utilizing their existing knowledge and cognitions of parent brand. This provides them with key information based on the attributes and reputation of the parent brand for evaluating the extension [2]. According to categorization theory, consumers first classify new products based on their prior knowledge of the physical or functional characteristics of a certain category of products; then, they can infer and evaluate the attributes and characteristics of the new products [30]. Research indicates that brand extensions with high fit not only prompt consumers to associate new products with the parent brand, enhancing the acceptability of the new brand, but also lead them to transfer the positive image and reputation of the parent brand to the new product, forming positive brand associations [31]. Conversely, low fit may lead to consumers doubts and uncertainty about the new product [32]. Based on this, we hypothesize the following: Hypothesis 2 (H2): PR transmits effects of perceived fit (PF) to BES.

As mentioned above, the research framework of this study is illustrated in [figure 1](#). The abbreviations used within the framework are defined as follows: QT represents quality trust, IT denotes image trust, CS stands for customer satisfaction, UF indicates usage fit, FF signifies feature fit, IF refers to image fit, PER represents performance risk, PSR denotes psychological risk, FIR stands for financial risk, SR indicates social risk, AEP represents attitudes toward extension products, BI denotes behavioral intention, and APP stands for acceptance of price premiums.

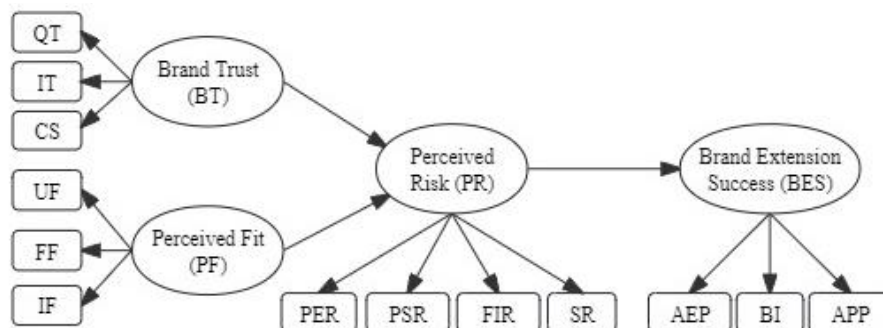


Figure 1. Research Framework

3. Method

This section outlines the selection of the parent brand, sampling and data collection procedures, measurement instruments, and data analysis techniques. WLY, a China time-honored brand, was chosen as the case for this study, meeting the criteria for parent brand selection for brand extension as proposed by multiple researchers.

To ensure data homogeneity, both purposive and random sampling methods were employed, focusing on permanent residents of Sichuan Province, where the parent brand is located. This approach mitigates potential demographic biases. The final sample consisted of 605 participants, with 51.4% male and 48.6% female. The majority of participants were aged between 31 and 50 years.

Participants responded to items using a 5-point Likert scale, with higher scores indicating stronger agreement with the aspect being measured. Perceived risk was measured using 16 items adapted from [33], covering performance, psychological, financial, and social risks (e.g., “As you consider purchasing the [extension], you worry about whether the product will really perform as well as it is supposed to”). Brand extension success was measured using 12 items adapted from [34], covering attitudes, behavioral intentions, and price premium acceptance (e.g., “Your attitude toward [extension] is positive”). Brand trust was measured using 12 items adapted from [25] (e.g., “The quality of WLY product is good”). Perceived fit was measured using 12 items adapted from [35] (e.g., “In terms of consumption, [extension] is similar to original products”).

PLS path modeling was employed to test the research framework and hypotheses due to its capability to handle complex models. PLS was preferred over covariance-based modeling for its ability to manage complex constructs. Given the inclusion of multiple second-order constructs and moderating variables, PLS-SEM was deemed more suitable. Following [36] recommendation, a two-step approach (measurement and structural models) was used for data analysis.

4. Results and Discussion

4.1. Measurement Model

The assessment of the measurement model in this study includes evaluating construct reliability, convergent validity, and discriminant validity. Construct reliability is measured using Cronbach's α and composite reliability to ensure the internal consistency and stability of the constructs. Convergent validity is determined by examining the average variance extracted (AVE), which assesses the degree to which a construct explains the variance of its items. Discriminant validity is evaluated using multiple criteria: the Fornell-Larcker criterion, which compares the square root of the AVE of each construct with the correlations among constructs; the Heterotrait-Monotrait ratio of correlations (HTMT), which evaluates discriminant validity based on the multitrait-multimethod matrix.

As [table 1](#) and [table 2](#) show, the overall values of Cronbach's α range from 0.744 to 0.885, which is higher than the threshold value 0.7. The composite reliability, Dijkstra-Henseler's rho (ρ_A) and Jöreskog's rho (ρ_C), are greater than 0.7 [37]. The AVE values are all above 0.50, demonstrating strong convergent validity [38]. Therefore, it can be concluded that the construct reliability and convergent validity of each sub-construct have been verified.

Table 1. Reliability and convergent validity of measurement model (first-order)

First-order variables	Items	Cronbach's α	Composite reliability		AVE
			rho (ρ_A)	rho (ρ_C)	
Quality trust (QT)	4	0.882	0.882	0.919	0.739
Image trust (IT)	4	0.890	0.890	0.924	0.752
Customer satisfaction (CS)	4	0.884	0.884	0.920	0.742
Usage fit (UF)	4	0.868	0.868	0.910	0.716
Feature fit (FF)	4	0.871	0.872	0.912	0.721
Image fit (IF)	4	0.874	0.874	0.913	0.725
Performance risk (PER)	4	0.896	0.896	0.927	0.762
Psychological risk (PSR)	4	0.910	0.911	0.937	0.788
Financial risk (FIR)	4	0.949	0.949	0.963	0.867
Social risk (SR)	4	0.885	0.885	0.920	0.743
Attitude toward extension product (AEP)	4	0.890	0.890	0.924	0.752
Behavioral intention (BI)	4	0.888	0.888	0.923	0.749
Acceptance of price premiums (APP)	4	0.890	0.890	0.924	0.752

Table 2. Reliability and convergent validity of measurement model (second-order)

Second-order variables	Cronbach's α	Composite reliability		AVE
		rho (ρ_A)	rho (ρ_C)	
Brand extension success (BES)	0.749	0.756	0.856	0.665
Brand trust (BT)	0.747	0.754	0.855	0.663
Perceived fit (PF)	0.744	0.744	0.854	0.661
Perceived risk (PR)	0.763	0.774	0.848	0.584

To assess discriminant validity, the Fornell–Larcker criterion stipulates that the square root of the AVE for a construct must surpass its correlations with any other constructs. The AVE quantifies the proportion of variance in observed measures that a construct uniquely explains, emphasizing the construct's distinctiveness. As shown in [table 3](#), this study confirms the criterion: the square roots of the AVEs for all examined constructs exceed their respective highest inter-construct correlations. Furthermore, the Heterotrait-Monotrait ratio of correlations (HTMT) was employed to assess discriminant validity also. The HTMT ratio should be less than 0.9. The results of this study, as detailed in [table 3](#), revealed that the HTMT ratio values were less than 0.9. Accordingly, the findings substantiate the discriminant validity across all evaluated constructs, confirming the absence of validity concerns.

Table 3. Fornell-Larcker criterion

	BES	BT	PF	PR
BES	0.816			
BT	0.420	0.814		

PF	0.402	0.423	0.813	
PR	-0.365	-0.374	-0.378	0.764

Note: The bolded values the square root of the AVE from each construct.

Table 4. Results of HTMT

	BES	BT	PF	PR
BES				
BT	0.562			
PF	0.541	0.57		
PR	0.477	0.489	0.494	

4.2. Structural Model

To assess the structural model, this study utilized PLS-SEM and applied non-parametric bootstrapping with 5000 replications. The proportion of variance explained (R^2) was used to gauge the predictive accuracy of the research model. In this study, the R^2 values for perceived risk and brand extension success were found to be 0.199 and 0.133, respectively, indicating an acceptable level of explanatory power. Furthermore, this study acquired Q^2 values through the blindfolding technique, and Q^2 values larger than 0 are meaningful, suggesting the predictive relevance of exogenous constructs on the endogenous construct. In the study, Q^2 values of exogenous constructs were found above 0. Thereby confirming the predictive relevance of the endogenous constructs in this research. The VIF metrics are below the threshold of 5, revealed no signs of collinearity in the structural model, as show in [table 5](#).

Table 5. Outer model of collinearity statistics

Sub-construct	VIF
AEP	1.578
APP	1.411
BI	1.539
UF	1.431
FF	1.490
IF	1.396
QT	1.473
IT	1.532
CS	1.470
PER	1.535
PSR	1.477
FIR	1.436
SR	1.583

To elucidate the relationships among the constructs in the research framework and to test the proposed hypotheses, we utilized the bootstrapping within the PLS-SEM framework to derive t-values and p-values for hypothesis testing. The consistent bootstrapping technique was employed to verify the significance of the structural model. [figure 2](#) shows the results of the path analysis, which are also described in [table 6](#) and [table 7](#).

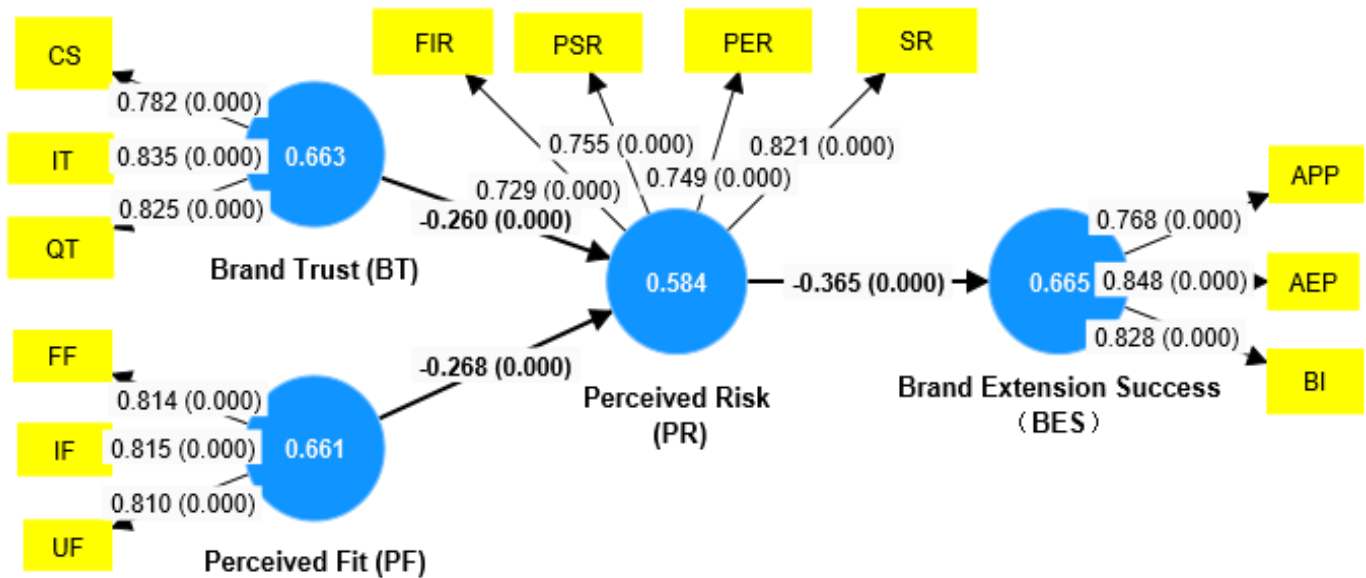


Figure 2. Results of path analysis

Table 6. SEM results with bootstrapping (direct effects)

Relationships	β	SD	t-Values	p-Values	Confidence intervals	
					5.00%	95.00%
PF → PR	-0.260	0.041	6.318	0.000	-0.330	-0.195
BT → PR	-0.268	0.041	6.465	0.000	-0.339	-0.202
PR → BES	-0.365	0.035	10.303	0.000	-0.425	-0.308

Table 7. SEM results with bootstrapping (specific indirect effects)

Hypotheses	Constructs	β	SD	t-Values	p-Values	Confidence intervals		Decision
						5.00%	95.00%	
H1	BT → PR → BES	0.095	0.019	4.948	0.001	0.067	0.130	Supported
H2	PF → PR → BES	0.098	0.021	5.182	0.000	0.069	0.131	Supported

Table 7 presents the values of the SEM results for the specific indirect effects, showing the indirect effects of BT and PF on BES through PR. The results for H1 confirm that PR mediates the relationship between BT and BES, as indicated by $\beta = 0.095$, t-value = 4.948, p-value = 0.001. Furthermore, the confidence intervals (5.00% = 0.067, 95.00% = 0.130) do not include 0. Therefore, H1 is supported, indicating that PR transmits effects of BT to BES, showing that there is partial mediation. Meanwhile, the results for H2 confirms that PR mediates the relationship between PF and BES, therefore, as indicated by $\beta = 0.098$, t-value = 5.182, p-value < 0.001. Furthermore, the confidence intervals (5.00% = 0.069, 95.00% = 0.131) do not include 0. Therefore, H2 is supported, indicating that PR transmits the effects of PF to BES, showing that there is partial mediation.

4.3. Discussion

This study explored the mediating effects of perceived risk among brand trust and perceived fit on brand extension success. The path coefficient supports the provided hypotheses empirically and identifies significant findings with p-value less than 0.01, and t-value higher than 4.

Based on the statistical results of research model, brand trust significantly influenced perceived risk, indicating that higher levels of brand trust reduce consumers' perceived risk. This finding aligns with prior research on the relationship between brand trust and brand extension success by [2]. It suggests that consumers extend their trust and knowledge from parent brand to its extensions. Thus, strategically leveraging the parent brand's established trust and recognition is crucial for reducing perceived risk when consumers consider purchasing extension products. Additionally, the results also show that perceived fit significantly influences perceived risk. The higher the perceived fit of the brand extension, the lower perceived risk by consumers. This is in line with prior research [31]. Maintaining consistency or similarity between the extension products and the parent brand's original offerings allows consumers to leverage their prior knowledge when evaluating new product attributes and characteristics, effectively reducing perceived risk. The results also indicate that perceived risk significantly affects brand extension success. Specifically, as perceived risk decreases, consumers' attitudes towards the extension become more positive, enhancing their willingness to purchase and accept a premium price, thereby increasing the likelihood of brand extension success. These findings are consistent with previous research [27].

The H1 showed an indirect effect of perceived risk on the relationship between brand trust and brand extension success. Perceived risk transmits the effects of brand trust to brand extension success. Specifically, the results of H1 suggest that brand trust positively influences brand extension success by reducing perceived risk, which is linked to previous study [39]. This mediation suggests that a high level of trust in the parent brand diminishes perceived risk associated with the extension, thereby enhancing the likelihood of success for the new product. Brand trust, a critical determinant of consumer confidence, acts as a buffer, reducing the uncertainty typically triggered by new market entries under the same brand umbrella [40].

According to H2, perceived risk significantly mediates between perceived fit and brand extension success. Perceived risk transmits the effects of perceived fit to brand extension success. Perceived fit enhances brand extension success through mitigating perceived risk, which is line with [41], emphasizing the important role of perceived risk in mediating the effects of perceived fit on brand extension success.

5. Conclusion

This study extends the existing literature by exploring the significant role of perceived risk in the relationship between brand trust, perceived fit, and the success of extension for time-honored brand. While several studies have looked at brand trust and other brand assets, as well as extension fit and related brand strategy factors on brand extension success, but little attention has been paid to the role of perceived risk in these relationships. As a result, the impact of perceived risk connected to brand trust and perceived fit on the success of extension for time-honored brand, as evidenced by the significant beta coefficient, t-values, p-values, and confidence intervals. Perceived risk mediates the effects of brand trust and perceived fit on brand extension success. This study explores the role of brand equity and brand extension strategies in reducing consumer perceived risk and enhancing the success rate of brand extensions. Consequently, management teams of China time-honored brands and other heritage brands must pay more attention to consumer perceived risk during the brand extension process. By enhancing consumer cognition of the brand, increasing the consistency of brand extensions, and strengthening brand trust, perceived risk can be significantly reduced. Given the central role of consumers in the market, it is essential to conduct in-depth research on the consumer groups of time-honored brands. This research will help identify and address potential issues that may arise during brand extensions. This area of inquiry will also constitute a primary focus of our future research endeavors.

This study contributes to the growing body of knowledge about time-honored brand extension, perceived risk, perceived fit, and brand trust. The aforementioned research results increase the success rate of time-honored brand extensions, which are better understood by brand management teams. Additionally, this study has broader implications for brand managers aiming to leverage extensions to overcome challenges or achieve improved performance.

6. Declaration

6.1. Author Contributions

Conceptualization: C.L., T.P., and L.Y.L.; Methodology: C.L., T.P., and L.Y.L.; Software: C.L.; Validation: C.L., T.P., and L.Y.L.; Formal Analysis: C.L., T.P., and L.Y.L.; Investigation: C.L.; Resources: T.P.; Data Curation: T.P.; Writing Original Draft Preparation: C.L., T.P., and L.Y.L.; Writing Review and Editing: T.P., L.Y.L., and C.L.; Visualization: C.L.; All authors have read and agreed to the published version of the manuscript.

6.2. Data Availability Statement

The data presented in this study are available on request from the corresponding author.

6.3. Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

6.4. Institutional Review Board Statement

Not applicable.

6.5. Informed Consent Statement

Not applicable.

6.6. Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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