

Enhancing The Competitiveness of Vietnamese Bamboo and Rattan Brands in The International Market: The Mediating Role of Perceived Brand Value

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Abstract

In the context of green consumption receiving increasing global attention, Vietnamese bamboo and rattan products still face difficulties in competing and building international brands. Although consumers have high environmental awareness, actual purchasing behavior is not commensurate which indicates the existence of a green gap. The objective of this study is to examine factors that drive perceived brand value, thereby enhancing the international competitiveness of Vietnamese bamboo and rattan brands. The research used quantitative method through a survey of 408 consumers and SmartPLS 4. The findings show positive impacts of product quality, level of design innovation, country of origin reputation on the mediating variable perceived brand value, and thereby positively impacts international brand competitiveness, however international distribution channel efficiency does not show a positive impact on perceived brand value. Therefore, Vietnamese bamboo and rattan enterprises need to improve product quality, innovate designs, and build national images associated with cultural identity. At the same time, cooperation with experts, state agencies and international partners is necessary to expand the market and take advantage of digital platforms, fairs, and cultural storytelling to help increase brand value.

Keywords: Bamboo and rattan brands, country of origin reputation, international brand competitiveness, level of design innovation, perceived brand value, product quality.

1. INTRODUCTION

In recent years, the global environment has been increasingly challenged by severe issues such as pollution, resource depletion, and climate change. These challenges have sparked a growing demand for sustainable development across all sectors of society, particularly in consumption practices. Green consumption has emerged as a vital strategy, encouraging the use of environmentally friendly products with minimal ecological impact. Among such products, bamboo and rattan have garnered attention for their durability, aesthetic diversity, and biodegradability, positioning them as ideal materials in the sustainable product category (Zhao et al., 2022). The global market for bamboo and rattan products has shown significant

growth potential. According to recent forecasts, the value of the global bamboo market is expected to increase from USD 70.59 billion in 2023 to USD 75.12 billion in 2024, with a compound annual growth rate (CAGR) of 6.4%, while rattan products are projected to grow at a CAGR of 6.5% from 2023 to 2029 (Business Research Company, 2025). Vietnam, with its long-standing tradition in handicraft production, currently exports bamboo and rattan products to more than 163 countries and territories, earning approximately USD 2.2 billion annually. These products are among the top ten non-agricultural export items, with the United States accounting for 35% of total export value (VOV, 2022). However, despite their environmental benefits and export success, Vietnamese bamboo and rattan brands still face considerable challenges in enhancing their competitiveness and brand identity in the international market. Domestically, although about 60% of Vietnamese consumers demonstrate environmental awareness and are willing to pay a premium for green products (Frey et al., 2023), the actual purchasing behavior of bamboo and rattan items remains limited, indicating a clear discrepancy between intention and action.

The Theory of Planned Behavior (TPB) developed by Ajzen and Fishbein (1980), has been widely applied to explain consumer intentions and behaviors. According to TPB, behavior is influenced by attitudes, subjective norms, and perceived behavioral control. Several studies have shown that positive attitudes toward green consumption (Wang and Wang, 2013), alignment with social norms (Sheng et al., 2019), and environmental concern (Tanwir and Hamzah, 2020; Zhao et al., 2014) contribute to green consumption intention. However, other studies suggest that positive attitudes alone are not sufficient to predict actual behavior, giving rise to what is known as the "green gap"—the disconnect between favorable attitudes, intentions, and real consumption behavior (Claudy et al., 2011, Vermeir and Verbeke, 2006; Kushwah et al., 2019). While perceived behavioral control has been proposed as a moderating variable in green consumer behavior (Elhoushy and Jang, 2021), its broad and generalized nature may not adequately explain specific behavioral patterns for particular types of green products, such as bamboo or rattan. Recent research recommends incorporating self-efficacy—a more specific and actionable concept reflecting an individual's belief in their ability to perform a particular behavior—as a more precise predictor of green consumption. Moreover, traditional behavioral models often overlook brand-level perceptions that play a crucial role in competitive markets. According to the Behavioral Reasoning Theory (BRT), consumer decisions are also shaped by reasons behind their attitudes, including perceived uniqueness (Hsu and Ngoc, 2016) and perceived product quality (Lomboan, 2017), which strongly influence intention and purchase behavior.

Given these theoretical insights and practical challenges, this study proposes to explore the mediating role of perceived brand value in enhancing the competitiveness of Vietnamese bamboo and rattan brands in the international market. By integrating the TPB and BRT frameworks, the study aims to explain how consumer perceptions, particularly brand-related evaluations, influence their purchase decisions toward eco-friendly handmade products. The research seeks to bridge the gap between environmental attitudes and actual consumer behavior, while offering both theoretical contributions and practical implications for Vietnamese sustainable handicraft branding in global markets.

2. CONCEPTUAL FRAMEWORK AND RESEARCH MODEL

2.1 International Market of Bamboo and Rattan Products

Bamboo and rattan have long been acknowledged as two of the most important non timber forest products (NTFPs) in Asia and globally, thanks to their ecological sustainability, economic value, and cultural versatility (Beer and McDermott, 1989). Theoretically, their

development is rooted in the NTFP framework, which views forest based resources not only as sources of income but also as pathways to sustainable development, biodiversity conservation, and poverty alleviation, particularly in rural and marginalized communities (Beer and McDermott, 1989). From a policy and development perspective, the establishment of the International Network for Bamboo and Rattan (INBAR), supported by the International Development Research Centre (IDRC) and the International Fund for Agricultural Development (IFAD), has marked a global commitment to promoting these resources. INBAR's approach emphasizes genetic resource conservation, value chain enhancement, post harvest processing, and socio economic development, suggesting that bamboo and rattan are no longer limited to traditional craft sectors but are now positioned within broader strategies of sustainable growth and climate resilience (Beer and McDermott, 1989).

In terms of current global trends, bamboo and rattan are seeing increasing demand as eco friendly alternatives across multiple sectors including furniture, construction, packaging, and fashion. According to the Business Research Company (2025), the global bamboo market is projected to grow from USD 70.59 billion in 2023 to USD 75.12 billion in 2024, at a compound annual growth rate (CAGR) of 6.4 percent, while the rattan market is expected to expand at a CAGR of 6.5 percent from 2023 to 2029 (Business Research Company, 2025). This growth is driven by shifting consumer preferences toward sustainable and biodegradable materials, particularly in Europe, North America, and emerging eco conscious segments in Asia. However, despite this positive trajectory, there remains a gap between raw material potential and market competitiveness. Many bamboo and rattan products from developing countries are still exported as low value, unbranded goods. The lack of strong brand identity, weak market positioning, and limited international recognition hinder their ability to compete with more established sustainable brands (VOV, 2022). Furthermore, although consumers in global markets increasingly favor green products, studies highlight that purchasing decisions are not driven solely by environmental benefits but also by perceived brand value, including design, authenticity, cultural uniqueness, and trust (Hsu and Ngoc, 2016; Lomboan, 2017).

2.2 The Role of Vietnamese Bamboo and Rattan Brands in the International Market

Vietnam has long been known for its rich tradition of bamboo and rattan weaving, with deep cultural roots embedded in rural life and craftsmanship. With approximately 1.4 million hectares of bamboo (equivalent to 6.2 billion trees) and 30,000 hectares of rattan across 28 provinces, these materials represent a substantial national resource. Traditionally, bamboo and rattan have been used to produce household goods and tools, but their role has evolved significantly in recent years, transforming into export oriented products integrated into modern lifestyle, interior design, and hospitality sectors worldwide (Nguyen et al., 2024). Vietnamese bamboo and rattan brands have increasingly established a presence in international markets. As of 2023, the export value of bamboo, rattan, sedge, and carpet products from Vietnam reached nearly USD 700 million, with the United States accounting for 40 percent of total exports. This figure reflects both rising global demand for eco friendly products and Vietnam's growing capacity in design, production, and global distribution. In the first five months of 2024 alone, export turnover reached USD 334.5 million, representing a 15.4 percent year on year increase. Key growth markets include the United States, Japan, the United Kingdom, and emerging EU countries such as Poland and Denmark.

The international appeal of Vietnamese bamboo and rattan products stems from several key factors: their environmentally sustainable nature aligned with the rising trend of green consumption, their affordability due to lower labor costs, and the cultural and artisanal value embedded in traditional Vietnamese craftsmanship. In addition, strategic trade agreements such as the EVFTA and CPTPP, which eliminate up to 90 percent of import duties, have

created significant competitive advantages for Vietnamese products in high value markets. However, despite the sector's rapid expansion, Vietnamese bamboo and rattan brands still face several challenges in branding, differentiation, and perceived value in the global market. Many products are exported as generic, unbranded items, resulting in limited recognition and lower value capture compared to branded competitors (Nguyen et al., 2024). While international consumers increasingly favor green products, purchasing behavior is heavily influenced by perceived brand value, including design uniqueness, authenticity, product quality, and trust (Winzar et al., 2018).

Ecommerce platforms such as Etsy and Amazon have become effective channels for showcasing Vietnamese bamboo and rattan products under more distinct brand identities. Notable Vietnamese brands and sellers such as VietShopDesign, Miensweethouse, and rattan have achieved strong visibility and sales in overseas markets by offering handcrafted, stylish, and environmentally friendly products. These success cases highlight the potential for branding and digital marketing strategies to enhance competitiveness and consumer engagement globally. The role of Vietnamese bamboo and rattan brands in the international market is undergoing a transition from anonymous, low value exports to branded, high value, sustainable lifestyle products. This evolution requires strategic investments in design innovation, quality control, storytelling, and brand building to reinforce Vietnam's global reputation as a source of premium eco friendly handicrafts. Strengthening perceived brand value is thus not only a marketing priority but also a developmental imperative to ensure long term sustainability and competitiveness in international markets (Nguyen et al., 2024).

2.3 Hypothesis Development

Perceived brand value represents consumers' overall judgment of a brand's usefulness, desirability, and emotional significance. For traditional craft-based sectors such as Vietnamese bamboo and rattan, this perception is influenced not only by the functional quality of the product but also by cultural identity, sustainability, and artisanal authenticity. As noted by Bui et al. (2023), in emerging markets like Vietnam, perceived brand value is a decisive factor in fostering brand loyalty and market engagement, especially when consumers evaluate products with strong cultural narratives and aesthetic appeal. As these brands expand into international markets, perceived brand value becomes a strategic resource. It helps foreign consumers form positive associations with Vietnamese origin products, boosting credibility and trust. According to Winzar et al. (2018), brand competitiveness in the global context is strongly linked to customer-based brand value, where perceived value acts as a bridge between internal brand attributes and external market success. Supporting this, Ilyas et al. (2020) found that brands with higher perceived value achieve better customer satisfaction and repurchase intentions, both of which are essential indicators of long-term competitiveness. For Vietnamese bamboo and rattan brands, enhancing perceived brand value may thus provide a critical pathway to gaining recognition and preference in international markets, beyond low-cost or traditional associations. Based on above arguments, the following hypothesis was proposed:

H1: Perceived brand value has a positive impact on the international competitiveness of Vietnamese bamboo and rattan brands.

Feng (2022) emphasized that product quality plays a fundamental role in shaping effective brand strategies, particularly as consumers increasingly value attributes such as sustainability, durability, and craftsmanship. Jin et al. (2022) further asserted that a strong brand image in the fashion industry cannot be separated from superior product quality and design innovation, as these elements are crucial in shaping consumers' perceived brand value. In the context of

bamboo and rattan products, Xue et al. (2024) illustrated that applying generative design methods significantly enhances product quality through structural refinement, durability, and aesthetics, thereby increasing perceived value. Supporting this, Bui et al. (2023) found that perceived brand value plays a mediating role in transforming product attributes into brand loyalty, especially in industries with strong cultural and artisanal characteristics such as handicrafts. Taken together, these studies suggest that product quality not only has a direct impact on perceived brand value but also indirectly influences a brand's competitiveness in the international market through this perceived value. Based on above arguments, the following hypotheses were proposed:

H2: Product quality has a positive impact on the perceived brand value of Vietnamese bamboo and rattan brands.

H3: Perceived brand value significantly mediates the relationship between product quality and the international competitiveness of Vietnamese bamboo and rattan brands.

In today's competitive global market, design innovation has become a vital component of brand differentiation, especially for traditional craft industries such as Vietnamese bamboo and rattan. Brands that embrace creative and contemporary design elements are more likely to capture consumer attention and enhance brand value through aesthetic appeal, functional improvements, and cultural storytelling. Research has shown that design innovation can positively shape consumers' perception of a brand. According to Yun et al. (2024), innovative modeling and form enhancement in bamboo products improve product desirability and strengthen consumer satisfaction. Similarly, Li and Guo (2019) pointed out that modern design inspired by traditional bamboo culture not only maintains cultural authenticity but also increases market adaptability. Xue et al. (2024) further confirmed that design attributes such as originality, usability, and ecological considerations significantly influence perceived product value in the bamboo-based sector. Beyond its direct influence, design innovation can also drive international brand competitiveness through its effect on perceived brand value. As Jin et al. (2022) noted, when consumers value a brand's creativity and distinctiveness, they are more likely to trust and engage with it across markets. Thus, perceived brand value serves as a crucial pathway through which innovative design contributes to brand success in global contexts. Based on above arguments, the following hypotheses were proposed:

H4: The level of design innovation has a positive impact on the perceived brand value of Vietnamese bamboo and rattan brands.

H5: Perceived brand value significantly mediates the relationship between the level of design innovation and the international competitiveness of Vietnamese bamboo and rattan brands.

For brands rooted in traditional materials and craftsmanship like Vietnamese bamboo and rattan, the country-of-origin image plays a significant role in shaping consumer perceptions. When a country is associated with expertise, authenticity, and quality in a particular industry, this reputation can positively influence how consumers evaluate the brands originating from that country. Aiello et al. (2009) emphasized that the country-of-origin effect is especially pronounced in international markets, where cultural associations and perceived national competencies affect consumers' expectations of product quality and brand status. Likewise, Cai (2002) demonstrated that a positive country image increases consumers' willingness to purchase foreign products by enhancing their confidence in the brand's legitimacy and value. In the case of Vietnam, a country known for its long-standing tradition in bamboo and rattan weaving, the reputation for skilled craftsmanship, sustainable raw materials, and rich cultural heritage can strengthen perceived brand value. As consumers associate Vietnamese origin with authenticity and artisanal excellence, they are more likely to perceive these brands as

credible, meaningful, and high quality. Moreover, the perception of origin contributes not only to how brands are valued but also to how they perform internationally. As Winzar et al. (2018) suggested, brand competitiveness in global markets is tightly linked to customer-based brand value, which is influenced by perceptions of trust, heritage, and differentiation. Ilyas et al. (2020) also noted that positive brand perceptions fuel customer satisfaction and loyalty, both of which are key elements of sustained competitiveness. Therefore, the image of Vietnam as a country-of-origin strengthens brand value and can serve as a crucial pathway to enhancing competitiveness in global markets. Based on above arguments, the following hypotheses were proposed:

H6: Country-of-origin reputation has a positive impact on the perceived brand value of Vietnamese bamboo and rattan brands.

H7: Perceived brand value significantly mediates the relationship between country-of-origin reputation and the international competitiveness of Vietnamese bamboo and rattan brands.

Efficient international distribution channels are critical for ensuring that products reach global consumers reliably, timely, and in good condition. In export-oriented sectors such as Vietnamese bamboo and rattan, distribution channel effectiveness can significantly influence how consumers perceive the brand's professionalism, trustworthiness, and global readiness. Nevins and Money (2008) emphasized that the effectiveness of distribution partners, combined with trust and cultural alignment, plays a direct role in improving performance outcomes in international trade. A well managed distribution system does not simply facilitate logistics but also signals reliability and operational competence, two attributes that enhance a brand's perceived value in the eyes of international customers. For traditional handicraft brands, the challenge lies not only in design and production, but also in bridging geographic distance and cultural expectations. When international buyers experience consistency in availability, delivery, and service quality, they tend to associate the brand with professionalism and credibility. As a result, perceived brand value increases, especially when the logistics system matches the quality story embedded in the product itself. This enhancement in perceived brand value can translate into improved competitiveness. As noted by Winzar et al. (2018), customer based brand value is a key driver of brand competitiveness in international contexts. Additionally, Ilyas et al. (2020) found that strong distribution experiences contribute to brand awareness and customer satisfaction, ultimately leading to greater repurchase intention and loyalty, both crucial for long term success in global markets. Accordingly, international distribution efficiency is not only a functional factor but also a strategic asset that influences perception and positioning. Based on above arguments, the following hypotheses were proposed:

H8: International distribution channel efficiency has a positive impact on the perceived brand value of Vietnamese bamboo and rattan brands.

H9: Perceived brand value significantly mediates the relationship between international distribution channel efficiency and the international competitiveness of Vietnamese bamboo and rattan brands.

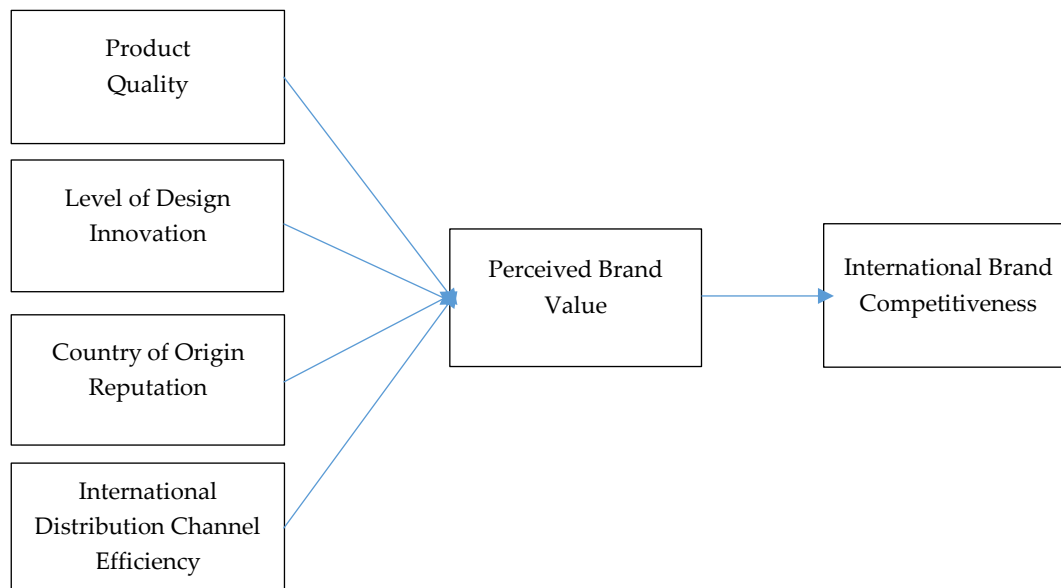


Figure 1. Research Model

3. METHODOLOGY

3.1 Measurement Instrument and Questionnaire Design

The questionnaire consisted of three main parts. The first part was designed to screen participants and confirm their familiarity with bamboo and rattan products. The second part addressed the core variables of the study, while the final section included Likert-scale items representing all constructs. Each item was measured using a five-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). The measurement instruments were adapted from previously validated scales to suit the specific research context of Vietnamese bamboo and rattan brands in international markets. The construct “Product Quality” (PQ) was measured using four items derived from previous studies by Feng (2022), Jin et al. (2022), and Xue et al. (2024), covering aspects such as craftsmanship, material durability, and product consistency. “Level of Design Innovation” (LDI) included three items inspired by Yun et al. (2024), Xue et al. (2024), Li and Guo (2019), and Jin et al. (2022), assessing the creativity, modern appeal, and uniqueness of product design. “Country of Origin Reputation” (COR) was measured using three items adapted from Aiello et al. (2009) and Cai (2002), reflecting perceptions of Vietnam’s credibility and tradition in handicraft production. “International Distribution Channel Efficiency” (IDC) was assessed through four items drawn from Nevins and Money (2008), focusing on the reliability, responsiveness, and accessibility of distribution systems in foreign markets. “Perceived Brand Value” (PBV) included four items based on Bui et al. (2023), evaluating consumer perceptions of overall brand worth, trust, and relevance. Finally, “International Brand Competitiveness” (IBC) was measured using five items adapted from Winzar et al. (2018) and Ilyas et al. (2020), covering market positioning, brand differentiation, and customer preference on a global scale. The data collected were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM), which is well suited for examining complex models with latent variables and mediation effects. This method also enables prediction and explanation of key relationships, making it particularly appropriate for assessing the drivers of international brand competitiveness.

3.2 Sample and Data Collection

The study targeted adult consumers in Vietnam who have experience purchasing or using bamboo and rattan products, particularly those with awareness of branding and product quality

in both domestic and international markets. To ensure data relevance, respondents were selected based on their familiarity with handicraft products and their ability to evaluate brand-related attributes such as product quality, origin reputation, and distribution experiences. A structured online questionnaire was distributed via social media platforms and community forums focusing on sustainable consumption and traditional crafts. The data collection process lasted for four weeks, during which 450 responses were initially collected. After data screening and cleaning, a total of 408 valid responses were retained for analysis. The study employed a non-probability convenience sampling method, which is suitable for exploratory research within niche consumer markets in developing countries like Vietnam. Demographic data were also collected to better profile the respondents. Gender was categorized as male and female. The age of participants was grouped into four ranges: 18–25 years, 26–34 years, 35–45 years, and above 45 years, with a concentration in the 26–45 age range—representing consumers with stronger purchasing power and lifestyle-driven consumption. Marital status included married, single, and other. Education level ranged from high school to postgraduate, with the majority holding undergraduate or postgraduate degrees. Monthly income was categorized into four brackets: under 10 million VND, 10–20 million VND, 20–30 million VND, and above 30 million VND, which helped to segment responses based on consumer affordability and value perception. This diverse demographic structure provided a robust foundation for analyzing consumer perceptions of Vietnamese bamboo and rattan brands in the international market.

4. RESULTS AND DISCUSSION

4.1 Descriptive Statistics Result

Table 1. Demographic Profile of Respondents

Demographics		Frequency	Percent (%)
Gender	Male	153	37.5
	Female	255	62.5
Age	18–25 years	195	47.8
	26–34 years	118	28.9
	35–45 years	72	17.6
	Above 45 years	23	5.6
Marital Status	Married	142	34.8
	Single	259	63.5
	Other	7	1.7
Educational Level	High school	53	13.0
	College	61	15.0
	Undergraduate	247	60.5
	Postgraduate	47	11.5
Monthly Income	Under 10 million VND	112	27.5
	10–20 million VND	135	33.1
	20–30 million VND	98	24.0
	Above 30 million VND	63	15.4
Total		408	100.0

The descriptive analysis of 408 valid respondents offers important insights into the demographic composition of the sample. In terms of gender, female respondents accounted for a higher proportion with 62.5%, while male participants made up 37.5%. This suggests a growing level of interest and purchasing engagement from women toward Vietnamese bamboo and rattan products, possibly driven by aesthetics, lifestyle preferences, and sustainability values.

Regarding age, the 18 to 25 age group represented the largest segment of the sample, accounting for 47.8%, followed by those aged 26 to 34 (28.9%) and 35 to 45 (17.6%). Only 5.6% of respondents were above 45 years old. These findings highlight the dominance of younger consumers in the market, particularly Gen Z and Millennials, who may be more inclined to appreciate sustainable, handcrafted, and design-oriented products. This demographic also plays a key role in shaping international trends through digital commerce and social media engagement. In terms of marital status, 63.5% of respondents were single, while 34.8% were married. This reinforces the youthful demographic composition of the sample, which may reflect the global trend toward increased consumption of eco-friendly lifestyle products such as bamboo and rattan furniture or decorative items. Education levels showed that 60.5% of participants held an undergraduate degree, followed by 15.0% with college-level education and 11.5% holding postgraduate degrees. Only 13% had a high school education. The high level of academic attainment among the respondents indicates a consumer base that is likely to be brand-conscious and informed, with greater appreciation for product quality, innovative design, and country-of-origin reputation. Monthly income distribution indicates that 33.1% of respondents earned between 10 and 20 million VND, followed by 27.5% earning under 10 million VND, 24.0% earning 20 to 30 million VND, and 15.4% earning above 30 million VND. These results suggest that bamboo and rattan products appeal to a wide range of income groups, with a concentration in the middle-income segment, a strategically important target for both domestic and international market growth. The demographic profile reveals a young, educated, and predominantly female consumer base with moderate income levels, making them especially relevant to branding and international expansion strategies for Vietnamese bamboo and rattan businesses.

4.2 Reliability and Validity Assessment

Table 2 summarizes the results of the reliability and convergent validity tests for the measurement model used in this study on Vietnamese bamboo and rattan brand competitiveness. The model was assessed based on key criteria including internal consistency, convergent validity, and multicollinearity. As recommended by Nunnally and Bernstein (1994), all constructs achieved Cronbach's alpha values above 0.7, indicating satisfactory reliability. The Average Variance Extracted (AVE) values for all constructs exceeded the minimum threshold of 0.5, confirming acceptable convergent validity (Hair et al., 2006; Tabachnick and Fidell, 2007). Multicollinearity was also tested using VIF values, all of which were below 3, indicating no multicollinearity concerns.

Table 2. Reliability and Convergent Validity of Constructs

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
COR	0.875	0.878	0.923	0.800
IBC	0.894	0.899	0.922	0.704
IDC	0.864	0.884	0.906	0.707
LDI	0.771	0.707	0.807	0.585
PBV	0.716	0.793	0.746	0.722
PQ	0.885	0.941	0.919	0.740

Discriminant validity was assessed using the HTMT ratio and Fornell-Larcker criterion through Table 3. All HTMT values were below 0.85, with the highest being 0.610 between Country of Origin Reputation and Perceived Brand Value, confirming discriminant validity. The Fornell-Larcker results also showed that the square roots of AVE were higher than the correlations between constructs. These findings confirm that all constructs in the model are distinct and valid for analyzing Vietnamese bamboo and rattan brands in global markets.

Table 3. Heterotrait-Monotrait Ratio (HTMT) and Fornell-Larcker Criterion

	Heterotrait-Monotrait Ratio (HTMT)						Fornell-Larcker Criterion					
	COR	IBC	IDC	LDI	PBV	PQ	COR	IBC	IDC	LDI	PBV	PQ
COR							0.894					
IBC	0.411						0.364	0.839				
IDC	0.058	0.158					0.049	0.140	0.841			
LDI	0.076	0.054	0.173				0.046	-0.001	0.081	0.765		
PBV	0.610	0.601	0.243	0.300			0.494	0.474	-0.092	0.162	0.650	
PQ	0.053	0.278	0.432	0.209	0.318		0.028	0.242	0.362	0.142	0.165	0.860

4.3 Structural Measurement Assessment and PLS-SEM Result

In this study, 9 hypotheses were formulated and examined using the bootstrapping function of SmartPLS. The results of the analysis are presented in Table 4 and Figure 2. The primary objective of the structural model evaluation was to explore the relationships among the core constructs of the research framework and to assess the model's explanatory capacity for perceived brand value and international brand competitiveness. Table 4 presents detailed findings from the structural model, including path coefficients, t-statistics, p-values, adjusted R² values as suggested by Cohen (1988), and f² effect sizes for each hypothesized relationship. These results provide empirical support for the proposed conceptual framework and offer valuable insights into the factors driving global brand competitiveness in the context of traditional Vietnamese bamboo and rattan products.

The structural model was evaluated using Partial Least Squares Structural Equation Modeling (PLS-SEM), and the results are presented in Table 4. This analysis aimed to examine the strength and significance of the hypothesized relationships between constructs, as well as the explanatory power of the model in predicting perceived brand value (PBV) and international brand competitiveness (IBC) for Vietnamese bamboo and rattan brands. The findings indicate that proposed hypotheses except H8, are statistically supported, reflecting both the internal consistency of the research model and its alignment with previous theoretical insights.

Firstly, the relationship between perceived brand value and international brand competitiveness was found to be strong and significant ($\beta = 0.474$, $t = 8.577$, $p < 0.001$), supporting H1. This result aligns with Bui et al. (2023), who emphasized that PBV acts as a crucial determinant of consumer loyalty and brand differentiation, especially in sectors rooted in cultural heritage. Furthermore, this finding is consistent with Winzar et al. (2018), who conceptualized customer-based brand value as a key component in achieving competitiveness in global markets, and Ilyas et al. (2020), who showed that high perceived value leads to customer satisfaction and repurchase intention. Thus, the data affirms that enhancing PBV is a strategic pathway to improving the global competitiveness of Vietnamese bamboo and rattan brands.

Regarding H2 and H3, the results showed a positive and significant influence of product quality on PBV ($\beta = 0.206$, $t = 2.187$, $p = 0.029$). This supports the view of Feng (2022), Jin et al. (2022), and Xue et al. (2024), who emphasized the importance of craftsmanship, material durability, and consistency in shaping positive brand perceptions. As PBV significantly influences IBC, H3 is also supported, indicating that product quality enhances competitiveness through its impact on brand value—a finding that is particularly relevant for traditional craft sectors aiming to compete in quality-driven international markets.

The hypothesis concerning design innovation (H4) was also supported, with LDI having a significant impact on PBV ($\beta = 0.126$, $t = 3.137$, $p = 0.002$). This is in line with Yun et al. (2024), Li and Guo (2019), and Xue et al. (2024), who all asserted that the integration of cultural narratives with contemporary aesthetics increases perceived value. Since PBV in turn affects IBC, H5 is validated, confirming the mediating role of PBV between design innovation and international competitiveness. This emphasizes the importance of elevating traditional design through innovation to meet modern consumer expectations while preserving cultural identity.

Country-of-origin reputation (COR) demonstrated the strongest influence on PBV among all predictors ($\beta = 0.492$, $t = 9.956$, $p < 0.001$), supporting H6. This finding reflects earlier studies by Aiello et al. (2009) and Cai (2002), which highlighted the impact of national image and authenticity on brand perceptions, especially in international contexts where consumers rely on origin cues to judge quality and legitimacy. Since PBV is significantly linked to IBC, H7 is supported, affirming that a positive image of Vietnam as a reputable producer of bamboo and rattan products enhances brand competitiveness through increased perceived value. This underscores the need to reinforce the narrative of Vietnam's craftsmanship and cultural tradition in global branding efforts.

The Pearson correlation analysis results show that marketing strategy has a strong positive correlation with financial performance ($r = 0.702$, sig. < 0.01), suggesting that an effective marketing strategy significantly contributes to a company's financial growth. Additionally, marketing capability exhibits a positive correlation with financial performance ($r = 0.422$, sig. < 0.01), indicating that while it has a notable influence, its impact is relatively weaker compared to marketing strategy.

After that, the authors conducted the multiple linear regression analysis. The model shows a high F-value (192.101) and a significance level (sig. = 0.001), indicating that marketing strategy and marketing capability significantly impact financial performance or the existence of the model. The model shows a high correlation ($R = 0.782$), indicating a strong relationship between financial performance and the predictors marketing strategy and marketing capability. The adjusted R Square value of 0.608 (60.8%) suggests that these two factors explain a significant portion of financial performance variability, while the Durbin-Watson statistic (1.918) indicates no significant autocorrelation issues. These findings highlight that improving marketing strategy and marketing capability can significantly enhance financial performance, reinforcing their

importance for businesses in Vietnam's medical equipment sector. The regression results show that both marketing strategy ($\beta = 0.663$, $p < 0.001$) and marketing capability ($\beta = 0.347$, $p < 0.001$) significantly impact financial performance, with marketing strategy having a stronger effect. The low VIF values (1.013) indicate no multicollinearity issues, which ensures the model's reliability.

Table 4. Structural Equation Modelling Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Adjusted R ²	f ²
COR -> PBV	0.492	0.491	0.049	9.956	0.000	IBC: 0.222 PBV: 0.310	0.353
IDC -> PBV	-0.202	-0.205	0.060	3.365	0.001		0.252
LDI -> PBV	0.126	0.132	0.040	3.137	0.002		0.223
PBV -> IBC	0.474	0.475	0.055	8.577	0.000		0.289
PQ -> PBV	0.206	0.193	0.094	2.187	0.029		0.253

International distribution channel efficiency (IDC) had a significant but negative effect on PBV ($\beta = -0.202$, $t = 3.365$, $p = 0.001$), so hypothesis H8 is not supported. This counterintuitive result may point to current shortcomings or inconsistencies in international distribution strategies, which could be negatively impacting customer perceptions of brand reliability. Despite the negative coefficient, the relationship remains significant, indicating that distribution strategies are still an important factor in shaping PBV—albeit in need of strategic improvement. Given that PBV influences IBC, H9 is supported, suggesting that even small enhancements in distribution performance can translate into improved brand value and competitiveness. These findings are consistent with Nevins and Money (2008), who argued that effective distribution not only ensures physical delivery but also signals operational competence and professionalism in international markets.

In terms of explanatory power, the model accounted for 31.0% of the variance in perceived brand value (Adj R² = 0.310) and 22.2% of the variance in international brand competitiveness (Adj R² = 0.222). These values suggest that the proposed model captures a meaningful proportion of the variability in both endogenous constructs, validating the robustness of the hypothesized framework. Additionally, the f² values ranged from 0.223 to 0.353, indicating moderate effect sizes for most relationships and confirming the relevance of each independent variable in predicting PBV and IBC.

In summary, the empirical results strongly support the theoretical model, highlighting the importance of product quality, design innovation, country-of-origin reputation, and distribution efficiency in shaping perceived brand value and through it, international competitiveness. The confirmation of above hypotheses (except H8) offers both academic and practical contributions. For scholars, it extends the brand value–competitiveness chain into the context of traditional Vietnamese craft sectors. For practitioners, it provides strategic insights for enhancing global positioning through targeted improvements in product development, design, origin branding, and logistical capabilities

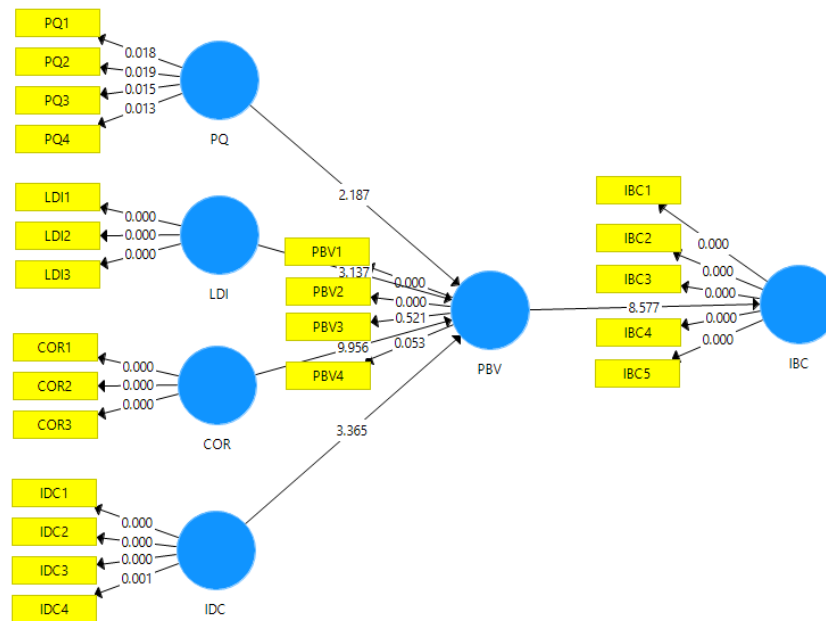


Figure 2. PLS Bootstrapping Model

5. IMPLICATIONS AND CONCLUSION

This study contributes to the theoretical development of brand competitiveness and customer based brand value by contextualizing them within traditional Vietnamese craft industries. The research confirms that perceived brand value plays a critical mediating role in linking internal brand drivers such as product quality, design innovation, country of origin reputation, and distribution channel efficiency to international brand competitiveness. This supports and extends the findings of Winzar et al. (2018) and Ilyas et al. (2020) by demonstrating that even heritage based, resource constrained enterprises can enhance global competitiveness through intangible brand perceptions. Furthermore, the study contributes to emerging market literature by showing how cultural authenticity and artisanal identity can serve as strategic assets in global branding efforts, particularly when aligned with contemporary design and reliable distribution systems.

From a practical standpoint, the findings offer clear guidance for businesses and policymakers seeking to improve the international performance of Vietnamese bamboo and rattan brands. Firms should focus on improving product quality and integrating innovative design elements that blend traditional aesthetics with modern appeal. Building and communicating a strong country of origin image centered on Vietnam's rich heritage in bamboo and rattan craftsmanship can also strengthen perceived brand value. In addition, establishing efficient and reliable international distribution channels is crucial for reinforcing professionalism and trust with foreign customers. Managers are encouraged to leverage digital platforms, trade fairs, and cultural storytelling to highlight the uniqueness and sustainability of their products.

Collaborative efforts with branding experts, government trade agencies, and international partners can further accelerate brand recognition and global reach.

Despite offering valuable insights, this study has several limitations. Firstly, the use of convenience sampling may limit the representativeness and generalizability of the findings. Secondly, the model primarily captures consumer perceptions and does not incorporate firm level performance data, which could provide a more balanced view of brand competitiveness. Thirdly, the research focuses solely on Vietnamese bamboo and rattan products; therefore, its findings may not be directly applicable to other traditional or craft based industries. Future studies could address these limitations by employing probability sampling techniques, incorporating longitudinal data, or comparing cross national contexts. Researchers are also encouraged to explore additional factors such as environmental labeling, social identity, or digital engagement, which may further influence perceived brand value and global competitiveness.

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