01

Negative Brand Experiences and Purchase Intention of Green Wall Coating Brands: The Mediating Effect of Brand Identity

Kongliang Zhu
Graduate School, Stamford International University, Thailand
E-mail: 316346676@qq.com

Abstract

The purpose of this study was 1) to explore the impact of consumers' negative experiences with green wall coating brands on the brand identity of wall paint, 2) to analyze the effects of brand identity with green wall coating brands on purchase intentions, and 3) to test the mediating effect of green brand identity. Utilizing a quantitative research approach and simple random sampling technique, this study engaged 402 Chinese respondents aged 18 and older, all of whom had relevant purchase experiences with green wall coating products. The data collected were subjected to Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) to assess model fit, as well as to establish the validity and reliability of the variables used in the study. The findings of this research revealed that all four dimensions of negative brand experience, which include negative functional experience ($\beta = -0.189$), negative emotional experience ($\beta = -0.308$), negative cognitive experience ($\beta = -0.444$), and negative social value experience ($\beta = -0.134$), have a negative impact on green brand identity. Additionally, the study confirmed a positive relationship between green brand identity and the intention to purchase green wall coating brands ($\beta = 0.655$). Finally, the study established that green brand identity acts as a partial mediator between negative brand experiences (negative functional experience, negative emotional experience, negative cognitive experience, and social value negative experience) and the purchase intention of green wall coating brands ($\beta_{3a} = -0.124$; $\beta_{3b} = -0.054$; $\beta_{3c} = -0.126$; $\beta_{3d} = -0.050$). In light of these findings, this research provides specific and practical recommendations and improvement strategies for businesses within the green wall coating industry. These insights are aimed at enhancing their services and bolstering their competitive advantage.

Keywords: Green brand identity, Green wall coating, Negative brand experience, Purchase intention

Introduction

In contemporary society, consumers demonstrate elevated discernment concerning the materials integral to their daily milieu, spanning from flooring to storage solutions and wall coatings. The global green building materials market size was valued around at USD 37 billion in 2022 (Fortune Business Insight, 2023). China's overall paints and coating market was estimated at USD 46.7 bn in 2021 Source- Nippon Paint Group. Architectural coatings account for 34% share of the total market on value basis (Jiaboli Chemical Group, 2022). This amplification in consciousness predominantly stems from health- related apprehensions associated with these materials. Paint, especially when applied expansively within residential spaces, holds notable significance. Consequently, the ecological compatibility of paint has emerged as an imperative criterion. Green paint, also known as green wall coating or environmentally friendly, refers to a type of building material used to cover and protect interior or exterior walls. It typifies a paint variant distinguished by specific attributes. It epitomizes non- toxicity, minimized environmental footprint, and proffers distinct functional advantages like UV resilience, pest deterrence, and moisture insulation (Spiegel & Meadows, 2010). Noteworthy is green paint's differentiation from traditional coatings, marked by superior hardness, tactile smoothness, durability, and anti- corrosive properties (Calkins, 2008). However, its salient hallmark remains its paramount safety concerning human health, making it a preferred choice for areas necessitating rigorous environmental adherence.

Consumer dynamics in the building material domain diverge from typical consumer goods paradigms (Eastman et al., 2011). Within the niche of green wall coatings, an offshoot of the expansive green construction material sphere, consumer patterns are sculpted by industry- specific nuances and the intricacies inherent to pioneering product integration. Manifest challenges encompass confined product familiarity, brand experience deficits, subdued green brand recognition, and a pervasive unawareness regarding specialized green wall coating enterprises (Kats et al., 2003). Scholarly discourse largely gravitates towards the green wall coatings' theoretical architecture, design, and fabrication methodologies (Wang, 2021). However, there is a noticeable gap in comprehensive investigations into green wall coatings from both business and consumer perspectives. Moreover, studies exploring consumer purchasing behavior related to green wall coatings are scarce within the academic realm. The booming real estate market has elevated building materials to essential commodities in the domain of interior decoration (Gu et al., 2023). Nevertheless, due to a lack of relevant knowledge and limited personal engagement, consumers often overlook this aspect (Wilson & Susanka, 2006). Consequently, consumers tend to have limited understanding and awareness of their interactions with brands offering green paint products.

Currently, market landscape is awash with entities purporting "green" construction material credentials, albeit with heterogenous quality benchmarks. This plethora has ignited animated deliberations regarding green wall coatings. Unfortunately, many consumers have experienced a decline in trust toward green material brands, a consequence of misinformation and the prevalence of subpar products. Notably, there is a general lack of trust in the claims made by companies. A comprehensive study revealed that merely 38% of Americans express trust in corporations most or all of the time when these companies assert their commitment to environmental friendliness. This reflects a noticeable decrease from the 47% reported in GreenPrint's 2021 study (Field, 2022). Augmenting the convolution are brands indulging in obfuscation in their promotional strategies. Such dynamics precipitate prevalent consumer misapprehensions green wall coating entities (Berawi et al., 2020). The dearth of readily

procurable and veracious product intel renders consumers incapacitated in their green wall coating selection endeavors. This informational void complicates the demarcation between genuine and ersatz green wall coatings. The resultant aftermath is a populace tainted by disingenuous green wall coating engagements, fostering cynicism and corroding faith in green material brands.

As a consequence, many consumers, influenced by negative encounters with green wall coatings or related aspects, have gradually become less trusting of green brands. This decline in trust has, in turn, led to a reduced willingness to purchase green wall coatings. Therefore, this study delves into the realm of green wall coating brand experiences to conduct an in-depth examination of how negative brand experiences impact the purchase intentions of green wall coatings. It analyzes the influence of different dimensions of brand experience on the purchase intentions of green coating brands and investigates the mediating role of green brand identity.

Objective

There are three research objectives. First, to examine the mechanism by which consumers' negative experiences with green wall coating brands impact the brand identity of wall coatings within the realm of green building materials; specifically, to analyze the influence of the four dimensions of negative experiences with green wall coating brands on the brand identity. Second, to study the mediating effect of green brand identity on the relationship between negative consumer experience and consumer purchase intention of green wall coating brands. Third, to provide specific practical suggestions or improvement strategies for green wall coating enterprises to develop effective marketing and promotion programs, so that the green brand can achieve better publicity and faster development. The findings of this research can assist green paint enterprises in strategically enhancing various aspects of their product experience. This, in turn, will assist in mitigating the adverse impacts of negative experiences, elevating their green marketing initiatives, and improving their management of green brands. Ultimately, it provides both theoretical and practical insights that can prove invaluable to building materials firms aiming to establish a robust green brand image.

S-O-R Model

The Stimulus-Organism-Response (S-O-R) Model, initially proposed by Mehrabian & Russell in 1974, originates from the neo-behaviorist domain of psychology. Its foundational concepts are rooted in the stimulus-response paradigm pioneered by Watson in 1913, the forebearer of classical behaviorism. This model delineates three primary elements: an initiating external stimulus, an intermediary organism mechanism, and a subsequent response. The term "stimulus" refers to external forces influencing an individual and affecting their mental state (Fu et al., 2021). Organism, in this context, denotes the internal processes and structures that mediate between an individual's external stimulus and their ultimate actions, reactions, or responses. This intervention process involves various activities such as perception, physiology, sensory responses, and cognitive processes (Pandita et al., 2021). Simply put, this theory suggests that specific external stimuli can lead to varied behavioral outcomes or ideation in individuals, with the organism serving as an intermediary over time (Fu et al., 2021). The S-O-R model helps explain the internal psychological changes caused by the individual being stimulated by the environment (Lin et al., 2020). The conceptual framework of this research, depicted in Figure 1, is rooted in the S-O-R model and corroborated by pertinent empirical literature from prior studies.

Negative Brand Experience Concept

In 2009, Brakus, Schmitt, and Zarantonello articulated that brand experiences are derived from brand-specific information, which includes facets like the brand's design lexicon, consumption ambiance, and affiliated services. The resultant brand experience engenders

consumer responses, precipitating a spectrum of psychological alterations, including shifts in perceived aesthetics, emotional states, and consequent behaviors (Brakus, Schmitt & Zarantonello, 2009). The current paper construes negative brand experience as the sequence commencing with brand-centric stimuli that incite adverse emotional reactions, spanning from the intrinsic psychological shifts to the overt emotional responses elicited by the brand. Drawing from Wang's (2021) classification and demarcation of negative brand experience, this research pivots primarily on delineating the attributes of negative brand experience. Integrating this with the specific features of the green wall coating brand, the negative brand experience bifurcates into four dimensions: negative functional experience, negative emotional experience, negative cognitive experience, and negative social value experience, respectively. Negative functional experience pertains to instances where the anticipated functional advantages, promised by the product, remain unrealized. For eco-friendly paints, this might translate into deficiencies like diminished longevity, compromised durability, or a shortfall in environmental adherence standards. Negative emotional experience encompasses the absence of emotional consonance or fulfillment derived from brand interactions. For green wall coating brand, this could arise from unfulfilled emotional anticipations, culminating in diminished brand acknowledgment. Negative cognitive experience pertains to a dearth in informational enrichment concerning green paints or sustainable construction materials, both pre- and post-acquisition. Negative social value experience focuses on scenarios where the consumer's perception of social worth is lacking during their engagement with the product. Such adverse experiences are intrinsically tied to consumers' feelings of societal integration during green consumption. It mirrors how facets like personal values, educational attainment, and similar parameters are recognized or overlooked.

Green Brand Identity Concept

Underwood et al. (2001), informed by social identity theory, describe brand identity as an individual's affiliation with a brand, which is informed by their subjective interpretations. Though the notion of green brand identity is an offshoot of the broader brand identity concept, a consolidated and precise academic definition remains elusive. In his 2017 study on the catering sector, Wei underscored that consumers' brand identification often pivots on considerations about food's ecological health and its sustainability credentials. Such identification mirrors the congruence between brand ethos and individual values and aspirations. Transposing this to the realm of green wall paints, a subdomain of eco-friendly construction materials, consumers' resonance with a green paint brand reflects their alignment with the brand's ecological principles. It also signifies an affirmation of the brand's commitment to sustainability, thereby bestowing an "environmentalist" badge on its consumers. Consequently, this research aligns with Wei's (2017) conceptualization of green brand identity. In this study, green brand identity is delineated as consumers' consonance with the environmental principles championed by a green wall paint brand. In our evolving market context, individuals possessing a green brand identity retain steadfast trust in the brand, holding the conviction that it will consistently champion ethical benchmarks, safeguard consumer interests, and ardently advocate for ecological values.

Green Purchase Intentions Concept

Shen et al. (2012) posit that green purchase intention denotes the inclination of consumers to procure green products, motivated predominantly by the products' sustainable characteristics. Contrarily, Roe et al. (2001) suggest that green purchase intention embodies a consumer's ambition to bolster environmental conservation via the acquisition of green products. Anchoring on green wall coatings as the focal point, this research delineates green

wall coating purchase intention as the propensity of consumers to opt for eco-friendly wall coating solutions that minimize environmental detriment.
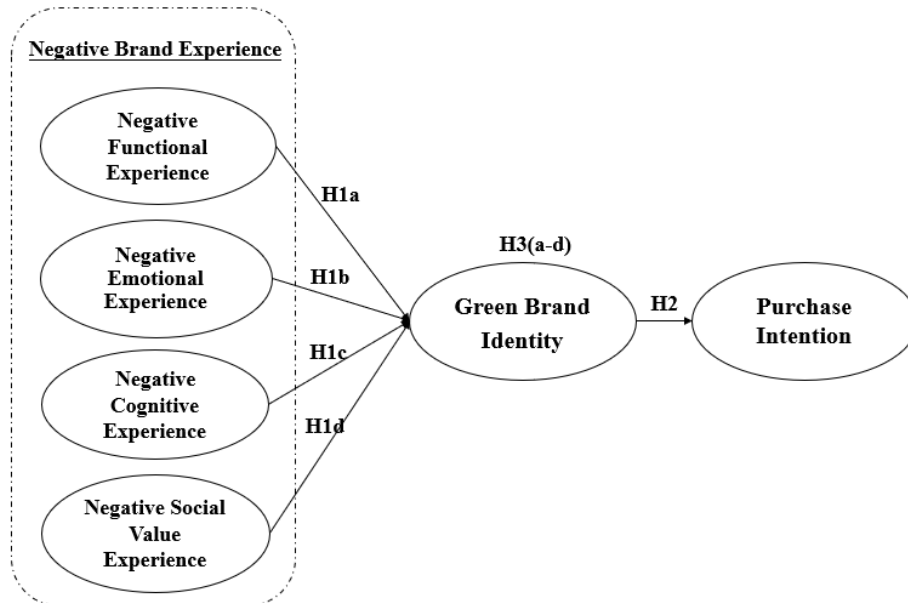

Figure 1 Conceptual framework

The Relationship Between Negative Brand Experience and Brand Identity

Consumer experiences exert a bifurcated influence, yielding both positive and negative repercussions. While positive interactions fortify the emotional ties between consumers and brands, negative encounters can attenuate these bonds and curtail consumers' intentions toward the brand. Aaker (1991) accentuates that such experiences are instrumental in molding consumers' brand identity, bridging the chasm between consumers and brands. Cova et al. (2007) postulate that experiential interactions are paramount in consumers' purchasing determinations. When brands meet or surpass consumer anticipations, it galvanizes the brand-consumer nexus and engenders a more favorable disposition. Yet, adverse encounters can erode brand allegiance. This sentiment is echoed by Tian et al. (2010), who attest those emotional experiences bolster brand identity affirmatively. Li (2013) underscores that uplifting brand encounters amplify brand identity, while Sha et al. (2010) contend that experiences exert an indirect sway over the internalized brand identity of consumers. Wang (2007) elucidates that corporations, through their marketing maneuvers, strive for acclaim from the societal and consumer spheres, achieved primarily through adept dissemination of corporate symbols via experiential touchpoints and promotional endeavors. Synthesizing insights from these academic luminaries on the nexus between brand experience and identity, this research contends that brand experiences indubitably mold brand identity. Propitious interactions proffered by firms augment consumers' affirmative brand perceptions, cementing emotional affinities and reinforcing brand identification. On the contrary, deleterious brand interactions can imperil brand identity, either undermining extant brand affections or engendering tenuous ones. From this exposition, the study advances the ensuing hypothesis:

H1: Negative brand experiences (negative functional experience, negative emotional experience, negative cognitive experience, and negative social value experience) have a significant negative effect on green brand identity.

The Relationship Between Green Brand Identity and Purchase Intention

Brand identity, as a type of brand attitude, holds a significant role among the various factors influencing consumers' purchase intentions. Río et al. (2001) ascertained that intensified consumer- brand identification amplifies tendencies for brand repurchase and ancillary behaviors, such as endorsing the brand within social circles. Cornwell & Coote (2005) emphasized that higher consumer brand identification during the consumption process makes it easier to stimulate purchase intentions. Khalid et al. (2016) affirmed that brand identification casts a favorable and marked imprint on purchase intention. Stokburger-Sauer, Ratneshwar & Sen (2012) observed that brand identification is quintessential in augmenting both brand loyalty and purchase intention of customers. Amplifying this perspective, Rather et al. (2019) contended that brands with pronounced identities magnetize consumers into higher monetary investments and iterative purchases (Rather et al., 2019). Pertinently, in the specific context of green wall coating brands, Paul et al. (2016) posit that consumers' buying tendencies crystallize only when they harbor trust in the brand's eco- centric attributes and resonate with the brand's overarching ethos. Consequently, this study formulates the following hypotheses:

H2: Green brand identity has a positive effect on purchase intention of green wall coating brands.

The Mediating Effect of Green Brand Identity

In the intricate tapestry of brand interactions, brand identity is often recognized as a mediating variable. Casaló & Guinalíu (2008) posited that brand identity intermediates the linkage between brand commitment and customer loyalty. Validating this, Río et al. (2001) elucidated that brand identity is the linchpin that connects attitudinal loyalty with behavioral loyalty. Likewise, He & Li (2011) discerned that the ripple effect of service quality on service brand loyalty transpires indirectly through the lens of brand identity. Diving deeper, Kuenzel & Halliday (2010) underscored that brand identity sits at the nexus between brand reputation and loyalty. Stokburger-Sauer (2011) advanced the idea that national brand identity channels the relationship between individual personality alignment and intentions to visit. Adding granularity, Bhattacharya & Sen (2003) highlighted that customer-brand identification brokers the bond between self- congruence and customer behavior. Supplementing this body of work, Han et al. (2019) indicated that brand identity plays an intermediary role, connecting brand prestige, symbol allure, and brand experience with brand loyalty. Ratasuk (2022) provided insights from Bangkok's convenience store coffee chain landscape, positing that brand identity serves as a complete bridge between promotional activities and brand loyalty. Translating this to the green consumption domain, consumers' tangible functional and emotional engagements with green commodities potentiate their brand cognizance and embrace of green- oriented offerings. This catalyzes a reinforced brand identity tethered to green product utilization. More profoundly, green brand identity emerges as a key determinant of behavioral outcomes, significantly coloring consumers' purchase predilections concerning green wall coating brands. Addressing the adverse brand experiences explored herein, such dissonant engagements ensue when consumers grapple with less- than- satisfactory brand interactions, precipitating an attenuated internal brand affinity for the green brand. This, invariably, dampens their green buying motivations. Consequently, this research formulates the following hypotheses:

H3: Green brand identity plays a mediating role between negative brand experiences (negative functional experiences, negative emotional experiences, negative cognitive experience, and negative social value experience) and purchase intentions of green wall coating brands.

Methodology

This research adopted a quantitative approach as a systematic and measurable method. The data of study was collected by using online questionnaires as a survey instrument which the measurement items were adapted from previous research with similar context of study. The adapted questionnaires were reviewed to validate content consistency under the Item Objective Congruence (IOC) process by three professors with doctoral degrees in marketing and a minimum of 20 years of active involvement in both academia and industry. Their expertise spans a wide spectrum of marketing disciplines, ensuring a comprehensive evaluation of the questionnaire's relevance, clarity, and effectiveness in capturing the nuances of consumer perceptions. The researcher also conducted pilot testing of verified questionnaires with 50 test participants before distributing the actual survey. Then, in total 424 answers from respondents were received but only 402 were qualified to proceed for data analysis. The collected data was then analyzed using confirmatory factor analysis (CFA) and structural equation model (SEM) to test the construct and discriminant validity, fitness of research model, as well as research hypotheses.

Population and Sample

The target population selected for this research comprises Chinese adult customers who are 18 years of age or older and have prior experience purchasing green wall coating products. We chose adults to avoid potential complexities related to obtaining parental consent and ensuring that the research adheres to legal requirements, ensuring that participants fully understand the purpose, risks, and benefits of the study before deciding to participate. This population was chosen due to their familiarity with green wall coating brands and their personal experiences related to brand selection. The green wall coating brands involved in this study mainly include Nippon Paint, ICI Paint, Beijing Red Lion, Hampel Hai Hong, Shunde Huarun, China Paint, Camel Paint, Shanghai Huli, Wuhan Shanghu, Shanghai Zhongnan, Shanghai Sto, Shanghai Shenzhen and Guangzhou Zhujiang Chemical, etc. These brands are available in China and have gained international recognition. To determine the sample size, Cochran's formula (1977) was employed, considering that the exact population size was unknown. The calculation indicated that a sample size of 384 would be appropriate to minimize errors and incomplete responses. Consequently, the researcher collected 402 valid samples to ensure adequate coverage.

Research Instrument

After the questionnaire was verified for internal consistency with IOC and pilot test, online questionnaire form was created by using Google Form. The questionnaire consisted of three sections. The initial section comprised screening questions that required respondents to answer with either a "yes" or "no" response. These questions were designed to filter and identify suitable participants. If the response was "no," it indicated that the respondent did not meet the qualification criteria, and they were instructed to terminate the questionnaire. In the second section, five demographic information questions are listed to indicate background of the respondents. The final section involved the assessment of all measurement items related to the six variables under investigation. Respondents were asked to express their level of agreement or disagreement using a seven-point Likert scale. The measurement scales employed in this study were adapted from well-established measures found in previous research conducted by reputable scholars (see Table 1 for details).

Table 1 Source of measurement item in questionnaire

Variable	Measurement Items	Source
Negative Functional Experience (NFE)	This green wall coating product does not function as advertised. This green wall coating product is not easy to use or durable. I am worried about the safety of this brand of green wall coating.	Brakus et al. (2009); Fan & Li (2006)
Negative Emotional Experience (NEE)	Throughout the entire purchasing process, my emotions did not turn out positively. The entire process of purchasing and using it is an unpleasant memory. I felt dissatisfied with the way the staff communicated with me and managed the situation.	Fan & Li (2006); Ning & Wang (2016)
Negative Cognitive Experience (NCE)	Throughout the entire purchase and use process, I learned nothing new about green wall coatings or new ways of thinking about them. Throughout the purchase and use process, I felt my own knowledge base regarding green wall coatings was inadequate. Throughout the purchase and use of this green wall coating, I did not have a very good understanding of the features and other aspects of this green wall coating brand. I did not apply my extensive prior experience with wall coatings during the entire purchase and usage process.	Brakus et al. (2009); Wang (2021)
Negative Social Value Experience (NSVE)	The entire purchase and use process did not meet my initial expectations for the brand. Buying this green wall coating does not enhance my social approval among friends. Buying this green wall coating did not provide me with a sense of achievement. This green wall coating does not reflect my uniqueness and personality.	O'Cass & Grace (2003); Ning & Wang (2016)
Brand Identity (BI)	I chose the green wall coating brand because I identify with the values it conveys. I chose the green wall coating brand because I identify with the lifestyle it conveys. I chose the green wall coating brand because the image of the personality it represents matches mine. I chose the green wall coating brand because its use reflects my social standing. I chose the green wall coating brand because its use grants me the recognition and respect of others. I chose the green wall coating brand because it helps distinguish me from various groups.	Jin (2006)
Purchase Intention (PI)	I would like to purchase the green wall coating brand. I am likely to recommend my friends to buy green wall coating brands. I am likely to return to buy green wall coating brands. I am likely to consider green wall coating brands soon.	Lertkitjanuwat (2017)

Data Collection

The data of the study was collected by using online questionnaires as a survey instrument which the measurement items were adapted from previous research with similar context of study. Sampling techniques applied for data collection was simple random sampling. The researchers used social media (e. g. , WeChat, QQ, FaceBook, Line, and Instagram) as a tool to invite people to complete the self-administered questionnaires. The data were collected in China from September to October 2023.

Data Analysis

The data was assessed by CFA using AMOS28 to find construct validity, convergent validity (factor loading, CR, AVE) , discriminant validity and model fit. After that, SEM was employed to test the relationship between all variables.

Results

Demographic Characteristics

Among the total participants (N = 402), nearly half, specifically 49.23%, identified as male, while the remaining 50.77% identified as female. The predominant age group within the sample fell within the range of 26 to 45 years, comprising a significant majority at 70. 34%. Regarding educational attainment, the largest segment of respondents, constituting 42. 1% of the sample, were college students with Bachelor's degrees. This group represented the primary category of participants, followed by individuals with higher education qualifications (Master's degree and above), accounting for 29. 9%. Among the respondents, those with a monthly income ranging from 5,000 to 8,000 yuan comprised the largest subgroup, with the majority being employed in either the government sector (24.6%) or the private sector (23.1%).

Common Method Variance

To address the potential common method variance (CMV) that may arise from collecting data from a single source, this study conducted an examination to assess multicollinearity using both the variance inflation factor (VIF) and correlation coefficients. The VIF values observed in this study were comfortably below the commonly accepted threshold of 5 (Hair et al. , 2019). Additionally, all pairwise correlation coefficients between variables were found to be less than 0. 8 (Studenmund,1992). These findings collectively suggest that multicollinearity is not a significant concern within the dataset.

Measurement Model

To assess the validity of the variable items and the measurement model, a Confirmatory Factor Analysis (CFA) was conducted. The study's construct validity was evaluated by examining both convergent validity and discriminant validity. The measurement model's convergent validity was assessed using three key criteria: factor loadings, composite reliability (CR), and Average Variance Extracted (AVE), as presented in Table 3. The criteria for acceptable convergent validity include factor loadings above 0. 5 (Chen & Tsai, 2007), CR values exceeding 0.6, and AVE values greater than 0.5 (Fornell & Larcker, 1981). These results collectively demonstrate that the measurement model exhibits satisfactory convergent validity.

Table 2 Loading factor and validity test

Construct		Factor Loading	SMC	C.R. >0.7	AVE >0.5
Negative Functional Experience (NFE)	NFE1	0.779	0.607		
	NFE2	0.879	0.773	0.884	0.719
	NFE3	0.882	0.778		
Negative Emotional Experience (NEE)	PRI3	0.833	0.694		
	PRI2	0.758	0.575	0.845	0.645
	PRI1	0.816	0.666		
Negative Cognitive Experience (NCE)	NCE1	0.815	0.664		
	NCE2	0.717	0.514	0.879	0.646
	NCE3	0.781	0.610		
	NCE4	0.892	0.796		
Negative Social Value Experience (NSVE)	NSVE1	0.714	0.510		
	NSVE2	0.768	0.590	0.845	0.577
	MSVE3	0.811	0.658		
	NSVE4	0.743	0.552		
Brand Identity (BI)	BI1	0.721	0.520		
	BI2	0.825	0.681		
	BI3	0.895	0.801	0.915	0.645
	BI4	0.807	0.651		
	BI5	0.802	0.643		
	BI6	0.756	0.572		
Purchase Intention (PI)	PI1	0.731	0.534		
	PI2	0.919	0.845	0.905	0.706
	PI3	0.881	0.776		
	PI4	0.818	0.669		

Discriminant validity was assessed in the subsequent step of the analysis. The results, as presented in Table 3, indicate acceptable discriminant validity. This is evident because each construct's correlation coefficient with other constructs is lower than the square root of the AVE for that construct (Diagonal values). The criteria proposed by Fornell & Larcker (1981) for discriminant validity have been met, confirming that the constructs in the study are distinct and not highly correlated with each other.

Table 3 Discriminant validity

	1	2	3	4	5	6
1.NFE	**0.848**					
2.NEE	0.456	**0.803**				
3.NCE	0.469	0.446	**0.804**			
4.NSVE	0.503	0.521	0.491	**0.760**		
5.BI	0.381	0.369	0.398	0.371	**0.803**	
6.PI	0.443	0.417	0.442	0.452	0.497	**0.840**

Structural Model Analysis

In this research, structural equation models were analyzed using AMOS28. To assess the goodness of fit (GoF), which indicates how well the structural equation model aligns with the collected data (Schermelleh-Engel et al., 2003), we compared the statistical values obtained in this study with the acceptable values referenced from previous literature. The results, as shown in Table 4, revealed that the values of various GoF indices such as CMIN/DF, GFI, AGFI, NFI, CFI, IFI, TLI, and RMSEA exceeded the acceptable thresholds. This indicates that the research conceptual model fitted the data well.

Table 4 Fit indices of structural models

Fit indices	χ^2 /df	GFI	AGFI	CFI	NFI	IFI	TLI	RMSEA
Recommended Values	<3	>0.9	>0.8	>0.9	>0.9	>0.9	>0.9	<0.05
Structural Model	2.485	0.917	0.887	0.965	0.952	0.965	0.957	0.045

Hypotheses Testing

Table 5 presents the outcomes of the structural model analysis, and it is noteworthy that all the hypotheses put forth in this study received empirical support. Specifically, negative functional experiences (β = -0.189; $p < 0.001$), negative emotional experiences (β = -0.308; $p < 0.001$), negative cognitive experiences (β = -0.444; $p < 0.001$), and negative social value experiences (β = -0.134; $p < 0.05$) were found to have a negative impact on green brand identity (Hypotheses 1a-1d). Furthermore, the analysis revealed a significant positive relationship between green brand identity and green purchase intention (β = 0.655; $p < 0.001$), thus confirming Hypothesis 2. These findings collectively contribute to our understanding of how various experiential dimensions influence green brand identity, which in turn affects consumers' intentions to purchase green wall coating.

Table 5 Result of hypothesis test

Hypothesis	Path	β	Estimate	S.E.	C.R.	P	Result
H1a	NFE→BI	-0.189	-0.241	0.068	-3.527	***	Accepted
H1b	NEE→BI	-0.308	-0.353	0.064	-5.528	***	Accepted
H1c	NCE→BI	-0.444	-0.281	0.023	-12.156	***	Accepted
H1d	NSVE→BI	-0.134	-0.148	0.058	-2.570	*	Accepted
H2	BI→PI	0.655	0.675	0.049	13.883	***	Accepted

Note: *P< 0.05; **P<0.01; ***P<0.001

Mediating effects testing of Green Brand Identity

In accordance with the approach recommended by Preacher & Hayes (2008), the mediation hypothesis was evaluated using bootstrapping to scrutinize indirect effects. The outcomes of the mediation testing are presented in Table 6. Concerning H3a, the indirect effect, quantified at -0.124, with a 95% Bootstrap Confidence Interval (Boot CI) of [Lower Limit (LL) = 0.012, Upper Limit (UL) = 0.113], demonstrated a lack of overlap with zero in either direction, as delineated in the method outlined by Preacher & Hayes (2008). This signifies the presence of a significant mediating effect for H3a. Correspondingly, H3b was subjected to examination, revealing that brand identity acted as a mediator in the relationship between negative emotional experiences and purchase intention (H3b: 95% Boot CI [LL = 0.008, UL = 0.086]). Furthermore, H3c proposed that brand identity mediated the impact of negative cognitive experiences on purchase intention. Lastly, the indirect effect stemming from negative

social value experiences on purchase intention through the intermediary of brand identity yielded a negative coefficient of -0.050 (H3d), with a 95% Boot CI of [LL = 0.016, UL = 0.147]. This outcome suggests that negative social value experiences exert a negative influence on purchase intention through the mediating role of brand identity, thereby affirming the validity of H3d.

Table 6 Analysis of mediating effect of green brand identity

Relationships	Point Estimate	p	Bias-corrected 95% CI		Mediating or not?
			Lower	Upper	
Indirect Effects					
H3a: NFE→BI→PI	-.124	***	.012	.113	Yes
H3b: NEE→BI→PI	-.054	**	.008	.086	Yes
H3c: NCE→BI→PI	-.126	***	.013	.034	Yes
H3d: NSVE→BI→PI	-.050	**	.016	.147	Yes

Note: *P< 0.05; **P<0.01; ***P<0.001

Table 7 Result of all hypotheses

Hypothesis	Path	β	Result
H1a	NFE→BI	-0.189	Accepted
H1b	NEE→BI	-0.308	Accepted
H1c	NCE→BI	-0.444	Accepted
H1d	NSVE→BI	-0.134	Accepted
H2	BI→PI	0.655	Accepted
H3a	NFE→BI→PI	-0.124	Accepted
H3b	NEE→BI→PI	-0.054	Accepted
H3c	NCE→BI→PI	-0.126	Accepted
H3d	NSVE→BI→PI	-0.050	Accepted

Discussions

The research landscape concerning green wall coatings predominantly pivots around their production methodologies and the broader spectrum of eco- friendly construction materials. Yet, there remains an observable lacuna in scholarly endeavors probing into the consumer engagement and experiential facets of green wall coatings. Addressing this gap, the present investigation positions green wall coatings at its epicenter and propels empirical inquiry into this realm. The cardinal objective of this research is to discern the reverberations of four distinct facets of negative brand experience on the edifice of green brand identity. Concurrently, the study endeavors to quantify the ramifications of green brand identity on purchase intention tied to green wall coating brands. An ancillary exploration is directed towards uncovering the potential intermediating dynamics of green brand identity within these interrelations.

Firstly, it is important to note that the four dimensions of negative brand experience, encompassing negative functional experience, negative emotional experience, negative cognitive experience, and social value negative experience, all exert a negative influence on green brand identity. To elaborate further, there exists a significant negative correlation between negative functional experience and green brand identity (β = -0.189; p < 0.001). This outcome aligns with prior research conducted by Wang (2021) and Li (2013). Green wall coatings possess functional attributes, particularly pertaining to health and safety. These

environmental attributes are closely intertwined with consumer interests in health and safety. Consequently, consumers make choices regarding green paint products based on considerations related to various functions, including health, durability, and environmental protection, among other factors. When consumers' real-world experiences fail to align with their expectations, or when they perceive a discrepancy between advertised standards and actual experiences, their recognition of the green brand diminishes. This dissonance results in a negative perception of the green wall coatings' brand identity.

Secondly, there exists a significant negative correlation between negative emotional experiences and green brand identity ($\beta = -0.308$; $p < 0.001$), which corroborates the findings of a previous study conducted by Tian et al. (2010). Consumers have come to recognize that the consumption of green wall coatings extends beyond the functional attributes of the product itself. It encompasses the brand's service and emotional connections as essential criteria. With the advancement of living standards and education levels, there is an increasing emphasis on the emotional aspects of service during the consumption process. When negative emotions arise in the course of consumption, or when consumers find themselves dissatisfied with the service provided by relevant personnel, it becomes challenging for them to establish a sense of identification with the green brand.

Thirdly, a significant and noteworthy result of this study is the observed negative correlation between negative cognitive experiences and the formation of a green brand identity ($\beta = -0.444$; $p < 0.001$). This result emphasizes the substantial influence of negative cognitive experiences on how consumers perceive the consumption of green wall coatings, subsequently affecting their alignment with the attributes of green brands. Consequently, these altered perceptions have a clear impact on their intentions to purchase green wall coatings. This finding is consistent with the findings of Li (2013) and Wang (2021).

Additionally, a significant negative correlation was observed between negative social value experiences and the development of a green brand identity ($\beta = -0.134$; $p < 0.05$). This finding resonates with the conclusions drawn in the research conducted by Stokburger-Sauer et al. (2012). Consumers engage with green wall coating products not only for personal benefits but also for social recognition and to emphasize their individuality. Within the context of "face culture," individuals aspire to receive commendation from peers for their environmentally conscious choices and to project an image of environmental stewardship to the external world. Furthermore, when surrounded by peers making green brand choices, consumers tend to align themselves with the trend to avoid standing out, thereby gaining a sense of social value recognition.

Moreover, the results of this study formalize the positive relationship between green brand identity and the intention to purchase green wall coating brands ($\beta = 0.655$; $p < 0.001$). In the context of green products, it is widely acknowledged that when the environmental characteristics of green wall coating products align with consumers' expectations, individuals are more inclined to perceive the use of these products as environmentally beneficial. They tend to believe that their personal green purchasing behavior contributes to mitigating environmental issues, consequently reinforcing their brand identity and fostering a heightened willingness to engage in such purchases. In essence, when consumers genuinely experience the favorable attributes of green wall coatings during their consumption and use, their intentions to make green purchases become more resolute. This is consistent with the findings of Khalid et al. (2016) and Rather et al. (2019).

Finally, this study confirms that green brand identity plays a partially mediating role between negative brand experience (namely negative functional experience, negative emotional experience, negative cognitive experience, and social value negative experience) and

purchase intention of green wall coating brands (β_{3a}=-0.124; β_{3b}=-0.054; β_{3c}=-0.126; β_{3d}=-0.050). The majority of prior research has primarily focused on examining the influence of positive brand experiences. Their findings consistently demonstrate that positive brand experiences directly contribute to the formation of brand values, establishing a shared consumption attitude with consumers. This alignment often serves as a pivotal driving force behind consumers' inclination to engage in brand purchases and exhibit purchase intentions. In contrast, the impact of negative brand experiences has received relatively scant attention. Furthermore, scholars have not provided a definitive conceptualization of brand attitude and recognition that significantly influence consumer purchase intentions. Hence, this study introduces the variable of green brand identity as a mediator in this context, and verifies that it partially mediates the relationship between negative experiences with green wall coating brands and purchase intentions.

Conclusion and suggestions

The findings of this study offer valuable insights and recommendations for managers, marketers, and owners of green wall coating brands. Firstly, companies should focus on enhancing the publicity of their green wall coating brands while avoiding false advertising. It is crucial that in their efforts to increase brand awareness, companies prioritize improving factors related to green wall coating brand publicity. Rather than blindly expanding publicity, the emphasis should be on ensuring the long-term and sustainable development of the business. When conducting green wall coating brand publicity, it is essential to strike a balance between increasing visibility and maintaining the authenticity of the product. The information presented in publicity materials must align with the actual consumer experience to reinforce its effectiveness. Any discrepancies will erode consumer trust. Additionally, wall coating enterprises should actively engage in sponsoring social welfare and environmental protection initiatives. This involvement helps convey a positive image of the company as a responsible and environmentally conscious brand. By doing so, companies can establish a positive corporate culture and image that resonates with consumers.

Subsequently, it is essential for enterprises to disseminate knowledge related to their products and raise awareness about environmental issues among consumers. During the process of brand publicity, companies should not only promote their own green wall coating products but also continuously educate consumers about the fundamental aspects of green wall coatings and industry standards. This educational effort aims to ensure that consumers have a comprehensive understanding of the benefits of green wall coatings and that they develop a strong sense of green consumer values. This, in turn, can stimulate the growth of the broader green building materials industry. Furthermore, companies should ensure that their products meet high-quality standards and comply with relevant regulations. Products that demonstrate excellent quality and meet the necessary requirements are more likely to appeal to consumers, thereby reinforcing their purchase intentions. Additionally, intensified publicity within the green industry can foster greater recognition among consumers for green consumer values and corporate culture. Simultaneously, enterprises should integrate their publicity efforts with the seriousness of environmental pollution. By conveying the gravity of environmental pollution issues, consumers will recognize the close connection between environmental pollution and their daily lives. They will understand that environmental pollution poses significant threats to their well-being. While emphasizing the severity of environmental pollution, companies should also emphasize the ways in which their products contribute to resource conservation and reduce harm to the environment. This messaging helps consumers believe that their green purchasing

behavior can genuinely alleviate or resolve environmental problems. Consequently, they develop stronger purchase intentions as they see themselves playing a meaningful role in addressing environmental challenges through their personal actions.

Furthermore, companies should place a strong emphasis on service training to elicit positive consumer emotions. Enhancing the service training for relevant personnel is vital for securing positive evaluations from consumers regarding their products or brands. This study underscores that negative emotional experiences have a significant impact on consumer purchase intentions. Hence, enterprises must pay close attention to the emotional needs of consumers and continuously refine their service offerings. By doing so, companies can foster positive emotional connections throughout the entire consumer journey. By initially improving the emotional experiences of consumers, companies can swiftly establish their own competitive edge within their industry. Additionally, this approach ensures that consumers feel comfortable and valued during their interactions with the company, thereby enhancing the company's competitiveness relative to its peers.

Finally, companies should proactively assist consumers in developing a green brand identity. Many consumers lack a strong green brand identity due to limited understanding of green brands and green products. When consumers recognize their knowledge gaps regarding green brands or products, they tend to develop an interest in green brands. This interest can be channeled into learning about relevant knowledge, comparing green brands with non‑green counterparts, and ultimately strengthening their identity with green brands. Therefore, enterprises need to take advantage of consumer curiosity, as well as for consumers to show interest in learning about green product knowledge, take the initiative to solve their related problems, popularize the relevant product knowledge, and guide them to establish a sense of identity for the green wall coating brand, thus strengthening their willingness to buy the green wall coating brand.

New knowledge and the effects on society and communities

In the specific domain of green paints, scholarly investigations have predominantly revolved around the production processes of green paints and related building materials, with minimal attention given to the consumption patterns of green paints. Remarkably, there is a dearth of studies focusing on the impact of negative brand experiences in this domain. This study seeks to address this gap by conducting a comprehensive exploration of Chinese consumers' negative brand experiences with green wall coatings, taking into consideration the unique characteristics of these products. Through this research, we have not only confirmed the adverse influence of four distinct dimensions of negative brand experiences with green wall coatings on purchase intentions but have also examined the mediating role played by green brand identity. These findings contribute significantly to the existing body of knowledge on consumer brand experiences and offer empirical substantiation for future investigations into the purchasing behavior of green paints. Furthermore, our results provide valuable insights for green wall coating enterprises, enabling them to tailor their product experiences to mitigate the negative repercussions of such adverse experiences. This, in turn, aids in the establishment of a robust green brand image for building materials companies. Additionally, our study can assist green wall coating enterprises in refining their green marketing strategies and enhancing their management of green brands, enabling them to effectively counter the detrimental impacts of negative brand experiences. Ultimately, our research contributes to the formulation of policy recommendations for green paint brand that can support the long-term sustainable development of green brands in the industry.

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