

## Investigating green brand equity and its driving forces

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ABSTRACT

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Green brand equity becomes increasingly important in green marketing. Increased green brand equity may promote customer's purchasing behavior. This paper investigates the relationship between green brand equity and its driving forces, namely, green trust, green brand image and green satisfaction. The study uses a questionnaire-based survey to obtain data from university students who had some experience of purchasing green items in Ho Chi Minh City. A structural equation modeling approach is used to confirm the proposed hypotheses. The results indicate that green trust and green brand image positively affected green brand equity. Moreover, the association between green brand equity and green brand image is partially mediated by green trust. It is also found that the association between green brand equity and green satisfaction was partially mediated by green trust. Thus, activities to promote green trust, green satisfaction, and green brand image are useful in improving green brand equity.

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### 1. Introduction

Our society has increasingly suffered from environmental problems due to economic activities (Chen, 2008). Many firms react to these problems by adopting green marketing (Chen, Lai, & Wen, 2006; Grant, 2008). The appeals of going green encouraged numerous organizations to make ecological friendliness a business philosophy (Mourad & Serag Eldin Ahmed, 2012). Various motives justify the adoption of a more environmentally friendly business, including opportunities to accomplish the firm's goals, competitive strength, requirements from the authority, spending improvement, and ethical responsibility (Polonsky, 1994). Ultimately, green initiatives are expected to achieve financial benefits as well as social responsibility (Mourad & Serag Eldin Ahmed, 2012). Green marketing is an inevitable trend that no companies can afford to neglect if they wish to stay relevant in the competitive market (Chen, 2010). It is worth noting that green marketing is a comprehensive notion. Although the term *green marketing* is often associated with the promotion of environmentally friendly product attributes such as recyclable, eco-friendly, scholars argue that green marketing should be incorporated into all activities of the firms (Chen, 2010; Polonsky, 1994). Marketing and brand exist interdependently as eventually, marketing efforts will be reflected in the brand, and be guided by brand (Keller, 1993). When competition becomes intense, firms need to divert their attention to building a competent green brand that succeeds in greening all aspects of the marketing mix (Kang & Hur, 2012; Polonsky, 1994). Not only do companies need to formulate eco-friendly products without compensating traditional attributes, they also need to answer the pressing challenge of producing favorable impressions of green marketing efforts (Ng, Butt, Khong, & Ong, 2014). Building a strong green brand in the mind of consumers, therefore, deserves heavy investment from organizations as well as scholars. This key objective is often reflected in green brand equity. Understanding how green brand equity is developed is essential to successful adoption of eco-friendly practices in the long run.

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There have been various attempts to discover the driving forces that constitute green brand equity (see Chen, 2010; Ng et al., 2014). While Chen (2010) has devoted attention to addressing green trust, green satisfaction, green brand image, and green brand equity in a relatively systematic way, the relationship between green trust and satisfaction has received limited attention in literature. This study attempted to fill this research gap. The main objectives of this paper are to examine (1) the outcome of green trust, green satisfaction and green brand image on green brand equity, (2) whether the association between green brand equity and green brand image is mediated by green trust, and green satisfaction, and (3) whether green trust operates as a mediator for the relationship between green brand equity and green satisfaction. The key contribution of this paper is to propose and test the relationship between green trust and green satisfaction to confirm whether green trust operates as a mediator for the relationship between green brand equity and green satisfaction. This helps to extend our understanding of green brand equity and its driving forces in a more systematic and complete way.

Following this introduction. Section 2 includes a review of related literature to formulate the research hypotheses and hypothesis development. Section 3 details the research methodology of collecting data and developing measurement scales. Section 4 presents data analysis results. Discussion, implications, and limitations of this study are reported in section 5.

## 2. Literature review and hypothesis development

### 2.1. Green brand equity

It is strategically critical for every business to construct a solid brand (Kang & Hur, 2012). Brand equity brings both financial and non-financial benefits to the firm such as improving competitive advantages and opening opportunities for brand extension (Kang & Hur, 2012; Yoo, Donthu, & Lee, 2000). In addition, it serves as a bridge between past and future marketing activities. For example, past marketing efforts form a baseline to guide future activities (Keller, 1993). Brand equity also offers decision makers with valuable insights about consumer interests and choices (Yasin, Noor, & Mohamad, 2007). Various definitions of brand equity were formulated in the research literature. For example, some researchers argued that brand equity should be understood as the additional value derived from the brand name (Chen, 2010; Farquhar, 1991; Kamakura & Russell, 1993; Yasin et al., 2007). Others suggested that brand equity equals the difference between total values of a brand and its tangible components (Yoo et al., 2000). Most studies can be segregated into three primary approaches: from a financial angle (Simon, 1993), from a customer viewpoint (Aaker, 1991; Keller, 1993; Yoo & Donthu, 2001), and from an integration of both (Dyson, Farr, & Hollis, 1996; Motameni & Shahroki, 1998). Brand equity is a complicated concept with multiple dimensions, such as brand associations, brand loyalty, and perceived quality (Aaker, 1991). Yet, all of them eventually contribute to the same construct termed “overall brand equity” (Yoo et al., 2000). This study concentrates on this inclusive concept, which is often treated as the effects that make customers favor one brand over another primarily because of brand name (Yoo et al., 2000). Incorporating brand equity with the environmental context, green brand equity is characterized as intangible brand assets associated with its pro-environmental initiatives that generate extra values to the brand in terms of consumer preferences (Chen, 2010; Yoo et al., 2000). Brand equity is primarily driven by relationships with parties outside of the firm’s control, including consumers (Chen, 2010). It is the ultimate result of association between the brand and its consumers where satisfaction and trust are noteworthy determinants, all of which are evoked by brand knowledge (Esch et al., 2006).

### 2.2. Green brand image

Brand knowledge is a core constituent of brand equity (Chen, 2010; Cretu & Brodie, 2007; Huang, Yang, & Wang, 2014; Keller, 1993; Ng et al., 2014). It determines all memories consumers have of a brand, hence being the basis for every reaction to brand’s activities (Keller, 1993). The concept of brand image, defined as “perception about a brand as reflected by the brand associations held in consumer’s memory,” is fundamental to brand knowledge (Keller, 1993, p. 3). Green brands are those that distinct themselves from their rivals by noteworthy environmental benefits, thus gaining the favor of environment-conscious consumers (Grant, 2008). This paper defines *green brand image* as “a set of perceptions of a brand in a consumer’s mind that is linked to environmental commitment and environmental concerns” (Chen, 2010, p. 309). A brand is considered as “green” when it can induce consumers’ positive environmental feelings, attitudes, and practices (Ng et al., 2014).

The associative network model posits that knowledge about a brand is stored in memories in the form of nodes (Keller, 1993). Interconnected nodes create a network of brand associations which represent a brand in a consumer’s mind. Once a node in the network is stimulated or recalled, it will send signals to other nodes and eventually arouse the node that contains the brand’s identity. Brand associations form a mental picture of a brand which is related to its products and services (Cretu & Brodie, 2007), providing consumers with a reference form for comparison among competitors who offer undistinctive physical products or services attributes (Mudambi, Doyle, & Wong, 1997). Therefore, brand image is a baseline to develop consumer attitudes and formulating brand equity (Buil, Martínez, & de Chernatony, 2013; Yoo et al., 2000). The degree of “favorability, strength, and uniqueness of brand associations” is key to determine how much a brand is regarded differently to other similar ones (Keller, 1993, p. 3). Faircloth, Capella, and Alford (2001) postulated that equity of brand can be strengthened through improvement of brand image. In addition, several studies also confirmed the impact of green brand image on green brand equity (see Bekk et al., 2016; Butt et al., 2016; Chen, 2010; Namkung & Jang, 2013; Ng et al., 2014). Consequently, it is appropriate to propose the hypothesis as follows:

Hypothesis (H<sub>1</sub>): Green brand image is positively related to green brand equity.

### 2.3. Green trust and green satisfaction

Brand image alone is often insufficient to fully explain the differential effects between brands (Blackston, 1993). It only represents how consumers perceive surface characteristics of a brand when brand relationship goes deeper into how consumers assess the attitudes of a brand. Theories of brand relationship maintain that consumers connect to brands in a similar manner to how they connect with other human beings (Blackston, 1993; Esch et al., 2006; Fournier, 1998). These relationships affect consumer thinking and emotions, hence constituting a brand-consumer bond (Esch et al., 2006; Fournier, 1998). Ultimately, brand relationships contribute to building brand equity because it is an asset based on relations (Esch et al., 2006). Theories of types of personal relationships contend that consumer – brand relationships have two dominant aspects (Esch et al., 2006). The first element, trust, is parallel to the communal aspect of a relationship in which a person holds certain feelings towards the other party. The second aspect, satisfaction, is a result of the exchange aspect in a relationship where a person's attitude is based upon the comparison between what they give and what they get (Esch et al., 2006). Trust is a popular discussion topic in many areas, including psychology and marketing (Ballester & Munuera-Alemán, 2005). Trust is the willingness to subject to vulnerability because of the belief that the other party will not take advantage of it (Ballester & Munuera-Alemán, 2005; Rousseau, Sitkin, Burt, & Camerer, 1998). It represents the confidence that the brand will perform as expected (Ballester & Munuera-Alemán, 2005; Chaudhuri & Holbrook, 2001). Trust is even more prevalent in the green movement where consumers are skeptical about brand promises to preserve the environment due to the increase of greenwashing (Chen & Chang, 2013). In the long run, the insincerity of self-proclaimed green brands will not only impact negatively on consumer attitude towards the brand but also dilute their trust in the whole green market (Chen, Lin, & Chang, 2014).

Trust is the chief ingredient of brand-consumer bond (Ballester & Munuera-Alemán, 2005; Chen, 2010; Flavián, Guinalú, & Torres, 2005). Because commitment equals vulnerability, people are only willing to engage if they believe the other party will not harm or exploit them (Morgan & Hunt, 1994). Social exchange theory implies that people act in accordance with their expectation in the rewards they will receive (Thibaut, 2017). As a rule of general reciprocity, mistrust will give birth to mistrust and results in decreased engagement in the long run (Morgan & Hunt, 1994). Signaling theory posits that there exists an asymmetry of information in the marketplace because only firms are certain about product quality while consumers cannot evaluate it as precisely (Erdem & Swait, 1998; Stiglitz, 2002). In this case, brand serves as a signal of quality. In a market of asymmetric information, credibility is the core element that determines whether the brand signal is meaningful to consumers or not (Erdem & Swait, 1998). A believable brand often equals higher brand equity (Erdem & Swait, 1998). Among similar brands, the brand that exhibits trustworthiness can hold a unique position in consumer mind (Chaudhuri & Holbrook, 2001). Several studies support the view that higher trust will increase brand equity in green marketing (Akturan, 2018; Butt et al., 2016; Chen, 2010) as well as in other areas (Ambler, 1997; Ballester & Munuera-Alemán, 2005; Morgan & Hunt, 1994). Thus, this paper hypothesizes as follows:

Hypothesis (H<sub>2</sub>): Green trust is positively related to green brand equity.

Satisfaction is a post-consumption concept that describes the level of contentment (Oliver, 1997). The closer the actual result is to expectation, the higher the level of satisfaction there is (Oliver, 1980). *Green satisfaction* represents the state of pleasure relating to a consumption when its results fulfil consumer environmental needs and expectations (Chang & Fong, 2010; Chen, 2010). Several studies have proved the influence of satisfaction on consumer attitudinal loyalty, for example, brand attachment (Esch et al., 2006; Hallowell, 1996) as well as behavioral loyalty (such as repurchase intention and word of mouth) (Hallowell, 1996). It is more probable for customers to recall brands that they are satisfied with (Chen, 2010). Those outcomes are a manifestation of brand equity since equity is a property of the consumer's favorability, attitude, and buying decisions toward a brand (Yasin et al., 2007). Furthermore, Pappu and Quester (2006) argued that a satisfied consumer would hold strong, favorable associations with a brand. Previous studies also confirmed that brand equity changes accordingly to levels of satisfactions (Bekk et al., 2016; Chen, 2010; Kim, Kim, Kim, Kim, & Kang, 2008; Pappu & Quester, 2006). Hence, it is appropriate to hypothesize:

Hypothesis (H<sub>3</sub>): Green satisfaction is positively related to green brand equity.

Satisfaction is a product of customer experience. Therefore, it is a primary ingredient in trust development since trust is derived from previous contacts and experience with the brand (Esch et al., 2006; Garbarino & Johnson, 1999). Although consumers may come into contact with brands through various sources, both directly (such as consumption) and indirectly (such as brand communications and word of mouth), experience exerts the most powerful influence on trust since it creates the most personal and valid associations (Ballester & Munuera-Alemán, 2005). A positive disconfirmation of the brand's performance will raise consumer confidence in that brand's expertise and trustworthiness, thus generating high level of trust (Lankton, Wilson, & Mao, 2010). Thereby, the higher the level of satisfaction, the higher the degree of trust is induced (Ballester & Munuera-Alemán, 2005). Researches in green brand management also support this argument with empirical evidence (Kang & Hur, 2012; Wang, Wang, Xue, Wang, & Li, 2018). As a result, this paper postulates the hypothesis as follows:

Hypothesis (H<sub>4</sub>): Green satisfaction is positively related to green trust.

Because consumers cannot develop relationships with the brand if they do not have an image of them in their memory, brand relationships should be preceded by brand image (Ballester & Munuera-Alemán, 2005). Trust is based upon consumer assessment of brand associations, either through direct or indirect exposure (Ballester & Munuera-Alemán, 2005). Corporate image encourages consumer trust in a sense that it declines the perception of risk (Flavián et al., 2005). Firms positioning themselves

as environmentally friendly should be aware of building a reliable image because it will enhance consumer certainty and lower the cost of information search (Erdem & Swait, 1998). Several studies also confirmed this preposition (see Ballester & Munuera-Alemán, 2005; Bekk et al., 2016; Butt et al., 2016; Chen, 2010; Esch et al., 2006). Similarly, brand satisfaction is expected to be connected with brand image. Brand image serves as a record of past behaviors which, in turn, can be used to predict future encounters with the brand (Martenson, 2007). As a result, it shapes consumer expectation and affect the level of satisfaction. Brand image was found to influence consumer satisfaction in tourism (Chi & Qu, 2008), retail (Martenson, 2007), food and beverage (Tu, Wang, & Chang, 2012), telecommunication (Malik, Ghafoor, & Iqbal, 2012) as well as green marketing (Bekk et al., 2016; Chang & Fong, 2010; Chen, 2010). Consequently, this study postulates the following hypotheses:

Hypothesis (H<sub>5</sub>): Green brand image is positively related to green trust.

Hypothesis (H<sub>6</sub>): Green brand image is positively related to green satisfaction.

This paper posits that green trust, green satisfaction, and green brand image have positive association to green brand equity. Additionally, the model proposed that the association between green brand equity and green brand image is partially mediated by green trust, and green satisfaction. This paper also argued that the relationship between green brand equity and green brand image is partially mediated by green trust. Green brand image is the antecedent of the model in this study, and green brand equity is the consequent, while green trust and green satisfaction act as mediators. Figure 1 presents a hypothesized model developed from the proposed hypotheses.

### 3. Methodology

#### 3.1. Data collection and sample

The study adopted a survey design using questionnaire to verify the hypotheses (Hair, Bush, & Ortinau, 2002). The target respondents were university students during the year 2019-2020 in Ho Chi Minh City, the largest city and a vital hub of Vietnam's economy. University student is considered an appropriate segment since as young adults, their actions decide the future of the environment (Butt et al., 2016). They have the purchasing power, can influence other's purchase decision, and have a higher life span (Lee, 2008). Also, they are more innovative and more concerned with environmental responsibilities than previous generations (Butt et al., 2016; Lee, 2008). The study made reference from other studies to develop questionnaire items. Prior to data collection, the questionnaire was pretested by a small, representative group of respondents (n = 15) who were asked to fill it out and return it with their feedback (Hair et al., 2002). The aim of the pretesting was to assess whether any items were difficult to answer due to sentence length, confidentiality, wording, or special terminology (Colton & Covert, 2007, p. 140). Therefore, the questionnaire of this study improved construct validity (Shadish et al., 2002).

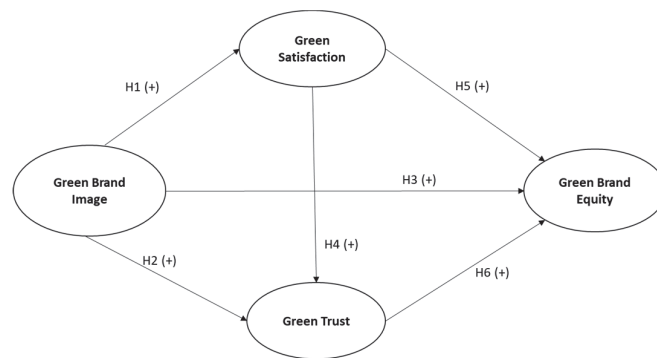


Fig. 1. Hypothesized model

Source: Developed from Chen (2010); Kang & Hur (2012)

This study obtained primary data as inputs for quantitative analysis through a self-administered survey. Online and offline survey were distributed to undergraduate and postgraduate university students in Ho Chi Minh City using convenience sampling method. During the pretest, the respondents were asked to respond a screening question. This is to ensure they had purchased an environmentally friendly item within the last six months at the time of the survey. Only respondents had a positive answer and are university students were invited to continue with the survey. The questionnaire started with a brief account of green brands, and examples of popular eco-friendly brands in Ho Chi Minh City to minimize misunderstanding. This study sent out 400 questionnaires to the respondents, and received 302 valid responses, yielding a response rate of 75.5%. All respondents are between 18 and 30 years old. Female accounts for 71.2% of the respondents, and male accounts for 28.8%.

### 3.2. Measurements of the constructs

Questionnaire items were measured using five – point Likert scale from 1 to 5 where 1 denotes “strongly disagree” and 5 represents “strongly agree”. The study used existing scales from validated literature. The selected scales were translated into Vietnamese and pretested prior to actual use. Green brand image was measured with six items (refer to Chen, 2008; 2010; Huang et al., 2014). Green trust was measured using three items (refer to Butt et al., 2016; Chen, 2010). Green satisfaction was measured a four-item scale (refer to Chen, 2010; Wang et al., 2018). Green brand equity was measured using a four-item scale (refer to Chen, 2010; Yoo et al., 2000). In total, there were six constructs with 17 variables in the model.

**Table 1**  
Constructs and their measurement items

Construct	Items	Item	Loading	Alpha	AVE	CR
Green brand image (GBI)	GBI1	This brand is associated with protecting the environment.	.820	.918	.654	.919
	GBI2	This brand is regarded as the best benchmark of environmental commitments.	.797			
	GBI3	This brand is professional about environmental reputation.	.793			
	GBI4	This brand is successful about environmental performance.	.770			
	GBI5	This brand is well established about environmental concern.	.766			
	GBI6	This brand is trustworthy about environmental promises.	.765			
Green trust (GTR)	GTR1	This brand’s environmental commitments are generally reliable.	.807	.932	.826	.935
	GTR2	This brand’s environmental argument is generally trustworthy.	.786			
	GTR3	This brand keeps its promises and commitments for environmental protection.	.765			
Green satisfaction (GSA)	GSA1	I am happy about the decision to choose this brand because of its environmental commitments.	.838	.896	.685	.896
	GSA2	I believe that it is a right thing to purchase this brand because of its environmental performance.	.836			
	GSA3	Overall, I am glad to buy this brand because it is environmentally friendly.	.816			
	GSA4	Overall, I am satisfied with this brand because of its environmental concern.	.813			
Green brand equity (GBE)	GBE1	It makes sense to buy this brand instead of any other brands because of its environmental commitments, even if they are the same.	.863	.876	.644	.879
	GBE2	Even if another brand has the same features as this brand, I would prefer to buy this brand because of its environmental commitments.	.840			
	GBE3	If there is another brand as good as this brand, I prefer to buy this brand because of its environmental commitments.	.785			
	GBE4	If another brand is not different from that of this brand in any way, it seems smarter to purchase this brand because of its environmental commitments.	.784			

## 4. Results

Of the 298 questionnaires completed by respondents, none of the survey items contained missing data. This study used IBM SPSS Statistics and Amos version 24 for data analysis. A reliability test was conducted for each construct, followed by exploratory factor analysis (EFA) to eliminate inappropriate variables and generate meaningful groups of items. Confirmatory factor analysis (CFA) was performed to ensure that data fits well with the hypothetical model and can be used to validate the hypotheses. Finally, structural equation modeling (SEM) was used to verify whether the proposed relationships are statistically supported. Results from reliability test suggests that there was a strong correlation between items that measure the same construct since all factors had Cronbach’s alpha values greater than 0.7 and corrected item – total correlations higher than 0.4 (Hair, Black, Babin, & Anderson, 2010; Nunnally, 1994). In testing common method bias, Harman single factor test was used as it is one of the most widely used techniques (Podsakoff et al., 2003). For this test, all measured variables in the study were loaded into the EFA with extraction of only one fixed factor and without rotation. If this single factor accounted for most of the variance in all variables (i.e., more than 50%), then there could be a problem of common method bias (Podsakoff & Organ, 1986). The result indicated that the single factor accounted for 47.30% of the variance. Although there is a lot of variance explained by this single factor, it is not a majority. As such, common method bias seems not to be a problem in our factor analysis (Podsakoff & Organ, 1986; Podsakoff et al., 2003). Next, EFA procedure revealed six factors that best represented the data since their eigenvalues were greater than 1 (Kaiser, 1960), and accumulated variance explained was greater than 50% (Anderson & Gerbing, 1988). All factor loadings were higher than 0.5, suggesting practical significance (Hair et al., 2010).

Prior to CFA, two important assumptions should be met i.e. no outliers and normality (Byrne, 2016; Hair et al., 2010; Ramlall, 2016). Data screening detected and removed four outliers. Normality assessment was performed using the skewness and kurtosis indexes. Results revealed that absolute values of skew are smaller than 3.0, and absolute values of kurtosis are smaller than 7.0, suggesting a normal distribution of the dataset (Byrne, 2016; Kline, 2015; Ramlall, 2016). Subsequently, CFA was conducted to assess how well measurement variables reflect the latent constructs by examining convergent validity and discriminant validity (Hair et al., 2010). Convergent validity was evaluated based on average variance extracted (AVE), construct reliability (CR), and factor loadings. As indicated in Table 2, all standardized loadings were greater than 0.5, suggesting no items should be removed (Hair et al., 2010). AVE of all constructs surpassed 0.5 and their CR were higher than 0.7, indicating good reliability and acceptable convergence (Hair et al., 2010). With respect to discriminant validity, Table 3 suggests that no violation was found as the square root AVE of each construct was greater than the correlation between it and any other

constructs (Fornell & Lacker, 1981). Maximum shared variance (MSV) of all constructs were smaller than their AVE, implying discriminant validity (Hair et al., 2010). Model fit statistics showed that the data have an excellent fit with the model. Specifically, chi square ( $\chi^2$ ) was 225.270 (df = 113, p = 0.000), CMIN/df was 1.994, SRMR was 0.034, CFI was 0.970, TLI was 0.963, and RMSEA was 0.058 (Hair et al., 2010; Hu & Bentler, 1999). Therefore, it can be concluded that the constructs in the hypothesized model are valid, reliable, and distinct from each other (Hair et al., 2010).

**Table 2**  
Discriminant validity results

	CR	AVE	MSV	Square root of AVE	GBI	GSA	GBE	GTR
<b>GBI</b>	0.919	0.654	0.471	0.809	1			
<b>GSA</b>	0.896	0.685	0.401	0.828	0.516***	1		
<b>GBE</b>	0.879	0.644	0.282	0.803	0.492***	0.311***	1	
<b>GTR</b>	0.935	0.826	0.471	0.909	0.686***	0.633***	0.531***	1

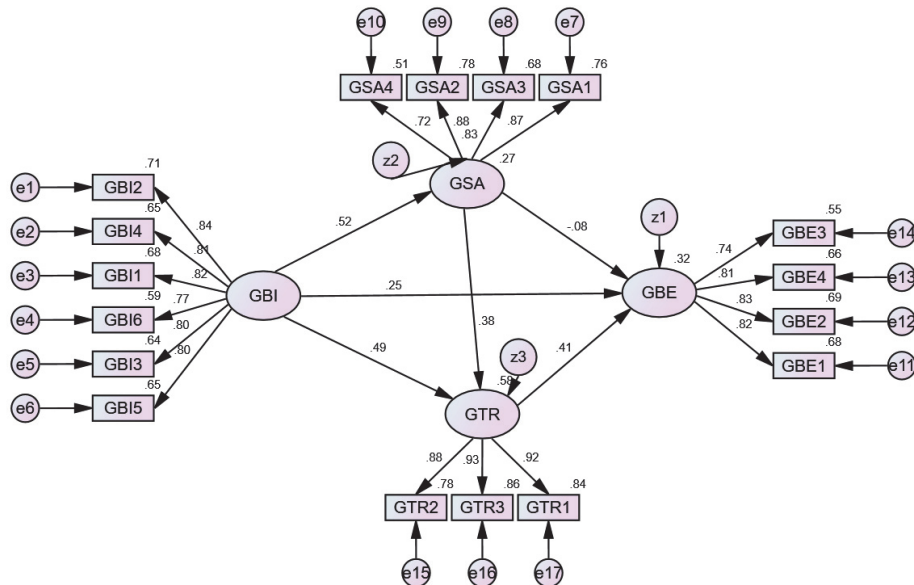
\*\*\*Correlation is significant at the 0.01 level.

The next step after CFA is to proceed with the structural model. The procedure is to use maximum likelihood estimation to test the series of hypotheses developed from the hypothesized model (O'Rourke & Hatcher, 2013). Model fit indices showed that chi square was 225.270, p = 0.000 with 113 degrees of freedom. The  $\chi^2/df$  (1.994) was between the thresholds of 1 and 3, indicating model parsimony. The RMSEA was 0.058, SRMR was 0.034, while CFI and TLI were 0.970 and 0.963, respectively. These results suggested that the model yields absolute and incremental goodness of fit (Hair et al., 2010; Hu & Bentler, 1999). Except for hypothesis H5, all relationships were statistically significant (p<0.05). Table 4 presents the results of the structural model in this study.

**Table 3**  
Hypotheses validated results

Hypothesis	Proposed effects	Standardized regression weights	Results
H <sub>1</sub>	Positive	0.516***	Confirmed
H <sub>2</sub>	Positive	0.490***	Confirmed
H <sub>3</sub>	Positive	0.252***	Confirmed
H <sub>4</sub>	Positive	0.380***	Confirmed
H <sub>5</sub>	Positive	-0.077 <sup>ns</sup>	Not confirmed
H <sub>6</sub>	Positive	0.407***	Confirmed

\*\*\*p<0.01; <sup>ns</sup> Not significant at p<0.05



**Fig. 2.** Structural model results

The results of the structural model are shown in Fig. 2. To thoroughly comprehend the causal relationships between various variables, this study carried out mediation analysis by using the bootstrapping method, an increasingly common method used in mediation testing (Preacher & Hayes, 2008). Bootstrapping is efficient in models with multiple mediations (Ng et al., 2014).

The number of bootstrap samples was 2000 and bias-corrected confidence interval was set at a 95% level. The findings indicated that green trust and green brand image positive affect green brand equities. Furthermore, this study also revealed that positive association between green brand equity and green brand image was partially mediated by green trust. Positive association between green trust and green brand image was partially mediated by green satisfaction. Relationship between green brand equity and green satisfaction was fully mediated by green trust. Thus, all hypotheses are supported except for H<sub>5</sub>. Table 4 presents the results of mediation analysis.

**Table 4**  
Mediation analysis results

Mediation	Mediation path	Estimate	P-value	Remark
GBI – GTR – GBE		0.195	<0.001	Partial mediation
GBI – GSA – GBE		-0.039	0.270	No indirect effects
GBI – GSA – GTR		0.268	0.001	Partial mediation
GSA – GTR – GBE		0.106	<0.001	Full mediation

\*\*\* significant at  $p < 0.01$

(ns) not significant at  $p < 0.05$

## 5. Discussion and implications

### 5.1. Discussion

The increasing significance of green marketing calls for an in-depth understanding of the matter so that firms can utilize their strengths to boost business performance (Chen, 2010). This paper contributes to the growing body of literature by proposing and verifying a model that examines the link between green brand equity and its three driving forces, namely, green trust, green satisfaction, and green brand image. Except hypothesis H<sub>5</sub>, all remaining five hypotheses are confirmed by empirical data. This paper portrays the dynamic between the key concepts of brand management. In line with previous studies conducted on brand equity such as those of Chen (2010) and Esch et al. (2006) as well as the associative network model (Keller, 1993), green brand image is shown to positively affect brand equity. Green trust is also an influential driver of green brand equity as brand relationship theories speculated (Blackston, 1993; Esch et al., 2006; Fournier, 1998). However, the other facet of the brand – consumer relationship, green satisfaction, has no direct influence on green brand equity. Therefore, the influence of green satisfaction on green brand equity is fully accounted for by green trust. This outcome indicates that satisfaction does not explicitly motivate young consumers to choose one green brand over another. Instead, they will use the judgments of brand performance to evaluate whether to trust the brand or not. It is trust that eventually inclines a person to commit with a brand in the green context. The interaction between components of brand relationships is validated as satisfaction is found to contribute to building consumer trust. Additionally, green brand image strongly contributes to trust and satisfaction in consumers. This result corresponds to established research claiming that brand relationships originate from brand knowledge (Ballester & Munuera-Alemán, 2005). Overall, a complete picture of how different elements of the brand interact is established. It implies that brand knowledge, brand relationships, and brand equity are inter-connected in a close-knit network and exert influence on each other.

### 5.2. Practical implications

This study suggests some applications for organizations in their quest of building a strong green brand. First, companies should realize the significance of having a competent green image. With proper positioning and communication, green brand image could bring substantial added values to the brand, especially those that are specialized in capturing the young market.

Strong and favorable associations in terms of eco-friendly practices is a powerful source to enhance consumer trust and satisfaction as well. Second, this research sheds light into the critical role of trust in the green movement. Confidence in the firm's pro-environmental promises is an essential component in generating consumer preference for green brands. Environmental claims and communication efforts alone are insufficient if the firm is unable to prove that they are capable of delivering their promises. It is crucial to ensure that consumers can sense the sincerity and reliability in environmental actions of the firm, even more so now because they are savvy and skeptical. This research also suggests an impactful way to cultivate trust which is to deliver satisfactory performances that exceed consumer expectations. It is through firsthand experience can green consumers evaluate the credibility of the brand messages and be eager to offer their commitment to the brand.

Third, firms should pay attention to consumer environmental values and attitudes because they are noteworthy determinants of green brand equity. Besides investing in building a favorable image, it is equally vital to educate consumers about environmental issues and change their personal beliefs. Any organizations should avoid the delicate trap of getting stuck with developing innovative marketing programs but failing to understand customer insights.

### 5.3. Limitations and further studies

Since data was collected using a cross-sectional approach, behavioral changes could not be captured. Thus, future research could conduct a longitudinal study to capture changes in consumer's patterns or expand to other regions within the country. Furthermore, it is suggested that further studies should consider examining the topic using a qualitative approach. It can uncover valuable insights that the quantitative method fails to gather such as discovering different incentives that encourage the preference for green brands. Another consideration is the interpretation of brand equity. Brand equity is consisted of various components, so this study cannot capture its full essence as it concentrates more on the preference side of the concept. Therefore, incorporating other dimensions of brand equity such as loyalty and financial performances into the model could give a more comprehensive view. Finally, as this research did not study on a specific category of brand, an industry-specific study is recommended so that deeper understanding could be achieved.

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