



The Effect of Greenwashing on Consumers' Green Purchase Intentions

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Abstract

Green marketing is widely used by brands all over the world using misleading ways to give brands an advantage to achieve their goals and sales. This is called greenwashing. The aim of the study is to examine the influence of greenwash on the purchase intentions among Egyptian consumers. It tested the mediation effect of brand love, brand loyalty, brand image, and green consumer confusion in the relationship between greenwash and purchase intentions and it also tested the mediation effect of green trust in the relationship between green brand image and purchase. The data were collected electronically from 386 participants using a structured questionnaire through social media platforms. The proposed model was empirically tested with the use of Structural Equation Modeling (SEM). The research concludes that greenwash practices adopted by companies in various industries should be stopped since customers should be informed properly about green aspects of the products offered by the brands. All hypotheses are accepted except the relationship between green confusion and green brand trust. This study provides novelty for the context of greenwashing, especially with the limited literature regarding the Arab context, specifically Egypt. Understanding how brand love, brand image, brand trust and green brand confusion influence consumer purchase intentions can help companies and marketers design and communicate specific messages to highlight their brand eco-friendliness in their marketing strategies. Hence, familiarity with their brand and the demand for and purchase of their brand's eco-friendly products.

Keywords: *Greenwashing, Green Marketing, Green Purchase Intentions.*

Introduction

The act of greenwashing is increasing with the rise of the green economy and the awakening of consumers' awareness of sustainability. Green marketing has become an important tool to obtain a competitive edge in the market (Lu et al., 2022). Using the eco-lexicon of "green words" like "Eco, Ethical, Environmental, Green, Greenwash, Natural, Organic, Recycled, Upcycling, Downcycling and Sustainability" in brand communications with the intention of raising consumer consciousness toward environmental and/or ethical collections is challenging as messaging is oftentimes poorly understood (Beard, 2008).

The term corporate washing was identified by diverse terminology, such as greenwashing, CSR-washing, blue washing, pink washing, or SDG-washing (Netto et al., 2020; Heras-Saizarbitoria et al., 2022). Greenwashing is a form of deception characterized by the use of deceptive information regarding its green products and green image (Runyon, 2022) misleading people into holding favorable opinions about an organization's environmental performance (Lyon & Montgomery, 2015). Companies adopt greenwash measures to save their cost and to increase their profits (Hameed et al., 2021) to take advantage of information

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asymmetry and cover up the unsustainable part of their business activities through fake green marketing campaigns to gain more potential consumers (Lu et al., 2022).

In the context of challenges to the 2030 agenda for sustainable development to balance between economic, societal, and environmental issues and Egypt vision 2030. Egypt took part of the 2021 voluntary national review of the high-level political forum on sustainable development (The United Nations, 2021). Since 1997, the Egyptian Ministry of Environment collaborated with different development partners at national and international levels to define environmental policies and implement initiatives regarding sustainable development (United Nations, n.d.). The study examines the influence of greenwashing on consumer green purchase intentions and the mediating role of brand love, brand loyalty, brand image, and green consumer confusion in the relationship between greenwashing and purchase intention and it also tests the mediation effect of green trust in the relationship between green brand image and purchase intention. This has not been clearly examined in previous research in the Arab countries and specifically Egypt.

The study is organized as follows. Section 2, literature will be reviewed along with the driven hypotheses and the conceptual model. Section 3, the research methodology section includes methods, data collection, sample, measures, and statistical technique. Section 4, the findings are discussed with the results of hypotheses evaluation. Section 5 implications and Section 6 limitations of the study and future research directions.

Literature Review

Greenwash

Rising environmental concerns between customers has led them to demand more sustainable alternatives (Nekmahmud & Fekete-Farkas, 2020). Accordingly, green marketing has become a distinguishing factor in the market. (Kahraman, 2019), and customers' purchasing intentions are influenced by a company's environmental performance (Grimmer, 2013). Thus, greenwashing has become a vital method to compete with opponents in the marketplace. If rivals' greenwashing strategy decreases their capital costs, enhances their image, upsurges return by appealing to responsible investors and customers, it can also result to the expansion of greenwashing in other corporations (Arouri et al., 2021). Nyilasy et al., (2014) stated that greenwashing is considered an intentional deceit. Conversely, Torelli et al., (2020) described greenwashing as the space that exists among "symbolic" and "substantive" social activity, by utilizing visual representations, ambiguous words, and image advertising to bridge the gap among concerns about greenwashing. A study conducted by Lu et al., (2022) indicated that there are seven sins associated with greenwashing, which include the following: the sin of vagueness, the sin of no proof, the sin of worshipping a fake, sin of the hidden trade-of, and the sin of misrepresentation.

Greenwashing could benefit the firm by raising further earnings, it can have an adverse effect on the overall sustainability of society. Studies reveal that the risks of greenwashing are widely recognized, since the brand trust among green brands and their stakeholders suffers significantly after greenwashing is implemented (Santos et al., 2023; Bernini & Rosa, 2023). Greenwashing has an adverse effect on corporate social responsibility and status, thus impacting customers' behavioral intentions (Gil-Cordero et al., 2021). Moreover, greenwashing has unfavorable externalities, since a single brand can adversely affect customers' readiness to buy green merchandises from other brands in the market (Wang et al., 2019). Scholars have examined the connection between greenwashing and several concepts, including brand image, green confidence, green skepticism, green brand loyalty, and green word of mouth (Martínez et al., 2020; Nguyen et al., 2019). The body of research on greenwashing has expanded recently, particularly in terms of investigations into the origins and mechanisms of greenwashing 's effects. Research has been investigating ways that greenwashing impacts firms, investors, consumers, and other stakeholders.

Greenwash and Purchase Intention

The term “greenwashing” refers to a business’s attempt to mask its environmentally detrimental actions by disseminating inaccurate or ambiguous information regarding sustainability initiatives for marketing purposes (Bowen & Aragon-Correa, 2014). Meanwhile, green purchase intention indicates the degree to which customers are eager to buy goods and services from businesses with a reputation for being environmentally conscious, and the prospect that a customer will purchase a certain product from firms with an environmental reputation (Arouri et al., 2021).

Greenwashing decreases consumers’ green purchasing power (Yang et al., 2020) and has an impact on attitudes and perceptions held by consumers, such as mistrust and skepticism of corporate green advertising practices (Akturan, 2018). Customers may behave suspiciously and have an adverse perception of the company’s hidden agendas if they are conscious of the disparity between the company’s actions and its green advertising (Delmas & Burbano, 2011). Studies indicated that the degree to which consumers are conscious of greenwashing influences brand equity, brand attitudes, and purchase intention (Yang et al., 2020; Zhang et al., 2018). When businesses deceive customers by using greenwashing, customers may be disinclined to form long term associations or trust with corporations, ultimately decreasing the purchase intention (Wang et al. 2019). Drawing from extant literature, the subsequent hypothesis is proposed:

H1: Greenwashing has a direct negative effect on green purchase intention among consumers.

Greenwash and Green Trust

Green trust is crucial for green marketing (Lewandowska, 2017). In addition to credibility, trust is a crucial component of communications related to green marketing (Ha et al., 2022). Consumers who trust certain brands are more liable to trust green advertising and use it to guide their purchases (Chen & Chang, 2013). Thus, customers may consider businesses that are genuinely engaged in environmental initiatives, improve their environmental performance and successfully communicate their environmental initiatives (Horiuchi & Schuchard, 2009). On the other hand, (Chen, 2010) stated that green trust is “the inclination to depend on a service or product based on the prospect or belief resulting from its benevolence, credibility, and ability about environmental performance.” Some corporations regularly overestimate or falsify the environmental functionality of their products, which makes consumers lose trust in them (Chen & Chang, 2013). Moreover, consumer perceptions of companies that communicate about their environmental performance could be negatively impacted by accusations of green washing or misleading techniques (Parguel et al., 2011).

Greenwashing would erode customer trust, which as a result might have a detrimental word-of-mouth effect (Ramus, 2005). Therefore, Customers are unlikely to create long-term trust relationships with businesses that employ greenwashing tactics to deceive them (Cheung, 2021). Thus, the following hypothesis is proposed:

H2: Greenwash has a direct negative effect on green trust.

Greenwash and Brand Love

Organizations use “greenwashing “ strategies to cut costs and boost revenue (Arouri et al., 2021). since businesses can employ low-cost production equipment and low-cost advertising strategies to promote greenwashing, which produces low-quality goods and deteriorates environmental degradation (Nguyen et al., 2019). However, Irfan et al., (2021) stated that customers’ purchasing decisions regarding the company’s goods and services are adversely impacted by greenwashing, which harms brand loyalty, brand love, and brand image.

Greenwash stands in the way of building consumer brand love and trust for the product. Similarly, (Lee, 2019) indicated that when consumers are more conscious of the greenwashing claims by the businesses,

they will be perplexed about the corporate social responsibility and green marketing claims made by the corporations. As a result, when a customer believes they are unsure about purchasing behaviour, they may postpone making the purchase, which can harm brand love and brand loyalty, severely impacting a firm's performance (Ha et al., 2022). Accordingly, the following hypothesis is structured as follows:

H3: Greenwash has a direct negative effect on consumers green brand love.

Greenwash and Green Brand Loyalty

Loyalty represents the depth of a buyer's attachment to a certain product. Greenwash might delay green marketing; consequently, it will increase consumers' risk. Thus, it highlights the negative association among green wash perceptions and their outward green risks (Upadhyay and Jain, 2022). Furthermore, organizations greenwash is connected with its customer's green superficial threats and negatively related with consumers' green image (Papadas, 2020). Thus, companies' greenwashing activities can negatively affect customers' loyalty towards the brand.

Irfan et al., (2021) stated that when consumers believe a product is bad for the environment, they refrain from purchasing it. To develop consumer brand loyalty over their products, businesses need to stop using greenwashing techniques and instead aim to implement genuine solutions (Zengrui et al., 2021). Additionally, if a customer has a more positive perception of a company's product, this will positively impact customer attitudes and retention rates towards that product as well as encourage positive word-of-mouth (Ahmad & Esposito, 2022). Customers will be more inclined to purchase their goods, therefore the subsequent hypothesis is proposed:

H4: Greenwash has a direct negative effect on green brand loyalty.

Greenwash and Green Brand Image

Green brand image is defined as "a set of perceptions of a brand in a customer's mind that correlates to both environmental concerns and environmental commitments". (Ha et al., 2022). A green brand image is crucial for businesses as it elevates consumer awareness of environmental issues (Alamsyah et al., 2018), fosters consumer loyalty to green brands (Lin et al., 2017), and influences consumer preference for green brands. According to Lin et al., (2017), there are three types of advantages that are encompassed by the green brand image: experimental, functional, symbolic benefits. However, Zameer (2020) divided these advantages into two categories: psychological and tangible. Hence, these authors believe that both advantages are equally significant. Lin et al., (2017) claimed that the combination of the two categories have the biggest effects on brand positioning. Moreover, greenwashing is the practice of making misleading or exaggerated claims about how green a product or a brand is; which makes consumers dubious of green claims and can harm the reputation of green brands (Lin et al., 2017).

Companies that utilise greenwashing to build a favorable brand image may abandon this strategy because it is ineffective (Du, 2015). Nonetheless, Chen et al., (2018) contend that greenwashing has lowered attitudes towards a firm's environmental efforts, confused consumers with green marketing, and made them dubious for green claims, all of which have an adverse effect on the company's green brand image. Thus, greenwashing has a negative effect on green brand image (Chen et al., 2018). Hence, the following hypothesis is developed:

H5: Greenwash has a direct negative effect on green brand image.

Greenwash and Green Consumer Confusion

Customers concur that labeling a product as "green" is purely a marketing strategy, and they would be suspicious of any green promises made (Lyon & Maxwell, 2011). According to (Peattie et al., 2009), customers' perceptions of greenwashing can harm a company's reputation when it communicates about its

environmental initiatives. Therefore, by making individuals wary of green products, greenwashing has the potential to demolish the market (Polonsky et al., 2010).

Conversely, Mitchell and Papavassiliou (1999) claimed that there are three primary causes of consumer confusion: an excessive number of options, product similarities, and unclear information. The amount of extensive pertinent information leads to over choice confusion (Chen & Chang, 2013). Furthermore, similarity confusion is the likelihood that a consumer's ambivalence will shift due to perceived physical resemblance between products. The term "green consumer confusion" is defined in this study, citing Turnbull et al., (2000), as "the inability of the customer to properly interpret the environmental features of a service or product throughout the information processing procedure." According to Walsh (2007), greenwashing would overwhelm customers with information and make it harder for them to assess products. Therefore, consumers would become confused about green promises as a result of greenwashing (Laufer, 2003). Consequently, this study proposes the following hypothesis:

H6: Greenwash has a direct positive effect on green consumer confusion.

Green Brand Love and Green Purchase Intention

The term "brand love" is relatively new in the field of customer behaviour studies (Jannah & Fadli, 2023). Brand love is characterised by a variety of traits, such as passion for a brand, brand attachment, favorable assessment of a brand, and an expression of love and positive feelings for a brand (Irfan et al., 2021).

Customers who have high brand love for a particular product will have high brand affection and brand attachments, also they will feel motivated and satisfied to acquire that product (Sta et al., 2018). A study conducted by (Irfan et al., 2021) claimed that 75% of the purchasing process is emotional; some consumers have even had their brand logos tattooed to express their love for the company. Therefore, brand love is becoming a crucial instrument in the field of consumer satisfaction. For this reason, businesses create plans aimed at making customers feel more in love with their brands (Jannah & Fadli, 2023). Since emotional attachment and brand love are comparable in general, they have similar outcomes, including increased emotional commitment and brand loyalty (Sta et al., 2018). In contrast to someone who does not have brand love for merchandise, a person who has brand love will have an affirmative attitude and view towards that specific product. Therefore, the customer's purchase intention and brand love are positively correlated (Wong, 2023). An upper level of brand love will result in more product purchases; whereas a lesser level of brand love will result in fewer product purchases. Hence, this study proposes the following hypothesis:

H7: Green brand has a direct positive effect on green purchase intention.

Brand Loyalty and Purchase Intention

Brand Loyalty relates to a customer's purchasing behaviour in which the customer buys products from a particular brand on a regular basis (Jannah and Fadli, 2023). According to Riquelme et al. (2019), trust is generally more important in the start of a relationship and grows more benevolent as it progresses and clients start to regard themselves as loyal patrons.

Customer loyalty is the initial step in increasing the purchasing intention, by which the consumer begins with the informational aspect of any given product (Malik et al., 2013). Subsequently, individuals shift their focus to the product's emotional appeal before turning their interest to the behavioural aspect of their buying behavior (Irfan et al., 2021). Similarly, Chi (2009) claimed that businesses attempt to advertise and market their products by making misleading claims that they are ecologically friendly. Hence, the customer's purchase intention and brand loyalty are positively correlated.

Businesses need to take significant action to increase positive brand loyalty or brand attractiveness in the eyes of their customers (Tariq, 2013). Nowadays, consumers acquire more of a product, which has been

manufactured in green conditions or clean environments without having negative impacts on any natural habitat or their health; thus, firms should evade greenwashing practices (Jalilvand, 2011). If businesses employ green manufacturing processes and green marketing to promote their green products, customers will develop favorable perceptions of the brand. Thus, consumers will buy more of the product since they will be conscious that businesses are not misleading them by employing green wash measures (Chen, 2010). However, businesses' reputation would suffer, and turnover will further decline if they implement greenwashing strategies without disclosing them to their clientele. Thus, the following hypothesis is proposed:

H8: Green brand loyalty has a direct positive effect on green purchase intention.

Green Brand Image and Purchase Intention

In today's environment, a customer's purchasing intention is shaped by a variety of elements, one of which is brand image; according to Chakraborty (2020), the image is "the set of ideas, impressions, and beliefs that a person retains concerning an object". Furthermore, businesses build their brand image around several factors, such as cost, value-added services, quality, packaging, and sales value (Irfan et al., 2021). Thus, indicated that if a customer has a favorable perception of a certain brand, this will eventually translate into positive buying behaviour (Wu et al., 2018).

Brand image influences customers' attitude (Utama, 2022). Whereas the purchasing decisions made by customers are also greatly influenced by attitudes and perceptions. Due to government restrictions on environmental legislation and growing consumer knowledge of green purchasing practices, the notion of a green brand image is becoming increasingly significant for businesses (Irfan et al., 2021). To gain an edge over other industry participants, businesses ought to incorporate green marketing strategies into their green purchasing practices.

Customers' purchasing intentions are more influenced by an affirmative brand image (Hemanth, 2023). Additionally, if a customer perceives that a certain product offered by a particular company is superior, this will enhance their opinion of the product and encourage positive word-of-mouth (Utama, 2022). Hence, customers will be more inclined to purchase their goods. Thus, a negative brand image will have a negative effect on customer purchase intention, whilst an affirmative brand image will have a positive effect on customer purchase intention.

H9: Green brand image has a direct positive effect on consumers green purchase intention.

Green Brand Image and Green Brand Trust

Brand image is the perception that customers have of a brand in relation to an offer (Chen et al., 2020). Based on Bashir et al., (2020), a green brand image is an assortment of consumer brand impressions connected to environmental obligations and concerns in a green setting. Furthermore, companies must project a green brand image, particularly in the light of growing consumer environmental consciousness and stringent global environmental legislation (Lin, 2022). Likewise, Kahraman et al., (2019) stated that a green brand image appeals to consumers' environmental concerns while minimizing associated issues. Since it can lower perceived risk, a green brand image thus has a beneficial impact on consumer trust (Chen, 2010). The relationship between trust and green brand image has been studied in the past (Lavuri et al., 2022; Bekk et al., 2015). Previous research indicates that a consumer's perception of an image can considerably influence their behavior (Lee, 2020; Solekah & Aslamatis, 2019). According to Rahman and Nguyen-Viet (2020), image has a beneficial impact on consumer trust by reducing perceived risk and increasing the probability of purchase during the transaction process.

Earlier research has indicated that agents involved in the exchanges may make decisions based on their perception of the brand, supporting the notion that customer trust and brand image are positively

correlated (Abd-El-Salam & Mohamed, 2020; Vijay, 2019). According to the mentioned above, the higher the firms' green brand image, the higher the inclination to rely on the brand based on the belief resulting from its benevolence, credibility, and capability of meeting environmental standards. Hence, the following hypothesis is formulated:

H10: Green brand image has a direct positive effect on green brand trust.

Green Consumer Confusion and Purchase Intention

A company can sell features through goods, as it reflects all the customers' values and beliefs (Tarabieh, 2020), as a result purchasing it for its symbolic purpose and significance (Netto et al., 2020). The product's symbolic importance encompasses several elements, including value, simplicity, ecological sustainability, knowledge, and credibility (Underwood, 2003). Numerous scientific studies have revealed that consumers' concerns for protecting the environment are mostly motivated by moral principles (Szabo & Webster 2021; Tahir, 2020). Customers may choose to stay away from or even reconsider making purchases from such immoral businesses (Chen et al., 2018). Consumers prefer green purchases, businesses exploit this to draw in clients and demonstrate to them that they are ecologically conscious (Chen & Chang, 2013; Horiuchi & Schuchard, 2009).

According to Nyilasy et al. (2014), greenwashing has an adverse effect on consumers' perceptions in addition to being an ethical concern. Even though consumers occasionally are unable to distinguish between misleading acts and reality, this has an effect on brand perceptions and intentions for green purchases (Nguyen et al., 2019). Moreover, a company's significant attempts to persuade clients of its "green claim" will diminish the credibility of natural claims and increase negative perceptions (Chang, 2011). Hence, employing a fictitious green image increases deception and lowers customer trust (Pancer, 2013). Consequently, consumers lose interest and are reluctant to make another transaction. Purchasing intentions are negatively impacted by this greenwashing. To be socially and ecologically conscious, businesses invest a significant amount of money in green marketing, with the hope that this perspective will improve consumer attitudes towards the brand and encourage more purchases (Nyilasy et al., 2014). This pertains to the construction of the below hypothesis:

H11: Green confusion has a direct positive effect on green purchase intention.

Green Confusion and Green Trust

According to literature, greenwashing has a positive impact on green confusion and it has a negative impact on a number of other areas, including perceived corporate reputation (Nyilasy et al., 2014), purchase intention (Leonidou and Skarmas, 2017), market significance, organisation legitimacy (Du, 2015), and green trust (Chen and Chang 2013). Furthermore, Akturan (2018) stated that the ecologically conscious imagery in green advertising can elicit positive responses from consumers. However, when consumers feel overloaded, it could be difficult to maintain a trustworthy green brand image for green advertising campaigns. Thus, customers who experience dispute may postpone making purchases and lose faith in the company; since they are not able to make the right purchasing decisions. Accordingly, they postpone or abandon their purchases (Avcilar, 2017).

As stated by Singh et al., (2011), one detrimental outcome of consumer confusion is mistrust. Furthermore, (Kac et al., 2016) claimed that customers who are confused are more liable to be skeptical of businesses that provide ambiguous and contradicting product specifications. Moreover, environmental claims are adversely affected by green trust. This association bears a strong resemblance to the relationship observed between trust and bewilderment (Avcilar, 2017). Thus, this research proposes the following hypothesis:

H12: Green confusion has a direct negative effect on green trust.

Brand trust and purchase intention

Trust is defined as the ability of a brand to keep its word and make good on its claims (Ha et al. 2022). Accordingly, higher purchasing intentions may result from green trust (Kahraman et al., 2019). Trust can both lower customers' perceptions of risk and improve their purchase intention (Yang & Zhao, 2019). Furthermore, one of the most significant factors of customers' green purchase intention is substantially influenced by trust (Konuk, 2018). Moreover, Emre (2016) stated that purchasing intentions are influenced by consumers' green trust in brands' environmental statements. (Chen et al., 2020) contend that in the environmental era, customers' green trust influences their purchasing intentions. According to recent studies, customers' intentions to purchase green products are positively impacted by their trust in green companies (Amin & Tauran, 2020; Nguyen et al., 2019).

Although there are many factors that influence customer behaviour, consumer trust is the primary factor that determines long-term behaviour (Lee, 2011). Accordingly, customer trust influences their propensity to make purchases (Harris, 2010). Based on these findings, it is hypothesized that:

H13: Green brand trust has a direct positive effect on green purchase intention.

The Mediation role of green brand trust, green brand love, green brand loyalty, green brand image and green confusion

According to Martínez (2015), emotional components of trust are significant because consumers rely on organisations' emotive signals as a benchmark for evaluating quality. Furthermore, green companies utilise their image, promotion, and trust-building methods to convey the reliability, utility, and capability of their green products and increase consumer trust (Cheung & To, 2021; Lavuri et al., 2022; Wang et al., 2020). Wang (2011) argues that a company's excellent intentions and actions determine customers' faith in it; therefore, customers develop a favourable intention to purchase the company's products.

Chen and Chang (2012) posit that the association among the precursors of green purchase intentions and buying intention is mediated by green brand trust. Similarly, research demonstrates that trust in organisations' transparency efforts enhances the association between their opinions and purchasing intentions (Bhaduri & Ha-Brookshire, 2011). According to recent studies, it is vital to investigate how customers' views of environmentally friendly retailers' non-deceptive business practices and their reactions to them are mediated by trust (Cheung & To 2021). Furthermore, studies have shown that the association between green advertising receptivity and green brand image with purchase intention is positively strengthened by green brand trust (Lavuri et al., 2022). Consequently, it is hypothesized that:

H14: Green trust mediates the relationship between green brand image and purchase intention

A company's greenwashing has a negative correlation with the consumers' green brand love, which in turn has a positive impact on customers' green purchase behaviour (Wong, 2023; Irfan et al., 2021). Additionally, (Wang et al. 2019) stated that there is a negative correlation between a company's greenwashing and the green purchasing behaviour of customers.

Companies that engage in greenwashing have the potential to impact customers' green purchasing behaviour both directly and through their love of green brands (Irfan et al., 2021; Chen et al., 2020). As a result, this study argues that green brand love of corporations plays the role of partial mediator in the relationship among greenwash and consumers' green purchase intention and developed the subsequent hypothesis.

H15: Green brand love partially mediates the negative relationship between greenwash and consumers' green purchase intention.

Based on a study conducted by (Irfan et al., 2021), a firms' greenwashing is negatively associated to their green brand loyalty, which positively impacts their customers' green purchase behaviour. Furthermore, customers' green purchasing behaviour is negatively correlated with companies' greenwashing (Wang et al., 2019). According to the preceding arguments, greenwashing of corporations can not only

impact their customers' green purchasing behaviour directly, but also through their green brand loyalty (Irfan et al., 2021; Chen et al., 2020). Thus, this paper suggests the following hypothesis and contends that green brand loyalty of firms plays a role of partial mediator in the research framework.

H16: Green brand loyalty partially mediates the negative relationship between greenwashing and consumers' green purchase intention.

Irfan et al., (2021) stated that greenwash of corporations is adversely associated to a company's green brand image, which positively impacts the customers' green purchase behavior. Moreover, Zhang et al. 2018) claimed that the greenwash of companies is negatively connected to the customers' green purchase behavior. According to the preceding considerations, greenwashing of enterprises can impact not only their customers' green purchasing behaviour directly, but also through their green brand image (Setiawan et al., 2022; Irfan et al., 2021; Chen et al., 2020). Consequently, the following hypothesis is developed:

H17: Green brand image mediates the negative relationship between greenwash and consumers' green purchase intention.

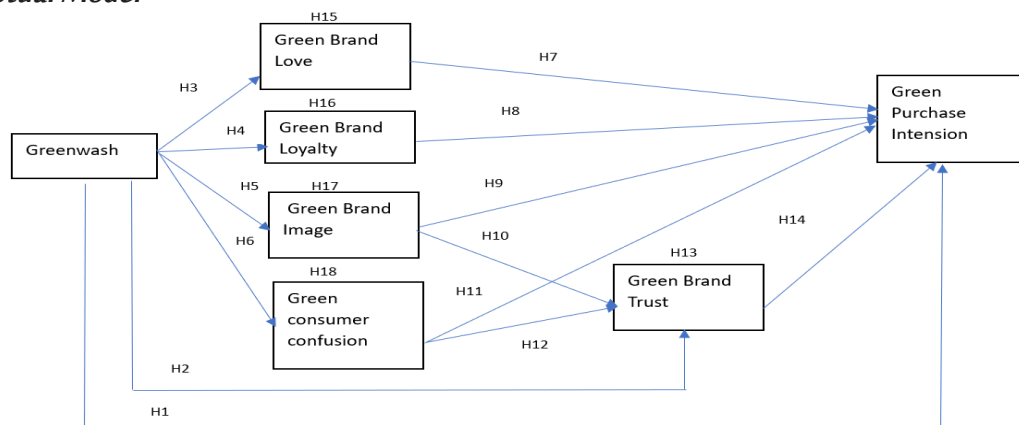
Greenwashing is when a business makes false statements about the operations and goods that could undermine the green movement (Chen & Chang, 2012). This widened the gap between real and environmental purchasing behaviour by exacerbating consumer confusion regarding green items (Lin et al., 2017). Green confusion acts as a mediating factor between the effects of greenwashing on brand evaluation and purchasing intention (Parguel et al., 2011).

Confusion about green claims can be when there are several greenwashing activities (Chen & Chang, 2013). Moreover, when customers become confused about a corporation that takes advantage of environmental circumstances in an opportunistic manner, they tend to have a negative attitude towards the corporation and are less likely to acquire products from them (Leonidou and Skarmas, 2017). Additionally, Nguyen et al. (2019) stated that the C-A-B framework demonstrates that green confusion influences the association between greenwash and green purchase intention. As a result, the subsequent hypothesis is formulated:

H18: Green confusion has a significant mediating effect on the relationship between greenwash and green purchase intention.

Research Design

Conceptual Model



Source: Developed by the Authors, (2023)

Fig.1 Conceptual Framework

The relationships between the variables are illustrated by the conceptual model (Fig. 1); the independent variable (greenwash) and the dependent variables (green brand trust and green purchase intentions) and the mediation role of green brand love, green brand loyalty, green brand image, and green consumer

confusion in the relationship between greenwash and purchase intentions and the mediation role of green trust in the relationship between green brand image and purchase intention.

Data collection and the sample

A total of 386 responses were disseminated online using social media sites (Facebook and WhatsApp) during the period from November 2023 to January 2024. Data completed and collected anonymously using non-probability based purposive sampling technique that has been employed to get responses from the participants and reach the desired sample size. Primary data were collected from 386 respondents using a structured questionnaire.

Measurement of the constructs

A pilot test using three experts and a pretest of 40 questionnaires were dispersed to check the clarity and understanding of the questions. No amendments were required to the questionnaire. The questionnaire was divided into three parts. The first part stated the aim of the study. The second part, the questions were designed as closed-ended questions, where the respondents select their response based on a five-point Likert scale, varying from 'strongly agree' to 'strongly disagree'. Questions were constructed based on an extensive review former studies, where the items for Greenwash scale adopted from Chen and Chang (2012), Horiuchi and Schuchard (2009) and Laufer, (2003). Green purchase intentions Strotz (1995), Abdul-Muhmin(2007) and Goh and Balaji (2016), Brand love adopted from Carroll and Ahuvia (2006), Green brand loyalty adopted from Chen, Y. S. (2013), Green brand image adopted from Chen (2010), Green consumer confusion adopted from Walsh and Mitchell (2010), Green trust adopted from Chen (2010), Green purchase intentions adopted from Goh and Balaji(2016), Abdul-Muhmin (2007) and Strotz(1955). The third part includes the demographic data.

Data Analysis and Results

Descriptive Analysis

The primary data for this study was collected via a self-completed survey where the total number of participants who have completed the survey is **386** valid responses. Table (1) shows the research socio-demographic characters of the selected sample. The highest greenwashing industry that participants think is greenwashing is the beverages industry (24.4%), then clothes industry (17.9%), cosmetics industry (10.9%), food industry (10.6%), electric appliance industry (7.8%), furniture industry (7.5%), vehicles industry (13%), airlines industry (6.2%), while airlines industry (1.8%) is the least greenwashing industry.

Reliability and Validity Analysis

Running the Factor Analysis is of great importance for deductive research as it will sort out the most meaningful and valuable constructs stated within the utilized model in the study (Sekaran, 2003). The internal consistency coeffi-

Table (1): Description of Demographic Characteristics among Survey Participants (n=386)

Variable	Frequency	Percentage
Gender		
female	224	58%
male	162	42%
Age		
less than 20	150	38.9%
from 20 to 30	186	48.2%
from 31 to 40	14	3.6%
from 41 to 50	25	6.5%
from 51 to 60	11	2.8%
Educational Level		
undergraduate	278	72%
bachelor's degree	64	16.6%
master's degree	25	6.5%
doctorate (PhD)	19	4.9%
Income		
less than 20,000	319	82.6%
from 20,000 to less than 40,000	32	8.3%
from 40,000 to less than 60,000	23	6%
from 60,000 to less than 80,000	3	0.8%
80,000 and above	9	2.3%
Greenwashing Industry		
beverages	94	24.4%
cosmetics	42	10.9%
electric appliance	30	7.8%
food	41	10.6%
clothes	69	17.9%
furniture	29	7.5%
vehicles	50	13%
airlines	24	6.2%
hotels	7	1.8%

cient (Cronbach's Alpha) reflects the reliability of a scale as it captures the proportion of total variance that is common to all items that form the scale, which presumably corresponds to the underlying construct being measured. Cronbach's α coefficients of the seven constructs in Table (2) reflect a good reliability of the research statements since values range from 0.859 to 0.937 for the constructs which exceeded the threshold of 0.70. The Cronbach's α coefficient of "greenwash" is 0.911; "green brand love" is 0.933; "green brand loyalty" is 0.917; "green brand image" is 0.932; "green brand confusion" is 0.89; "green brand trust" is 0.937; "green purchase intentions" is 0.928. The results of the Factor Analysis show that all items are loaded in their constructs as suggested in the proposed model, as the loadings of all items are greater than 0.50. On the other hand, AVE values are above the recommended threshold of 0.50 which indicates that the constructs could explain more than 50% of the statements and these values reflect a high internal validity.

Correlation Test

Table 3 illustrates the values of Pearson's Correlation Coefficient for the constructs, and from these values we can conclude that:

- There is a significant negative moderate relationship between the greenwash and all the variables (brand love, green brand loyalty, brand image, green trust, and green purchase intentions) except for green brand confusion, there is a significant positive moderate relationship between the greenwash and the green brand confusion, as the significance value is less than 0.05.
- There is a significant positive strong relationship between the green brand love and all the variables (green brand loyalty, brand image, green trust, and green purchase intentions) except for green brand confusion, there is a significant negative moderate relationship between the green brand love and the green brand confusion, as the significance value is less than 0.05.
- There is a significant positive strong relationship between the green brand loyalty and all the variables (brand image, green trust, and green purchase intentions) except for green brand confusion, there is a significant negative moderate relationship between the green brand love and the green brand confusion, as the significance value is less than 0.05.
- There is a significant positive strong relationship between the green brand image and all the variables (green trust, and green purchase intentions) except for green brand confusion, there is a significant negative moderate relationship between the green brand love and the green brand confusion, as the significance value is less than 0.05.

Table (2): Reliability and Validity of the Questionnaire in Each Category by Using Cronbach's Alpha Coefficient.

Constructs	Number of Statements	Cronbach's Alpha	AVE	Item	Loading
Greenwash	5	0.911	0.740	Greenwash1	0.882
				Greenwash2	0.876
				Greenwash3	0.853
				Greenwash4	0.864
				Greenwash5	0.824
Green Brand Love	6	0.933	0.756	GBLOVE1	0.868
				GBLOVE2	0.922
				GBLOVE3	0.699
				GBLOVE4	0.909
				GBLOVE5	0.902
				GBLOVE6	0.897
Green Brand Loyalty	4	0.917	0.804	GBLOYALTY1	0.906
				GBLOYALTY2	0.927
				GBLOYALTY3	0.843
				GBLOYALTY4	0.908
Green Brand Image	5	0.932	0.788	GBIMAGE1	0.885
				GBIMAGE2	0.901
				GBIMAGE3	0.901
				GBIMAGE4	0.882
				GBIMAGE5	0.868
Green Brand Confusion	6	0.859	0.596	GBCONFUSION1	0.763
				GBCONFUSION2	0.813
				GBCONFUSION3	0.811
				GBCONFUSION4	0.827
				GBCONFUSION5	0.788
				GBCONFUSION6	0.610
Green Brand Trust	5	0.937	0.798	GBTRUST1	0.906
				GBTRUST2	0.901
				GBTRUST3	0.890
				GBTRUST4	0.881
				GBTRUST5	0.888
Green Purchase Intentions	4	0.928	0.824	GPI1	0.918
				GPI2	0.915
				GPI3	0.920
				GPI4	0.876

- There is a significant negative moderate relationship between the green brand confusion and all the variables (green brand trust and green purchase intentions), as the significance value is less than 0.05.
- There is a significant positive strong relationship between the green brand trust and the green purchase intentions, as the significance value is less than 0.05.

Table 3: Pearson's Correlation Coefficients

	Greenwash	Green Brand Love	Green Brand Loyalty	Green Brand Image	Green Brand Confusion	Green Brand Trust	Green Purchase Intentions
Greenwash	1						
Green Brand Love	-0.491**	1					
Green Brand Loyalty	-0.532**	0.820**	1				
Green Brand Image	-0.561**	0.751**	0.819**	1			
Green Brand Confusion	0.571**	-0.489**	-0.471**	-0.533**	1		
Green Brand Trust	-0.570**	0.721**	0.818**	0.841**	-0.481**	1	
Green Purchase Intentions	-0.578**	0.771**	0.878**	0.837**	-0.465**	0.872**	1

** Correlation is significant at the 0.01 level (2-tailed)

Structural Model Results

The “path analysis” to estimate the coefficients and significance of each path to test the theoretical model with the presence of a mediator. The first model included all variables as discussed before. Figure (2) shows that the green brand confusion does not significantly affect green brand trust with confident 95%. So, these paths will be removed from the model as shown in figure (3).

1- First Step

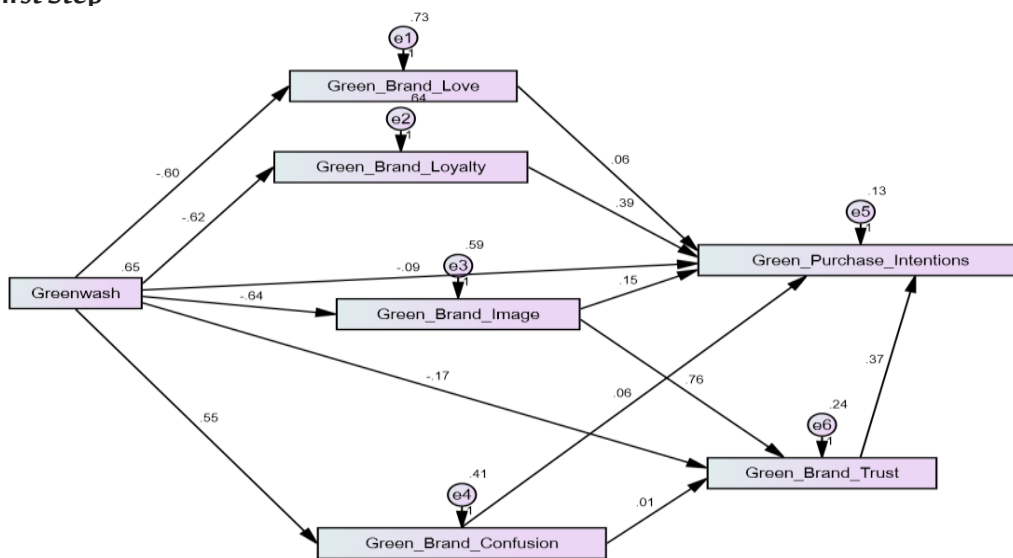


Fig. 2 SEM and Path Analysis -Step 1

Table (4): Regression Weights

	Unstandard-ized Estimate	Standard-ized Estimate	S.E.	C.R.	P
Green Brand Image ← Greenwash	-.643	-.561	.048	-13.284	***
Green Brand Confusion ← Greenwash	.554	.571	.041	13.662	***
Green Brand Love ← Greenwash	-.595	-.491	.054	-11.064	***
Green Brand Loyalty ← Greenwash	-.624	-.532	.051	-12.335	***
Green Brand Trust ← Greenwash	-.170	-.148	.043	-3.953	***
Green Brand Trust ← Green Brand Image	.762	.762	.032	23.526	***
Green Brand Trust ← Green Brand Confusion	.013	.011	.039	.328	.743

		Unstandard-ized Estimate	Standard-ized Estimate	S.E.	C.R.	P
Green Purchase Intentions	← Greenwash	-.089	-.088	.038	-2.359	.018
Green Purchase Intentions	← Green Brand Love	.064	.077	.022	2.981	.003
Green Purchase Intentions	← Green Brand Loyalty	.386	.447	.023	16.800	***
Green Purchase Intentions	← Green Brand Image	.147	.167	.037	3.923	***
Green Purchase Intentions	← Green Brand Confusion	.055	.053	.028	1.970	.045
Green Purchase Intentions	← Green Brand Trust	.370	.419	.038	9.797	***

*** Means that the Variable is Significantly Different from Zero at the 0.001 Level (Two-tailed).

2- Second Step

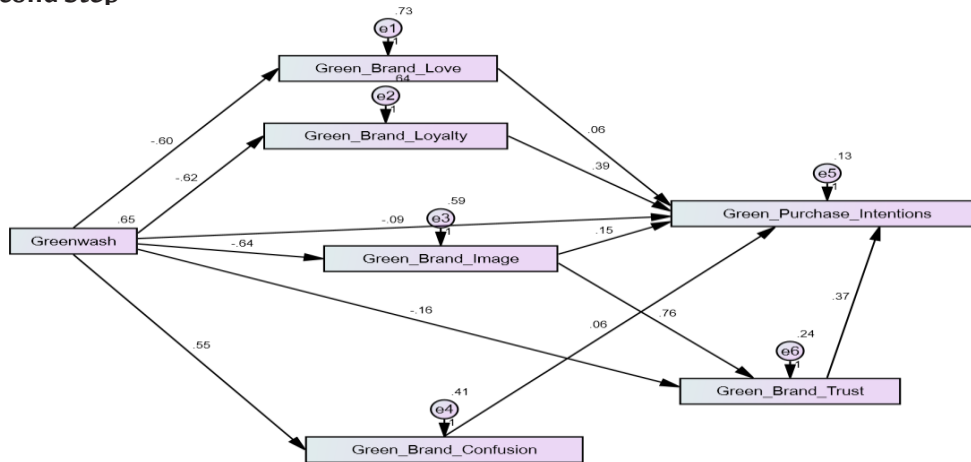


Fig. 3 SEM and Path Analysis -Step 2

Table (5): Regression Weights

		Unstandardized Estimate	Standard-ized Estimate	S.E.	C.R.	P
Green Brand Image	← Greenwash	-.643	-.561	.048	-13.284	***
Green Brand love	← Greenwash	-.595	-.491	.054	-11.064	***
Green Brand Loyalty	← Greenwash	-.624	-.532	.051	-12.335	***
Green Brand confusion	← Greenwash	.554	.571	.041	13.662	***
Green Brand Trust	← Greenwash	-.165	-.144	.037	-4.431	***
Green Brand Trust	← Green Brand Image	.759	.760	.032	23.421	***
Green Purchase Intentions	← Greenwash	-.089	-.088	.038	-2.361	.018
Green Purchase Intentions	← Green Brand Love	.064	.077	.022	2.981	.003
Green Purchase Intentions	← Green Brand Loyalty	.386	.448	.023	16.800	***
Green Purchase Intentions	← Green Brand Image	.147	.167	.037	3.934	***
Green Purchase Intentions	← Green Brand Confusion	.055	.053	.027	1.970	.045
Green Purchase Intentions	← Green Brand Trust	.370	.419	.038	9.798	***

*** Means that the Variable is Significantly Different from Zero at the 0.001 Level (Two-tailed).

Table 7 shows all the goodness of fit measures of the model which indicate that all indicators at acceptable limits, especially NFI(0.996), IFI(0.999), TLI(0.994), and CFI (0.997) are close to one. Also, the value of RMSEA(0.0468) is less than 0.05. All these measures indicate the goodness of fit of the structural model. Also, the level of significance of the Chi-Square test which is greater than 0.05 indicates that the model is good fit.

Table (6): Direct, Indirect, and Total Effects

Path	Direct Effect	Indirect Effects	Total Effect	Interpretation
Purchase intention ← Green wash	-.089	-0.585	0.674	Partial mediation
Green brand trust ← Green wash	-.165	-0.488	0.653	Partial mediation
Purchase intention ← brand image	.147	0.281	0.428	Partial mediation

Discussion and Conclusion

The primary aim of this study was to examine the impact of greenwashing among Egyptian consumers' purchase intentions and the mediating effect of brand loyalty, brand love, brand image, and green consumer confusion and the mediating role of brand trust in the relationship between green brand image and purchase intention. Additionally, this research assessed the mediation effect of green trust in the relationship between green brand image and purchase intention. The study findings indicate that consumers' greenwashing negatively affects green purchase intention (H1). This result is consistent with earlier

findings that consumers' perceptions of greenwashing have a direct negative impact on their green purchase intention (Wang et al., 2019; Aktura et al., 2018). This implies that when firms deceive customers by utilising greenwashing, customers may be disinclined to build long-term relationships or trust with corporations, eventually diminishing their purchasing intention (Yang et al., 2020). Furthermore, the data supports the hypothesis that greenwashing is negatively associated with green brand trust (H2), which is consistent with prior studies conducted by (Cheung & To, 2021; Chen & Chang, 2013). This indicates that customers are suspicious of green brands because they have detected dishonest marketing techniques (Rahman and Nguyen-Viet, 2020). Accordingly, green brands deceive customers by inflating the advantages of their merchandises and taking advantage of less experienced customers (Rahman et al., 2015).

Greenwashing negatively impacts green brand love, green brand loyalty, and green brand image of the corporation. To encourage green purchase behaviour, corporations need to reduce their greenwashing. Thus, to improve green purchasing behaviour, businesses should increase green brand love, green brand loyalty, and green brand image. Accordingly, H3, H4, and H5 have been accepted, and the findings are consistent with earlier research. (Ha et al., 2022; Zengrui et al., 2021; Chen et al., 2018). Moreover, the results also show a positive correlation among green consumer confusion and greenwashing H6; which supports earlier studies (Chen & Chang, 2013; Laufer, 2003). As a result, in order to upsurge their customers' green trust, firms should reduce their greenwashing practices. Also, businesses must lessen green consumer confusion regarding green products if they aim to lessen the negative correlation among greenwashing and green trust. Furthermore, this study supports other research that verified that green brand love, green brand loyalty, and green brand image are positively correlated with green purchase intention (H7, H8, H9) (Wong, 2023; Hemanth, 2023; Utama, 2022; Irfan et al., 2021). It is further stated that green purchase intention can be attained by decreasing green wash and raising green brand love, loyalty, and image (Irfan et al., 2021). Green brand image was also discovered to have a statistically significant effect on green brand trust (H10); these findings support other researches that claim that green brand image is a crucial component that could influence consumers' propensity to make purchases (Lavuri et al., 2022; Rahman and Nguyen-Viet, 2020; Vijay, 2019). Accordingly, companies should focus more on establishing their brands in the minds of customers through targeted and coordinated marketing communication campaigns. Target consumers must be exposed to messaging about the environment by marketers if they are to become interested in learning more about the company's green initiatives.

Table (7): Goodness of Fit Indices

Indices	Abbreviation	Recommended Criteria	Results	conclusion
Chi-Square	χ^2	P-value > 0.05	85.41	
Degree of Freedom			21	Good Fit
Level of Significance			0.000	
Normed Chi-Square	$\frac{\chi^2}{DF}$	$1 < \frac{\chi^2}{DF} < 5$	4.067	Good Fit
RMSEA	Root Mean Square Error of Approximation	< 0.05 Good Fit < 0.08 Acceptable Fit	0.0468	Good Fit
NFI	Normed Fit Index	> 0.90	0.996	Good Fit
RFI		> 0.90	0.991	Good Fit
IFI		> 0.90	0.999	Good Fit
TLI	Tucker-Lewis Index	> 0.90	0.994	Good Fit
CFI	Comparative Fit Index	> 0.90	0.997	Good Fit

Similar to Nguyen et al. (2019), the current study's finding indicates that consumer green confusion positively affects consumers green purchase intention (H11). Thus, customers who are aware of the risks associated with certain products are more liable to search for accurate information (Avcilar & Demirgünes, 2017). Consequently, it will drive enterprises to simplify, improve the precision, and relevance of environmental messaging. Correspondingly, there is positive effect of green brand trust on green purchase intention (H13). Whereas, customers' trust in environmentally conscious businesses positively influences their intentions to purchase green products (Nguyen-Viet, 2022; Amin, 2020). However, (H12) was rejected, which claims that green confusion is negatively associated with green trust, these findings contradict prior researches (Avcilar, 2017; Kac et al., 2016; Singh et al., 2011). Thus, according to the results an increase in customer green confusion would not lead to a decrease in their trust; which aligns with a study conducted by (Saxena & Sharma 2021)

The results confirm the hypothesis that green brand trust acts as a mediator between green brand image and purchase intention (H14). This is a significant discovery that validates earlier work by (Lavuri et al., 2022). By highlighting environmental issues in their advertising and projecting an image of environmental responsibility, green brands could have persuaded customers. Furthermore, customers that have a positive image of green brands thus indicate a better level of trust and seek to purchase green merchandise. These results corroborate earlier studies by (Bashir et al., 2020; Cheung & To. 2021). Additionally, it is proposed that greenwashing affects green purchases in the following ways: Firstly, greenwashing has a direct and negative impact on consumers' green purchasing behaviour. Secondly, green brand love mediates the negative association among greenwashing and green purchasing behaviour (H15). Thirdly, Green brand loyalty mediates the negative correlation between greenwashing and green purchasing behaviour (H16). Fourthly, Thirdly, green brand image mediates the negative association among greenwashing and green purchasing behaviour (H17). Therefore, to improve the effectiveness of green marketing and product promotion, companies should reduce greenwashing. Several studies stated that Greenwashing has the following deficiencies: cause a drop in green brand love, negatively impacts their brand image, and diminish consumer loyalty to green brands. Hence, the preceding hypotheses were all accepted and thus support previous findings (Setiawan et al., 2022; Irfan et al., 2021; Chen et al., 2020).

Additionally, the association between greenwashing and green purchasing intention has also been examined in this study, with a focus on the mediating effect of green confusion (H18). The findings indicate that a company's greenwashing practices increase customers' confusion, which as a result affects their inclination to make green purchases; which corresponds with prior studies conducted by (Tarabieh, 2021; Nguyen et al., 2019; Leonidou and Skarmas, 2017; Parguel et al., 2011). Thus, businesses should continue to project a strong green image while expanding their green initiatives. In order to decrease misconceptions regarding their green claims, businesses will also need to provide customers with the necessary information (Tarabieh, 2021). As a result, firms should not only claim "greenness" but also demonstrate the evidence of their green products. Hence, all the hypotheses proposed were accepted, except (H12).

Specific industries tend to be riskier in the context of environmental issues, specifically those who scored high in greenwashing this will lead to high consumer confusion which in turn will affect their purchase intentions. Through proper communication strategy, firms can enhance their green image and hence add more value to the brand. The results revealed the important role of brand trust in shaping consumers intentions to purchase a brand. Thus, firms should refrain from any greenwashing practices.

Implications

In terms of the managerial implications, managers need to realize how critical greenwashing is to their brand image. A firm will lose sales opportunity to competitors due to consumer confusion. Hence the

customer is more liable to shift to another brand. Despite the lack of the effect of green confusion on brand trust, managers nevertheless need to recognise that confusion leads to unfavourable consequences for purchase intentions. Green branding approaches that differentiate one brand from another will decrease green confusion among customers. In addition, firms must be truthful in communicating their green claims to improve the brand image, create brand trust, build customer loyalty and strong brand love attachment, and decrease confusion. To benefit from green marketing, marketers should avoid any greenwashing risks. This study revealed that various industries specifically beverages, clothes, cosmetics, and food should be careful in developing their brand messages to communicate their green marketing strategies since Egyptian consumers think of these industries are green washers. Careful planning to implement effective green marketing practices and selecting the proper message will eliminate confusion.

Limitations and Future Research

The findings cannot be generalized since it focused on a specific geographical area -Egypt. However, the findings provide insights for other research studies to be conducted and replicated in other developing geographic areas. The results lack variety of demographic characteristics in context of age since it was skewed towards young consumers this may be due to their awareness about green issues.

The results are worth considering in future studies to guide various industries and specifically brands to understand consumers perception and intentions towards green marketing. Future studies could examine greenwashing in different age groups, specifically elder generations. Specific industries tend to be riskier in the context of environmental concerns. Hence, future research may assess the industry risk factor as a moderating variable. Additionally, adopting longitudinal design may reveal more insight about changes in consumer behaviour in respect to green marketing and specifically their attitude towards green products.

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