International Journal of Latest Engineering and Management Research (IJLEMR)
ISSN: 2455-4847
www.ijlemr.com || Volume 07 - Issue 01 || January 2022 || PP. 59-72

Greenwash Practices over Green Purchase Intention: The parallel and serial mediating role of Green Confusion, Green Perceived Risk and Green Trust

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Abstract: Consumers have become highly engaged in eco-friendly lifestyles in recent years, and the growth of green marketing led to a manifestedchange in their behaviors. Firms have adapted their business tactics, yet many have seemed to portray themselves as green enterprises despite the fact that they are not.The research investigates whether greenwashing influences consumer intent to purchase green products through direct effects and mediating effects of customer confusion, risk perception, and trust in the food and beverage industry in Vietnam. A structural equation modeling with 367 responses is employed. Despite declaring no direct relationships, the study validates indirect and negative connections between greenwashing and green purchase intent andintroducesboth the parallel mediating impacts of green confusion and perceived risk; and the serial mediating impacts of green confusion, perceived risk, and green trust.Other findings surround the significant positive effects of greenwash on green confusion and perceived risk which in turn impede green trust and intention to buy. The study provides suggestions for businessesin diversifying their green practices and building a healthy green image. These initiativesthus alleviate consumer confusion and risk perception regarding corporates' green promises, resulting in a rise in buying intention for green items.
Keywords: Green Confusion, Green Perceived Risk, Green Purchase Intention, Green Trust, Greenwash.

1. Introduction

Companies strive to apply new green marketing tactics to boost their profit, hence prioritize a sustainable approach. Green marketing is critical for responding to environmentally conscious customers and for improving the brand equity such that their green offeringsare acknowledged[1, 2, 3, 4, 5, 7]. Coping with public responsibility and fierce competition, companies are increasingly recognizing the importance of a green image in demonstrating their ecological identity and corporate social responsibility[6]. To stay competitive, several businesses are launching green marketing campaigns [8, 9, 10, 11]. As a consequence, some companies abuseor misuseterms like "green" or "eco",while others, such as "environmentally friendly" and "sustainable", are getting increasingly prevalent in the interim. Several ecological claims about environmental aspects, on the other hand, remain unreliable and ambiguous [12].

The neologism was introduced in 1986 and refers to deceptive marketing practices concerningcompany's sustainability objectives and environmental impacts of a product. Greenwash publicityfalls into three categories [13]: (1) false claims; (2) ignoring essential information which supports the truthfulness assessment of environmental claims; and (3) using ambiguous terms that could exist omission of detail [14]. There are many causes that lead to the widespread application of greenwashing. First, not many organizations have enough resources to execute green marketing tactics. Second, greenwashing can assist businesses to gain more advantages, reputational capital, or expenditure savings. Moreover, greenwashing could be a result of pressures from the stakeholders. Therefore, many corporations opt for "greenwashing" instead of actually "going green".

Extant research has been conducted regardingreasons, classification and impacts of greenwashing behaviors in a variety of industries, including the gas industry [15, 16, 17], automobile industry [18], finance industry [19, 20], hospitality industry [21, 22, 23, 24], education industry [25], electronics industry [26, 12, 5] and so on. However, little research on greenwashing in the food and beverage business exists, especially in developing countries. Almost all previous research was undertaken in developedmarkets. We thusattempt to close some of these gaps.The research objective is to model the effects of greenwash practices on the purchase intention in the Vietnam F&B industry. It can be measured by adopting the proposed model [27] in Jordanian F&Bsector to the context of the Vietnam market.

This section defines the report's structure.Chapter II reviews the previous studies on five main variables to propose hypotheses accordingly. Chapter IIIdetails the study methodology which guides the sections of result interpretationand discussing the findings at the end of chapter IV. Chapter V makes conclusions and recommendations while chapter VI and VII present recommendations, limitations and further research.

2. Literature review

2.1 Theoretical background

2.1.1 Greenwash

In recent decades, consumers have been increasingly mindful towards environmental issues, thus consumer environmentalism has grown in popularity[28]. They eventually grow more eager to acquire environmentally friendly items [29]. Since the early 1990s, those products which create less adverseeffects on the ecology are prioritized by consumers with higher responsible environmental concerns, and companies have been obligedto fulfilla higher environmental standard from customers [30, 31, 32, 33]. In light of this view, manufacturers have adopted eco-friendly procedures that impact not only the workflow but also the finished product [34]. Manufacturers utilize green advertisement, which highlight their products' environmental features to be appealing in a customer segmentation leading a green lifestyle [35]. However, an ethical problem arises along with the development of green marketing, when some companies employdishonest and incorrect approaches that are safe and environmentally friendly when they are not [36]. This kind of conduct aiming at making environmentally false claims to the customers [37] is referred to as green washing.

Green wash is applied commonly as the adoption of an eco-friendly appearance to conceal its ecologically harmful content [38].A variety of corporations utilize this disinformation spread to projecta good brand image on environmental friendliness[40] orto hide their real operations [38]. Another practice is toselect among trustworthy words to describe the company's green movement to create an overly good brand reputation[40]. Consequently, greenwash has a deleterious impact on all green marketing efforts [41].

Green washing has the potential to undermine the entire environmental movement in the business [41]. Customers are hesitant to believe in firms' green marketing techniques at the end [42]. Green claims from corporations are on the rise, but the public is becoming increasingly suspicious of their truth. Furthermore, the press is concerned about the reasons and implications of greenwashing, or business efforts to hide environmental wrongdoings by claiming to be ecologically conscious [38]. Some consumers have shown a negative desire to buy such products or services owing to this behavior [39].

2.1.2 Green Confusion

Consumer confusion, as defined by Turnbull et al.,[43], occurs when customers are unable to comprehend certain characteristics of a product based on the information provided. In other words, it is the misunderstanding or misperception of the market [43, 44]. Consumers' cognitive abilities to processinformation are limited, so that they are more likely to experience information overload[46], thus failing to create accurate interpretation of products's aspects[45].

Chen, Chang and Turnbull et al. [47, 43] describe green confusion as a shortage ofknowledge about a product's environmental characteristics caused by a failed interpretation. Consumer confusion was also caused by an increase in the variety of environmental arguments[48] and the sophisticated science required to properly understand green promises[49]. Tarabieh [44] claimed that consumers cannot distinguish the environmental features of the item in either situation. Due to the ambiguity, the customer may interpret them in a negative way.Possible explanation included that environmental campaign is one of the strategic company orientations. The second is that company motives are not only from the environmental movement, but also from the desirable profit that green products create [50]. Finally, deceptive advertisement may induce buyers to doubt green product interpretation, resulting in the industry's destruction [37].

2.1.3 Green Perceived Risk

When the implications are unknown, a purchasing choice is frequently accompanied by risk [51]. According to Tarabieh [44], there may be some risks in the buying process when the consequence afterthen is imprecise and unexpected. In other words, perceived risk refers to a consumer's subjective estimate of the possible repercussions of incorrect actions [52] then it impacts purchasing decisions [53].

Because of some notorious natural disaster like global warming, customers are attempting to change their habits and become more environmentally conscious. Customers may be discouraged from engaging in environmentally friendly behavior because of false claims, which leads to the green perceived risk [54]. It is an assessment of the potential impact of a bad decision on environmental efficiency [44].Thus, the probable consequences of making a bad decision relate to a higher perceived risk [37].

2.1.4 Green Trust

Trust is seen as a strategic marketing activity and a key determinant of relationship success [55, 56]. Trusting a brand also means that the expectation or the relationship between the customers and brand is likely to be favorable. When brand trust is created, customers will believe that the company is reliable, knowledgeable, and responsible [57].

According to Self et al. [58],greenwashing raises doubt and skepticism of environmental promises. Consumers will doubt marketers' and manufacturers' environmental initiatives, then it is unable to make significant innovation in the environmental movement[59]. Green trust arises from the customer's expectation about a product's environmental featuresbased on its legitimacy, goodness, and capacity[60]. Consumers may believe that firms are involved in environmental activities, on one hand, when many companies choose to "go green" and apply the appropriate green marketing to communicate their environmental efforts [61]. On the other hand, when the green marketing fails to build trust, the public cannot know where to believe or what products they should purchase, it will lead tonegative reactions and put stakeholders' trust in jeopardy[38].

2.1.5 Green Purchase Intention

Purchase intention is purchase motivation among consumers [10, 62]. Theory of Planned Behavior of Ajzen's [63] stated that, the creation of an intention is decided by a confluence of attitudes toward the behavior, subjective standards, and behavioral control. According to Zeithaml [64], consumers' purchase intent has been assessed by asking them what level of intention they have, such as considering purchasing, wishing to purchase, and maybe will purchase.

Green purchase intention, regarded as a customer's tendency or desire to buy green items over conventional ones [65], is also defined as the possibility that customers would spread the favorable word of mouth and spend more on these products [66]. According to Oliver and Lee [67], green purchase intention was described as a customer's purpose or decision to buy a green product when they acknowledge its environmental features. Purchase intention is an important aspect to consider when predicting customer behavior [68].

2.2 Theoretical framework

Consumer confusion, according to Mitchell and Papavassiliou[69], arises from three major causes: various choices of product, product similarity, and information confusion. When being green confused, customers are puzzled about whether the product is truly green and consequently form negative impressions of the product's environmental characteristics [50]. Marketing practices that exhibit signs of greenwash lead to customer ambiguity about environmental claims [71], [72].Customers would be thus bombarded with information, making it harder for them to decide among many green products[70]

H1: Greenwash has a significant positive impact on green confusion

Green advertising that is deceiving, vague, or manipulative may enablecustomers to generate a perception of risk connected with items they consume.Perceived risk is thus linked to the potential fallout of making a bad choice [52].Concerning environmental attributes marked on green goods, buyers would perceive that using such items might hurt their personal brandingand their environmental orientation [5]. Greenwashing would have a favorable impact on consumer perceptions of risk [73], [75], lowering environmental satisfaction [2].

H2: Greenwash has a significant positive impact on green perceived risk.

Greenwashing potentially damages the market by generating customer distrust of green products [26, 76] and suspicion of green claims [58]. Greenwash, according to Ramus and Montiel [77] and Chen et al. [12], can have a negative influence on word-of-mouth, customer beliefas well as green satisfaction. Customers distrust some corporations because they exaggerate or fake their products' environmental effectiveness [78]. Customers are no longer willing to create lasting commitment with organizations that use greenwashing tactics to deceive them [79]. Hence, greenwashing would have a detrimental impact on green trust [58].

H3: Greenwash has a significant negative impact on green trust.

Greenwashing has certainly increased distrust among consumers in recent years by increasing their doubts [80]. Green product retailers that do not explain how their items contribute to environmental quality are likely to be viewed with suspicion. This has the unintended consequence of creating skepticism regarding these classifications. As a result of the disparity between appearance and reality, customers are skeptical of the green claims. Furthermore, Nyilasy et al. [81] emphasized that greenwashing by corporations is an unethical problem as well as a serious effecton consumer perception. Even when buyers are unable to distinguish between the truth and the deceptive activity, this has a genuine and negative impact on brand views and green purchasing intentions.

H4: Greenwash has a significant negative impact on green purchase intention

Unclarity is perceived by customers as a source of discomfort due to information ambiguity as well as inconsistency [82]. Customers who are perplexed are less inclined to trust a marketplace that offers them with confusing and occasionally contradictory product information [83].If customers realize that they are being fooled, they may reject their purchasing selections and lose faith in the product provider [69]. Customer trust may be increased through reducing consumer misunderstanding and boosting cognitive clarity [70]. Therefore, consumer confusion plays a detrimental effect on customer trust, according to some studies from Walsh and Mitchell [84] andMatzler et al. [85]. Moreover, after being confused about the environmental features, they will eventually distrust both the advertising and the things sold[82, 26]. Consumer mistrust of green promises is adversely correlated with consumer uncertainty about green marketing [78].

H5: Green confusion has a significant negative impact on green trust.

Consumers will not trust a brand or a product if they perceive it to be extremely risky[69]. Additionally, consumers' skepticism of corporations who profit from environmental trends is growing in today's environmentally conscious era [71]. As a result, consumer perceptions of environmental risk are inversely associated with consumer faith in green claims [59]. According to previous research, perceived risk poses a negative effect on trust, and businesses can boost consumer trust by lowering perceived risk [86, 87, 88].

H6: Green perceived risk has a significant negative impact on green trust.

Consumers prefer businesses to behave in the public interest, thus any deviation is undesirable. Particularly, consumers are irritated by corporate manipulation [89]. According to Mitchell, Walsh, and Yamin's research [45], consumers are confused because the company does not provide enough information about its products. They do not know which products are appropriate for them or how to utilize them. The purchasing process is inefficient and difficult since confusion is related with puzzlement and hesitation[45, 84]. Customers that are perplexed are less willing to make reasonable purchasing judgments [69].

H7: Green confusion has a significant negative effect on green purchase intention.

A customer's buying decision would be influenced by their perception of risk [90], [91]. The consumer's sense of risk causes him or her to be unsure about their purchasing decision [69]. Previous research suggests that risk elimination alsoenhances the purchase probability [92], and the bigger the perceived risk, the more unsure buyers are about making a purchase.To some extent, the risk that customers face is observed and felt more intensely than the reward they receive. Furthermore, according to some studies from Leonidou et al. [94] and Pomering et al. [71], when customers are cautious of a company’s practices, they will have negative thoughts about it and do not want to buy its product. Equivalently, when the customers feel that they cannot believe in the product, they are hesitant to buy it [93].

H8: Green perceived risk has a significant negative effect on green purchase intention.

H9: Green trust has a significant positive impact on green purchase intention

Greenwashing is a term frequently used to describe a company's deceptive green declarations and promotions [14]. Customers' attitudes toward a company's environmental intentions will be influenced by greenwashing assumptions. Accordingly, customers’ awareness of greenwash practices trigger green confusion since they are puzzled about whether the product is truly green and be sequentially hesitant to purchase any green goods. Moreover, greenwash leads to the increase in perceived risk of customers about the environmental features if they cannot define the truth in the company’s green claims [59]. In a survey of Taiwanese electronic customers, Chen and Chang [47] discovered that greenwashing causes consumer confusion and risk perceptions, resulting in a decrease in customer 'green trust' in a company's environmental assertions.

H10: Green confusion has a significant mediating effect on the relationship between greenwash and green trust.

H11: Green perceived risk has a significant mediating effect on therelationship between greenwash and green trust

Extant literature has examined indirect effects of greenwash behaviors on intention to buy, considering various intermediate factors. First, greenwash increased consumer misunderstanding of green products, widening the gap between the ecological impacts and buying motives [54]. Parguel et al. [14]found that green confusion appears to mediate the effect of greenwash on brand appraisal and purchasing intention. Second, deceptive promises and misleading green advertising, on the other hand, may contribute to a higher risk assumption on the product [42]. Green perceived risks are negatively affecting the green purchase intentions because they disrupt the consumer-brand relationship by neglecting the authentic green expectation and trust from the customers [73]. Furthermore, possible risks will influence purchasing decisions by stressing negative consequences [95]. Third, in the presence of greenwash, consumers are unable to distinguish between accurate and false statements, greenwash makes it difficult for them to recognize the consequences of their purchasing decisions [61], [95]. The distrust owing to greenwash perception leads to decreased intention and desire to buy.

H12: Green confusion has a significant mediating effect on the relationship between greenwash and green purchase intention.

H13: Green perceived risk has a significant mediating effect on the relationship between greenwash and green purchase intention.

H14: Green trust has a significant mediating effect on the relationship between greenwash and green purchase intention.

2.3 Research model

Based the previous study from Tarabieh, S. M. Z. A. [27], incorporating withresearch related to greenwash from Chen et al.[47], the research model can be developed asbelow:

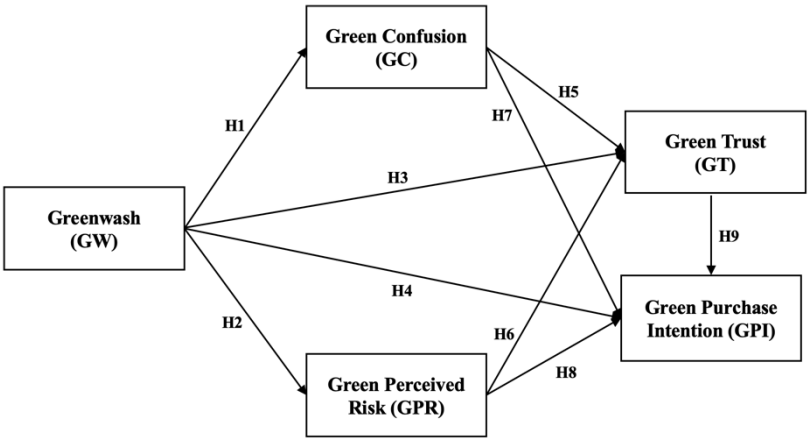

Figure 1: Research model

3. Research methodology

3.1Measurement Scale

The questionnaire was designed to measure customers' buying intention towards green products considering corporate greenwashing behaviors.Green confusion, perceived risk and green trust are investigated as mediators to the relation of greenwash and buying intent. The questionnaire was first translated and then validated to confirm its validity and suitability for Vietnamese customers. The questionnaire started with a brief overview of the concept of greenwashing and suggestion of some greenwash practices in the F&B industry. This studyutilizes the Likert scale of five points between 1 and 5, from strong disagreement to strong agreement. There are five constructs including 24 items: greenwash, green confusion, green perceived risk, green trust, and green purchase intention. Measurement scale for each construct is adopted and described in Table 1.

3.2 Data sample

Data has been collected, processed, and examined so that authors can have significant numerical measures to verify hypotheses. A quantitative approach is applied to examine and analyze the data set gathered from survey participants. The survey is conducted in Ho Chi Minh city and focuses on greenwashing practices and consumers' behaviors in the F&B industry. Respondents were invited to visit a Google Form containing the

questionnaire through their email and social media.There are 367 responsescollected and examined after eliminating deficient responses.

3.3 Data analysis

First and foremost, the study will examine the participants' backgrounds utilizing frequency statistics provided by Microsoft Excel. The author would then employ SPSS and AMOS to investigate the proposed model by structural equation modeling. We also performed the bootstrapping to verify the mediating role of green confusion, perceived risk and green trust. Parallel and serial mediating effects are also discussed further.

4. Data analysis and results

First, the reliability test's results are excellent, Cronbach's Alpha values of all constructs are ranging from 0.81 to 0.95, assuring the consistency of all items in each construct and no adjustments or eliminations are required.Second, the conduct of EFA is required to examine the possible underlying factors of the measurement scale. Item GC3, which stated *when buying green products, you often feel confused,* was excluded from the model since it did not fall into any specified groups. This result was different from that of Chen and Chang (2013) who found no issues with all items of green consumer confusion. It's worth noting that Chen and Chang (2013) did their research in Taiwan where greenwash or green marketing is probably more commonly implemented, and customers have certain acknowledgement on this issue. After eliminating GC3, allfactor loadings are all in the acceptablerange of 0.553 to 0.888 (Hair et al., 2010).The findings demonstrate that the observable constructs seem to provide the most accurate assessment of each aspect, and the survey questionnaire is verified. Additionally, the suitability of the component analysis is established with a satisfactory Kaiser–Meyer–Olkin (KMO) value of 0.855and Bartlett's Test of Sphericity [Chi-squared = 5171.72 ; p <0.001].

Third,the CFA was to perform on the remaining items to consider the convergent and discriminant validity. The analysis produces results of the composite reliability (CR) of five variables ranging from 0.806 to 0.933 (larger than 0.7), all AVE values above 0.5, and all CR higher than AVE level of each variable. Other indices of Chi-squared, CFI, GFI, TLI and the root mean square error of approximation RMSEA for the goodness of fit are all in acceptable threshold. Values of constructs' properties, item loadings and some other indices are featuredin **Table 1**. CFA thus declares both convergent and discriminant validity of the model.

Table 1. Constructs' properties, items loadings, Cronbach Alpha and AVE

Constructs	Scale items	λ	α	AVE
GW [47]	This advertisement misuses the words in describing the products' environmental features.	0.849***	0.936	0.736
	This advertisement misuses the pictures or illustration in describing the products' environmental features.	0.827***		
	This advertisement provides unreliable or unconfirmed green claim	0.888***		
	This advertisement is exaggerating or providing false information about the "green elements" of the product	0.869***		
	This advertisement tends to ignore or hide important details, which makes environmental "green claims" sound better than they really are.	0.887***		
GC [47, 37]	It is difficult to check the truth of environmental "green claims" in practice.	0.705***	0.816	0.513
	It is difficult to discern the difference between one product and another based on the product's environmental factors	0.793***		
	When considering purchasing a product, you rarely feel fully informed about the product's environmental factors	0.697***		
	When considering purchasing a product, you feel uncertain about the product's environmental factors	0.731***		

GPR [47]	You feel that the environmental friendliness of the product may not be true	0.553***	0.832	0.503
	You feel that using the product may cause negative effects on the environment	0.761***		
	The use of the product may affect your personal "green brand"	0.690***		
	If you use the product, you may be subject to a fine for causing environmental damage	0.830***		
	You feel that the product may not work properly because it is designed to be environmentally friendly.	0.686***		
GT [60]	You believe that green brand environmental commitments are trustworthy	0.848***	0.912	0.675
	You believe that the green brand's environmental related activities are trustworthy	0.829***		
	You believe that the green brand's environmental argument is trustworthy	0.830***		
	The brand's attention to environmental factors meets your expectations	0.773***		
	You believe that the Brand always keeps its promise and commitment to protect the environment	0.825***		
GPI [47, 96]	You will consider buying green products because they are less harmful to the environment in the future	0.812***	0.892	0.696
	For the sake of health, you will switch to eco-friendly green products	0.888***		
	You will definitely buy green products in the future	0.730***		
	You would recommend others to buy green products	0.857***		

*Note: GW: Greenwash; GC: Green Confusion; GPR: Green Perceived Risk; GT: Green Trust; GPI: Green Purchase Intention; λ: Item loading; α:Cronbach's alpha; AVE: Average variance extracted;***p<0.01.*

In the next phase, structural equation modeling was employed to investigate the introduced set of hypotheses. The goodness-of-fit indices of the structural model has a good fit with $\chi 2/df = 1.925$, CFI = 0.960, GFI = 0.904, and RMSEA = 0.050. Table 2presents the standardized estimates of all stated hypotheses of the study, together with the significance level.

Table 2. Hypotheses Testing

Hypothesis	Path	Description	StdEstimate	Result
H1	GW → GC	*Greenwash has a significant positive impact on green confusion*	0.341***	Supported
H2	GW → GPR	*Greenwash has a significant positive impact on green perceived risk*	0.267***	Supported
H3	GW → GT	*Greenwash has a significant negative impact on green trust*	-0.09	Not supported
H4	GW → GPI	*Greenwash has a significant negative impact on green purchase intention*	0.072	Not supported
H5	GC → GT	*Green confusion has a significant negative impact on green trust*	0.098	Not supported
H6	GPR → GT	*Green perceived risk has a significant negative impact on green trust*	-0.025***	Supported
H7	GC → GPI	*Green confusion has a significant negative impact on green purchase intention*	-0.33**	Supported
H8	GPR → GPI	*Green perceived risk has a significant negative impact on green purchase intention*	-0.306*	Supported

H9	GT → GPI	*Green trust has a significant positive impact on green purchase intention*	0.037	Not supported

The standardized estimates and significant/insignificant path associated are graphically illustrated in the Figure 2 below, in which the dotted lines represent insignificant relations. The findings propose that among all 9 direct relationships, there are 5 significant paths: greenwash positively relates to green confusion and perceived risk, green confusion and green perceived risk significantly hinders customer trust and purchase intent, and green confusion impedes purchase intent for green goods. Conversely, there is not enough significant evidence to conclude the direct effects of Green confusion to trust, Green trust to intention to purchase, and Greenwashing to Green Trust and Purchase intent. However, how customer perception of greenwashing affects their trust and purchase intention are further investigated with the mediating role of the confusion and perceived risk towards green products. Considering the Green confusion as a mediator in Hypothesis 10 and 12, since the link between an independent variable (i.e., greenwashing) and a mediator remains significantly positive, there is only one significant path (H12) of the two connecting a mediator and a dependent variable (i.e., green purchase intention). Regarding another mediator of Green perceived risk in H11 and H13, all the paths from greenwashing to green perceived risk and from green perceived risk to other dependent variables (i.e., green trust and green purchase intention) are significant. The study conducts further the bootstrapping with 5000 bootstrap samples for determining the impact of mediation of Green confusion, Green perceived risk and Green trust in Hypothesis 10-14. All the values relating to the direct, indirect effects and total effect coefficients relating to mediating hypotheses are presented in Table 3 below.

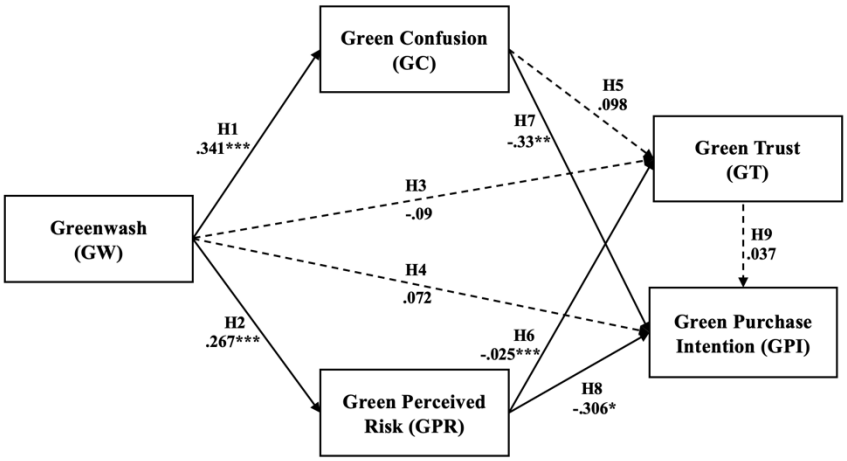

Figure 2: Hypotheses testing

Examining the effect of greenwash on intention to buy green products, results based on the bootstrapping indicate that the total effect is significantly negative with a standardized estimate of -0.05 while the indirect effect through the confusion is significant but the direct effect is not. There is also another mediator of Green perceived risk to significantly mediate this relationship but with a much lower coefficient of -.001. Overall, among the three mediators including the confusion (H12), green perceived risk (H13) and green trust (H14), there are two mediators of green confusion and perceived risk fully mediate the relationship between greenwash and purchase intent with the total indirect effect estimate of -0.051, indicating that customers with increased intent to buy are less likely to expose themselves with confusion and risk perception towards green products. The study confirms H12 and H13 but rejects H14.

In consideration of the effect of greenwash on green trust, only one out of the two mediators (i.e., confusion and perceived risk) is found to significantly contribute to the overall indirect effect. Specifically, there is a statistically significant indirect effect of greenwash to trust on items throughrisk perception, such that customers who exhibit more greenwash concerns are more likely to perceive risks, which in turn report reduced level of trust in green products. Green confusion does not mediate the relationship between greenwash and green trust. The study supports H11 but rejects H10.

Table 3. Bootstrapping on the mediating effects

Hypothesis	IV-->M-->DV	Direct Effect	Indirect Effect	Total Effect	95% CI	Results
H10	GW-->GC-->GT	-.09	0.033	-.06	(-.093; .223)	Notsupported
H11	GW-->GPR-->GT	-.09	-.007	-.097	(-.045;-.132)	Supported
H12	GW-->GC-->GPI	.072	-.12	-.05	(-.008;-.213)	Supported
H13	GW-->GPR-->GPI	.072	-.082	-.001	(-.000;-.034)	Supported
H14	GW-->GT-->GPI	.072	.003	-.009	(-.000; .012)	Not supported

From the above analysis of parallel mediating relations, the study conducts a step further into investigating a serial mediation that introduces a causal connection of the mediators (confusion, perceived risk, trust) with the main proposed relationship. Particularly, greenwash awareness mightfacilitate the confusion or risk perception to green items, which in turn creates lower level of trust and thus subsequently decrease the desire to purchase (i.e., GW→GC→GT→GPI and GW→GPR→GT→GPI). The results show that the only significant indirect relation is found in GW→GPR→GT→GPI. Accordingly, two mediators of risk perception and trust fully mediate the relationship between greenwash and purchase desire in a serial causal order and with the total indirect effect of -0.051. Another causal chain incorporating two mediators of confusion and trust is not significantly established.

5. Findings and Discussion

The environmental management credibility of companies will reduce if customers face confusion about green food and beverage firms. Similar to Polonsky et al. (2010), this result from the present study shows that greenwash is an obstacle to trust-building. The customers who perceive the risks on green food will be more likely to seek for truthful information (Avcilar & Demirgünes, 2017). The concerns of customers surrounding businesses' green claims will inspire corporations to make environmental messages simpler, more precise, and more relevant. Additionally, businesses can improve trust by focusing on knowledge-based trust in their brands and their methods for creating value and growing brand image

From the analysis, in the Vietnam food and beverage industry, greenwash has a great impact on green confusion and green perceived risk. Customers are misled by misleading and materially erroneous green statements from organizations, which makes them more susceptible to riskiness and greenwash awareness. The findings agree conclusions of Tarabieh's [27], Chang and Chen's [42] and Chen and Chang's [47]. The study is also in line with the study of Tarabieh [44] where greenwash has no significant direct relation with green trust and green purchase intention.

Green confusion was found to be insignificant related to green trust that contradicts with arguments from Kalafatis and Pollard [78] and Chen and Chang [47]. Green trust is not considered as the direct cause of purchase intent that is indicated by the rejection of H5. The study is consistent with Aji[37] but contradicts some theory and prior research findings. Nevertheless, the research also indicates no direct connection between greenwashing and purchase intent. However, we confirm the indirect effects of them and declare both the parallel mediating impacts of green confusion and perceived risk, the serial mediating impacts of green confusion, perceived risk, and green trust on the connection between greenwash and intention to buy green items. The circumstance created by false or imprecise messages increases customers' skepticism and undermines their trust, which in turns causes them to be hesitant to trust a product if they are unsure about it, Mitchell and Papavassiliou [69]. Similarly, these actions thus foster the feeling of confusion and risk perception associated with green declarations, hence affecting the desire to buy green products. Consequently, the delivery of misleading, inaccurate, and incorrect green assertions has resulted in undesirable outcomes for organizations. As a result, customers' fears regarding businesses' green statements will motivate enterprises to build credibility and brand equity by making green messages more straightforward, informative, and concise [47].

The current study findings figure out the detrimental effect of greenwash practices on green purchase intention.Giving truthful environmental statements to food and beverage products can help the companies increase sales and market share. They are not obligated to accept dangerous greenwashing trade-off. The green movement should be along with marketing strategies, and enterprises' environmental performance

should be represented by their promises and action. Finally, we anticipate that the study's results will be useful to managers, experts, students, and other authors.

6. Conclusion and recommendation

This research shows the impact of greenwash practices on green purchase intention in the Vietnamese food and beverage industry. The research framework consists of 5 variables: greenwash, green confusion, green perceived risk, green trust and green purchase intention. Most of these have been examined to impact on the green purchase intentions in the targeted industry. Nevertheless, the research also indicates no direct connection between greenwashing and purchase intent. The study assures no direct effects but indirect effects of the interaction between greenwash and intention to buy green items through the parallel mediating impacts of green confusion and perceived risk, the serial mediating impacts of green confusion, perceived risk, and green trust.

Beside the theoretical value, this thesis also brings practical implications for companies that are both "going green" or "going greenwash". As being analyzed deeply the correlation among variables as well as the moderating factors, some recommendations can be listed out to assist the business strategies. First, green brands should avoid customers' confusion from the beginning. The company needs to take steps to clarify the origin and product information to help customers understand the environmental characteristics of the product. Educating customers should also be considered, as the concept of green lifestyle or greenwash has just become common in Vietnam in recent years. If they don't tell them the concepts of green products, they will be confused when they do notdistinguish if the brand's green movement is trustworthy or not.Second, the companies can provide measures to reduce perceived risk to make customers feel more secure when choosing their products. Process of research, development and production of products need to be qualified and sophisticated. The companies must ensure that, despite having many environmentally friendly features and functions, it must also offer the best experience for consumers. Green brands need to provide return policies, best customer service before and after purchase. Continuous improvement is always needed throughout the product development process.Third, companies should build customer trustin the following ways. They need to show consistency in words and actions, under promise and over deliver. The comments and feedback from customers need to be updated and reviewed regularly. More importantly, transparency is the core factor that builds long-term trust and retains loyal customers.

The study believes that greenwash is only a measure or a strategy for a short period of time. When companies choose the greenwash method to deceive customers due to financial shortfalls, as demonstrated above, it leads to loss of trust from customers, the probability of purchase is reduced, the company's revenue will drop. When considering a long-term strategy, this is certainly not a wise strategy, not to mention the company can face boycotts or pay many times more expensive fines to compensate for its activities above.

7. Limitations and further research

Beside the contribution to the theoretical and practical aspects, the study also falls into a few limitations. First, we investigated Vietnamese consumers who had experience on purchasing green items before. As a result, this result is difficult to generalize. Furthermore, given the nature of the study, social desirability bias could be a problem. Hence, future research may include a sample from a variety of demographic populations to aid in the recommendation of generalized findings.Moreover, this research provides theoretical aspects that could assist businesses improve consumers' purchasing intentions in the face of a high frequency of greenwashing situations by focusing on three determinants: green perplexity, green trust, and green perceived risk. Other variables such as corporate brands, culture,ownership,and industry could all have an impact on consumer reactions to the greenwashing phenomena in future studies.Third, in developing countries like Vietnam, the phrase "greenwash" is still unfamiliar. However, this necessitates the author gathering data and information from earlier studies, which are primarily focused on industrialized countries. Because of the differences in demographic variables, cross-cultural research may generate certain errors or misconceptions in the suggested model.Finally, the study is based on self-reported data, thus common bias is unavoidable. The further research can concentrate on a single brand and utilize purposive sampling to collect data from users of that brand to gain more detailed insights into brand perceptions and purchase intentions.

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