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### Explaining the mechanism of the effect of green washing behavior on the green purchase intention of consumers of small and medium enterprises (SMEs)

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## ABSTRACT

*Businesses are utilizing greenwashing to beat their rivals along with the growth of green markets. The goal of the current study was to investigate the practice of "greenwashing" and explain how it affects consumers' intentions to purchase environmentally friendly products. The statistical population of this study includes people who bought environmentally friendly food goods in Iran. Due to the statistical population's infinity, Cochran's relationship was used to obtain a sample size of 384, and ultimately 276 valid questionnaires were retrieved by accessible sampling. Then, the data were analyzed using the structural equation modeling method with the help of SmartPLS. The results demonstrated that greenwashing has a detrimental and considerable impact on Iranian consumers' green purchase intention for environmentally friendly food products. Additionally, the association between greenwashing and intention to make a green purchase was validated, with green word-of-mouth and green skepticism serving as mediators. Because greenwashing behavior has not been taken into account in domestic studies in Iran, the findings of this study provide the first theoretical and practical consequences for managers in the food business.*

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## 1- Introduction

Green issues have gained attention as pollution levels in industrialized nations have increased (Guo, Tao, Li, & Wang, 2017; Roulet & Touboul, 2015; Zhang, Li, Cao, & Huang, 2018). The challenges and issues related to the environment and air pollution have grown highly apparent in populous nations like India and China (Guo et al., 2017). Environmental problems in these nations include decreased food safety, air pollution, and waste disposal (Fernando, Sivakumaran, & Suganthi, 2014). India, which has a population of almost 1.2 billion people and a large number of pollutants that it has released into the atmosphere, has been identified as one of the nations that produce pollutants (Atlas, 2018). After the United States and China, India has registered third place in the air and industrial waste. Many businesses consider environmental difficulties and production challenges as a result of people and shareholders' growing awareness of green issues (Y. S. Chen & Chang, 2012). The last ten years have seen a significant increase in pressure from a variety of stakeholders, including consumers, investors, customers, and governments, on businesses to publish information about their performance and environmentally friendly products. Environmental have entered (Guo et al., 2017; Kim & Lyon, 2015; Marquis, Toffel, & Zhou, 2016). According to Vollero et al. (2016), the stakeholders and shareholders of energy distribution companies have increased their pressure on producers to create clean energy and sustainable products. As a result, it can be said that people and consumers are more aware of the environment and eager to use green products and services (Y.-S. Chen & Chang, 2013; Y.-S. Chen, Lin, & Chang, 2014). Customers may be willing to pay more for a company's products than competitors if they see that businesses and market players fulfill their social responsibilities concerning the environment (Grimmer & Bingham, 2013; Guo et al., 2017).

According to Nielsen media research, approximately 66% of global consumers are willing to pay more for environmentally friendly products (Nielsen media, 2018). To respond to such situations, market leaders place a high value on corporate social responsibility (Kramer & Porter, 2006). Social responsibility is the voluntary incorporation of environmental and social concerns into business interactions with stakeholders (European Commission, 2009). Businesses must perform sustainably to address environmental issues, and in addition to accomplishing their economic objectives, they must take into account their social, environmental, and global health impacts (Elkington, 1994). Development that satisfies current demands without jeopardizing the ability of future generations to meet their own needs is known as sustainable development (World Commission on Environment and Development, 1987). A rise in demand drives companies to develop and design green marketing strategies to enhance their reputation among clients and consumers (Zhang et al., 2018). Green markets are growing (Delmas & Burbano, 2011) and as these markets grow and develop, a practice known as “greenwashing” has been implemented and observed by businesses (Majláth, 2017). This concept was first expressed by an environmentalist named Jay Westervelt (Guo et al., 2017; Wolniak & Habek, 2015). This phenomenon is defined as the confluence of two business behaviors: subpar environmental performance and effective environmental performance communication (Delmas & Burbano, 2011). Naturally, there are several perspectives on this occurrence (de Freitas Netto, Sobral, Ribeiro, & Soares, 2020). To separate organizations from engaging in ecologically unfriendly activities, Webster's Dictionary defines "greenwashing" as measures to present environmentally good projects (Merriam-Webster, 2018). This phrase was defined in the Oxford Dictionary in 1999. The Oxford English Dictionary's definition

of "greenwashing" (Oxford English Dictionary, 2018) is as follows: False information produced by an institution intended to project a public image of social or environmental obligations, but judged to be unwarranted or purposefully misleading. According to several experts, including Lyon and Montgomery (2015), the phenomenon known as "greenwashing" has many facets and cannot be adequately defined. The issue of trust emerges because, in this decade compared to prior decades, greenwashing acts and activities have expanded, according to David Ogilvy's advertising agency (Hsu, 2014).

Consumers are skeptical and uncertain about how to discern green items from non-organic products due to the practice of "greenwashing" (Yang, Nguyen, Nguyen, Nguyen, & Cao, 2020). Additionally, the result of consumers' refusal to disclose products' environmental information is due to greenwashing behavior (Nguyen, Yang, Nguyen, Johnson, & Cao, 2019). Research has revealed that greenwashing activity decreases the purchasing of environmentally friendly goods and harms consumers' intentions to make such purchases (Ansu Mensah & Bein, 2019; Guerreiro & Pacheco, 2021; Nguyen et al., 2019). Businesses focus on sustainable development and employ green marketing techniques to sell their goods to address this issue. This study focuses on consumers of food industry products in small and medium sized Enterprise in Khuzestan province aimed at examining green Wash behavior and explaining the mechanism of its effect on green Purchase intention. For academics and industry experts in the subject of marketing, the current study offers a significant theoretical and practical contribution. First, a theoretical model linking perceptions of greenwashing behavior to green skepticism, green word-of-mouth, green confusion, and green purchase intention is proposed and examined in this study. Second, it explores the mediating impacts

of green word-of-mouth and green skepticism based on the literature and research background. Third, it offers fresh perspectives on developing markets and perhaps crucial data for comprehending greenwashing practices in the green market. The primary benefit of this research for customers who care about the environment and safety is that it offers information on how to discern genuine green products from non-organic ones. 2- Literature Review and Research Hypotheses

### **1-1- Green Marketing**

The importance of green marketing has increased in today's market (Reddy & Reddy, 2017). All packaging, product modification, and production-related actions that are taken to suit client needs while also protecting the environment are referred to as "green marketing" (Dangelico & Vocalelli, 2017). Green marketing, according to Pagliacci et al. (2019), is the process of meeting client wants with environmentally friendly products. In short, green marketing is concerned with situations in which products are marketed in environmentally friendly ways. It is widely acknowledged that environmental concerns and product usefulness are the primary determinants of consumers' green purchasing intentions (Pagliacci, Manolică, Roman, & Boldureanu, 2019). Even if consumers express concern about the environment, this does not always translate into a desire to buy green (Nguyen et al., 2019; Park & Lin, 2020). Consumers may be unwilling to participate in sustainable consumption practices (Phuah, Ow, Sandhu, & Kassim, 2018), so it is not surprising that Dangelico and Vocalelli (2017) rank environmental sustainability third after customer satisfaction and company profitability. Because it is a relatively new idea, there is a lack of public consensus on what constitutes a green product (Dangelico & Vocalelli, 2017). As a result, there is a need to define criteria to distinguish between organic and

inorganic products (Mishra & Sharma, 2014). Green marketing has several advantages, including ensuring profit-driven growth that is constant and cost savings (Ritter, Borchardt, Vaccaro, Pereira, & Almeida, 2015). Due to the significance of this topic, some businesses argue that their performance is good despite having bad environmental performance (Nekmahmud & Fekete-Farkas, 2020). The practice of "greenwashing," which is briefly covered below, is one of the subjects on which scholars in this area have concentrated their attention.

### **1-2- GreenWash**

This phrase has been defined as a company's false and deceptive green claims (Parguel, Benoît-Moreau, & Larceneux, 2011). According to Aji & Sutikno (2015), "greenwashing" is a collection of practices used to deceive customers about a company's environmental practices or the advantages of a good or service for the environment (Aji & Sutikno, 2015). According to Lyon and Maxwell (2011), this activity is known as "greenwashing," which is the Oxford English Dictionary's term for distorting information to display an ecologically friendly business persona. Businesses that engage in "greenwashing" deceive consumers about the environmental benefits of their products and services (Lyon & Maxwell, 2011). Under the influence of greenwashing conduct, the entire cycle of green marketing efforts can be damaged, and ultimately, customers are unable to believe the green strategies of businesses (Y.-S. Chen et al., 2014). Due to their increasing concern for the globe, consumers are more aware of environmental issues (C.-F. Chen & Chang, 2008). Conscious consumers frequently purchase eco-friendly goods (Y.-S. Chen et al., 2014). Organizations engage in greenwashing behavior through green word-of-mouth advertising to enhance their green image in the eyes of customers (Parguel et al., 2011). Because of

the increased demand for green products, greenwashing is becoming more common to take advantage of green incentives.

### **1-3- Green Purchase Intention**

Purchasing intention of consumers is critical in determining green marketing strategies (Paul & Rana, 2012). ‘Purchase’ refers to anything that consumers consider and intend to buy. ‘Purchasing intention’ is defined as the potential behaviors that lead to a consumer's commitment or decision to purchase a specific product (Agyapong, Afi, & Kwateng, 2018).

Similarly, in another definition ‘purchasing intention’ is defined as “indications of how much people are willing to try or the amount of effort they plan to put in to perform that behavior” (Ajzen, 1991). Due to environmental objectives including the search for healthier options, environmental consciousness, and sustainability, consumers choose the sort of product to buy (Paul & Rana, 2012). Market movements frequently determine changes in consumers’ behaviors (Surya & Hajamohideen, 2018). The result of individual marketing action is the consumer's capacity to evaluate quality, price, value, and availability as competitive goods (Ritter et al., 2015). The usage of green products must be made more widely known to encourage ecologically friendly lifestyles which results in a shift away from conventional products (Amegbe, Owino, & Nuwasiima, 2017). Research has shown that green products positively affect green purchase intention (Soon & Kong, 2012). Green purchase intention is defined as a person's likelihood and desire to prefer products with green characteristics over other conventional goods (Lasuin & Ng, 2014). According to Aman et al. (2012), the purpose of buying green is for the consumer to be able to appreciate green products, resulting in positive words and a willingness to pay more. According to Chan and Lau (2001), if a customer is



committed to a specific green product, this goal is more likely to be met as a result of the purchase (Chan & Lau, 2001). As a result, customer judgment may influence the purchase of environmentally friendly goods. As a result, for this study, customers' green purchase intention has been defined as the desire to purchase green products (Wong, Wong, & Wong, 2020).

#### **1-4- Green Confusion**

Confusion among consumers is a result of their failure to effectively and appropriately comprehend the various features of a product. Customers need knowledge about items since they are complex, ambiguous, and confused (Turnbull, Leek, & Ying, 2000). According to Chen and Chang (2013), green confusion for consumers is seen as one of their weaknesses. Additionally, according to some other academics, green confusion is the inability to accurately comprehend the environmental aspects of a good or service (Avcilar & Demirgünes, 2017).

Consumers are confused by the rise in "green" claims and the promotion of environmentally friendly product claims (Newell et al., 1998). The fast expansion of environmental claims for a variety of goods and services has led to consumer confusion (Kangun et al., 1991). Confusion can also arise from the use of environmental terms and expressions without a clear or consistent interpretation. Terms like "natural," "biodegradable," "recyclable," "renewable," "degradable," and "ozone friendly" are examples (Kangun et al., 1993). Customers are confused by incomplete environmental reviews of products in comparison claims and the complex science that is required to truly understand green claims (Stokes, 2009). According to Atwood (1993), increasing the diversity of environmental arguments can also lead to confusion among consumers, so companies should take the necessary

measures to prevent customer confusion by providing them with timely, appropriate and correct information (Tarabieh, 2021).

### **1-5- Green Skepticism**

A person's tendency toward the claim made by the other party is known as skepticism (Obermiller & Spangenberg, 1998). Studies have looked into the function of skepticism in a variety of fields, including philosophy, psychology, and sociology (Rosen, 2004; Taber and Lodge, 2006). It has been studied in the area of skepticism management in industries like marketing, green products, social responsibility, and advertising (Kim and Lee, 2009; Skarmeas et al., 2014; Vlachos et al., 2016). Skepticism is defined differently by different authors in the literature, and some researchers have looked into it as a personality trait. Researchers contend that, while skeptical consumers may differ in their distrust or disbelief of others, they can be persuaded to change their minds if presented with sufficient evidence (Fore & Greer, 2003). As a result, there may be skepticism about green products and corporate claims about environmental performance (Aji & Sutikno, 2015). If consumers are skeptical of green claims, their skepticism of the company grows, which can harm the company's reputation and market share.

### **1-6- Green Word-of-Mouth**

Consumers will continue to share marketing information until it has an impact on their behavior and attitude toward a product. This practice is known as word-of-mouth advertising (Huete-Alcocer, 2017). Additionally, word-of-mouth is referred to as "green word-of-mouth" if it is accompanied by green claims about the environmental performance of a particular product (Guerreiro and Pacheco, 2021). Because the majority of customers and consumers use it, word of mouth is regarded as a crucial marketing tool (Al-Gasawneh & Matar

Al-Adamat, 2020). The influence of word-of-mouth has grown over time thanks to the growth of social media, and today it can be said that this factor has a global impact on marketing research. Customers and consumers quickly shared messages about products and services, and online reviews, comments, and recommendations were received. These resources provide information to current, former, and prospective customers about a product or service (Septiari, 2018). Word of mouth can influence consumer views, reviews, purchase decisions, and post-use reviews, and it can be used as a powerful marketing tool to investigate consumer feedback.

#### **1-7- Greenwash and Green Purchase Intention**

In emerging markets, there is a rising demand for quality products (Wang et al., 2019). Consumers find it challenging to distinguish between truthful and false claims. Even a green product is seen as having a high risk by them. On the one hand, the majority of businesses operating in the market produce pollutants, but they frequently tout their reputations for being environmentally friendly. However, consumers are likely to view retailers promoting green products with skepticism because they fail to explain how such products benefit the environment (Yiridoe et al., 2005). Consumer mistrust may result from this (Nuttavuthisit & Thgersen, 2017). Customers are skeptical of green claims and worried about the discrepancy between the company's image and reality (Self et al., 2010). Greenwashing, as demonstrated by Polonsky et al. (2012), causes false claims to be made about green products, which lowers the appeal of buying green goods. According to Nyilasy et al. (2014), corporate greenwashing behavior raises ethical concerns in addition to harming consumers' perceptions and their propensity to make environmentally friendly purchases.

According to the above explanations, the following hypothesis is taken into account:

H1: Greenwashing has a negative and significant effect on the intention to buy green.

### **1-8- GreenWash and Green Word-of-Mouth**

Some businesses engage in greenwashing activities to boost product sales and expand their market share, allowing them to easily satisfy customers' concerns about the sustainability of their products. Though previous studies have shown that greenwashing harms green word of mouth when customers and consumers learn that the company has engaged in these practices, it can have a negative impact (Chen et al., 2013). Additionally, bad experiences leave a lasting impression on customers and consumers and have strong effects (Skarmeas & Leonidou, 2013). When consumers find that a company's environmentally friendly actions and activities are not transparent and it is trying to mislead consumers through greenwashing activities, they reject the positive green word of mouth. Alternatively, it may take the form of disclosing negative information to warn others about the negative motives of companies engaged in greenwashing (Chen et al., 2013). ; Zhang et al., 2018). Chen et al. (2013) showed that greenwashing decreased and negatively impacted green word of mouth. When consumers turn to negative green word-of-mouth against a business, it can be viewed as a threat to the business, especially in this day and age where many social media outlets can disclose negative information. (Zhang et al., 2018).). Companies should therefore reduce and stop greenwashing activities to prevent this negative impact (Guerreiro & Pacheco, 2021). According to the abovementioned, the following hypothesis should be taken into account:

H2: Greenwashing has a negative and significant effect on green word-of-mouth.

### **1-9- GreenWash and Green Confusion**

Under the heading of greenwashing, companies typically claim false information about the environmental attributes of their products, and consumers ultimately lose trust in company advertising (Polonsky et al., 2010). For example, corporate greenwashing activities are being viewed with increasing skepticism by customers due to opportunism. Greenwashing also leads to customer confusion over company statements about environmental practices (Lyon & Montgomery, 2015). Similarly, Avcilar and Demirgünes (2017) found that false green claims can confuse consumers with green purchase intentions, so the following hypothesis is presented:

H 3: Greenwashing has a positive and significant effect on green confusion.

### **1-10- Greenwash and Green Skepticism**

Environmental skepticism is one of the key issues for consumers, businesses, and shareholders (Nguyen et al., 2019). In general, green skepticism or skepticism refers to a tendency to doubt, question, or distrust green activities or claims. In addition, skepticism has been associated with concepts such as suspicion, distrust, lack of trust, or mistrust. In recent years, with the rapid spread of environmentally friendly products, the number of cases of greenwashing has increased (Delmas & Burbano, 2011). Knowing consumers and their awareness of such cases (greenwashing) leads to their skepticism toward green activities and claims (Hariuchi et al., 2009; Chen and Chang, 2013). Therefore, the following hypotheses have been presented:

H 4: Greenwashing has a positive and significant effect on green skepticism.

### **1-11- Green confusion and Green Purchase Intention**

Typically, consumers prefer companies that operate based on public interest, and they respond to companies' manipulation of information (Foreh & Grier, 2003). According to research by Michel et al. (2005), because the company lacks information about its products, consumers are very confused and do not know which products are suitable for them and how to use them. Greenwashing is another reason for consumer confusion, as it is possible to confuse companies making false claims with companies making accurate claims. It is difficult for customers to understand the distinction between a product that meets the criteria for environmental sustainability and a product that does not meet false and hidden data. (Paixão, 2016). Negative states of mind, positive associations, and beliefs that are contrary to the interpretation of the green-wash phenomenon with green consumers, despite the difficulties in distinguishing whether it is true or false, in some cases create skepticism towards green products (Junior et al, 2019). Consumers will consider purchasing environmentally friendly products if they are comparable to conventional products and are accepted by the market in key aspects such as practicality, compatibility, usability, and price. (Rahman et al., 2015). ). According to the abovementioned the following hypothesis is presented:

H 5: Green confusion has a negative and significant effect on green purchase intention.

### **1-12- Green Skepticism and Green Purchase Intention**

The consumer's mistrust of the quality of organic goods is one of the most significant obstacles to purchasing decisions (Vindigni et al.,

2002). When consumers can distinguish between green and conventional items in terms of qualities including taste, freshness, performance, appearance, price, quality, and convenience (easy of use), they are more likely to purchase green products. Most businesses in our nation and some other nations present an environmentally favorable image, yet this is untrue (Bhattacharya, 2012; Schlegelmilch et al., 2013; Wang et al., 1996). Customers and consumers become concerned when the advertising picture and reality diverge. Consumers lose faith in green goods and services when they take these discrepancies into account (Nailasi et al., 2014). Customers may then quit purchasing green items as a result of their negative comments regarding the company's reasons for projecting such a false image (Obermiller et al., 2005). Therefore, the following hypothesis is presented:

H 6: Green skepticism has a negative and significant effect on green purchase intention.

### **1-13- Green Word-of-Mouth and Green Purchase Intention**

To lower perceived risk, customers pre-screen products. They typically use the Internet to get this information since it enables real-time interaction between customers. Consumers are more likely to trust green products, which influences their purchasing decisions and green purchasing intents. Customers are more likely to purchase products with a positive green reputation when they are unsure about buying green products (Chen et al., 2013). In reality, positive word-of-mouth may influence consumers' long-term, short-term, and risk-taking product decisions. (Siano et al., 2017). According to Zhang et al. (2018), it is expected that green word of mouth will have a positive effect on green purchase intention, so the following hypothesis is presented:

H 7: Green word of mouth has a positive and significant effect on green purchase intention.

#### **1-14- The Mediating Role of Green Skepticism**

Studies show that greenwashing leads to environmental skepticism (Chen & Chang, 2013; Self et al., 2010). When consumers believe that companies abuse opportunistic environmental benefits and are pessimistic towards them, attitudes are negative toward green brands, and buy green products from companies that claim to be green. Such is created in them and they try not to buy these products (Skarmeas & Léonidou, 2015; Pomeroy & Johnson, 2009); In addition, researchers have shown a mediating effect of green skepticism on the relationship between green plant washing and green purchase intention (Nguyen et al., 2019). Therefore, the following hypothesis is presented:

H 8: Green cynicism plays a mediating role in the relationship between greenwashing and green purchase intention.

#### **1-15- The Mediating Role of Green Word-of-Mouth**

Rapid economic growth, mass consumption, and unsustainable consumption make developing countries major contributors to climate change and pollution (Barbarossa & Pelsmacker, 2016). In these countries, businesses are characterized by low competitive pressure and minimal greenwashing regulations (Yang et al., 2020), greenwashing is widely used by businesses to attract green consumers. (Laufer, 2003; Parguel et al., 2011). This phenomenon is amplified by green word of mouth, which negatively impacts green purchase intention and customers can trust (Chen et al., 2018; Yang et al., 2020). According to the abovementioned the following hypothesis is presented:



H9: Green word-of-mouth has a mediating role in the relationship between greenwashing and green purchase behavior.

Finally, the following conceptual model has been developed by the authors as a proposed model to determine the relationship between research variables:

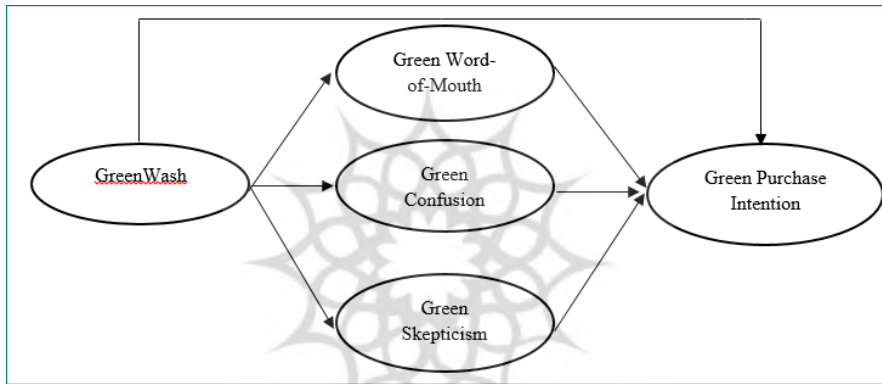


Figure 1. Conceptual Model (Source: authors)

## 2- Methodology

### 2-1- Research Measures

The current study is descriptive-survey research. To measure the conceptual model of the research, 26 measurement items on a 5-point Likert scale were used from the previous studies. In this scale, spectrum 1 indicated 'completely disagree', and spectrum 5 indicated the final limit of the Likert scale, i.e. 'completely agree'. Spectrum 3 also showed the intermediate between these two. To collect data, a standard questionnaire was used (Zhang et al., 2018, Horiuchi et al., 2009; Chen and Chang, 2013; Aji & Sutikno, 2015; Molinari et al., 2008; Mohr et

al., 1998; Ansu Mensah, 2021; Chen and Chang, 2008; and Nguyen et al., 2019).

## **2-2- Data Collection**

The statistical population of this study includes consumers of green food industry products in small and medium -sized Enterprise in Khuzestan province. Data were collected through an online survey. Samples were accessed using available sampling methods. Respondents were asked via email and social media to click on a link to his website with the questionnaire and complete an online survey. Due to the infinity of the statistical population, the sample size was obtained by 384 Cochran correlations, yielding a total of 276 healthy responses, resulting in a participant response rate of approximately 72%. It was found that 46% of the respondents were male and 54% were female. Besides, 2.2% of the respondents were in the age group less than 20 years, 26.1% between 20 and 30, 50% between 30 and 40, and 21.7% were in the age group older than 40. It was also found that 7.6% of the respondents had a high school degree, 9.8% college degree, 42.4% bachelor's degree, 33.7% master's degree, and 6.5% Ph.D. degree.

## **2-3- Data Analysis**

Data analysis was done by using SPSS 26.0 and structural equation modeling (SEM) using SmartPLS 3.0. Anderson and Gerbing (1988) proposed a two-phase process of SEM, namely the measurement model and the structural model. Consequently, using Smart PLS-SEM in this study looks at the aforementioned two levels of analysis. The measurement model links the observed variables to their identifiable latent variables, whereas the structural model links the latent variables to other latent variables. Also, in the current study, special indirect

effects were used to analyze the mediating roles in PLS software (Hair et al, 2022).

### 3- Results

#### 3-1- K-S Test

The type of statistical data distribution is adjusted to select the appropriate test for data analysis. To determine the type of data distribution, the K-S test (Frank and Massey, 1951) which can be implemented in SPSS was used. SPSS has performed this test by default at the 5% error level. If the significance level of this test exceeds 5%, the data will be normally distributed. In addition, if the value of the significance level is less than 5%, the distribution of the research variables will be abnormal (Ayati Mehr & Beigi, 2017). **Table 1** shows the results of this test. Considering that the significance level for all the research variables was less than 5%, it can be concluded that the distribution of the research variables is not normal.

In addition, since the PLS software is not sensitive to the statistical data distribution pattern, it was used in this study to test the research hypotheses.

**Table 1.** K-S Test Results

Constructs	Significance Level	Statistical Distribution
GW	0/000	Non-Normal
GC	0/000	Non-Normal
GWM	0/000	Non-Normal
GS	0/000	Non-Normal
GPI	0/000	Non-Normal

### 3-2- Reliability and Validity

To examine the reliability of measurement models factor loadings, composite reliability, and Cronbach's alpha were used. According to **Tabel 3**, the values obtained for composite reliability (Jöreskog, 1971) and Cronbach's alpha (Diamantopoulos et al., 2012) were higher than 0.7 which is a favorable level. Also, if the values of the factor loadings are higher than 0.4, the reliability and internal consistency of the items are confirmed (Hair et al, 2022). According to **Tabel 2**, the factor loading of all the items was higher than 0.4, so in this sense, the reliability of the measurement models was confirmed. Convergent and divergent validity were used to measure validity in this study. AVE index was used to measure convergent validity and its corresponding values for each variable were shown in **Tabel 3**. To confirm the convergent validity of the measurement models the values of the AVE index should exceed 0.5 (Sarstedt et al., 2021). According to **Tabel 3**, the AVE index values are at a favorable level and the convergent validity of the measurement models is confirmed. To measure the validity of the questionnaires, we consulted experts in the field and after making some modifications, we revised the questionnaire from their perspective and redistributed it.

**Tabel 2.** Factor Loading (FA)

Constructs									
Green purchase intention		Green skepticism		Green confusion		Green word of mouth		Greenwashing	
Items	FA <sup>1</sup>	Items	FA	Items	FA	Items	FA	Items	FA
1	0/744	7	0.790	10	0/833	15	0/757	19	0.773
2	0/743	8	0.842	11	0/801	16	0/754	20	0.838
3	0/786	9	0.870	12	0/797	17	0/775	21	0.837
3	0/783			13	0/777	18	0/808	22	0.806

5	0/847			14	0/771			23	0.818
6	0/806							24	0.835
								25	0.789

**Tabel 3.** Measuring Validity and Reliability

Constructs	Items	AVE	CR	Cronbach's alpha	References
GW	7	0.0.663	0.932	0.915	Zhang et al. (2018), Harichoi et al. (2009)
GC	5	0.0.634	0.896	0.856	Chen and Chang (2013), Ajayi and Sutikno (2015)
GWM	4	0.598	0.876	0.776	Zhang et al. (2018) and Molinari et al. (2008)
GS	3	0.696	0.873	0.782	Mohr et al. (1998)
GPI	6	0.617	0.906	0.875	Ansu Mensah (2021), Chen and Chang (2008) and Nguyen et al. (2019)

In the following, the HTMT index was used to measure divergent validity. Henseler et al (2015) proposed a threshold value of 0.90 for structural models with constructs that are conceptually very similar, such as cognitive satisfaction, affective satisfaction, and loyalty. In such a setting, an HTMT value above 0.90 would suggest that discriminant validity is not present. But when constructs are conceptually more distinct, a lower, more conservative, the threshold value is suggested, such as 0.85.

**Tabel 4** shows the results of measuring this index in the software:

**Tabel 4.** Discriminant validity

Constructs	GS	GW	GC	GWM	GPI
GS	-	-	-	-	-
GW	0.304	-	-	-	-
GC	0.360	0.827	-	-	-
GWM	0.618	0.328	0.592	-	-
GPI	0.674	0.364	0.170	0.362	-

### 3-3- Structural Model Fit

In this study, the coefficient of determination and effect size index were used to assess the quality of structural models. The coefficient of determination indicates what percentage of the target structure's variance is explained by other structures, and values above 0.26 are acceptable for the coefficient of determination (Cohen, 1988). The results regarding the coefficient of determination are shown in **Tabel 5**.

**Tabel 5.** Coefficient of Determination

Constructs	$r^2$
GWM	0.671
GC	0.684
GS	0.595
GPI	0.808

**Tabel 6.** Effect Size Index

Exogenous structures	Effect size index	Effect size
Greenwashing	1.469	Strong
Green skepticism	2.164	Strong
Green confusion	2.040	Strong
Green word of mouth	1.029	Strong

Another important index to evaluate the structural model is the effect size index. Cohen (1988) introduced three values of 0.02, 0.15, and 0.35 for small, medium, and strong effect sizes, respectively. **Tabel 6** shows the values of this index for the effect of exogenous variables on the construct of green purchase intention.

### 3-4- Model Fit

In the present study, NFI, SRMR, and  $RMS_{\text{theta}}$  indices were also used to evaluate the overall fit of the model. Values lower than 0.08 and 0.12

were considered for the  $RMS_{\theta}$  index as optimal values (Henseler et al., 2014; Lohmöller, 1989). Also, values higher than 0.9 are desirable for the NFI index. Table 7 shows the results of examining the model fit.

**Table 7.** Model Fit

Model fit indices	optimal value	software output
SRMR	<0.08	0.064
$RMS_{\theta}$	<0.12	0.112
NFI	>0.9	0.921

### 3-5- Hypotheses Testing

To test research hypotheses, it is necessary to examine the role of variables in the conceptual framework of research. The first criterion for testing research hypotheses is the t-statistic. The hypothesis is confirmed if the absolute value of the t-statistic is greater than 1.96 at the 5% error level. Another measure is the path coefficient between study components, which indicates influence and causality. Path coefficients describe the existence of a linear causal relationship between two latent variables, the strength of the relationship, and the direction of the relationship (Kock & Hadaya, 2018). A summary of the results obtained concerning the path coefficients and the value of the T statistic in this research is given in **Table 8**.

**Table 8.** Hypotheses Testing Result

Hypothesis	Path	T Statistics	Path coefficient	Result
H <sub>1</sub>	GW → GPI	6.045	-0.316	Supported
H <sub>2</sub>	GW → GWM	40.944	-0.819	Supported
H <sub>3</sub>	GW → GC	40.476	0.827	Supported
H <sub>4</sub>	GW → GS	29.208	0.771	Supported
H <sub>5</sub>	GC → GPI	5.833	-0.269	Supported
H <sub>6</sub>	GS → GPI	3.053	-0.135	Supported
H <sub>7</sub>	GWM → GPI	5.218	0.254	Supported
H <sub>8</sub>	GW → GC → GPI	2.985	-0.104	Supported
H <sub>9</sub>	GW → GWM → GPI	5.596	-0.208	Supported

#### **4- Discussion and Conclusions**

This study makes a significant scientific contribution to green research. It is the first attempt to investigate the relationship between greenwashing and the intention to purchase green foods in the Iranian food industry. The present study encourages and supports food industry marketers to create credible green claims to not only improve their business conditions but also strengthen their environmental programs. It was revealed that some food industries are at high risk because consumers are skeptical about the environmental friendliness of their activities and services. In this regard, the factors influencing greenwashing attitudes are very important (Aukilar and Demirgones, 2017). The results of this study show how this mechanism (negative effect of greenwashing on green purchase intention) is triggered by green skepticism. As their awareness and experience of green products have increased compared to the past, consumers are increasingly critical in evaluating the sustainable environmental practices of food companies (Parguel et al., 2015). Consumers are increasingly aware of the environmental benefits, health, and safety issues associated with purchasing green products, and as a result, they may become more skeptical of the company's motives leading to negative product criticism and green purchase intentions. As a result, business managers must establish enough credibility to keep consumers from being skeptical. Our results suggest that managers need to focus on some environmentally friendly methods to reduce consumer skepticism. Managers need to be more transparent about their environmental performance and non-governmental organizations can audit companies' environmental reports and fine companies that engage in greenwashing while these measures may reduce customers' confusion.



Attempts to make the green word of mouth and green advertising may lead to the opposite result due to the perception of greenwashing behavior and negative word of mouth (Allsop et al., 2007). In particular, if a company's performance is misleading and its environmental claims are confusing and misleading so that its authenticity cannot be determined, the intention to purchase environmentally friendly products is reduced. In this regard, companies must incorporate environmental concerns and responsibilities into their core values, and continuously and consistently integrate their environmental commitments and attributes into their overall strategies and actions. In this regard, business leaders should adopt policies that create consumer confidence in companies' green efforts and dynamics. A better way to do this is to transparently and honestly conduct green efforts that incorporate this environmental concern and responsibility into core values and corporate identity (Hai et al., 2017).

The mediating role of green word of mouth and its positive impact on green purchase intention indicates the need for managers to monitor social platforms (Zhang et al., 2018). So they can hear what is being said about their brands and products, and even gather suggestions on how to improve green advertising. Considering the statements about environmental performance, managers can develop and better tailor strategies to satisfy consumers and meet environmental expectations. Customer confusion due to greenwashing behavior negatively impacts green purchasing intentions in the food industry. As a result, companies must not only claim to be "green" but also have to demonstrate proof of their green products. They must have clear and transparent statements and commitments about environmental performance. These policies reduce confusion and risk for customers. The results of this study are consistent with the results of studies conducted by Saxena & Sharma (2021), Ansu Mensah (2021), Guerrero and Pacheco (2021), Nguyen et al. (2021), Hameed et al. ), Akturan (2018), Goh and Balaajib (2016), Chen et al. (2014). Finally, the findings of this study may be useful and significant for managers, professionals, students,

and other researchers and they may initiate the necessary direction for future orientations in green marketing research.

### **5- Suggestions**

It is recommended that the food industry establish strong green performance strategies. It should be highlighted that green efforts should be assessed and approved by environmental organizations. Furthermore, delivering green messaging broadly to consumers may be a better method for food sectors to be more credible to consumers. In this regard, food manufacturers should educate merchants on their production methods and green claims, as these retailers serve as effective information channels between producers and their consumers. The importance of informational and instructional programs should not be underestimated. Policymakers, marketers, and community organizations should work together to create and implement these programs to enhance consumer awareness of green practices and the benefits of green products. These programs boost customers' environmental understanding and ethical convictions, as well as their level of green skepticism, which increases their propensity to buy organic foods. Therefore, by conducting marketing/advertising efforts, policymakers, marketers, green producers, and governments can aid in disseminating information about the advantages of green products. These initiatives may increase customers' knowledge and understanding of green products, as well as their willingness to buy them. Consumers must be trained on the advantages of investing in green products. As a result, they are incentivized to spend more on green items, which may raise product prices for consumers. To address the pricing issue, consumers can be offered incentives to encourage them to purchase green items. Managers in the food business are encouraged to include environmental performance in industry

strategies and demonstrate their commitment to the environment. As a result, the food business must avoid misleading green ads. Another management tactic is the release of data on environmental performance which is a fundamental instrument to raise customer loyalty and trust and attract green consumers. The marketing research team should also work to increase consumer demand for eco-friendly goods. Last but not least, it is recommended that the government and relevant organizations create appropriate laws and regulations regarding greenwashing activity, with the corresponding punitive legislation and fines being set by the accountable institutions.

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