

## The impact of greenwash practices over green purchase intention: The mediating effects of green confusion, Green perceived risk, and green trust

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### ABSTRACT

The study discusses the influence of greenwash on green purchase intention and explores the mediation roles of green confusion, green perceived risk and green trust. The research object of this study focuses in Jordanian food and beverage corporations. This research utilizes structural equation modeling to undertake an empirical study. The results indicate that greenwash positively affects green confusion and green perceived risk. Besides, this study demonstrates that green confusion and green perceived risk mediate the negative relationship between greenwash and green purchase intention. It means that greenwash does not only have a directly negative effect on green purchase intention, but also have an indirectly negative effect on it via green confusion and green perceived risk. Finally, green trust does not influence green purchase intention and does not mediate the greenwash and green purchase intention relationship. Thus, this study suggests that companies should decrease their greenwash behaviors and should not only claim their "greenness" but also show the proof of their green products. These policies would reduce customer confusion and risk. It will raise the likelihood of green practices and claims by businesses, and contribute to improved green food and beverage purchasing intention.

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## 1. Introduction

Companies want to discover alternative strategies to green marketing for the sale of their products throughout the community, so they focus on sustainable development. Green marketing is an essential way to respond for customers concerned with ecological concern and to increase the green brand image to distinguish their green goods (Chang, 2011; Chen & Wu, 2015; Chen & Chang, 2013; Chen, Tien, Lee, & Tsai, 2016; Wu & Lin, 2016). Companies embrace greening because of a number of causes: law enforcement, strategic benefit, senior leadership programs and stakeholder pressure (Chen, 2008). As companies take concern for public obligation and confront severe competitions, they see steadily the significance of developing a green image to illustrate the ecological understanding and social obligation of companies (Marchi, Maria, & Micelli, 2013). Green consumers are also concerned about ecological problems and will make decisions focused on green consideration (Iles, 2008). Many firms are now implementing a green marketing campaign to win competition (Al-Majali & Tarabieh, 2020; Chen & Chai, 2010; Chen, Hung, Wang, Huang, & Liao, 2017; Tarabieh, 2018). Enterprises look forward to finding new solutions in the ecological period to promote their products. Green marketing has been a vital way of targeting sustainable customers (Chang, 2011; Chen & Chang, 2013a), and it should be utilized by more businesses to differentiating their green goods. More companies have recently taken care of the environmental protection. As a result, publicity terms like 'green' or 'Eco' become more well known in process, along with 'environmentally friendly,' 'sustainable' and 'earth friendly.' However, several ecological statements on environmental features remain vague and untrustworthy. Green claims have to be reliable, accurate and true (Chen, Lin, & Chang, 2013).

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Around the same time, a 'greenwash' side effect has been developed (Delmas & Burbano, 2011). The neologism was adopted in 1986 and applies to the dishonest marketing conduct surrounding a corporate's sustainability policies or the impact on environment of a good or service. In early 1991, Kangun, Carlson, and Grove differentiated between three different classifications of greenwash publicity: (1) false claims; (2) disregarding vital information which could help in evaluating genuineness of environmental claims; and (3) using unclear or uncertain terms that might be described as lying, bogging or lying through lack of detail (Parguel, Benoit-Moreau, & Russell, 2015). In marketing insufficient attention has to date been paid to the notion of greenwash (e.g., (C.-H. Chang, 2011; Lyon & Montgomery, 2015; Pancer & McShane, 2013). While previous study has mentioned the problems of purchase purposes broadly, there is no survey of purchasing intentions from a greenwash, confusion, perceived risks and trust point of view in environmental concerns. This study would therefore like the research gap to be filled. This article evaluates the negatives of greenwash and green purchase intention. This study also looks at the mediation impacts of green confusion, green perceived risk and green trust. This paper creates a new greenwash structure in line with the green pattern to enhance the Green Intention of Customers to buy their goods and services and to expand green marketing research even further. The report's structure is defined in this manner. Section 2 explores a literature review. The next section also contains 14 hypotheses. The analysis then explains in the Section 4, the methodology, the sample, and data collection, and the measurement of the constructs. Section 5 reports the statistical data, factor analysis, reliability, validity and results of structural equation modeling (SEM). In addition, the conclusions of this paper are mentioned in Section 6.

## 2. Literature Review

### 2.1 Greenwash

Formal greenwash assessment needs a systematic hypothesis description. The term is described as the untruth, misleading green statements of a company by Parguel, Benoit-Moreau, and Larceneux (2011). It means that an organization product's dishonest and inaccurate assertion is safe and green while it is not. Greenwash refers to the use of an environment conscious look to hide its environmentally damaging content (Du, 2015). Aji and Sutikno (2015) also describe the word greenwash, in which the action of misleading customers in reference to a company's environmental behavior or the advantages of product or service to the ecosystem is described (Avçilar & Demirgünes, 2017). According to Lyon and Maxwell (2011) "Disinformation distributed by a company in order to express an environmentally friendly brand persona; a public persona of the environmental responsibility propagated by an organization, or for an organization, etc. but seen as unjustified or deliberately deceptive. This is defined in the Concise Oxford English Dictionary (10th edition) as greenwash". A selection of credible words on a firm's environmental and social performance, without the full disclose of detrimental data on such aspects in order to generate an excessively positive brand image, is an even proper definition offered by Lyon and Maxwell (2011). All these concepts of greenwash represent concerns with interaction, which leads people to believe that the environmental sustainability, procedures or goods of a company are excessively favorable (Lyon & Montgomery, 2015). Greenwash corresponds to advertisement or promotion which is cheating on customers about goods' environmental attributes (Polonsky, Grau, & Garma, 2010). Environmental efficiency of their goods is sometimes inflated by businesses, such that Greenwash is widespread in the industry (Parguel et al., 2011). The whole green marketing activity would be harmed by Greenwash (Hamann & Kapelus, 2004). Customers are ultimately reluctant to believe in companies' green marketing strategies (Chang & Chen, 2014). There are thus rising economic problems faced by companies for making misleading green claims. Customers are increasingly aware of environmental concerns because of the increasing concern for the world (Chen, 2008b; Chen & Chang, 2012). They want to buy environmentally friendly green items (Chang & Chen, 2014). Organizations conduct greenwash in an effort to make customers think they can make green images better and enhance positive WOM (Parguel et al., 2011). The enhanced demands for green goods render Greenwash more common for businesses to exploit green incentives (Horiuchi, Schuchard, Shea, & Townsend, 2009). Environmentalists and concerned public increasingly disavow environmental activities as merely advertising and public relations (Lyon & Montgomery, 2015). On that basis, our cross-disciplinary evaluation of greenwash study indicates that it involves a variety of occurrences which go far beyond release of information, ranging from mild overstatement to complete fabrication.

### 2.2 Green Confusion

Consumer confusion is associated with failure of consumers to perceive correctly and appropriately various aspects of an item. Perplexed customers are vague, complicated, and need information on products (Turnbull, Leek, & Ying, 2000). Green consumer confusion is seen as a consumer flaw by Chen and Chang (2013b). Comparable to the definition of Turnbull et al. (2000), green confusion is defined as a lack of proper understanding of the environmental features of a product (Avçilar & Demirgünes, 2017). An increase in the green advertising strategy has led to consumer confusion who gets baffled by the various claims of environmental friendliness (Newell, Goldsmith, & Banzhaf, 1998). Consumer confusion arose with the fast expansion of environmental claims for a widespread range of goods and services (Kangun et al., 1991). The rise in the diversity of environmental arguments was also the reason behind consumer confusion according to Atwood (1993). The use of ecological words and phrases without a clear or consistent interpretation is also a cause of confusion (Kangun et al., 1991). Examples of some of the terms are: natural, biodegradable, recyclable, renewable, degradable and ozone-friendly (Carlson, Grove, & Kangun, 1993). The complicated science that customers need to truly comprehend green claims and the imperfect environmental review of products in comparison claims cause consequently confusion (Stokes, 2009).

Whether the item is green or not, in each case, the consumer is bewildered. This ambiguity leads to a negative interpretation by the consumer of environmental characteristics of the product. The concept that the environmental campaign is part of marketing strategy of the corporation is one such view. Another perspective is that the firm is not solely inspired by environmental issues, but by making profits in the advertising of green products. Regardless of the situation, sellers will aim to produce reliably optimistic market expectations as impressions of greenwash can affect the customer's approach to a product (Peattie, Peattie, & Ponting, 2009). In the end, deceptive advertising may cause customers to suspect Green product interpretation hence destroying the industry (Aji & Sutikno, 2015).

### *2.3 Green Perceived Risk*

Apparent issues are considered as subjective estimates linked to the potential outcomes of false choices and are handled as a subjective notion for customer behavior (Avcilar & Demirgünes, 2017). When consumers realize unwanted, unclear repercussions (Mwencha, Muathe, & Thuo, 2014), customers perceive the uncertainty. Because the impact is vague and unpredictable, the high risk in the buying decision shows more uncertainty. Perceived risk is viewed in psychologically, physically, financially, socially and performance-related areas (Junior, Martínez, Correa, Moura-Leite, & Silva, 2019).

In the face of the uncertainty and suspicion of customers regarding the arguments made by green goods and companies, former researchers suggest a structure recognized as a green perceived risk (Lin, Lobo, & Leckie, 2017a). The green perceived risk is characterized as an interpretation related to the probable impact on environmental efficiency of an incorrect decision. Chen and Chang (2013b) described the concept as a belief that buying activity would have negative impacts on the environment. In addition to its impact on consumers' uncertainty and suspicion, misleading, vague and inaccurate green advertising may trigger the customer to develop a sense of danger in comparison to consumption of goods. The potential consequences of an improper judgment are thus associated with a green perceived risk (Aji & Sutikno, 2015).

### *2.4 Green Trust*

It is necessary to consider why it is so crucial for businesses to trust them before we identify trust in green marketing. Chaudhuri and Holbrook (2001) gave us the most appropriate definition of trust as "The typical consumer's desire to depend on the product's ability to fulfill its purpose". Trust implies that users are highly likely to assess the item favorably. The customer wishes to think that the product is proficient, accountable and fair when assessing trust in a sense of anticipation (Daels, 2017). The trust is viewed as a mental condition that involves a desire to embrace susceptibility focusing on favorable motives (Foroudi, Nazarian, & Aziz, 2020). Trust is not visible individually from other concepts, such as customer satisfaction, service quality, value generation, dedication (Harris & Goode, 2004) and brand recognition (Chaudhuri & Holbrook, 2001) and buying behavior (Rahbar & Wahid, 2011). Trust cannot be seen independently. For each of these concepts, we do not go into depth but want to show that trust is not independent, but instead combined with several other concepts. Previously, we saw trust as an important factor in purchasing decision. Green trust is described as "a desire to depend on a commodity, resulting due to expectations regarding its environment friendliness features" (Chen, 2010). Chen, Lin, and Weng (2015) have demonstrated the green trust that is enhanced by environmental responsibility, that is, consumer issue and a personal sense of environmental responsibility. Environmentally sustainable actions include the desire to use environmental resources, ability to pay extra for environmental-friendly goods and a dedication to environment-friendly facilities (Daels, 2017).

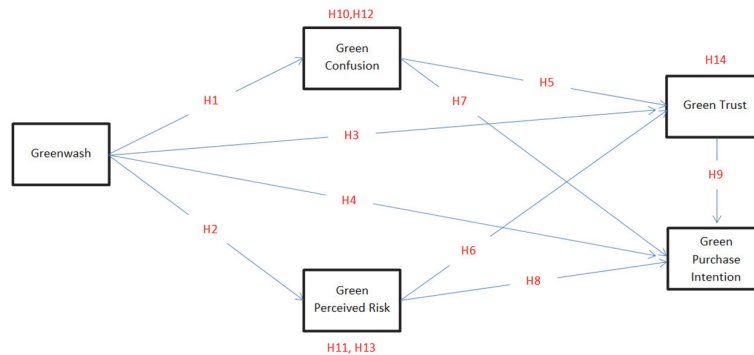
### *2.5 Green Purchase Intention*

Consumer motivation to make purchases can be described as a specific intent or behavioral attitude (Tarabieh, 2017; Yii, Shein, & Poh Ming, 2020). Whitlark, Geurts, and Swenson (1993) have described purchase intention as the intention which shows that a customer is ready to buy the product after evaluating it (Bhaskar & Kumar, 2016). Consumer intention and actual behavior can be used interchangeably (Alghzawi, Alghizzawi, & Tarabieh, 2020; Tarabieh, Gil-Pechuan, AL-Obaidi, & Al-Haidous, 2020). Arora and Chahal (2017) argued that during the assessment step, customers' rate and shape products as part of the purchase intentions process factors. Green purchase intention is defined as a person's likelihood and eagerness to give preferences to products that have green characteristics than other conventional goods (Lasuin & Ng, 2014). The green purchase intent is probability of the consumer to appreciate the green products, create positive words of mouth, and be inclined to pay for them additionally, as per Aman, Harun, and Hussein (2012). Chan and Lau (2002) have identified the impact of green purchasing intention on green purchase behavior for China and for America in a cross-cultural analysis. If a customer is committed to a specific green product, then this aim to achieve is more likely to be exceeded, which is actually the result of the purchase. Thus, customer judgments may influence the purchase of green goods. Consequently, the green purchasing intention of customers is designated as an eagerness to buy green products for the context of this research (Yii et al., 2020).

### *2.6 Theoretical Framework*

Green marketing is a concept which needs latest marketing techniques which can implement modern solutions to various problems related to businesses and also satisfy the customers and have the ability to define green and to describe their obligations properly (Avcilar & Demirgünes, 2017). This report forecasts the adverse connection between greenwash and green

purchase intention and assesses the impact of green confusion, green perceived risk and green trust. Fig. 1 shows the theoretical framework.



**Fig. 1.** Theoretical Framework

### 3. Research Hypotheses

#### 3.1 Greenwash and Green Confusion

Companies typically utilize greenwash to disclose beneficial environmental facts about their goods without exposing harmful details in order to create a green identity (Lyon & Maxwell, 2011). The whole green marketing activity would be harmed by Greenwash (Hamann & Kapelus, 2004). Consumers are ultimately unable to trust in the green ads of corporations (Polonsky et al., 2010). Customers are therefore increasingly suspicious of the opportunistic greenwash of companies (Chen et al., 2013). Greenwash also leaves customers feeling frustrated and puzzled by corporate responsibility statements (Lyon & Montgomery, 2015). Greenwash will flood customers with details and vary the product assessment. Such a greenwash can result in customer confusion in green claims (Aji & Sutikno, 2015). Similarly, Avcilar and Demirgünes (2017) say that false claims can make consumers suspicious about green products. This research addresses the greenwash can favorably affect green consumer confusion and proposes the research hypotheses:

*H<sub>1</sub>: Greenwash has a significant positive impact on green confusion.*

#### 3.2 Greenwash and Perceived Risk

A few firms merely make unfounded and false statements about their products' green features, a strategy called greenwash. Such activities have been shown to intensify customer suspicion regarding green goods or services (Huang & Li, 2015). Greenwash can therefore raise consumers' perception of risk at the expense of the green market as a whole (Lin et al., 2017a). Customers can also be fooled into going green, because green products invoke optimistic feelings and certain customers feel happier when they hear that green goods are used (Hartmann & Ibanez, 2006). But greenwash has an adverse impact on the understanding and behaviors of customers. It promotes green skepticism and produces perceived risk (Lin, Lobo, & Leckie, 2017b). Risk perception allows the customer feel unsure regarding his choice to purchase (Akturan, 2018). Greenwash is therefore favorably linked to consumer confusion and perceived risks in buying green products because green makeup tends to increase consumer choice errors. From the other perspective, if the business shows greenwash, it is unfavorable because customers no longer believe in the brand or the commodity (Junior et al., 2019). Greenwash would have a positive effect on the perceived consumer risk that will reduce consumers' environmental gratification (Chen et al., 2016). This research therefore concludes that greenwash can generate green perceived risks and proposes the following:

*H<sub>2</sub>: Greenwash has a significant positive impact on green perceived risk.*

#### 3.3 Greenwash and Green Trust

Greenwash is used to show the positive image of a business and to tell the public that they are not selling any suspicious items, hence, avoiding the negative feedback. Customers have thus become increasingly unbelieving about green products from companies (Chen et al., 2016). As greenwash lately is very popular, it would have detrimental effects on environmental content if the reliability of green claims cannot be distinguished by the customer (Chen et al., 2013). Wheaton (2008) said that loss of trust is a consequence of greenwash in all green advertising and for the marketing industry overall. Greenwash would impede green branding because it would make distrusting environmental arguments in increasing numbers. Since greenwash is a hurdle to green marketing, the efficiency of green initiatives is difficult for consumers to distinguish (Horiuchi et al., 2009). Consumers have learned that many companies frequently cheat them and companies fail to deliver on their environmental commitments (Chen et al., 2013). This would weaken substantial green investment in businesses and damage customer trust in green products if they persist (Lin et al., 2017b). This study says greenwash has an adverse impact on green trust and implies the following hypothesis relating to environmental management:

*H<sub>3</sub>: Greenwash has a significant negative impact on green trust.*

### 3.4 Greenwash and Green Purchase Intention

A brand can sell its features using its product, and it represents all the values and beliefs of the customers (Levy, 1959), therefore buying it for its symbolic signification and its purpose (Dittmar, 1992). The product symbolic significance involves simplicity, knowledge, credibility, value, ecological sustainability, etc. (Underwood, 2003). Many scientific experiments have found that consumer's environmental protection is focused on moral beliefs (Black, Stern, & Elworth, 1985; Stern, Dietz, & Black, 1985). Consumers may avoid or even alter purchasing decisions on such unethical companies or countries (Chen, Hung, Wang, Huang, & Liao, 2017). Consumers are increasingly concerned about environmental impacts as a result of increasing focus to global warming in the world (Chen, 2008a). They are more ready to select environmentally sustainable green goods (Chang & Chen, 2014). Since green purchases are being favored by all the customers so companies use it to attract customers and show them that the company is environmentally friendly and care about it (Chen & Chang, 2013c; Horiuchi et al., 2009). Nyilasy, Gangadharbatla, and Paladino (2014) emphasized that greenwash is not just an ethical matter, but also a detrimental impact on the perception of customers. This affects brand perceptions and green purchase intentions, even if sometimes customers cannot identify the reality and the deceptive act (Nguyen, Yang, Nguyen, Johnson, & Cao, 2019). Chang (2011) found that if an organization has made strong efforts to convince customers of "green claim" it will reduce the legitimacy of natural statements and create more unfavorable judgments. A research by Pancer and McShane (2013) that using by showing a green image falsely leads to a rise in falsehood and reduction in the trust of the customers. Consequently, the interest of the customers decreases and they hesitate to purchase next time. This greenwash has a detrimental impact on purchasing intentions. So, companies spend large sums of money on green marketing because they want to be socially and environmentally friendly, hoping that this view will give rise to better brand attitudes and purchase intentions (Nyilasy et al., 2014). This refers to the identification hypothesis being formulated:

H<sub>4</sub>: *Greenwash has a significant negative impact on green purchase intention.*

### 3.5 Green Confusion and Green Trust

A literature review shows that greenwash has a positive effect on green confusion, but that it negatively affects the legitimacy of organizations, perceived corporate reputation (Nyilasy et al., 2014), the company's market significance (Du, 2015), purchase intention (Leonidou & Skarmeas, 2017) and the green trust (Chen & Chang, 2013b). It is commonly acknowledged that environmentally aware images can lead to favorable reactions from customers in green advertising. It may, nevertheless, be troublesome to support a reliable green brand image for Green advertisement programs when customers feel overwhelmed (Akturan, 2018). If consumers feel conflicted, they could even delay purchasing decisions and they can't really trust the business. They delay or give up their purchases because they are less able to make the correct purchasing decision (Cho, Kang, & Cheon, 2006). Consumer confusion can have a negative impact, one of which is reported as distrust (Singh, Vrontis, & Thrassou, 2011). Kac, Gorenak, and Potocan (2016) noticed that confused consumers are more wary of the companies offering vague and contradictory product details. Green trust adversely affects the environmental claims. This relationship is very similar to what we saw between confusion and trust (Avçilar & Demirgünes, 2017). This study therefore provides the following assumption:

H<sub>5</sub>: *Green confusion has a significant negative impact on green trust.*

### 3.6 Green Perceived Risk and Green Trust

The perceived risk is not only linked with the environment itself, but also the physical body of the consumer from the perspective of negative perceptions. A mixture of potential outcomes and ambiguity is a perceived risk. Accordingly, the perceived risk would affect the purchasing decision of a consumer (Chen & Chang, 2012). It would also affect the attitudes of consumers. In some ways, the risk confronting customers is observed and felt stronger than the advantages they obtain. This perspective is consistent with the idea that consumers want to reduce perceived risk instead of maximizing usefulness (Aji & Sutikno, 2015). A consumer choice to either trust or not would be influenced by the level of perceived risk (Harridge-March, 2006). If customers feel high risk of a product or brand, the product or brand would not be trusted. Several researchers have discovered that the greater the risk users evaluate, the reduced their trust in green claims products or brands (Aji & Sutikno, 2015; Chen & Chang, 2012; Eid, 2011; Gillespie, 2008; Harridge-March, 2006). That is why we presumed:

H<sub>6</sub>: *Green perceived risk has a significant negative impact on green trust.*

### 3.7 Green Confusion and Green Purchase Intention

Consumers usually want businesses to operate on public interest terms, so any variation is unfavorable. Consumers, in particular, react negatively to a company's manipulation (Foreh & Grier, 2003). Due to the lack information given by the company regarding their products, the consumers face confusion in the way that they do not know which products are suitable for them and how to use them according to a research by Mitchell, Walsh, and Yamin (2005). Owing to unclear details it may influence the willingness of customers to make decision. Greenwash is another reason for the customers' confusion because there is a chance that the companies which are making false claims get mixed up with the ones making true claims. It is hard for users to see the distinction between a product that fulfills environmental sustainability criteria and a product that is not induced by untrue and concealed data (Paixão, 2016). The negative mindset, conviction and positive connection to Greenwash's interpretation contradict Green Consumers, despite the difficulties in determining what is real and what is false, which, in certain

cases, also creates a skeptical attitude towards the substance (Junior et al., 2019). Consequently, if green products are nice as traditional products and have a market approval in terms of main aspects, such as practical efficiency, consistency, usability and price, they consider purchasing an environmentally sustainable product (Rahman, Park, & Chi, 2015). The researcher thus suggests that:

*H<sub>7</sub>: Green confusion has a significant negative impact on green purchase intention.*

### 3.8 Green Perceived Risk and Green Purchase Intention

Customers tend to lower their perception of risk rather than enhance their required outcomes as per perceived risk theory (Mitchell, 1999). Individuals try to avoid downsides instead of seeking positive payoffs. If buyers perceived high risk, they are more likely to refrain from buying. So, the consumer tends to purchase a brand with a reduced perceived risk (Chang & Chen, 2014). This relation is widely investigated. Perceived risks have severely affected the green purchase intention in the areas of green electronic products (Chang & Chen, 2014), organic food (Gifford & Bernard, 2006) and green products (Papista & Krystallis, 2013). Green perceived risks are not good for green purchase intentions as this disrupts the relationship between consumers and brands by ignoring their green satisfaction and green trust (Lin et al., 2017b). With respect to the potential relation to perceived risk switching (Mitchell, 1999), the customer likely would not buy the product if he perceived a high risk for a product. That is, the detrimental effect on green purchasing intention which is due to perceived high risk (Aji & Sutikno, 2015; Chang & Chen, 2008). This resulted in the following hypothesis being formulated:

*H<sub>8</sub>: Green perceived risk has a significant negative impact on green purchase intention.*

### 3.9 Green Trust and Green Purchase Intention

The major impact that will be influenced by green marketing activities would be purchasing intentions as described in this research. In the Green Marketing literature, the partnership between green trust and green purchasing intention is examined. To analyze the effect of green trust on the green purchasing intention, many researchers studied this topic including, (Akturan, 2018; Doszhanov & Ahmad, 2015; Rahbar & Wahid, 2011). They performed the research to the best of their expertise. The green trust is significant predictor of the purchase intention regarding green goods, as per Doszhanov and Ahmad (2015). Trust in eco-brands is also a key component in influencing the purchase behavior, as Rahbar et al. (2016) discovered. The subjective possibility of consumers buying green products is the green purchasing intention. The concept is complex and many variables affect it. characteristics of 'green' consumer (Akturan, 2018), marketing and brand factors like price, promotion, relevance, perceived quality and trust, and environmental issues (Hopkins & Roche, 2009; Kim & Choi, 2005; Weisstein, Asgari, & Siew, 2014), affecting consumer intentions for buying green products. In the opinion of the consumer, false claims cause a suspicion, which in turn has negatively impacts on green trust, purchase intention and WOM (Chen & Chang, 2013b; Leonidou & Skarmas, 2017). This research consequently presumes that green trust would be an important measure for the green purchasing intention:

*H<sub>9</sub>: Green trust has a significant positive impact on green purchase intention.*

### 3.10 Greenwash, Green Confusion and Green Trust

Greenwash is used extensively to portray a company's misleading green statements and advertisements (Parguel et al., 2015). When customers face confusion regarding green products due to the greenwash, the customers hesitate to buy any product. Consumers will also distrust green claims even if their goods are environmentally friendly (Lyon & Maxwell, 2011). Greenwash assumptions will discourage the mindset of customers towards the environmental commitments of an enterprise. This might contribute to a lack of consumer trust in green goods (Polonsky et al., 2010). Without such restrictions, greenwash practices increase exponentially, and if proceeded this will progressively jeopardize consumer trust and confuse consumers about any green advertisement (Aggarwal & Kadyan, 2014). Greenwash making false green claims will slow down actual green products' success, thus reducing green marketing impact (Polonsky et al., 2010). As greenwash creates uncertainty and suspicion among customers with respect to green arguments, this will lead distrusting all green initiatives such that the green movement would not help community and corporate green markets will experience tremendous downturn (Gillespie, 2008). Chen and Chang (2013b), in a survey carried out by Taiwanese electronic customers, found that greenwash adversely affects consumer confusion and risk perceptions, resulting in the reduction of customer 'green trust' to environmental statements of a company. That is why we assumed:

*H<sub>10</sub>: Green confusion has a significant mediating effect on the relationship between greenwash and green trust.*

### 3.11 Greenwash, Green Perceived Risk and Green Trust

When customers question a green brand's claims regarding its utilitarian value, their conceptions of its functional benefits would be unfavorable (Chang & Chen, 2014). As a result, they are far less willing than they are to believe the environmental reputation of the company and less happy with the environmental impact of the green product (Lin et al., 2017a). Chen and Chang (2013b) found that greenwash impacts adversely consumer confusion and perceived risk in a survey of Taiwanese electronic consumer, decreasing the consumer's "green trust" in green claims. Akturan (2018) and Lin et al. (2017a) have maintained that the relationship between greenwash perceptions and green trust is mediated by green perceived risks. This study therefore provides the following assumption:

*H<sub>11</sub>: Green perceived risk has a significant mediating effect on the relationship between greenwash and green trust.*

### *3.12 Greenwash, Green Confusion and Green Purchase Intention*

If a company makes false claims related to their activities and products which may harm the green movement, then this is also referred to as greenwash (Chen & Chang, 2012). This aggravated consumer confusion about green products, thus increasing the difference between environmental and actual purchasing behavior (Lin et al., 2017a). Some studies were carried out by Parguel et al. (2011) to notice the relation between customer purchase decisions and greenwash. The findings show that the impact of greenwash on brand evaluation and purchasing intention is mediated by green confusion (Parguel et al., 2011). Some of the previous studies have noticed that when greenwash is prevalent then it leads to confusion regarding green claims (Chen & Chang, 2013b; Self, Self, & Bell-Haynes, 2010). When consumers become confused about a company that takes benefit of environmental factors in an opportunistic way, they have a negative approach to the company and tend not to purchase products of the company (Leonidou & Skarmeas, 2017; Pomeroy & Johnson, 2009). Furthermore, the C-A-B framework shows that green confusion mediates the relationship between greenwash and green purchase intention (Nguyen et al., 2019). Resulted in the following hypothesis being formulated:

*H<sub>12</sub>: Green confusion has a significant mediating effect on the relationship between greenwash and green purchase intention.*

### *3.13 Greenwash, Green Perceived Risk and Green Purchase Intention*

There are some firms claim they have original green products, which implies they are trying to deceive customers and trick them in determining the effect of goods on the environment. Consumers avoid taking environmental action by deceptive and untruthful implementations (Polonsky et al., 2010). If customers are not persuaded that green arguments are legitimate, greenwash adds to a sense of vulnerability with respect to business environmental applications (Gillespie, 2008). Likewise, deceptive claims and misleading green advertising could also lead to increase in risk perception on the consumed product (Chang & Chen, 2014). Greenwash will have a favorable effect on perceived risk, thereby reducing customer satisfaction with regard to environmental concern (Chen et al., 2013). Green perceived risks are not good for green purchase intentions as this disrupts the relationship between consumers and brands by ignoring their green satisfaction and green trust (Lin et al., 2017b). In addition, potential threats will affect buying decisions by emphasizing adverse impacts (Junior et al., 2019). Thus, this study argues that there is a relationship between greenwash, green perceived risk and green purchase intention; and offers the following hypothesis:

*H<sub>13</sub>: Green perceived risk has a significant mediating effect on the relationship between greenwash and green purchase intention.*

### *3.14 Greenwash, Green Trust and Green Purchase Intention*

Failure to report the environmental situation will hamper customer and investor trust that is of zero value to the Company's long-term consideration (Aggarwal & Kadyan, 2014). If a company spreads lies about their products, the customers will stop trusting the advertisements and hence stop buying. This is a huge loss because majority of the customers depend on the advertisements for their selections (Hamann & Kapelus, 2004). Consumers cannot evaluate their green purchases without trust in the company's green claims (Chen et al., 2013). Since customers also depend upon corporations' marketing behavior to make their buying decision, greenwash is likely to reduce customer brand trust in advertisements (Hamann & Kapelus, 2004). Consumers cannot determine their green purchases without trust in the company's green claims. Greenwash would thus jeopardize green marketing and consumer's green purchase intention (Chen et al., 2016). The consumer would be confused in environmental features by marketers whose promotion is interpreted as misleading and unverified. Consumer trust in environmental claims will decrease as consumers recognize some greenwash hazards. The perceived risk affects can be environmental or physical. When the customers start believing that no one is focused in the green claims, then they will start using non-green products (Aji & Sutikno, 2015). Greenwash has negatively impacted customer behavior in many ways according to a previous study. Martínez et al. (2020) tested out what was greenwash perceived as and then he shifted to its impact on the purchase decision making regarding green products. A study revealed that showcasing a product in a false manner harms the brand and decreases revenue, market share and financial performance. Akturan (2018) has also found that green consumption has a significant and meaningful effect on the purchase intention. Gelici (2019) concluded that, as greenwash negatively impacts brand confidence and credibility, it indirectly influences green purchase intention. This resulted in the following hypothesis being formulated:

*H<sub>14</sub>: Green trust has a significant mediating effect on the relationship between greenwash and green purchase intention.*

## **4. Research Methodology**

### *4.1 Research Design*

The paper tests the hypotheses and research framework by utilizing a questionnaire survey methodology. In this study, the unit of analysis is the consumer. The research concentrated on Jordanian customers who have purchasing history or perspective of such green food and beverage brands or commodities.

#### 4.2 Measures and Instrumentation

In designing questionnaire items, the research has used the measurement scale of prior work. Questionnaire items have been assessed by a Likert scale of seven points between 1 and 7. They are rated from strong disagreement to strong agreement. In this study five constructs such as greenwash, green confusion, green perceived risk, green trust and green purchasing intention were presented. Greenwash analysis involves five items adopted from Chen and Chang (2013). This research aims to evaluate green confusion, including five items by Chen and Chang (2013) and Aji and Sutikno (2015). Five items taken from Chen and Chang (2013) evaluated green perceived risk. The green trust (focused on customer viewpoint) questionnaire items adopted from Chen (2010). Eventually, using Chen and Chang (2013) and Nguyen et al. (2019) scale of four green purchase intentions items were employed.

**Table 1**  
The items used for measurements of the constructs

<i>Items</i>		<i>References</i>
<b>Greenwash</b>		
GW1	This ad deceives with words in its environmental features	Chen and Chang (2013)
GW2	This notification distorted the environmental features with visuals or graphics.	
GW3	This ad has an ambiguous or unproven green claim.	
GW4	This ad overestimates or misrepresents how the green functionalities are.	
GW5	This ad tends to leave out or hides crucial detail, which making the green claim sound better than it is.	
<b>Green Confusion</b>		
GC1	The environmental features of this item are harder to identify.	Chen and Chan (2013); Aji & Sutikno (2015)
GC2	The discrepancies between goods on environmental features are difficult to comprehend	
GC3	I am confused about the green products to buy.	
GC4	I never have adequate details about the environmental features of this item.	
GC5	I am unsure regarding this item's environmental features.	
<b>Green Perceived Risk</b>		
GPR1	The environmental performance of this product is expected to be very erroneous.	Chen and Chang (2013)
GPR2	The usage of this commodity would have a detrimental impact on the environment.	
GPR3	Using this product will ruin my green image or reputation.	
GPR4	If I use this item, I may be liable for an environmental penalty or damage.	
GPR5	This item may not operate effectively concerning its environmental design.	
<b>Green Trust</b>		
GT1	The environmental commitments of this brand are, I believe, reasonably reliable.	Chen (2010)
GT2	The environmental performance of this brand is usually dependable, in my view.	
GT3	I assume that the environmental argument of this brand is typically trustworthy.	
GT4	This environmental concern of the brand fulfills your expectations.	
GT5	This brand fulfills environmental protection promises and obligations.	
<b>Green Purchase Intention</b>		
GPI1	I will consider purchasing green products as they should be less harmful to the environment in the coming years.	Chen and Chang (2013); Nguyen et al. (2019)
GPI2	For safety benefits, I would be moving to environmentally friendly green products.	
GPI3	In the immediate future, I certainly want to buy green products.	
GPI4	I would even consider purchasing green products for others.	

#### 4.3 Data Collection

In conjunction with Jordanian research colleagues, data collection was carried out. The participants were asked to visit a website, hosting the questionnaire, through email and via social sites. After three weeks, we had 473 responses. However, only a maximum of 432 responses was empirically examined because of the elimination of deficient responses and extreme outliers. The statistics were 58.1% females and 41.9% males; 11.1% were below the age of 30 years; 28.5% were between 31 and 45 years of age, 60.4% were over 46 years old; 93.5% were graduated with doctor, bachelor and master degrees and 82.9% had a total monthly income of 1000 dollars and above.

#### 4.4 Data Analysis

The survey used SEM to analyze the proposed model (Hair, Matthews, Matthews, & Sarstedt, 2017). As a convention, at least five observations of a single free parameter will be included in the ratio of a sample size to free model parameters (Baumgartner & Homburg, 1996). Our research includes 24 sample variables and 432 effective observations for SEM's minimum sample sizes. These sample sizes are more significant than that set out above. Besides, we have done bootstrap confidence intervals method for the study of mediating function. SPSS and AMOS version 23 finished the data analysis.

### 5. Results

We utilized AMOS, version 23 to implement Structural Equation Modelling technique (SEM). The study examined hypothesized direct effects and mediations between these constructs and performs a confirmatory factor analysis (CFA) on the construct variables which have a quantity of five. Validity of convergence and discriminant validity are two main components of



the CFA. Table 2 illustrates the convergent validity results to show to what extent multiple attempts to notice the agreement when evaluating the same notion (Hair et al., 2017).

**Table 2**  
Internal Reliability and Convergent Validity

Construct	Item Number (20)	Factor Loading Range	Average Variance Extracted (AVE)	Composite Reliability (CR)	Internal Reliability Cronbach Alpha
Green Wash (GW)	4	0.741 – 0.832	0.599	0.856	0.851
Green Confusion (GC)	5	0.730 – 0.792	0.587	0.876	0.872
Green Perceived Risk (GPR)	4	0.826 – 0.843	0.694	0.901	0.899
Green Trust (GT)	3	0.741 – 0.866	0.671	0.859	0.832
Green Purchase Intention (GPI)	4	0.782 – 0.862	0.696	0.901	0.901

As table 1 shows results from assessment of standardized loading also showed the factor loading and its value was between 0.730 and 0.866. This value was equal to what was pointed out by Hair et al. in 2006. The average variance extracted (AVE), which also represent the total variance in the latent construct indicator, was between 0.587 and 0.696. These values were beyond the suggested value of 0.5 (Joseph F Hair, Black, Babin, Anderson, & Tatham, 2006). Degree of indicators of construct with a value between 0.856 and 0.901 can be defined by composite reliability (CR). These values were far beyond the value of 0.6 (Joseph F Hair et al., 2006). Next stage was utilized for measuring the internal reliability of the measures by using Cronbach alpha value. Values varied from 0.851 to 0.901, exceeding (Nunnally, 1994) threshold of 0.7. Table 3 provides the discriminant validity results. To show true distinction of one construct from other constructs these results can be referred to (Joseph F Hair et al., 2006).

**Table 3**  
Descriptive Statistics and Discriminant Validity

Construct	Mean	Std.ev	GW	GC	GPR	GT	GPI
Green Wash (GW)	3.317	0.892	<b>0.774</b>				
Green Confusion (GC)	3.546	0.869	0.370	<b>0.766</b>			
Green Perceived Risk (GPR)	3.566	0.962	0.331	0.395	<b>0.833</b>		
Green Trust (GT)	3.418	0.927	0.447	0.480	0.315	<b>0.819</b>	
Green Purchase Intention (GPI)	3.767	0.991	0.333	0.167	0.460	0.086	<b>0.834</b>

Note: Diagonals represent the square root of the average variance extracted while the other entries represent the square correlations;

As seen in Table 3, square root of the average variance extracted for each construct is larger than the correlations between this construct and other constructs (Hair, Black, Babin, & Anderson, 2010). Moreover, these correlations were smaller than threshold of 0.85 and varied between 0.086 and 0.480. These values demonstrated good discriminant validity between the constructs (Kline, 2015). The descriptive construct statistics, like the mean and standard deviation, are also provided in table 2. The lowest mean value was seen for greenwash, and on other hand, mean of highest value was for green purchase intention. The lowest and highest standard deviations were for green confusion and green purchasing intention respectively. Table 4 shows the structural model proposed in this analysis and goodness of fit.

**Table 4**  
Structural Models and Goodness of Fit

Model	CMIN ( $\chi^2$ )	df	p-value	$\chi^2/df \leq 5.00$	GFI $\geq 0.80$	AGFI $\geq 0.80$	CFI $\geq 0.90$	TLI $\geq 0.90$	IFI $\geq 0.90$	RMSEA $\leq 0.10$	SRMR $\leq 0.08$
Measurement	307.836	161	0.000	1.912	0.886	0.851	0.943	0.932	0.943	0.063	0.057
Structural	134.758	62	0	22.174	0.92	0.886	0.954	0.942	0.954	0.072	0.049

Note. GFI = Goodness-Of-Fit statistic; AGFI = Adjusted Goodness-Of-Fit statistic; CFI = comparative fit index; TLI = Tucker-Lewis index; IFI = Incremental Fit Index; RMSEA = Root Mean Square Error of Approximation

Table 4 shows that the model adequately fits the measurement data as well as the structural models (Schumacker & Lomax, 2010). Path analysis was used in the structural model to examine hypothesized direct impacts among the constructs (i.e., H1 through H9). For the evaluation of the hypothesized mediation effects (i.e. H10 to H14), we used the causal steps described by Mathieu and Taylor (2006).

**Table 5**  
Results of Direct Impact Hypotheses Assessment

IV	DV			
	GC (R2=0.330)	GPR(R2=0.342)	GT(R2=0.412)	GPI(R2=0.458)
Green Wash (GW)	0.316*** <sup>(H1)</sup>	0.348*** <sup>(H2)</sup>	-0.075 <sup>(H3)</sup>	-0.082 <sup>(H4)</sup>
Green Confusion (GC)	---	---	-0.209** <sup>(H5)</sup>	-0.235*** <sup>(H7)</sup>
Green Perceived Risk (GPR)	---	---	-0.196* <sup>(H6)</sup>	-0.188** <sup>(H8)</sup>
Green Trust (GT)	---	---	---	0.245*** <sup>(H9)</sup>
Green Purchase Intention (GPI)	---	---	---	---

Note. \*p < .05. \*\*p < .01. \*\*\*p < .001.

Table 5 shows the findings of the structural model analysis and related hypotheses of direct effect. The results of the patch analysis showed that greenwash impact on green confusion and green perceived risk (i.e. H1 and H2 respective) and green trust impact on green purchase intention (i.e., H9) were determined as significant (i.e. p-value < 0.05) and positive. In the meantime, green confusion and green perceived risk impacts on green trust and green purchase intention were determined as significant (i.e., p-value < 0.05) and negative, (i.e., H5, H7, H6, H8 respectively). So, the H1, H2, H5, H6, H7, H8 and H9 hypotheses have been supported and the H3 and H4 hypotheses are rejected. R-square values were over the 0.30 cut off value, ranging from 0.330 to 0.458, for the four dependent constructs.

Table 6 provides the result of the 432 samples bootstrapping analysis for determining mediation impact and indirect influence via the mediating variable (Shrout & Bolger, 2002).

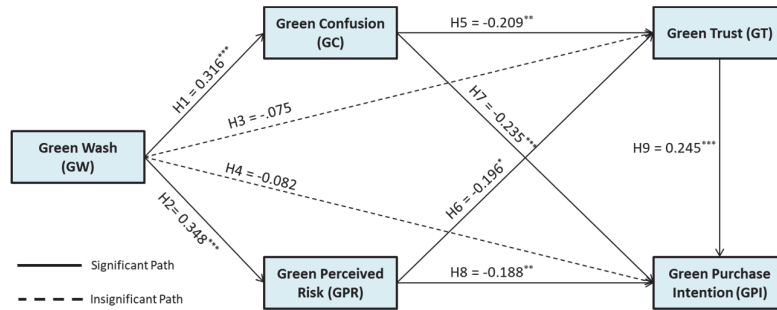
**Table 6**  
Bootstrap Analysis on the Mediation Effects

Hypothesis	IV	M	DV	Total Effect	Direct Effect	P <sub>XM</sub>	P <sub>MY</sub>	Indirect Effect
				P <sub>XY</sub> +P <sub>XM</sub> P <sub>MY</sub>	P <sub>XY</sub>			P <sub>XM</sub> P <sub>MY</sub>
H10	GW	GC	GT	-0.137**	-0.075	0.316***	-0.209**	-0.062**
H11	GW	GPR	GT	-0.137**	-0.075	0.348***	-0.196*	-0.062**
H12	GW	GC	GPI	-0.112*	-0.082	0.316***	-0.235***	-0.03*
H13	GW	GPR	GPI	-0.112*	-0.082	0.348***	-0.188**	-0.03*
H14	GW	GT	GPI	-0.112*	-0.082	-0.101	0.245***	-0.03*

Note. N = 230; P<sub>XY</sub> = path from Green Wash (GW) to dependent variable; P<sub>XM</sub> = path from Green Wash (GW) to mediating variable; P<sub>MY</sub> = path from mediating variable to dependent variable; \*p < .05. \*\*p < .01. \*\*\*p < .001.

The results displayed significant total effects from greenwash as independent variable on green trust and green purchase intention as dependent variables (i.e., P<sub>XY</sub>+P<sub>XM</sub>P<sub>MY</sub> < 0.05). However, the direct effects from independent variables on dependent variables were found as insignificant (i.e., P<sub>XY</sub> > 0.05). The results also showed significant effects from greenwash as independent variable on green confusion and green perceived risk as mediating variables (i.e., P<sub>XM</sub> < 0.05). Meanwhile, the results showed significant effects from green confusion and green perceived risk as mediating variables on green trust and green purchase intention as dependent variables (i.e., P<sub>MY</sub> < 0.05). The phenomenon demonstrated that green confusion and green perceived risk fully mediate the effects from greenwash on green trust and green purchase intention. Therefore, hypotheses H10, H11, H12 and H13 were supported. However, green trust could not significantly mediate the relationship between greenwash and green purchase intention because of presence of insignificant path between greenwash as independent variable on green trust as mediator. Thus, hypothesis H14 was rejected. The results also indicated that greenwash has significant indirect negative effects on green trust and green purchase intention through green confusion and green perceived risk.

Fig. 2 represents the model of findings and the results of examining research hypotheses.



**Fig. 2.** Model of Findings

**6. Conclusion**

This research shows that consumer greenwash perception affects the green purchase intention in Jordanian food and beverage corporations. Research model includes a variety of factors apart from greenwash, such as green confusion, green perceived risk and green trust. All of these have been estimated to affect the green purchasing intention of food and beverage businesses. The analysis acknowledges most hypotheses in the research model. Greenwash has favorable impacts on green confusion and green perceived risk. It results in a detrimental effect on green trust and green purchasing intention for food and beverage businesses. Finally, green trust does not influence green purchase intention and does not mediate the Greenwash and Green Purchase Intention relationship. First of all, the perception of greenwash affects green consumer confusion and green perceived risk. The customers face confusion by businesses’ green claims and that is why they are more prone to perceived risk and greenwash perception. The findings endorse Chang and Chen (2014) and Chen and Chang (2013b). Such data confirm the analysis. Thus, the findings have shown that green claims perceived as false and factually inaccurate end in unfavorable results. The strong ability to reflect negative feelings of consumption and purchasing behavior makes the outcomes more

significant for businesses (Avcilar & Demirgünes, 2017). Thus, businesses should stop deceptive, wrong and false environmental statements. Empirically, the current research findings indicate the detrimental effect of green confusion and green perceived risk on green trust. 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.

The research model has indicated the significant and positive impact of green trust on green purchase intention. Food and beverage companies can benefit from giving out true environmental statements, which can enhance their sales and market share. Companies do not have to embrace risky greenwash charges. Environmental impacts should be integrated into firms' marketing strategies, and they should also represent their environmental performance by their commitments. They shall make specific and open environmental performance assertions and commitments. In other terms, building trust in green business claims will help in placing a desirable green brand. This study has investigated the mediation effects of green confusion, green perceived risk and green trust on the relationship between greenwash and green purchase intention. The results have shown that the firms greenwash behavior raises the confusion of customers and the perceived risk of green food statements, thus impacting green purchasing intention. Organizations should therefore broaden their green practices and retain a strong green image. Companies will make green claims more trustworthy to mitigate greenwash (Chen et al., 2013). It is not easy for companies to persuade their customers of their green claims without providing trustworthy information. Companies will also require customers to receive appropriate notifications in order to minimize confusion about companies' green claims (Chen et al., 2016). Therefore, businesses should not only claim their "greenness" but also show the proof of their green products. These policies would reduce customer confusion and risk. It will raise the likelihood of green practices and claims by businesses, and contribute to improved green food purchasing intention. Ultimately, we expect that this study's findings would be useful for administrators, professionals, university students, and other researchers and that it will lead significantly to potential work by acting as a reference.

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