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Article

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How does greenwashing affect green word of mouth through green skepticism? Empirical research for fast fashion Business

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ABSTRACT

This study aims to examine the direct and indirect effects of greenwashing on negative green word of mouth, with green skepticism as a mediator, in the fast fashion industry in Indonesia. This study is quantitative in nature, with data being collected using a survey. The non-probability, purposive sampling method was employed with criteria including respondents being of Generation Z, currently aged 17 to 28 years, and aware of fast fashion companies. A total sample size of 397 was utilized, and analysis was conducted using partial least squares structural equation modeling. The results suggested that greenwashing significantly positively affects green skepticism and negative green word of mouth. Green skepticism has a significant positive effect on negative green word of mouth. Furthermore, green skepticism mediates the effect of greenwashing on green word of mouth. To the authors' knowledge, this study extends the literature that discusses the effect of greenwashing on negative green word of mouth through green skepticism. This research provides a new perspective, especially on the stimulus-organism-response theory seen from negative antecedents, which is rarely discussed in developing countries. This research will provide useful information for companies to avoid greenwashing practices in promoting sustainability. For the government, issuing consumer protection laws regarding greenwashing rules is suggested. This study has several limitations, including that it was only conducted in Indonesia. Therefore, future research can be developed involving other countries for comparison.

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SUBJECTS

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1. Introduction

The fashion industry has become one of the sectors that increasingly recognizes the importance of sustainability and environmental responsibility. Consumer demand for environmentally friendly products is increasing, prompting fashion brands to adopt sustainable practices in their supply chains (Lemke & Luzio, 2014). However, along with increasing consumer demand for sustainability, some companies engage in greenwashing practices. Greenwashing is a practice where companies employ marketing or branding initiatives to portray a facade suggesting that their products or operations are eco-friendly even though they may not be truly environmentally sustainable (Chen et al., 2014; Netto et al., 2020; Nguyen et al., 2019; TerraChoice, 2010; Zhang et al., 2018). Several studies show that greenwashing practices still occur in various industries, such as cosmetics, food and beverages (Guerreiro & Pacheco, 2021; Nguyen et al., 2019), energy (Farooq & Wicaksono, 2021), electronics (Chen et al., 2014), retail (Junior et al., 2019; Rejikumar, 2016), and fashion (Munir & Mohan, 2022). However, research on the fast fashion industry is currently still an interesting topic because of the clothing waste it causes (Mysirli & Axarli, 2021).

Certain fast fashion brands face allegations of greenwashing as they assert the utilization of organic cotton and recyclable materials in select garments, despite their overarching business strategy relying on rapid consumption and disposal (The Changing Markets Foundation, 2022). Greenwashing practices by one or a few companies in an industry can be detrimental to the credibility of the industry as a whole

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(Munir & Mohan, 2022). Fast fashion is a business strategy centered on establishing efficient and rapid supply chains to create stylish goods and meet customer demand within a restricted supply framework (Byun & Sternquist, 2011). Fast fashion products are characterized by their short shelf life cycle as stores frequently update their stocks to satisfy customers' desire for new designs, so new products are released with a high frequency, even several times a season (Mcneill & Moore, 2015). Fast fashion goods tend not to last long, which leads to the need for replacement in a short period of time. If we look closely, some tags on clothing from fast fashion brands include the label '100% recycled polyester'. Recycled polyester (rPet) is a type of fabric made from plastic that has been reprocessed in a more environmentally friendly way, reducing CO₂ emissions. However, it is important to remember that polyester is still a plastic material that is not biodegradable and can produce microplastics that are potentially harmful to the environment (Greenpeace, 2023).

Regulators play an important role in addressing greenwashing practices (Nygaard & Silkoset, 2023). However, not all countries, especially developing ones, have regulations setting limits on green advertising and environmental claims. Although such developing countries as Indonesia have already had a consumer protection law regulating basic consumer rights in place, greenwashing is still considered normal because there are no clear regulations governing the limits of environmental claims issued by companies (Consumer Protection According to Law No 8, 1999). Therefore, it is hoped that this research will draw the government's attention to the importance of tightening up regulations regarding environmentally friendly advertisements or claims.

The practice of greenwashing by fast fashion companies creates distrust or skepticism among consumers (Aji & Sutikno, 2015; Nguyen et al., 2019). In this context, green skepticism is a key factor that influences consumer behavior in disseminating information, either positively or negatively. When consumers feel that claims are inconsistent or not supported by facts, they tend to develop skepticism toward all corporate sustainability messages (Zhang et al., 2018). Consumers who doubt environmentally friendly companies' claims will provide negative recommendations (negative green word of mouth) for the companies' products or brands to others (Leonidou & Skarmeas, 2017).

Research on green word of mouth (GWOM) remains an interesting topic to discuss at the moment as it can help answer how consumers talk about sustainable products. Information conveyed through GWOM tends to be considered more credible than direct marketing claims from companies (Keller & Fay, 2012; Liao et al., 2023). Consumers tend to trust the experiences and recommendations of other individuals who use the product. GWOM provides encouragement for companies to continue innovating in producing products and services that are more environmentally friendly (Chen et al., 2014; Sajid et al., 2024). Previous research has shown that greenwashing can harm brand reputation and reduce consumer trust in a brand's sustainability claims (Goh & Balaji, 2016; Nguyen et al., 2019, 2021; Zhang et al., 2018). Therefore, it is important to understand how greenwashing triggers green skepticism among consumers, and how this in turn affects negative green word of mouth.

The development of fast fashion in Indonesia is quite rapid and significantly impacts the fashion industry and the environment. International fast fashion brands such as H&M, Zara, and Uniqlo have opened many stores in big Indonesian cities, especially in major shopping centers. Their popularity continues to increase because they offer products with the latest designs and affordable prices. However, the waste resulting from the fast fashion industry is also increasing, and of course, it will damage the environment. As reported by the Ministry of Environment and Forestry through the National Waste Management Information System in 2023, cloth waste will account for 2.8% of the total waste volume in Indonesia (The Ministry of Environment and Forestry, 2023). Although this percentage is relatively small, the trend of clothing disposal is anticipated to rise, which will subsequently increase the amount of clothing waste. Some companies claim to be 'green' or 'eco-friendly'. Research on greenwashing is important to help identify whether these claims are supported by real actions or a marketing ploy. The research question in this study is whether greenwashing has an effect on negative green word of mouth? Does greenwashing influence green skepticism, does green skepticism influence negative green word of mouth? Does greenwashing have a negative effect on green word of mouth through green skepticism?

This research aims to determine the direct or indirect influence of negative antecedents between greenwashing, green skepticism, and negative green word of mouth in the context of the fashion industry among Generation Z. Generation Z, or Gen Z, is known to be an Internet-savvy generation. Gen Zers

use social media to a greater extent, giving them more exposure to information about greenwashing by companies, in which case this information can spread quickly (Nikolić et al., 2022; Szabo & Webster, 2021). Given that Generation Z is a dominant generation today, studying the behavior of Generation Z will certainly have an impact on changes in the surrounding environment. By identifying the factors that influence consumer perceptions, this research is expected to provide insights for fashion brands to increase consumer trust and promote sustainability practices more effectively.

2. Literature review and hypotheses development

2.1. Stimulus–organism–response theory

This study applies the stimulus–organism–response (S–O–R) theory. The S–O–R theory was originally developed from the classic Stimulus–Response (S–R) theory proposed by Thorndike in 1898 (Zhang & Benyoucef, 2016). S–R theory explains individual behavior as a learned response to external stimuli (Han et al., 2022). Then the S–R theory received criticism because it did not consider a person's mental condition, resulting in the concept of an organism between stimulus and response which was put forward by Mehrabian and Russell (1974). The S–O–R theory is utilized to elucidate the mechanisms influencing customer attitudes and behaviors in the context of product purchases (Russell & Mehrabian, 1974). Originating in the field of environmental psychology, the S–O–R theory has demonstrated its applicability in various domains, extending beyond environmental contexts to encompass consumer behavior and decision-making (Islam & Rahman, 2017; Luo et al., 2020; Sohaib et al., 2022; Xu et al., 2020). According to the theory, environmental stimuli impact an individual's cognitive and affective (organismic) responses, leading to subsequent behavioral responses (Donovan & Rossiter, 1982). The stimuli component refers to factors that activate the internal and emotional state of the individual (Xu et al., 2020). The organism variable (O) pertains to the internal state (such as perception or emotion) of the individual situated between the stimulus and the ensuing intention or behavior (Xu et al., 2020). The concluding component in the S–O–R model is the behavioral aspect, which is the outcome of the individual's cognitive and affective state. Behavioral responses encompass positive or negative actions directed at a specific context, such as the intention to purchase, actual purchase behavior, or a lack of intention to purchase (Xu et al., 2020).

This research uses S–O–R theory to test how stimuli (greenwashing) towards organisms (green skepticism) influence customer responses (negative green word of mouth). The stimulus from greenwashing is in the form of claims or company practices that try to display an environmentally friendly image, even though it is actually not in accordance with reality (misleading claims) influencing individual responses through the internal process (organism) of green skepticism (Luo et al., 2020). When consumers receive this information, they process it based on their knowledge, experience, and attitudes toward environmental issues. If consumers realize or suspect that the claim is untrue, they may experience disbelief or disappointment (Singh et al., 2022). Consumer responses can include negative reactions such as losing trust in the brand, avoiding the product, or even spreading negative information about the company. S–O–R theory provides a structured approach to comprehensively analyze the progression from greenwashing to complex behavioral outcomes, thus supporting its application in this research.

2.2. Hypotheses development

2.2.1. Direct effect of greenwashing perception on negative green word of mouth

Greenwashing involves the spreading of inaccurate or deceptive information regarding an organization's environmental strategies, objectives, motivations, and actions (Olsen & Potucek, 2013). According to the S–O–R theory, the stimuli aspect of consumer perceptions regarding greenwashing will give rise to word of mouth responses to other people. Greenwashing has a direct impact on green word of mouth (Chen et al., 2014; Singh et al., 2022; Zhang et al., 2018). Upon the penetration of word of mouth into the environmental field, the concept of green word of mouth emerged. Green word of mouth is a communication tool that is often used by customers to convey messages related to the environment (Chen et al., 2014). This is a way to measure the extent to which consumers tell others, such as their friends, relatives, or colleagues, about a product or brand that is environmentally friendly (Chen et al., 2014; Keller & Fay, 2012).

Marketers are increasingly incorporating 'green' or environmentally friendly assertions into their communications and environmental messages, disseminating them across diverse communication channels. These avenues include word of mouth, reference groups, opinion leaders, media activities, advertising, Internet marketing, and mobile marketing (Paço & Reis, 2013). However, when consumers know that the company is greenwashing, they will be encouraged to share negative experiences with others about the sustainability practices of the company (Tao et al., 2022).

The study conducted by Sajid et al. (2024) suggests that companies should reduce greenwashing behavior and improve the quality of consumers' green perceptions and green satisfaction to increase consumers' negative green word of mouth. If a company engages in greenwashing, and if this practice is later exposed by consumers or other parties, it can result in damage to the brand's image (Santos et al., 2023). Consumers who feel they have been given false or misleading information will potentially speak negatively about the brand and spread the news to relatives, friends, and others (Leonidou & Skarmas, 2017; Zhang et al., 2018). Based on this description, the following hypothesis is proposed:

H1: Greenwashing positively affects negative green word of mouth.

2.2.2. Direct effect of greenwashing perception on green skepticism

Greenwashing is the deceptive promotion of an entity's environmental initiatives, wherein more emphasis and resources are dedicated to portraying the organization as environmentally friendly than are genuinely invested in adopting eco-friendly practices (Chen & Chang, 2013; Parguel et al., 2015). Refers to the S-O-R theory, the stimulus aspect of greenwashing raises the organism (sceptical attitude) of consumers. Green skepticism refers to an individual's awareness of environmental problems and their efforts to solve them or willingness to contribute to such efforts (Albayrak et al., 2011). It is a change in consumers' cognitive responses to disbelief or doubt about environmental issues such as claims in advertisements (Aji & Sutikno, 2015; Albayrak et al., 2011; Goh & Balaji, 2016).

In the research conducted by Farooq and Wicaksono (2021), greenwashing was found to have a significant effect on skepticism, where consumers were figured out to be more sceptical of large companies than small companies. This is also supported by the research conducted by Aji and Sutikno (2015), which found that greenwashing has a positive relationship with green skepticism. Based on this description, the hypothesis below is proposed:

H2: Greenwashing positively affects green skepticism.

2.2.3. Direct effect of green skepticism on negative green word of mouth

Customers generally express their product judgement to share their experience and product knowledge about the product's features and usability (Leonidou & Skarmas, 2017). According to the S-O-R theory, the organism aspect (sceptical attitude) gives rise to a response (green word of mouth) from consumers. Sceptical customers will spread negative information and influence others in product purchases (Grégoire et al., 2009). Green skepticism can influence the way consumers talk about products or brands that claim to be environmentally friendly (Leonidou & Skarmas, 2017). Research results from Leonidou and Skarmas (2017) show that green word of mouth is influenced by green skepticism. Consumers will provide recommendations based on their level of trust in the claims made by the company. Based on this description, the hypothesis below is proposed:

H3: Green skepticism positively affects negative green word of mouth.

2.2.4. The mediation effect of green skepticism on the relationship between greenwashing perception and negative green word of mouth

According to the S-O-R theory, stimulation (greenwashing) will influence the organism (green skepticism) and then influence customer responses (negative green word of mouth). Greenwashing practices carried out by fast fashion companies lead to skepticism or distrust among consumers. Consumers who are sceptical of exaggerated or unverifiable sustainability claims will use GWOM to voice their concerns and inform other consumers to make more informed decisions (Chen et al., 2014; Nguyen et al., 2019;

Zhang et al., 2018). Green word of mouth is a form of consumer interaction where consumers share positive or negative experiences related to a product or brand (Chen et al., 2014). Green word of mouth has an important role in influencing consumer perceptions and shaping brand image in the market. Consumer responses can include sharing their experiences and views with others. If they believe green claims, they will likely share positive recommendations (positive green WOM) (Chen et al., 2014; Zhang et al., 2018). On the other hand, if they feel deceived by greenwashing, they will spread negative experiences (negative green WOM) (Leonidou & Skarmeas, 2017; Sajid et al., 2024). Based on this description, the hypotheses below is proposed:

H4: Green skepticism mediates the effect of greenwashing on negative green word of mouth.

3. Research methodology and data collection

3.1. Research model

The structural equation model (SEM) was used to test the hypotheses of this study. PLS-SEM was used in this study because it is a test tool that is able to process simultaneously a series of complex relationships between several independent, dependent, and mediating variables. The empirical model used in this research is as follows (Figure 1).

3.2. Data collection and sampling size

The present study employed a quantitative methodology utilizing a survey-based research design. The questionnaire adapted from a previous research questionnaire. The items in the questionnaire were initially designed in English and then translated into Indonesian by a management expert proficient in both languages. To minimize the impact of cultural bias and to ensure validity, the Indonesian version was back-translated into English by two management experts with expertise in both languages. Thus, no misunderstanding or ambiguity arose as a result of the translation process in the questionnaire items.

The accurate population size cannot be known, so this research uses non-probability sampling techniques to determine the sample size. Meanwhile, the sampling method was carried out using a purposive sampling method with a judgment sampling type, namely a sample collection technique based on predetermined respondent criteria (Schindler, 2022). All procedures involving human participants in this research complied with ethical standards as recommended by the ethics committee of The Ethical Committee on Economics and Business Research under Ref No.: 4577/UN3.FEB/III/PT.01.00/2024. Respondents' consent to participate was obtained in writing contained in the questionnaire distributed. Participants were provided with comprehensive information about the aims of the study and expressed their understanding and willingness to participate freely. The confidentiality of the data is guaranteed. The respondents in this research focused on Generation Z who at the time this research was conducted

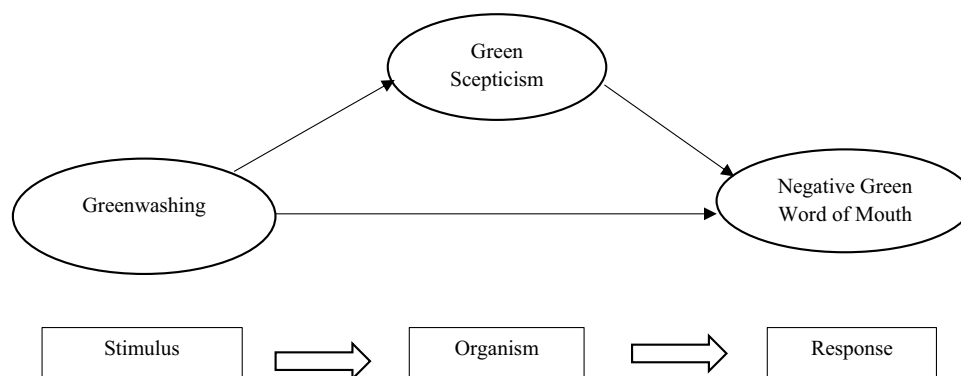


Figure 1. Structural model.

Source: (Chen et al., 2014; Leonidou & Skarmeas, 2017; Nguyen et al., 2019; Zhang et al., 2018).

were aged 17 to 28 years and all anonymous respondents located in Indonesia. The sample selection criteria in this study were generation Z who knew about fast fashion companies but had never purchased fast fashion products. The questionnaire was created using Google Forms and then distributed online using social media platforms such as WhatsApp.

Respondents were given written information in a questionnaire about the study and then gave their consent to participate. The questionnaire begins with a brief explanation of environmentally friendly claims on fast fashion products. After reading the description, respondents were asked to answer screening questions about whether they had ever purchased fast fashion products; if they answer 'no' then they can answer the next question, but if they answer 'yes' then they cannot continue to the next question. The next screening questions were whether at the time the study was conducted they were 17 to 28 years old and whether they were aware of fast fashion companies; if they answer 'yes', then they are eligible to answer the next question, but if the answer is 'no', they do not need to answer the next question. Responses to question items were measured on a Likert scale of 1 to 5 to obtain an idea of the respondent's level of agreement with each statement given in the questionnaire. The technique for determining sample size uses suggestions from (Hair et al., 2014) by looking at model complexity with a minimum sample size of 300 for models with five constructs or less with low communality (below 0.45) and less than three underidentified constructs. A total of 420 questionnaires were distributed online, but only 397 were returned and analyzed in this research.

3.3. Instrument

The Likert scale was used to record the respondents' agreement with the given items. The respondents' responses were measured on a scale of five points, where 1 denoted strong disagreement, 5 denoted strong agreement, and 3 denoted neutrality.

3.3.1. Greenwashing

The indicators used in measuring greenwashing based on Laufer (2003) are as follows: 'The product is misleading with words in its environmental features', 'The product is misleading with visuals or graphics in its environmental features', 'The product has vague or seemingly unverifiable green claims', 'The product exaggerates how green it actually functions', and 'The product omits or covers up important information, making green claims sound better than they are'.

3.3.2. Green skepticism

The indicators used in green skepticism based on Leonidou and Skarmas (2017) are as follows: 'Doubt that this is an environmentally friendly product', 'Not sure that this product is less damaging to the environment', 'Doubt that this product meets high environmental standards', and 'Doubt that this product is better for the natural environment'.

3.3.3. Negative green word of mouth

The indicators used in negative green word of mouth based on Grégoire et al. (2009) and Leonidou and Skarmas (2017) are as follows: 'Spreading the news that fast fashion products are not environmentally friendly', 'Spreading the news that fast fashion products have a negative impact on the environment', 'Telling others not to buy fast fashion products', and 'Saying bad things about fast fashion products to others because of their negative environmental performance'.

4. Data analysis and results

4.1. Descriptive statistics

The profile of respondents is described through demographic attributes, including age, gender, occupation, and education, shown in Table 1.

Table 1. Demographic information of the respondents.

Respondent characteristics	Respondent answers	<i>f</i>	%
Gender	Male	139	35.0
	Female	258	65.0
Age	17–19 years old	318	80.1
	20–22 years old	70	17.6
	23–25 years old	9	2.3
Occupation	Student	265	66.8
	Employee	51	12.8
	Housewife	19	4.8
	Self-employment	34	8.6
	Others	28	7.1
Monthly expenses	<IDR 1,000,000	252	63.5
	IDR 1,000,000–5,000,000	135	34.0
	IDR 5,000,001–10,000,000	9	2.3
	>IDR 10,000,000	1	0.3

Table 2. Descriptive statistics.

Constructs	Mean	SD	Category
GW	3.597	1.047	Agree
GS	3.549	1.104	Agree
NGWOM	3.432	1.191	Agree

Note: (1) Interval = (highest score–lowest score)/total score = (5–1)/5=0.8; (2) The criteria for interpreting the respondents' answers: 1.00 < α < 1.79: strongly disagree; 1.80 < α < 2.59: disagree; 2.60 < α < 3.39: neutral; 3.40 < α < 4.19: agree; 4.20 < α < 5.00: strongly agree.

In [Table 1](#), it can be seen that most of the respondents ($n=258$) were female, accounting for 65% of the total number of respondents and male ($n=139$) accounting for 35% of the total number of respondents. Most of the respondents ($n=318$) were aged 17–19 years, accounting for 80.1% of the total number of respondents, followed by those 20–22 years old ($n=70$), and 23–25 years old ($n=9$), which indicates that the respondents were mostly representatives of Generation Z. Practically, all the respondents ($n=265$) were students, accounting for a staggering 66.8% of the total respondents, followed employee ($n=51$), accounting for 12.8%, followed self-employment ($n=34$), accounting for 8.6%, followed others ($n=28$) accounting for 7.1% and followed housewife ($n=19$) accounting for 4.8%. A considerable majority of the respondents ($n=252$) also had regular monthly expenses (outside of fixed expenses such as housing expenses or car installments) <IDR 1,000,000, accounting for 63.5% of the total respondents, followed IDR 1,000,000–5,000,000 ($n=135$), accounting for 34% of the total respondents, followed IDR 5,000,001–10,000,000 ($n=9$), accounting for 2.3% of the total respondents, and followed >IDR 10,000,000 ($n=1$), accounting for 0.3% of the total respondents.

Based on [Table 2](#), it is known that the variables perceived greenwashing, green skepticism, and green word of mouth have an average above 3.4, which means that respondents answered that they agreed with the items proposed. Finally, all variables have an average above the standard deviation, this shows that the data has a good level of spread.

4.2. Measurement model

A construct would be declared passing the validity test if it had a factor loading value >0.5. Based on [Table 3](#), it is known that all constructs had met the validity test requirements, suggesting that all items of this study successfully explained their constructs. Construct internal reliability test was carried out by looking at the average variance extracted (AVE), Cronbach's alpha, and composite reliability values. This study met the requirements as it had an average variance extracted (AVE) value greater than 0.5, as well as Cronbach's alpha and composite reliability values above 0.7 (Hair et al., 2018).

Based on [Table 4](#), the Simpson's paradox ratio (SPR) value of this model was 1.00, suggesting that the model passed the fit model test. The Simpson's paradox ratio test was used to measure the level at which the model could be free from Simpson's paradox. The SPR value obtained indicated that this research model had been free from Simpson's paradox. In addition, the *R*-squared contribution ratio

Table 3. Construct reliability and convergent validity.

Survey items	Factor loading	<i>p</i> -values	Cronbach's alpha	Composite reliability	AVE
Greenwashing			0.897	0.924	0.708
GW 1	0.836	<0.001			
GW 2	0.851	<0.001			
GW 3	0.839	<0.001			
GW 4	0.840	<0.001			
GW 5	0.843	<0.001			
Green Skepticism			0.811	0.876	0.640
GS 1	0.757	<0.001			
GS 2	0.774	<0.001			
GS 3	0.869	<0.001			
GS 4	0.795	<0.001			
Negative green word of mouth			0.92	0.943	0.807
GWM 1	0.894	<0.001			
GWM 2	0.917	<0.001			
GWM 3	0.934	<0.001			
GWM 4	0.846	<0.001			

Table 4. Causality Assessment Index values.

Index	Value	Assessment
Simpson's paradox ratio (SPR)	1.000	Acceptable if ≥ 0.7 , ideally = 1
R-squared contribution ratio (RSCR)	1.000	Acceptable if ≥ 0.9 , ideally = 1
Statistical suppression ratio (SS)	1.000	Acceptable if ≥ 0.7 , ideally = 1
Nonlinear bivariate causality direction ratio (NLBCDR)	1.000	Acceptable if ≥ 0.7 , ideally = 1

(RSCR) value was 1.00, which means that the model used was free of negative *R*-squared contributions. Finally, the non-linear bivariate causality direction ratio (NLBCDR) value obtained was 1.00, indicating that 100% or more of the associated paths in the model supported reversing the hypothesis of weak causality. Thus, it can be concluded that the overall model was feasible and could be used for further analysis.

4.3. Structural model

Based on Table 5 and image 2, the findings for hypothesis 1 were as follows: $\beta_2 = 0.373$; $p < 0.01$; $R^2 = 0.19$. The direct effect results showed that greenwashing has a positive effect on green word of mouth so that H1 was accepted. This finding indicates that greenwashing will make consumers spread negative news to others. H2 states that greenwashing has a positive effect on green skepticism. Table 5 and image 2 show the following results for hypothesis 2: $\beta_2 = 0.713$; $p < 0.01$; $R^2 = 0.51$. Therefore, H2 was supported. This finding strengthens the S–O–R theory which explains that the stimulus of greenwashing will lead to the attitude or feeling (organism) of green skepticism. H3 states that green skepticism has a positive effect on negative green word of mouth. Based on Table 5 and image 2, the findings related to H3 were as follows $\beta_2 = 0.09$; $p < 0.091$; $R^2 = 0.19$. Therefore, H3 was supported. This finding indicates that green skepticism will make consumers spread negative news to others. This finding strengthens the S–O–R theory which explains that organisms will influence a person to respond in the form of a negative reaction by spreading negative news. Finally, H4 states that green skepticism mediates the effect of greenwashing on green word of mouth. Based on Table 5, the results obtained related to the indirect effect in H4 were as follows: $\beta_2 = 0.063$; $p < 0.037$. Therefore, H4 was supported. This finding indicates that green skepticism mediates the effect of greenwashing on green word of mouth. If the direct effect is significant despite the presence of a mediating variable, then it is partial mediation which means the indirect effect and direct effect are significant and point in the same direction (Hair et al., 2021). Thus, S–O–R theory helps us understand how various stimuli from companies claiming to be environmentally friendly (greenwashing) can influence consumers' internal processes (green skepticism) and how this is then reflected in their responses in communicating to others (negative green word of mouth).

Table 5. Structural model.

Hypotheses	β coefficient	Probability	Decision
H1: GW \rightarrow NGWOM	0.373	$p < 0.001^{***}$	H1 supported
H2: GW \rightarrow GS	0.713	$p < 0.001^{***}$	H2 supported
H3: GS \rightarrow NGWOM	0.09	$p < 0.04^{**}$	H3 supported
H4: GW \rightarrow GS \rightarrow NGWOM	0.063	$p < 0.037^{**}$	H4 Mediation

*** $p < 0.01$; ** $p < 0.05$ (Figure 2).

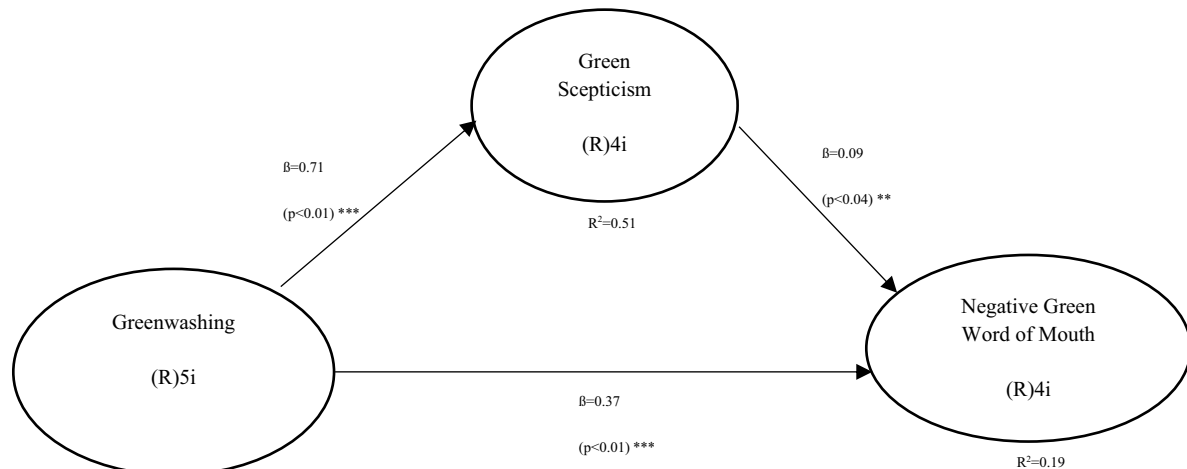


Figure 2. PLS-SEM results. Notes: *** $p < 0.01$; ** $p < 0.05$.

5. Discussion and conclusion

5.1. Discussion

Firstly, it has been shown that greenwashing has a positive influence on negative green word of mouth (NGWOM). When consumers learn that they have been deceived by greenwashing claims, they may feel disappointed and betrayed. This disappointment can trigger a negative reaction that is expressed through negative green word of mouth (Sajid et al., 2024). Consumers who feel betrayed are likely to share their bad experiences with others, which can form a negative image of the brand (Chen et al., 2020; Sajid et al., 2024). Moreover, in this digital age, consumers often share their experiences online through social media platforms, forums, and online reviews (Ahmad & Zhang, 2020). If a brand engages in greenwashing, this can trigger negative conversations among online communities. People may use social media or review platforms to express their dissatisfaction, causing a wider spread of NGWOM.

Second, greenwashing can increase consumer green skepticism. Previous research showed that greenwashing can harm brand reputation and reduce the level of consumer trust in a brand's sustainability claims (Hameed et al., 2021; Nguyen et al., 2021). A mismatch between sustainability claims and actual practices can lead to distrust (Chen et al., 2014). Consumers will be suspicious when companies are greenwashing. They become sceptical of these claims and begin to doubt the company's sincerity in implementing sustainability practices.

Third, green skepticism has a positive effect on negative green word of mouth. Consumers who are sceptical of a brand's sustainability claims tend to be more sensitive to aspects that do not match the claims (Singh et al., 2022). When they experience and find evidence that supports their doubts, they are encouraged to share their negative experiences through NGWOM. This can be done by writing negative reviews, making negative social media posts, or engaging in direct conversations with fellow consumers.

Fourth, the connection between greenwashing and negative green word of mouth is partly mediated by green skepticism. When consumers realize that the company is greenwashing, they become sceptical and are encouraged to share information with others. Thus, all the hypotheses proposed were accepted, and the results were found to be consistent with existing research (Aji & Sutikno, 2015; Chen et al., 2014; Leonidou & Skarmas, 2017; Nguyen et al., 2021; Zhang et al., 2018).

According to S–O–R theory, the stimulus could be information or consumers' past experiences with greenwashing, or information from other sources indicating that many companies are not truly environmentally friendly. Consumers' internal processes involve increased wariness and skepticism towards green claims. Skeptical consumers will be more critical and tend to check the validity of these claims (Nguyen et al., 2019, 2021). Consumer responses can include sharing their experiences and views with others. If they believe green claims, they will likely share positive recommendations (positive green WOM) (Chen et al., 2014; Zhang et al., 2018). On the other hand, if they feel deceived by greenwashing, they will spread negative experiences (negative green WOM) (Leonidou & Skarmeas, 2017).

5.2. Conclusion and implication

5.2.1. Conclusion

This study explores the influence of greenwashing on green word of mouth by considering the mediating role of green skepticism. By collecting 397 questionnaires from respondents, we tested discriminant validity and construct reliability, where all latent variables as well as their constructs could be proven for their validity and reliability. In addition, the model accuracy test also showed good results meeting the parameters. This research focuses on the fashion industry, which is a dynamic and growing sector. The industry is often faced with unique sustainability challenges, such as textile waste issues and high resource consumption. Therefore, the findings in this study are expected to provide a better understanding of the relationship between greenwashing, green skepticism, and green word of mouth in the context of green products in the fashion industry.

5.2.2. Implication for theory

This study can make a theoretical contribution by developing or extending the S–O–R theory related to negative antecedents such as greenwashing, green skepticism, and negative green word of mouth. By investigating the relationship between these three variables, this study can enrich the academic literature and serve as a foundation for future research in this area. Additionally, by using SOR theory, researchers can more deeply understand the dynamics between green claims and consumer responses, which in turn can help in designing strategies to address greenwashing and promote more sustainable business practices.

5.2.3. Implication for business

The results of this study are expected to have practical implications for brands in the fashion industry. The findings can guide fast fashion companies in developing more honest and effective marketing strategies related to sustainability. The research results show that greenwashing affects negative green word of mouth, which means that if a company carries out greenwashing, consumers will be able to spread bad news about the fast fashion company, which, of course, will have an impact on the company's reputation and ultimately affect sales of fast fashion products (Munir & Mohan, 2022). Companies should build consumer trust by exercising proper governance and making clear policies regarding eco-friendly claims so that it will encourage more positive green word of mouth (Fernandes et al., 2020; Zhang et al., 2018).

5.2.4. Implication for policy maker

In addition, this research can encourage the government to issue consumer protection laws related to greenwashing rules by tightening regulations regarding environmentally friendly advertisements or claims like those in developed countries. Policymakers can set stricter standards and regulations regarding the environmental claims that companies can make. Requirement that environmental claims must be supported by certification from a recognized independent agency. Policymakers are also exercising stricter oversight of advertising and marketing campaigns to ensure regulatory compliance.

5.3. Limitation and future direction

This research has several limitations. First, this research was only conducted in Indonesia, so further research can be developed with other countries for comparison. In addition, this research is limited to greenwashing as independent variable. Further research is advised to analyze other variables that affect green word of mouth, such as willingness to buy or brand loyalty (Kreczmańska & Gigol, 2022). This research also opens space for further research to use moderating variables in certain research models that discuss green word of mouth, such as environmental knowledge or environmental concern (Nguyen et al., 2019; Zhang et al., 2018). An experimental research design is suggested for further research.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Author contributions statement

Rika Promalepsy: Conceptualization and design, drafting the paper, revising the paper critically for intellectual content. Tanti Handriana: Conceptualization and design, drafting the paper, revising the paper critically for intellectual content, final approval of the version to be published. All authors contributed to the article and approved the submitted version.

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Data availability statement

Data available on request from the authors. The data that support the findings of this study are available from the corresponding author, [R.P], upon reasonable request.

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