The Effect of Perceived Greenwash on Green Trust with Green Perceived Risk and Green Perceived Value as Mediating Variables: Study on Danone-Aqua Indonesia

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Abstract

Amidst customers' growing awareness regarding their consumption's influence on environmental sustainability in consumption processes, many businesses must take necessary actions to maintain consumer trust that they embrace the same environmentally responsible values as customers. Greenwashing, which involves making misleading statements about a company's pro-environmental stance or failing to meet a commitment to lessen negative environmental impacts, has significantly eroded consumer trust. This study investigated the influence of perceived greenwashing on environmental trust and the mediating effect of perceived green risk and perceived green value. This study's sample consisted of 200 respondents selected using a method of purposive sampling based on the criterion of Generation Z members with knowledge of greenwashing methods and the B Corporation accreditation awarded to Danone-Aqua Indonesia. The data processing approach employs the SEM-PLS technique with the SmartPLS 3.0 application. The study results indicate that perceived greenwash has no significant effect on green trust, but the effect becomes significant when perceived green risk and value are present as mediating variables. Therefore, in order to maintain consumer trust in the company's performance in preserving the environment, Danone-AQUA is encouraged to make continuous efforts to increase customer perceived value and minimize the perceived risks that consumers experienced, including maintaining the B Corporation Accredition value excellent, amidst circulating greenwashing concerns.

Introduction

Along with growing customer awareness of the environmental impact of their consumption as well as pressure from government regulations, many firms are responding to these issues by branding themselves as eco-friendly, sustainable, ethical, or organic (Parguel et al., 2015; Schmuck et al., 2018). Consumers who are conscious of the environmental impact of their consumption tend to choose items manufactured by manufacturers who are similarly concerned about the environmental impact and are willing to pay a premium price as long as the company's promises are delivered (Chen et al., 2021). However, it is currently quite difficult for consumers to prove that the products they purchase adhere to ethical and environmentally friendly manufacturing practices, particularly when it comes to companies that package food and beverages in plastic, oil and gas companies, or airline flights. These firms not only rely heavily on non-renewable energy sources in their primary production processes, but also generate waste that is extremely difficult to decompose naturally and highly polluting (Baum, 2012). The phenomena of confusing green company claims or ads that emphasize ecologically favourable qualities yet are hard to prove is known to as greenwashing, which needs further academic research (de Freitas Netto et al., 2020).

Following the B Corporation Certification process is one approach for businesses to preserve consumer trust and demonstrate their commitment

to ethical and ecologically responsible governance to stakeholders. To earn B Corps certification, businesses must complete a self-assessment procedure and an external auditing process by the B Lab, which verifies that the company's governance, workers, community, environment, and consumers conform to the required standards (Colamartino, 2022). In Indonesia, only few businesses that have earned B Corps accreditation due to the certification's high cost and the industries' lack of awareness about the importance of radical efforts to preserve nature. Danone-Aqua is one of the pioneering firms to acquire B Corps accreditation and operate in Indonesia, having been certified from 2018 until the present. Meanwhile, environmentalists continue to question the environmentally friendly efforts of that bottled mineral water corporation, especially now that Indonesia has been declared as the second-worst country for marine plastic pollution after China (Lestari & Trihadiningrum, 2019).

Danone is also ranked eighth in 2021 as a fast-moving consumer goods company that contributes to the world's largest plastic waste and also contributes to the worsening of the climate change crisis (BreakFreeFromPlastic, 2021). This study aims to evaluate the relationship between consumer perspectives on greenwashing on green trust with the mediation of green perceived risk and green perceived value in Danone-Aqua companies that have been B Corps certified. The B Corps claim is possibly flawed in that it evaluates many aspects other than the environment, such as governance and employee empowerment. It is possible that Aqua's value is high due to excellent non-environmental governance. Aqua provides sanitation facilities, constructs solar panels as a renewable resource, and offers social benefits to its employees in the environmental field. Due to the debate over whether B Corps can convince customers of a company's commitment to being ethical and environmentally friendly, this study will examine the relationship between consumer perceptions on

greenwashing and green trust with the mediation of green perceived risk and green perceived value in Danone-Aqua.

Literature Review

Greenwashing was first discussed in 1986 by an environmentalist named Jay Westerveld who raised a case regarding an invitation to hotel consumers to be environmentally friendly by using reusable towels, even though the campaign's motivation was far from being environmentally friendly, but merely a corporate image and cost efficiency (de Freitas Netto et al., 2020; Guo et al., 2018). Greenwashing can be generally defined in two ways, as a selective disclosure and as a decoupling. Selective disclosure greenwashing is a communication pattern built by companies that mislead consumers regarding the company's good performance to the environment but cover up unethical practices (Lyon & Montgomery, 2015; Tateishi, 2018). Selective disclosure is a symbolic approach used by a business to establish a positive reputation and conceal the company's overall performance that harms the environment by highlighting positive information that is actually insignificant in efforts to conserve nature (Marquis et al., 2016). Greenwashing as decoupling is an action to give a good impression to stakeholders by promising environmental actions while failing to follow through on such promises (Siano et al., 2017). In this study, researchers will examine the relationship between perceived green washing and Indonesian consumer trust in Danone-Aqua brand.

The negative effect of perceived greenwash on green trust

In numerous prior research, it was discovered that greenwash and ecologically friendly initiatives that are merely an image might weaken consumer trust in a brand's green practices, causing consumers to be skeptical. Confusion experienced by consumers and bad experiences regarding greenwashing cases can make trust in brands decrease and it is also hard to believe the company's good promises to care for the environment, so that it can also affect the

company's overall image (Ha et al., 2022a). Greenwash can take the form of deceptive claims in advertising, misleading financial reports, acts that mislead authorities, or companies appearing to have maintained their commitments to contribute to the environment to conceal the negative influence they have had on the environment (Ioannou et al., 2022). Consumer trust in promises, performance, and environmentally friendly impacts stated by the company is also known as green trust (Y. S. Chen & Chang, 2012; Román-Augusto et al., 2022). Due to the widespread practice of greenwashing by companies in their marketing strategies in recent years, consumers find it difficult to distinguish between environmentally friendly practices that are truly implemented with full commitment and have a real impact and companies that only make promises but do not truly care about environmental damage (Y.-S. Chen & Chang, 2013). The hypothesis being tested in this research is consistent with the results of several earlier investigations, specifically the following:

Hypothesis 1 (H1): Perceived greenwash has a negative effect on green trust**.**

The negative effect of green perceived risk on green trust

Perceived risk is a consumer's subjective estimation of the undesirable outcomes that may result from the consumption process and their expectations of a product or service. Consumers are concerned about the possibility of financial loss, as well as health, psychological, social, and performance-related effects (Braga Junior et al., 2019). Customers convey uncertainty when they become aware of unintended, ambiguous consequences (Mwencha et al., 2014). In the context of consumer concerns and suspicions regarding the company's non-compliance with the company's promise to be environmentally friendly and the actual reality, it is also referred to as green perceived risk in many prior research (Tarabieh, 2021). Generally, firms utilize environmentally friendly statements to provoke consumers, making them more enthusiastic, and encourage them to do the right thing when they purchase a green product. Based on the findings of prior study, it is hypothesized that, in order to improve customer trust, businesses must undertake communication efforts to lower the cognitive and affective perceptions of risk. In other words, green perceived risk has a negative effect on green trust. However, due to the high number of greenwashing practices, inaccurate claims about a company's green impact might increase green perceived risk and consumer distrust of other brands that feature promotions with environmentally friendly highlights (Sun & Shi, 2022). The research hypotheses regarding the effect of perceived green risk on green trust are concluded as follows:

Hypothesis 2 (H2): Green perceived risk has a negative effect on green trust.

Hypothesis 3 (H3): Green perceived risk has a significant mediating effect on the negative relationship between perceived greenwashing and green trust.

The positive effect of green perceived value on green trust

Perceived value is a consumer's overall evaluation of the benefits of a product or service, which is believed to enhance customer trust (Abror et al., 2021; Roh et al., 2022). In the context of this study, green perceived value refers to a consumer's evaluation of the company's performance and positive environmental impact in achieving their environmental expectations, requirements, and aspirations (Y. S. Chen & Chang, 2012). B Corporation certification is believed to be able to increase green perceived value in the minds of consumers, which has positive implications for green trust because consumers perceive that the company's performance has been audited by a credible and independent institution, leading to the claim that the company has substantial evidence (Colamartino, 2022). Consequently, this study hypothesizes that green trust can be developed through green perceived value existence, despite the fact that consumers have a greenwash perception of related brands. The following are hypotheses related to green perceived value and green trust in this study:

Hypothesis 4 (H4): Green perceived value has a positive effect on green trust.

Hypothesis 5 (H5): Green perceived value has a significant mediating effect on the negative relationship between perceived greenwashing and green trust.

Figure 1 shows the research framework used in this study, namely the perceived greenwash variable as an exogenous variable, with the green perceived risk and green perceived value variables as mediation, and green trust as an endogenous variable.
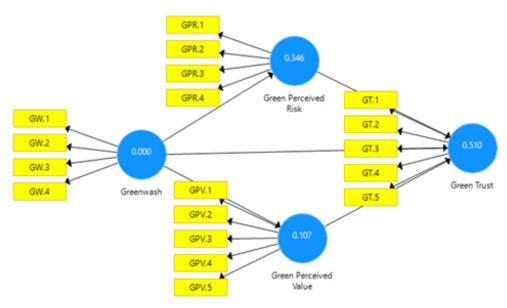

Figure 1 Research Framework

Methods

Samples and Data Collection

The population in this study includes all consumers who have experience consuming Danone-Aqua products in Indonesia. The method of sampling utilized in this study is purposive sampling, which is non-probabability sampling, with the particular characteristics required including respondents who have knowledge of greenwashing, are aware that Danone-Aqua Indonesia has been accredited as a B-Corporation, and have consumed products from this company. The researchers distributed questionnaires to students in the Yogyakarta area and asked them preliminary questions regarding their insights on greenwashing and the B-Corporation accreditation of Danone-Aqua in effort to clarify the specific characteristics of the respondents. Students between the ages of 17 until 21 are considered eligible respondents for this study since Generation Z has a profile that demonstrates high concern for environmental issues and growing

purchasing power (Kristia, 2021; Su et al., 2019). The total number of participants in this study was 200, which was considered a sufficient quantity to represent the population's characteristic. During the period of December 2021 to April 2022, data were collected via an online survey distributed via Google Forms.

Research Instruments

Prior to conducting surveys, the researchers performed a pilot study with 30 participants to test the questionnaire's validity and reliability in accordance with the requirements of purposive sampling. The questionnaire was then revised based on the findings of the preliminary study and distributed to 200 more respondents. This study employed a Likert scale with seven-point response categories since this scale could provide more information function than a scale with fewer response categories and is more effective in terms of measurements and reliability functions (Aybek & Toraman, 2022). The items of

the questionnaire used in this study were taken from several previous studies related to greenwash, green perceived risk, green perceived value, and green trust variables as shown in Table 1.

Table 1. The Survey Instrument as a Construct Measurement

Construct	Items	References
Perceived greenwash		Chen and Chang (2012); Chen and Chang (2013); Tarabieh (2022)
GW.1	This brand's ads and promotional techniques proclaiming its eco-friendly characteristics are unverifiable.	
GW.2	This brand's marketing strategy on its commitment to being an eco-friendly brand is ambiguous.	
GW.3	The marketing strategy of this brand exaggerates the company's eco-friendly attributes.	
GW.4	This brand marketing strategy conceals key information on purpose so that the brand appears more ecologically friendly than it actually is.	
Green perceived risk		Chen and Chang (2013)
GPR.1	The way this brand works and how it affects the environment may not be as good as advertised.	
GPR.2	Because of how the environment is set up, it's possible that this brand's performance won't work right.	
GPR.3	Using this brand could have a harmful impact on the environment.	
GPR.4	Utilizing this product will harm your reputation and environmental image.	
Green perceived value		Yue et al (2021); Chen and Chang (2013)
GPV.1	This brand has high value and negligible environmental impact.	
GPV.2	This product's performance and environmental effects fulfil my expectations.	
GPV.3	I bought this brand because it cares more about the environment than other similar mineral water brands.	
GPV.4	I purchased a product from this brand because of its eco-friendliness.	
GPV.5	I buy a product from this brand because it is better for the environment than other products.	
Green trust		Chen and Chang (2013)
GT.1	I believe that the brand's reputation for eco-friendliness is reliable.	
GT.2	I believe this brand's green image is generally trustworthy	
GT.3	I believe that this brand's environmental claims are generally credible	
GT.4	This brand's product's environmental considerations match your expectations.	
GT.5	This brand honours its promise and commitment to always be environmentally conscious and considerate.	

Data Analysis Method

This study assesses the research model using the partial least squares (PLS) method using SmartPLS 3.0 software. The partial least square-structural equation model (PLS-SEM) is a factorization method and an analysis technique that explains how studied variables create latent variables and verify their correlation (Hair et al., 2019; Sarstedt et al., 2022). PLS-SEM is a robust and dependable method for identifying optimal components using factor analysis and increasing the predictive ability of each latent variable effect on endogenous variables. PLS-SEM does not require the normality required for covariance-based multivariate analysis, hence sample does not really matter (Roh et al., 2022).

There are two steps for examining the instrument's validity: testing convergent validity by reviewing the loading factor and AVE (Average Variance Extracted) value, and testing discriminant validity by evaluating the Fornel-Larcker Criterion and cross loading. The purpose of the convergent validity test is to evaluate the quality of the questionnaire statement items. If the respondent can comprehend the questionnaire statement items related to the variables to be measured, then the convergent validity is deemed acceptable, i.e., if the loading factor is greater than 0.70 and the AVE value is greater than 0.50. Furthermore, discriminant validity is assessed to ensure that each of the constructs utilized in the study is distinct from each other. To determine discriminant validity using Fornell-Larcker analysis, the square root of the AVE of each

construct must be larger than its correlation with any other construct in the framework (Amora, 2021; Rabbi et al., 2021). Cronbach Alpha and Composite Dependability values, which typically range between 0.70 and 0.95 and are considered acceptable, can be used to assess the construct's reliability (Aburumman et al., 2023). At the evaluation stage of the structural model, the R^2 value is the indicator that should be analyzed. After confirming that the inner and outer models adhere to the rule of thumb, a testing hypothesis can be established.

Results
Validity Test

The first step in this research data processing is to test the convergent validity of the 200 questionnaires obtained by the researcher by analyzing the findings of the loading factor and AVE value as shown in Table 2. According to the output of the analysis, all constructs with reflexive indicators have loading factor values more than 0.70, indicating that all construct items in this study are valid. Likewise, the Average Variance Extracted (AVE) value produced by all reflexive constructs has a value above 0.5 therefore it meets the convergence and reliability requirements. The next step is to analyze the results of the Fornell-Larcker test to test discriminant validity. As presented in Table 3, all correlation values for the same variable are greater than the correlation between these variables and other variables, indicating that latent constructs can predict their own indicator better than other constructs.

Table 2. Constructs Validity & Reliability Results

Items	Loading Factor	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Greenwash					
GW.1	0.877	0.913	0.915	0.939	0.793
GW.2	0.876				
GW.3	0.901				
GW.4	0.906				
Green Perceived Risk					
GPR.1	0.828	0.859	0.859	0.904	0.703

GPR.2	0.865				
GPR.3	0.866				
GPR.4	0.791				
Green Perceived Value					
GPV.1	0.845	0.923	0.923	0.942	0.764
GPV.2	0.853				
GPV.3	0.890				
GPV.4	0.900				
GPV.5	0.879				
Green Trust					
GT.1	0.890	0.934	0.934	0.950	0.792
GT.2	0.913				
GT.3	0.894				
GT.4	0.889				
GT.5	0.862				

Table 3 Discriminant Validity Fornell-Larcker Criterion

	Green Perceived Risk	Green Perceived Value	Green Trust	Greenwash
Green Perceived Risk	0.838			
Green Perceived Value	-0.440	0.874		
Green Trust	-0.511	0.790	0.890	
Greenwash	0.707	-0.383	-0.391	0.890

Reliability Test

The reliability test is a measurement of the internal consistency of indicators of a construct, which indicates the extent to which each of these indicators reflects a general latent construct. Table 3 shows that the Cronbach's Alpha and Composite Reliability values of all constructs are greater than 0.7, indicating that all variables in this model have good reliability.

R^2 Value

The value of R square (R^2) is the degree of the variation in the value of the affected variable that can be explained by the influencing variable. According to Table 4, the adjusted R^2 values for the variables Green Perceived Risk, Green Perceived Value, and Green Trust are 0.497 or 49.7% (moderate), 0.142 or 14.2% (weak), and 0.653 or 65.3% (strong), respectively.

Table 4. R^2 Values

Constructs	R Square	R Square Adjusted
Green Perceived Risk	0.500	0.497
Green Perceived Value	0.147	0.142
Green Trust	0.658	0.653

Hypotheses Testing

After running a structural model test, it is possible to test hypotheses by examining the bootstrap test values for each sample. The hypotheses are accepted if the significance level, as determined by the P values, is less than 0.05 and the t-value surpasses the critical value of 1.96 with a 5% level of significance (Hair et al., 2019; Kwong & Wong, 2013). The t-statistics and P values for testing H_1, H_2, and H_4 can be seen in Table 5's direct effect part. To test hypotheses H_3 and H_5 about the existence of a mediating role,

researchers must compare the level of significance between the direct and indirect effects.

In the H_1 test, the t-statistics value of 0.675 was less than 1.96 (the critical value), and the P value of 0.5 was more than 0.05, therefore H_1 was rejected, indicating that perceived greenwash had no significant effect on green trust. For H_2 and H_4, the P values and T statistics fit the criterion for accepting the hypothesis, as can be shown. As evidenced by the negative value (-0.231) of the original sample, the direction of the relationship between green perceived risk and green trust is also shown to be in the opposite direction, meaning, the higher the green perceived risk felt by consumers, the lower the green trust. While the original sample value for the correlation between green perceived value and green trust is positive (0.704), this indicates that the higher the consumer's appraisal of the environmental contribution made by the brand, the greater the green trust.

The effect of perceived greenwashing on green trust becomes significant in the presence of mediating variables, namely green perceived risk and green perceived value, as evidenced by changes in the significance value of the previously insignificant direct effect, which becomes significant in the indirect effect. This means that in the context of this study, the issue of greenwashing does not directly affect the level of customer confidence associated to environmentally friendly performance at Danone-Aqua Indonesia; rather, the effect is mediated through green perceived risk and green perceived value.

Table 5. Hypotheses Testing Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Direct Effect					
Green Perceived Risk -> Green Trust	-0.231	-0.238	0.068	3.397	0.001
Green Perceived Value -> Green Trust	0.704	0.702	0.048	14.553	0.000
Greenwash -> Green Perceived Risk	0.707	0.707	0.043	16.518	0.000
Greenwash -> Green Perceived Value	-0.383	-0.377	0.075	5.097	0.000
Greenwash -> Green Trust	0.042	0.050	0.062	0.675	0.500
Indirect Effect					
Greenwash -> Green Perceived Risk -> Green Trust	-0.163	-0.168	0.050	3.246	0.001
Greenwash -> Green Perceived Value -> Green Trust	-0.270	-0.264	0.051	5.301	0.000

Discussion

This study demonstrates that perceived greenwash has no direct effect on consumers' green trust in Danone-Aqua Indonesia. This refutes the findings of previous studies, which indicated that greenwash can directly weaken consumer trust in a brand (Y. S. Chen et al., 2020; Guerreiro & Pacheco, 2021; Tarabieh, 2021). It is believed that the halo effect of the Danone-Aqua brand prevents consumers from losing trust in the business in the midst of circulating allegations of possible greenwashing (Ha et al., 2022b).

Consumer trust can be influenced by perceived greenwash indirectly, with the presence of green perceived risk and green perceived value as intervening variables, so that hypotheses 3 and 5 are also both accepted. The mediating effect of customer perceived risk and customer perceived value on the relationship between greenwash and green trust is consistent with previous research findings (Y. S. Chen & Chang, 2012; Y.-S. Chen &

Chang, 2013; Imaningsih, 2019). A good B Corporation Accreditation score from year to year demonstrates that Danone-Aqua makes consistent efforts to protect the environment, which is one method for increasing the company's green perceived value and reducing perceived risk among consumers. If consumers perceive that Danone-AQUA has implemented a variety of best practices to increase company value for its contribution to environmental preservation efforts and to reduce environmental pollution risks that can harm the surrounding environment, customer trust in this brand will undoubtedly be preserved.

Conclusions and Suggestions

It found that perceived greenwash was not proven to have a direct effect on green trust. As long as the firm can deliver its basic functions, meet customer demands, does not directly hurt consumers, and does not directly harm consumers, consumers might also not pay much attention to the issue of greenwashing (Ioannou et al., 2022). Consumers may also have a high tolerance for waiting a long time for companies to meet their environmental promises, which may take longer than expected. Moreover, customers also consider the presence of B-Corporation certification as evidence that Danone-Aqua complies with its promise to make a good contribution to the triple bottom line, specifically environmental, social, and governance aspects.

Green perceived risk is proven to have a negative and significant effect on consumer trust in Danone-Aqua goods. Both green perceived risk and green perceived value fully mediate the negative relationship between greenwash and green trust. This demonstrates that corporations need to make actions to reduce the degree of green perceived risk and increase green perceived value towards consumers, such as by making information transparency related to the company's progress in attempting to correct the environmental damage caused (Abdou et al., 2022; Pillai et al., 2022). Consumers are more

likely to be appreciative and trusting of a firm's minor environmental improvement than if the company misrepresented or dishonest about its performance.

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