

The Extended Consequence of Greenwashing: Perceived Consumer Skepticism

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ABSTRACT

In a review of more than 1,000 self-described “green” or eco-friendly products, one organization [TerraChoice, 2010] found that all but one of the products exhibited some form of greenwashing. “Greenwashing” is a type of spin in which public relations or marketing is used deceptively to promote the perception that a company and its products or services are environmentally safe or “friendly.” This study examined the construct of perceived consumer skepticism as the extended consequence of greenwashing, thus extending the study by Chang and Chen [2013], which examined the link between greenwashing and green trust, with a view to the extended and final consequences. The authors of the current study formulated 10 hypotheses, developed a structural model with six variables, and tested the relationships in the model using a purposive sampling technique that involved an online and offline survey of a sample of green consumers in Yogyakarta, Indonesia. This study found that greenwashing has a positive association with green consumer skepticism (GCC), perceived consumer skepticism (PCS), and green perceived risk (GPR). Furthermore, the study found a surprising link between GCC-PCS-GPR and green trust (GT). The study also discussed the practical implication of these findings and offers suggestions for future research.

Keywords: Green marketing, greenwashing, perceived consumer skepticism

1. INTRODUCTION

Environmental issues have become increasingly popular among consumers worldwide and are a popular topic for research and discussion in academic circles and the industrial sector. Rising concerns about global warming have made consumers even more conscious of environmental issues [Chen, 2008]. With increased consumer interest in environmentally friendly products and services, manufacturers have devoted considerable effort to the marketing and sales of so-called “green” products [Bhatia and Jain, 2013]. The popularity of green products has caused manufacturers to adopt eco-friendly practices that affect not only the production process, but also the final product itself [Kivimaa and Kauto, 2010]. To sell these products, manufacturers create advertising that makes eco-friendly or green claims in order to target consumers who lead a green lifestyle [Divine and Lepisto, 2005]. Green marketing is viewed as the best concept and strategy to respond to market needs and wants.

Many environmental claims focusing on the green (environmental) attribute, however, are ambiguous and deceptive [Chen and Chang, 2012]. Environmentalists and some consumers are crying foul, saying that many companies are making their products out to be greener than they really are [Hsu, 2011]. Of the more than 1,000 self-declared green products reviewed by TerraChoice [2010], as cited by Lane [2012], it was found that all but one exhibited some form of greenwashing. “Greenwashing” is a type of spin in which public relations, advertising, or marketing is used deceptively to create the perception that a product or service is “green.” This practice has given some consumers the negative intent to purchase these products or services [McGrath, 1992; Newell et al., 1998]. The practice also increases consumer confusion when it comes to purchasing products with environmental features.

The objective of this study is to extend the study by Chen and Chang [2013] by proposing perceived consumer skepticism (PCS) and switching intention as the extended consequences of greenwashing. Chen and Chang [2013] examined the direct relationship connecting greenwashing to green trust (GT), and the indirect relationship between greenwashing and green trust (GT), with green consumer confusion (GCC) and green perceived risk (GPR) as mediating variables. All hypotheses in their study were supported, but there are gaps in the study that can be filled.

Established theory of advertising and switching behavior implies that consumers tend to be skeptical of ads, especially green ads, and that consumers

may have the intention to switch if they are ethically injured. Consumers are particularly skeptical of advertising that proclaims the “greenness” of a product. In academic literature, this behavior is known as “perceived consumer skepticism” (PCS). The construct, which was introduced by Mohr, Eroglu, and Ellen [1998], refers to the tendency among consumers to disbelieve environmental claims made in advertising [Matthes and Wonneberger, 2014]. The problem is a serious one because consumers are indeed skeptical of green claims [Sheehan and Atkinson, 2012] that are motivated by profit [Albayrak, Cabeer, Moutinho, and Herstein, 2011].

Moreover, Keaveney [1995] has shown that the ethical problems caused by greenwashing may lead to switching intention and later to switching behavior. Chen and Chang’s [2013] study did not include the problem of perceived consumer skepticism (PCS) nor the problem of switching intention. The current study takes these two problems into account, thus distinguishing the current research from the work by Chen and Chang [2013]. It is hoped that this empirical study will provide a theoretical contribution to academic literature on the subject of greenwashing.

2. LITERATURE REVIEW

In their book, Kottler and Keller [2012] said that the starting point of a business is not the company but the market. In order to survive competition, therefore, a company has to adjust its vision and mission to match what the market needs and wants. Since today’s consumers are more conscious of the environment, they make a significant effort to buy eco-friendly products and services [Roberts, 1996; Kalafatis et al., 1999]. Green marketing targets “green” consumers by purportedly making “eco-friendly,” “environmentally friendly” products. Before specifically explaining the variables observed, we offer the following definition and brief explanation of green marketing concepts. Once one grasps the definition and concept of green marketing, it is easy to understand greenwashing.

2.1. Green Marketing

It all began on Earth Day 1990 when millions of people around globe gathered in their communities to protest the rapidly declining health of the planet [Gallicano, 2011]. Since then, public concern about environmental issues has increased steadily [Choi, 2005, cited from Kaufman et al., 2012]. As a result,

companies have responded by developing what they describe as environmentally friendly products [Kohl, 1990].

Scholars have defined many other terms for green marketing, such as “ecological marketing,” “environmental marketing,” or “responsible marketing” [Polonsky, 2011]. Green marketing is a concept and strategy adopted by a company to advertise its green practices as an expression of its concern for environmental issues. Manju [2012] refers it to a holistic concept wherein the production, marketing, consumption, and disposal of products and services occur in a manner that is less detrimental to the environment. Green marketing that was previously focused primarily on the ecological context has been shifted to sustainability issues so that the main focus now is on the socioeconomic and environmental context [Mohanandaram, 2012]. The various other terms for green marketing have a common focus on the exchange process, with a proviso that exchange considers and minimizes environmental harm [Polonsky, 2011]. Because the issues strongly affect consumer perception and lifestyle, marketers have to carefully advertise their green products, so that customers do not perceive that they are being misled by deceptive advertising.

The specter of deceptive advertising has led to increased confusion among consumers regarding the environmental claims made about many products. The situation is further clouded by the ambiguous meaning of terms such as “environment-friendly” and “ozone-friendly” [Newell et al., 1998]. Questionable advertising prompted the U.S. Federal Trade Commission (FTC) to investigate and prosecute misleading environmental claims. The prosecutions reflect the FTC’s aim to police a chaotic marketplace teeming with ambiguous labels [Schmidt, 2009]. The FTC published the following criteria describing deceptive environmental ads [Cohen, 1974]:

1. Factually incorrect
2. Subject to multiple interpretations, one of which is false
3. Guilty of omitting relevant information
4. True, but the proof is false
5. “Literally” true but creates a false impression

Such deceptive, ambiguous, and misleading practices are described in academic literature as greenwashing.

2.2. Greenwashing

“Greenwashing” is defined as the act of misleading consumers regarding the environmental practices of a company or the environmental benefits of a

product or service [Greenpeace, n.d]. Some scholars define the term as the intentional misrepresentation of a firm's environmental efforts (or the lack thereof) [Alves, 2009, 2011; and Furlow, 2010]. A few years ago, consumers began using social media to campaign against greenwashing practices. In response, TerraChoice [2009] identified seven company "sins" with regard to misleading advertisements for green products:

1. Sin of the hidden trade-off. This is a claim that a product is "green," based on a narrow set of attributes, without mentioning other important issues. An example would be an advertisement for paper-making in which the source of raw materials is highlighted rather than the process of production (which may be environmentally harmful).
2. Sin of no proof. This is an environmental claim that cannot be substantiated by easily accessible supporting information or by a reliable third-party certification.
3. Sin of vagueness. This is a claim that is so poorly defined or so broad that its real meaning is likely to be misunderstood by the consumer. An example is the tagline "100% natural" or "all natural," when in fact one or more of the "natural" ingredients may be an environmentally harmful chemical.
4. Sin of worshipping a fake label. This is a product advertisement that, either through words or images, gives the impression of a third-party endorsement, when in fact no such endorsement exists.
5. Sin of irrelevance. This is an environmental claim that may be truthful, but is unimportant or unhelpful for consumers seeking environmentally safe products.
6. Sin of the lesser of two evils. This is a claim that may be true within the product category, but may distract the consumer from the greater environmental impact of the category as a whole.
7. Sin of fibbing. This includes environmental claims that are simply false.

2.3. Previous Research Findings

Greenwashing is an interesting issue that has not been frequently discussed or examined empirically in green marketing literature. We present, therefore, an overview of the findings of the study by Chen and Chang [2013]. In their study, greenwashing was confirmed to have a positive significant relationship to GCC and GPR. The path coefficient for greenwashing-GCC was 0.23, which is significant at $p\text{-value} < 0.05$, and the path coefficient for greenwashing-GPR was 0.23, also significant at $p\text{-value} < 0.05$. Their findings support established theory in greenwashing literature. Chen and Chang [2013] also related GCC and GPR to GT. As a result, they found that GCC and GPR were negatively associated with GT. The path coefficients were both significant at $p\text{-value} < 0.05$, with a score of -0.225 and -0.217 . GPR-GT findings in their 2013 study confirmed the findings of their 2012 study.

2.4. Hypotheses Development

The following section presents hypotheses developed during the current study in seven crucial areas:

- Greenwashing and green consumer confusion
- Greenwashing and perceived consumer skepticism
- Greenwashing and green perceived risk
- Green consumer confusion and green trust
- Perceived consumer skepticism and green trust
- Green perceived risk and green trust
- Proposed extended consequences of greenwashing

2.4.1. Greenwashing and Green Consumer Confusion

Deceptive and ambiguous ads about a product in relation to its environmental features will certainly generate serious consumer confusion. “Green consumer confusion” was defined in one study as a state of mind that affects information processing and decision-making so that the consumer may or may not be aware of being confused [Mitchell and Papavassiliou, 1999]. The term was redefined in another study as the consumer’s failure to develop a correct interpretation of the environmental features of a product or service during the information-processing procedure [Turnbull et al., 2000].

In either case, the consumer is confused about whether the product is really green, or just the opposite. This confusion causes the consumer to develop some negative perceptions about the product’s environmental features. One such

perception is the notion that the environmental campaign is just a part of the company's marketing strategy. Another perception is that, in advertising green products, the company is not motivated purely by environmental concerns, but rather by profit orientation. Whatever the case, marketers must strive to create consumer perceptions that are consistently positive because perceptions of greenwashing can damage the consumer's attitude toward a company [Peattie et al., 2009]. Ultimately, the perceptions generated by misleading ads may destroy the market by causing consumers to be suspicious of green products [Polonsky et al., 2010; Chen and Chang, 2012].

There are three types of green consumer confusion, as categorized by Mitchell, Walsh, and Yamin [2005]: (1) unclarity confusion, (2) similarity confusion, and (3) overload confusion. *Unclarity confusion* is defined as a lack of understanding, in which consumers are forced to re-evaluate their current beliefs about a product. This type of confusion may be caused by technological complexity, ambiguous information or dubious product claims, conflicting information, or incorrect interpretation [Mitchell, Walsh, and Yamin, 2005]. *Similarity confusion* is the potential alteration of a consumer's choice or an incorrect brand evaluation caused by the perceived physical similarity of products or services [Mitchell, Walsh, and Yamin, 2005]. *Overload confusion* is caused by a too much decision-relevant information regarding the choice of brands. With such a vast quantity of information available, it may be difficult for consumers to focus on the vital points, thus causing confusion [Mitchell, Walsh, and Yamin, 2005].

Connecting the three types of confusion to the topic, greenwashing would overload consumers with information and could make it more difficult for them to evaluate the product [Walsh et al., 2007]. Ambiguous and deceptive green claims may create confusion among consumers with regard to its environmental features. We hypothesized, therefore, that there is a positive relationship between greenwashing and green consumer confusion.

H1 : *Greenwashing is positively associated with green consumer confusion.*

2.4.2. Greenwashing and Perceived Consumer Skepticism

Obermiller et al. [2005] stated that consumers are more skeptical about advertising than any other form of communication. Often, consumers do not have the expertise or ability to verify the environmental and consumer values of green

products, which results in misperceptions and skepticism [Ottman et al., 2006]. Highly skeptical consumers would be more likely to respond less favorably to advertising [Anuar, et al., 2013]. Skepticism is one potential cognitive response to advertising exposure [Pomeroy and Johnson, 2009]. Cognitive responses are message-relevant thoughts that arise during deliberation as a result of one's relating message material to other message content or to prior knowledge and to attitudes stored in memory, with persuasion reflecting net favorableness of one's cognitive responses [Meyers-Levy and Malaviya, 1999; Pomeroy and Johnson, 2009]. Skepticism may also be defined as the disbelief of stated claims [Darley and Smith, 1993; Ford et al., 1990; Pomeroy and Johnson, 2009]. To the extent that one is skeptical, one is more likely to examine the claims made in advertisements in a critical way and not accept them at face value [Mangleburg and Bristol, 1998; Pomeroy and Johnson, 2009]. In this context, we hypothesized that greenwashing has a positive relationship with perceived consumer skepticism.

H2 : *Greenwashing is positively associated with perceived consumer skepticism.*

2.4.3. Greenwashing and Green Perceived Risk

Apart from its effects on consumer confusion and skepticism, green advertising that is misleading, ambiguous, and deceptive may cause the consumer to build a perception of risk associated with the products consumed. Perceived risk is connected with the possible consequences of a wrong decision [Peter and Ryan, 1976]. Assae [2004] identified several types of perceived risk:

- *Financial risk*: A function of the cost of a product relative to the consumer's disposable income
- *Social risk*: Failure of the purchase to meet the standards of an important reference group
- *Psychological risk*: The loss of self-esteem when the consumer recognizes that an error has been made
- *Performance risk*: The possibility that the product will not work as anticipated
- *Physical risk*: The possibility of bodily harm as a result of product performance

All of these risks are associated with, and are relevant to, the greenwashing issue. Assael [2004] also identified several factors associated with perceived risk:

- Consumers are highly involved with the product.
- There is little information about the product category.
- The product is new.
- The product is technologically complex.
- Consumers have little self-confidence in evaluating brands.
- There are variations in quality among brands.
- The price is high.
- The purchase is important to consumers.

With regard to environmental features labeled on green products, consumers will perceive that consumption of those products will later harm not only their image or reputation for environmental protection, but also their own health. Chen and Chang [2013] confirmed those possibilities (except for health risks) with significant loading scores. We hypothesized, therefore, that greenwashing is positively associated with consumer perceived risks.

H3 : *Greenwashing is positively associated with green perceived risk.*

2.4.4. Green Consumer Confusion and Green Trust

Because of their growing concern about the trustworthiness of ads, consumers are very critical in assessing advertisements. They feel that they cannot easily trust advertising that claims the goodness of a product, particularly with regard to environmental friendliness. Again, perceptions about ads play a very important role in consumer decisions about purchasing. Moreover, the customer trust issue is relevant and vital.

Trust is the level of willingness to depend on one object, based on the expectation of its ability, reliability, and benevolence [Ganesan, 1994; Hart and Saunders, 1997; Chen and Chang, 2012]. “Green trust” is the willingness to depend on one object, based on the belief in, or expectation of, its credibility, benevolence, and ability with regard to environmental performance [Chen, 2010]. Product advertising that is perceived as misleading or unproven will confuse consumers about the product’s environmental features. Ultimately, they will distrust the advertisers as well as their products. Consumers who feel uncomfortable from information ambiguity and incongruity will perceive unclarity [Cox, 1967; Chen and Chang, 2012]. Those who are confused about a

product will be reluctant to trust it [Mitchell and Papavassiliou, 1999]. More specifically, Kalafatis and Pollard [1999] and Chen and Chang [2013] confirmed that consumer confusion about green marketing is negatively associated with trust with respect to green claims. We hypothesized, therefore, that green consumer confusion and green trust have a negative relationship.

H4 : *Green consumer confusion is negatively associated with green trust.*

2.4.5. Perceived Consumer Skepticism and Green Trust

Skepticism is the disbelief of stated claims (Darley and Smith, 1993; Ford et al., 1990; Pomeroy and Johnson, 2009). The skeptical consumer will not accept advertising claims at face value [Mangleburg and Bristol, 1998; Pomeroy and Johnson, 2009]. The common thread in the various definitions of ad skepticism is trust. Indeed, ad skepticism often refers to the consumer's lack of trust in advertising [Boush et al., 1993, 1994; Mangleburg and Bristol, 1998].

Green consumers are thought to make green purchasing decisions either by the level of compromise required to purchase a green product or by the level of confidence in the product [Peattie, 2001; Albayrak et al., 2011]. Consumers who are confident about buying green products generally trust the product's claim regarding its environmental features. Matthes and Wonneberger [2014] stated that, instead of saying that consumers tend to distrust green ads, one needs to determine whether all consumers are skeptical of green ads or whether it is just green consumers who tend to distrust green campaigns. In this study, we hypothesized that there is a negative relationship between green consumer skepticism and green trust:

H5 : *Perceived consumer skepticism is negatively associated with green trust.*

2.4.6. Green Perceived Risk and Green Trust

According to the expectancy-disconfirmation paradigm, a comparison of consumer expectations and perceptions would lead to either confirmation or disconfirmation [Oliver, 1996; Chen and Chang, 2013]. That paradigm is consistent with expectation-confirmation theory, which states that the consumer will first form an initial expectation prior to purchase of a product or service and then build perceptions about its performance after a period of initial consumption

[Valvi and West, 2012]. To some extent, customers may disconfirm their expectation because of negative perceptions. In the context of environmental concern, these perceptions are associated with green product advertising.

From the standpoint of negative perceptions, perceived risk is related not only to the environment itself, but also to the consumer's physical body. Peter and Ryan [1976] defined perceived risk as perception that is connected with the possible consequences of a wrong decision. "Green perceived risk" is the perception that is connected with the possible consequences of a wrong decision with regard to environmental performance. Chen and Chang [2013] defined the term as the expectation of negative environmental consequences associated with purchase behavior. Perceived risk is a combination of negative consequences and uncertainty. Consequently, the assessment of perceived risk would affect a consumer's purchase decision [Peter and Ryan, 1976; Chen and Chang, 2012]. It would also influence consumer attitudes [Mitchell, 1999]. The risk that consumers face is, to some extent, noticed and felt more strongly than the benefit they gain. This view is consistent with the theory that consumers are keen to minimize the perceived risk rather than to maximize their utility [Mitchell, 1999].

The level of perceived risk would affect a consumer's decision making about whether to trust or distrust [Harridge-March, 2006; Chen and Chang, 2012]. If consumers feel high risk toward a product or brand, they would not trust the product or brand [Mitchell, 1999]. This logic is supported by several researchers who found that the higher the risk perceived by consumers, the lower their trust in the product or brand associated with green claims [Mitchell, 1999; Warrington et al., 2000; Corritore et al., 2003; Harridge-March, 2006; Gillespie, 2008; Eid, 2011; Chen and Chang, 2012). Therefore, we hypothesized:

H6 : *Green perceived risk is negatively associated with green trust.*

2.4.7. Proposed Extended Consequences of Greenwashing

In this study, we extended the consequences of the greenwashing-green trust link because academic studies never merely end at consumer attitude toward a product or brand. In this context, it is believed that greenwashing consequences will not stop at green trust. Greenwashing may have even further effects on consumer intention and behavior. In his theory of planned behavior (TPB) Ajzen [1991] identifies consumer attitude as one of the drivers of consumer intention and behavior. It has been proved that the TPB can explain and predict ethical as well as unethical behavior in many domains of life, including green purchase

[Kalafatis et al., 1999]. Chang [1998] also proved that the TPB can predict unethical behavior. In the following paragraphs, we examine the relationship between green consumer confusion (GCC)-perceived consumer skepticism (GCS)-green perceived risk (GPR) and customer intention to switch from green products to non-green products.

GCC-PCS-GPR and Customer Switching Intention. Marketers of green products must manage matters so that consumer perception is consistently positive. Perceptions of greenwashing can damage consumer attitudes toward a company [Peattie et al., 2009] as well as a product. Consumer attitude toward a product or brand will affect consumer purchase intention and behavior, according to Ajzen's [1991] theory of planned behavior. If consumers perceive that they are confused, they may abandon their purchase decision [Mitchell and Papavassiliou, 1999; Chen and Chang, 2012], an act of disloyalty [Walsh et al., 2007], or may switch to another product.

The effects can be caused as well by perceived consumer skepticism and risk. Obermiller et al. [2005] found that the proposed link between advertisement and purchase intention does not exist when consumers are skeptical about the advertisement. In his research on the green purchase intentions of Egyptian consumers, Mostafa [2006] showed that skepticism negatively influences purchase intention. His questionnaire included two items relating to skepticism:

“Over the next one month, I will consider switching to other brands for ecological reasons.”

“Over the next one month, I plan to switch to a green version of a product.”

With regard to the perceived risk-switching intention link, Mitchell [1999] stated that, if consumers perceive high risk toward a product, they probably would not buy the product. In other words, perceived high risk negatively influences green purchase intention [Wood and Scheer, 1996; Chang and Chen, 2008]. In the current study, we hypothesized that perceived consumer skepticism toward environmental claims is positively related to switching intention.

H7 : *Green consumer confusion is positively associated with customer switching intention.*

H8 : *Perceived consumer skepticism is positively associated with customer switching intention.*

H9 : *Green perceived risk is positively associated with customer switching intention.*

Green Trust and Customer Switching Intention. Green trust is the willingness to depend on one object, based on the belief in, or expectation of, its credibility, benevolence, and ability with regard to environmental performance [Chen, 2010]. Marketers whose advertising is perceived as misleading and unproven confuse consumers with regard to environmental features. Consumer trust in environmental claims will diminish because consumers perceive some risks with respect to greenwashing. The perceived risk may be either environmental or physical (their own bodies). In either case, they are hesitant to consume the green-claimed product, and may switch from the green product to a non-green product. The result would be entirely different if they initially perceived the green product as trustworthy. In this study, we hypothesized:

H10 : *Green trust is negatively associated with customer switching intention.*

3. RESEARCH METHODS AND DATA COLLECTION

This section discusses the survey, sample, and data collection process as well as the measurement of constructs.

3.1. Survey, Sample, and Data Collection

To test the relationships in the proposed model, we conducted a survey using the purposive sampling technique. The survey was designed to collect more data and to generalize the results for a specific consumer segment (green consumers in Yogyakarta, Indonesia). Only those with a basic knowledge of green products and green advertising were selected for the sample. Data was collected from respondents via both online and paper-based questionnaires.

Online questionnaires powered by Google Forms were randomly distributed to respondents via social media and some online green communities. Paper-based questionnaires were distributed to students at universities in Yogyakarta. Some lecturer-partners who have classes at several of these universities were asked to help distribute the offline questionnaires. The questionnaires were back-translated from English to Bahasa Indonesia.

A total of 300 paper-based questionnaires were distributed offline. Of these, 200 were returned, for a response rate of 66% and a ratio of 0.32. Of the 200, however, only 93 contained data that could be used in the study. A total of 108 responses were received from the online questionnaire. Of these, only 41 (ratio of 0.38) contained data that could be used in the study. In total, there were 134 questionnaires with qualified and usable data.

Structural equation modeling (SEM) was used to assess the measurement model and structural model. We used IBM SPSS AMOS 21 for this purpose. Four pre-tests were conducted to test respondents' understanding about items in the questionnaire. Using the data collected from the four pre-tests, we loaded items on each factor without cross-loadings. The reliability of all items was considered good since the Cronbach's alpha scores were above the required threshold of 0.60.

3.2. Measurement of Constructs

The survey instrument used a five-point Likert-style scale that ranged from 1 = "strongly disagree" to 5 = "strongly agree." The 5-item scale was taken from Laufer [2003] and Chen and Chang [2013]. For the survey, we selected operational definitions for six variables (Table 1). The survey items were based on the study by Walsh et al. [2007] and Walsh and Mitchell [2010]. Table 2 presents the items for each variable and indicates the source of the items used.

Table 1
Operational Definition of Variables

	Variables	Definition	Source
1	<i>Greenwashing</i>	The act of misleading a consumer about the environmental practices of a company or the environmental benefits of a product or service	Greenpeace [n.d]
2	<i>Green Consumer Confusion</i>	Consumer failure to develop a correct interpretation of the environmental features of a product or service during information processing	Turnbull et al. [2000]
3	<i>Perceived Consumer Skepticism</i>	Consumer cynical perception about ads because of the prevalence of misleading green claims	Matthes and Wonneberger [2014]
4	<i>Green Perceived Risk</i>	Perception that is connected with the possible consequences of a wrong decision	Peter and Ryan [1976]
5	<i>Green Trust</i>	A willingness to depend on a product or service based on the belief or expectation of its credibility, benevolence, and ability regarding environmental performance	Chen [2010]
6	<i>Switching Intention</i>	The extent to which a consumer is willing to switch from one product (green product) to another (non-green product)	Nimako et al. [2014]

Table 2
List of Items for Each Variable

Variable <i>[Adopted from]</i>
<p>1. Greenwashing <i>[Laufer, 2003]</i></p> <ol style="list-style-type: none"> 1. This product misleads with words in its environmental features. 2. This product misleads with visual or graphics in its environmental features. 3. This product has a green claim that is vague or seemingly unprovable. 4. This product overstates or exaggerates how its green functionality actually is. 5. This product leaves out or masks important information, making the green claim sound better than it is.
<p>2. Perceived Consumer Skepticism <i>[Matthes and Wonneberger, 2014]</i></p> <ol style="list-style-type: none"> 1. Most green claims in advertising are intended to mislead rather than to inform customers. 2. I do not believe most green claims made in advertising. 3. Because green claims are so exaggerated, consumers would be better off if such claims in advertising were eliminated.
<p>3. Green Perceived Risk <i>[Mohr, 1998]</i></p> <ol style="list-style-type: none"> 1. There is a chance that there will be something wrong with the environmental performance of this product. 2. There is a chance that this product will not work properly with respect to its environmental design. 3. There is a chance that you will get a penalty for using the product. 4. There is a chance that using this product will negatively affect the environment. 5. Using this product would damage your green reputation or image.
<p>4. Green Consumer Confusion <i>[Chen and Chang, 2012]</i></p> <ol style="list-style-type: none"> 1. It is difficult to detect the product in terms of environmental features. 2. It is difficult to recognize the differences among environmental-claimed products. 3. You are confused about deciding which green products should be purchased. 4. You rarely feel sufficiently informed about environmental features. 5. You feel uncertain about environmental features.

-continued

Table 2 (Cont'd)
List of Items for Each Variable

<p>5. Green Trust [Chen and Chang, 2013, from Chen and Chang 2012]</p> <ol style="list-style-type: none"> 1. You feel that this product's environmental reputation is generally reliable. 2. You feel that this products environmental performance is generally dependable. 3. You feel that this product's environmental claims are generally trustworthy. 4. This product's environmental concern meets your expectation. 5. This product keeps promises and commitment for environmental protection.
<p>6. Switching Intention [Burnham et al., 2003]</p> <ol style="list-style-type: none"> 1. How likely are you to switch to a competing service provider during the next year? 2. What is the chance that you will stay with your service provider for the next year?

4. RESULTS AND ANALYSIS

This section begins with a discussion of the independent t-test (online versus offline data) and the non-response bias test. It then discusses and analyzes the measurement model and presents four structural models. Following a general discussion, we pinpoint the limitations of the current study and offer suggestions for future research.

4.1. Independent t-Test: Online Versus Offline Data

In order to make sure that there were no significant differences between data collected online and offline, we conducted an independent t-test by comparing both means and by checking whether both were significantly different. The t-test revealed that, except for the PCS construct, there were no significant differences in the means for constructs from the 41 online questionnaires and the 93 offline questionnaires. Although the PCS data for online and offline questionnaires were found to be different, the significance level was not really satisfactory since its score (0.03) was significant at $p\text{-value} = 0.01$, but insignificant at $p\text{-value} = 0.05$. From this, it could be implied that, at significance level 0.01, there were no differences for all constructs between data collected online and offline, thus providing support for combining online and offline data. Table 3 presents the results of the independent t-test.

Table 3
Results of the Independent t-Test

Variables	Means		Std. Deviation		Sig. (2-tailed)
	Online	Offline	Online	Offline	
Greenwashing	3.62	3.43	0.83	0.73	0.19 ^{NS}
GCC	3.69	3.46	0.96	0.77	0.42 ^{NS}
GPR	3.72	3.62	0.72	0.66	0.15 ^{NS}
GT	3.59	3.44	0.78	0.62	0.25 ^{NS}
PCS	2.48	2.78	0.81	0.64	0.02*
SI	3.39	3.06	0.90	1.08	0.80 ^{NS}

Note: * p-value > 0.01; NS = not significant

4.2. Non-Response Bias Test

Non-response bias involves situations in which the people who do not return a questionnaire have different opinions from those who do return it. In the current study, 100 of the 300 offline questionnaires were not returned, and, of the 200 that were returned, only 93 contained usable data. Given this fact, it was necessary to determine whether bias occurred in the offline questionnaire. There were no non-respondents to the online questionnaire since each respondent was required to complete the questionnaire before submitting it. Incomplete online questionnaires were automatically rejected by the system. The results shown in Table 4 indicate insignificance (2-tailed) in the t-test for equality means for all constructs. This finding means that there is no difference between the data from respondents and the data from non-respondents.

Table 4
Results of Non-Response Bias Test

	Variables	Means		Std. Deviation		Sig. (2-tailed)
		NR	R	NR	R	
Offline	Greenwashing	3.52	3.44	0.74	0.73	0.45 ^{NS}
	GCC	3.67	3.62	0.67	0.66	0.64 ^{NS}
	GPR	3.44	3.45	0.60	0.62	0.89 ^{NS}
	GT	2.79	2.78	0.67	0.64	0.97 ^{NS}
	PCS	3.54	3.47	0.79	0.77	0.49 ^{NS}
	SI	3.15	3.06	1.02	0.94	0.55 ^{NS}

NR = Non-respondent

R = Respondent

NS = not significant

4.3. Measurement Model

The means, standard deviations, and correlation matrix are shown in Table 5. The data indicated that there were positive correlations among five of the six variables – greenwashing, green consumer confusion, perceived consumer skepticism, green perceived risk, and switching intention. The exception was green trust. All variables correlated with green trust were found to have a negative correlation. In addition to testing the common method variance (CMV), we used Harman’s one-factor test. All items were included in an exploratory factor analysis. Using the principal components analysis method, we limited the number of factors to be extracted to 1, without any rotation. The percentage variance for the extraction sum of squared loadings was 34.5%, which means that there was no CMV problem in this study.

Table 5
Correlations of Constructs

Var.	Mean	Std. Dev.	GW	GCC	PCS	GPR	GT	SI
GW	3.49	0.76	1					
GCC	3.65	0.67	0.42**	1				
PCS	3.53	0.83	0.57**	0.43**	1			
GPR	3.49	0.67	0.45**	0.48**	0.51**	1		
GT	2.70	0.71	-0.48**	-0.34**	-0.50**	-0.48**	1	
SI	3.16	0.99	0.30**	0.28**	0.38**	0.27**	-0.40**	1

Note: *p < 0.05, **p < 0.01

We ran data from the 134 questionnaires that were returned in order to test the reliability and confirmatory factor analysis. There were 5 items for greenwashing; 5 items for green consumer confusion; 3 items for perceived consumer skepticism; 5 items for green trust; and 2 items for switching intention. All of the items had a Cronbach’s alpha greater than the required score of 0.60, which indicated that the items in this study were reliable. All items were then simultaneously tested to check loading factors in CFA. It was found that 1 item in green consumer confusion and 1 item in green perceived risk had scores that were too low. Those two items were deleted from the model. The analysis results are presented in Table 6.

Table 6
Cronbach's Alpha and Standardized Regression Weight Scores for Variables

Variables	Items	Loadings	Cronbach's Alpha Score
<i>Greenwashing</i>	GW1	0.764	0.847
	GW2	0.741	
	GW3	0.712	
	GW4	0.716	
	GW5	0.696	
<i>Green Consumer Confusion</i>	GCC2	0.636	0.799
	GCC3	0.713	
	GCC4	0.700	
	GCC5	0.756	
<i>Perceived Consumer Skepticism</i>	PCS1	0.881	0.794
	PCS2	0.708	
	PCS3	0.691	
<i>Green Perceived Risk</i>	GPR1	0.730	0.757
	GPR2	0.708	
	GPR3	0.536	
	GPR4	0.622	
<i>Green Trust</i>	GT1	0.635	0.815
	GT2	0.744	
	GT3	0.661	
	GT4	0.671	
	GT5	0.727	
<i>Switching Intention</i>	SI1	0.930	0.819
	SI2	0.748	

4.4. Structural Model

The conceptual model for this study is presented in Figure 1. It depicts the six variables and the 10 hypotheses formulated with regard to links between the variables. Figure 2 and Table 7 present the results for the full model. At the base of the model in Figure 2 are several scores, beginning with GFI = 0.832. In a structural model, the score of GFI = 0.832 was not considered really good. However, GFI is not the only standard to test the model fit. It can also be tested using RMSEA, CMIN/DF, and CFI. In the current study, the scores for RMSEA (0.060), CMIN/DF (1.481), and CFI (0.914) were above the required threshold. There were six paths that were estimated significant, and four that were not found to be significant. Even so, the effects of nine paths were in line with the

proposed hypotheses in this study. Because four paths were not significant, however, one can conclude that four hypotheses were not supported.

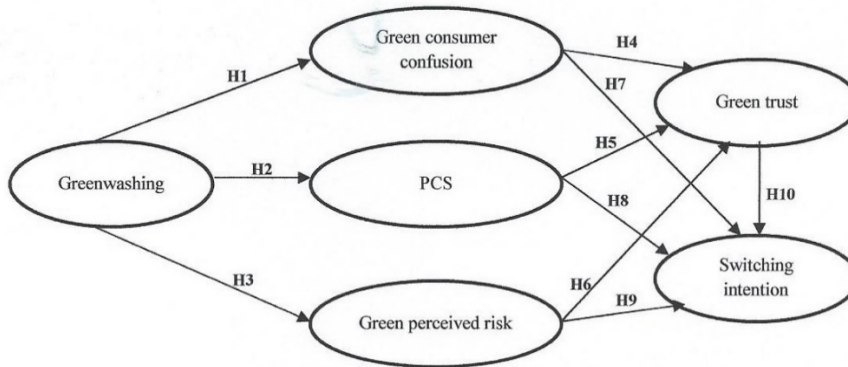


Figure 1. Conceptual Model for Current Study

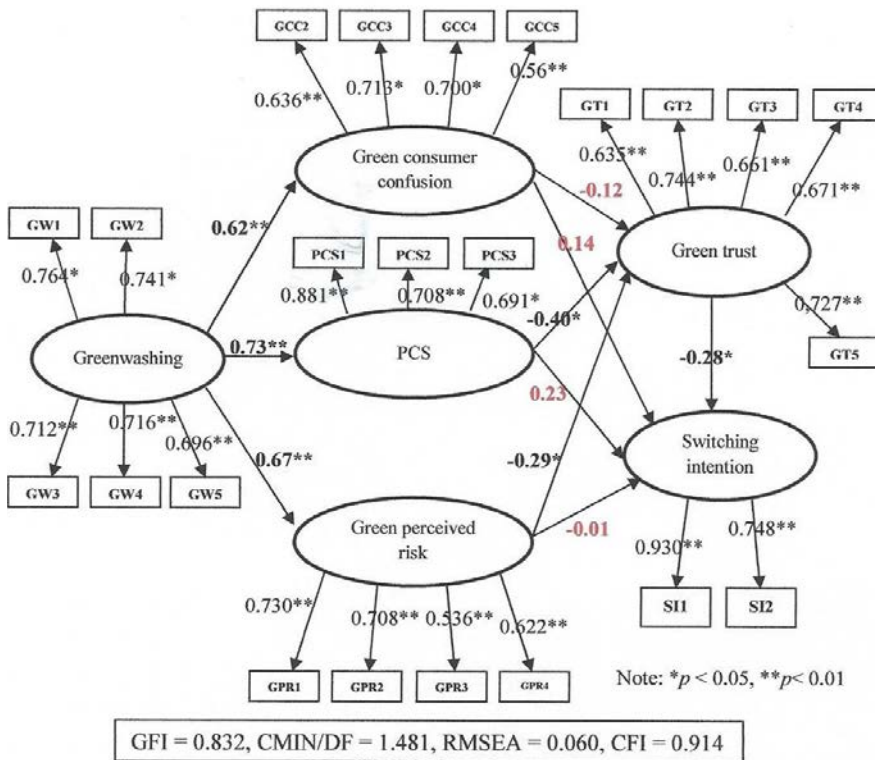


Figure 2. Results for the Full Model

Table 7
Summary of Results for the Structural Model

Hypothesis	Proposed Effect	Path Coefficient	Results
H1	(+)	0.62**	H1 is supported.
H2	(+)	0.73**	H2 is supported.
H3	(+)	0.67**	H3 is supported.
H4	(-)	-0.12	H4 is not supported.
H5	(-)	-0.40*	H5 is supported.
H6	(-)	-0.29*	H6 is supported.
H7	(+)	0.14	H7 is not supported.
H8	(+)	0.23	H8 is not supported.
H9	(+)	-0.01	H9 is not supported.
H10	(-)	-0.28*	H10 is supported.

Note: ** $p < 0.01$, * $p < 0.05$

The results shown in Figure 2 and Table 7 demonstrate that an increase in greenwashing will cause an increase in consumer confusion, skepticism, and perceived risk relating to the environment and the consumer's green image. The current study found an insignificant path estimation between green consumer confusion and green trust, which is surprising. The result is the opposite of that presented in Chen and Chang's [2013] study, which found a significant effect between green consumer confusion and green trust. By way of explanation, we can say that, with regard to the environment, people in Indonesia are at a different stage than those residing in more developed countries. Although green marketing practices in Indonesia are not as intense as they are in developed countries, the increased focus on green marketing and green products in the mass media has attracted the attention of Indonesian consumers and has stirred their curiosity. It will be interesting to see the results when future research tests the relationship between green consumer curiosity and green trust.

On the other hand, the results of this study supported H6, which associates the negative effects of green perceived risk on green trust. This result supported the findings of Chen and Chang's [2013] study with regard to the negative association between perceived consumer skepticism and green trust. The more skepticism that the consumer perceives, the lower his or her trust in the green product. This finding is a further contribution to academic literature. This study also found that switching intention does not have a significant direct relationship to three constructs (green consumer confusion, perceived customer

skepticism, and green perceived risk). Yet, because these three constructs had a significant relationship to green trust, it could be implied that green trust mediated the link of those three constructs to switching intention.

To enrich the discussion about the structural model, we then conducted several path tests to compare the model fit of the original model with that of the new models. We also conducted the test to determine the relationship between GCC and GPS as well as between PCS and GPR.

Path Test Model (1)

The first path test found that the new path addition connecting GCC to PCS was not significant, with a regression weight of 0.06 (p -value > 0.05). The relationships between new path GCC and GPR and between new path GPR and PCS, however, were significant. The remaining path scores did not differ from those of the original model. The GFI (0.837) for path test model (1) was slightly better than that for the original model (0.832). The results for path test model (1) are depicted in Figure 3 and are summarized in Table 8.

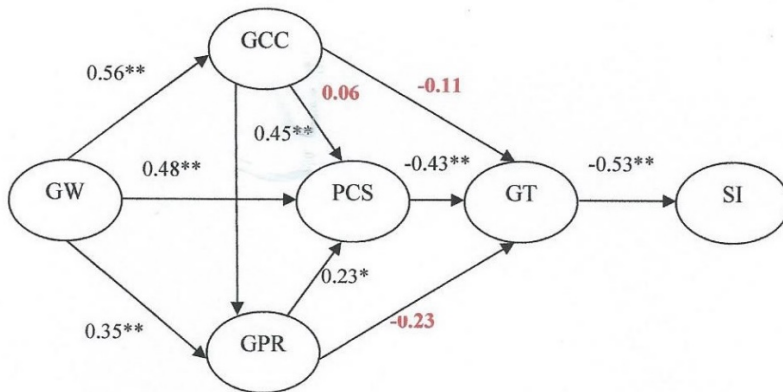


Figure 3. Results for Path Test Model (1)

Table 8
Summary Results for Path Test Model (1)

Hypotheses	Weight	Model Fit
GW -> GCC	0.56**	CMIN/DF = 1.423 GFI = 0.837 CFI = 0.925 RMSEA = 0.056
GW -> PCS	0.48**	
GW -> GPR	0.35**	
GCC -> PCS	0.06 ^{NS}	
GCC -> GPR	0.45**	
GCC -> GT	-0.11 ^{NS}	
PCS -> GT	-0.43**	
GPR -> PCS	0.23*	
GPR -> GT	-0.23 ^{NS}	
GT -> SI	-0.53**	

Note: **p<0.01, *p<0.05, NS = not significant

Path Test Model (2)

The results for path test (2) indicated that the relationship between GPR and GT was negative, which was significantly different from the result for path test (1). But, the relationship of GCC to PCS and GT was not different from that shown in path test (1). The overall model fit for path test (2) was GFI = 0.831 and RMSEA = 0.060, which is similar to the fit for path test (2), which had scores of GFI = 0.837 and RMSEA = 0.056. To improve the model fit, we deleted the insignificant path connecting GCC to PCS. The results for path test model (2) are shown in Figure 4 and Table 9.

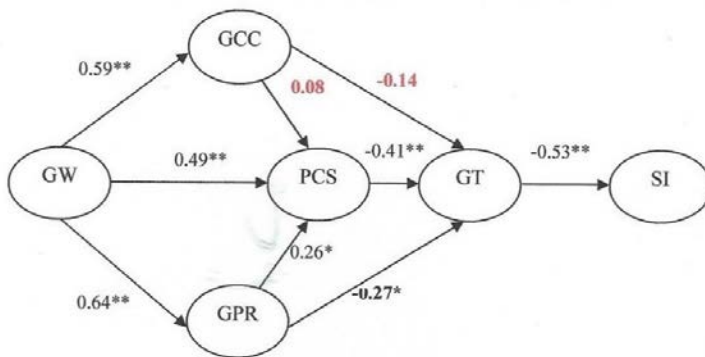


Figure 4. Results for Path Test (2)

Table 9
Summary Results for Path Test Model (2)

Hypotheses	Weight	Model Fit
GW -> GCC	0.59**	CMIN/DF = 1.477 GFI = 0.831 CFI = 0.915 RMSEA = 0.060
GW -> PCS	0.49**	
GW -> GPR	0.64**	
GCC -> PCS	0.08 ^{NS}	
GCC -> GPR	-	
GCC -> GT	-0.14 ^{NS}	
PCS -> GT	-0.41**	
GPR -> PCS	0.26*	
GPR -> GT	-0.27*	
GT -> SI	-0.53**	

Note: **p<0.01, *p<0.05, NS = not significant

Path Test Model (3)

The results for path test (3) shown in Figure 5 and Table 10 indicate that, although we deleted the insignificant path from GCC to PCS, the remaining significance score and model fit did not improve.

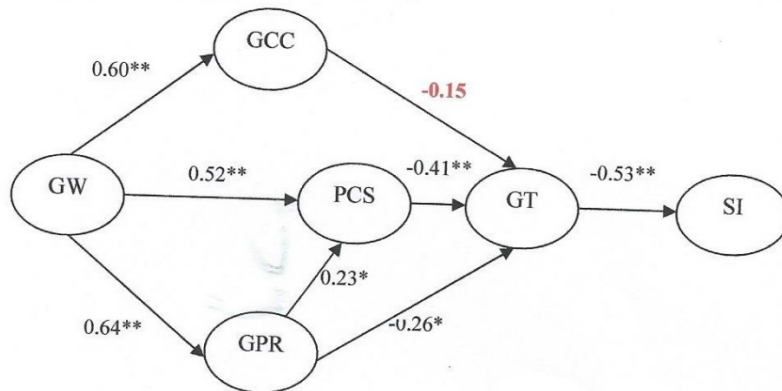


Figure 5. Results for Path Test Model (3)

Table 10
Summary Results for Path Test Model (3)

Hypotheses	Weight	Model Fit
GW -> GCC	0.60**	CMIN/DF = 1.473 GFI = 0.831 CFI = 0.915 RMSEA = 0.060
GW -> PCS	0.52**	
GW -> GPR	0.64**	
GCC -> PCS	-	
GCC -> GPR	-	
GCC -> GT	-0.15 ^{NS}	
PCS -> GT	-0.41**	
GPR -> PCS	0.26*	
GPR -> GT	-0.27*	
GT -> SI	-0.53**	

Note: **p<0.01, *p<0.05, NS = not significant

Path Test Model (4)

In path test (4), the path from GPR to PCS was eliminated. The results, shown in Figure 6 and Table 11, were not really different from the original model. The only difference was that, in model (4), the direct relationships between GCC, PCS, and GPR were eliminated. The results indicated that, although those relationships were deleted, the model fit still did not improve. The regression weight and model fit comparisons between model 1-4 and original model can be seen in tables 12 and 13.

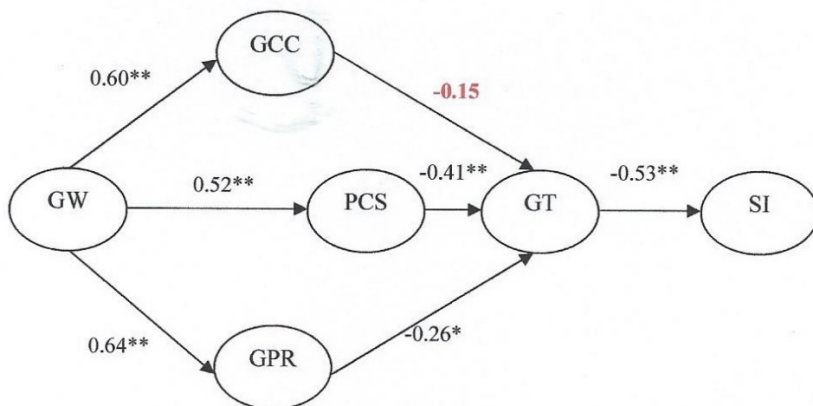


Figure 6. Results for Path Test Model (4)

Table 11
Summary Results Path Test Model (4)

Hypotheses	Weight	Model Fit
GW -> GCC	0.67**	CMIN/DF = 1.488 GFI = 0.830 CFI = 0.912 RMSEA = 0.061
GW -> PCS	0.73**	
GW -> GPR	0.61**	
GCC -> PCS	-	
GCC -> GPR	-	
GCC -> GT	-0.15 ^{NS}	
PCS -> GT	-0.42**	
GPR -> PCS	-	
GPR -> GT	-0.28*	
GT -> SI	-0.53**	

Note: **p<0.01, *p<0.05, NS = not significant

Table 12
Regression Score Comparison Between Original Model and Models 1-4

Hypotheses	Original Model	Model 1	Model 2	Model 3	Model 4
GW -> GCC	0.62**	0.56**	0.59**	0.60**	0.67**
GW -> PCS	0.73**	0.48**	0.49**	0.52**	0.73**
GW -> GPR	0.67**	0.35**	0.64**	0.64**	0.61**
GCC -> PCS	-	0.06 ^{NS}	0.08 ^{NS}	-	-
GCC -> GPR	-	0.45**	-	-	-
GCC -> GT	-0.12 ^{NS}	-0.11 ^{NS}	-0.14 ^{NS}	-0.15 ^{NS}	-0.15 ^{NS}
PCS -> GT	-0.40**	-0.43**	-0.41**	-0.41**	-0.42**
GPR -> PCS	-	0.23*	0.26*	0.26*	-
GPR -> GT	-0.29*	-0.23 ^{NS}	-0.27*	-0.27*	-0.28*
GT -> SI	-0.53**	-0.53**	-0.53**	-0.53**	-0.53**
GCC -> SI	0.14 ^{NS}	-	-	-	
PCS -> SI	0.23 ^{NS}	-	-	-	
GPR -> SI	-0.01 ^{NS}	-	-	-	

Note: **p<0.01, *p<0.05, NS = not significant

Table 13
Model Fit Comparison between Original Model and Models 1-4

Model Fit					
	Original Model	Model 1	Model 2	Model 3	Model 4
CMIN/DF	1.481	1.423	1.477	1.473	1.488
GFI	0.832	0.837	0.831	0.831	0.830
CFI	0.914	0.925	0.915	0.915	0.912
RMSEA	0.060	0.056	0.060	0.060	0.061

In conclusion, there were no significant differences in model fit between the original model and models 1-4. The results for model 1, however, showed that there was a significant relationship between GCC and GPR (reg. weight = 0.45, p-value < 0.01), even though the relationship between GPR and GT was found not significant. Moreover, the relationship between GPR and PCS was significant in models 1-4, and GPR to GT was significant in the original model and in models 2-4. In view of these results, we recommend that future research be conducted to extend the models presented in the current study by adding deeper theoretical support for the relationship between GCC/PCS, GCC/GPR, and GPR/PCS.

4.5. Discussion

In our measurement model, not all items for GCC and GPR were used. Because of a loading issue, we excluded the first item for GCC, which stated, *It is difficult to detect the products in terms of environmental features*, and we excluded the last item for GPR, which stated, *Using this product would damage your green reputation or image*. Both items did not group into specified factors. The first item for GCC converged in the GPR column, and last item for GPR converged in the PCS column. As stated earlier, we think that personal image or reputation with respect to green products is not a major concern in developing countries like Indonesia. Our result differed from that of Chen and Chang [2013], which found no problems with any of the items for GCC and GPR. It should be noted, however, that Chen and Chang [2013] conducted their study in Taiwan, where green marketing is perhaps practiced more formally.

In our structural model, which correlates all variables, we found that H4, H7, H8, and H9 were not supported. We found it surprising that H4 (green

consumer confusion is negatively associated with green trust) was not supported. This finding is in contrast to theory and the findings of previous studies. The theory states that, when consumers are confused by misleading and unclear advertising or messages, the situation will raise their suspicions and undermine their trust. Furthermore, Mitchell and Papavassiliou [1999] stated that consumers are reluctant to trust a product if they are confused about the product. Studies conducted by Kalafatis and Pollard [1999] and Chen and Chang [2013] also confirmed that GCC was negatively associated with GT. Although the relationship was not significant, the direction was negative, providing support for previous studies. We may argue that the relationship between GCC and GT was not direct. There may be another variable that would help to explain it. Since green products offer several values specifically concerning environmental safety and health, consumers do not directly distrust them. Perhaps, green perceived value may be the mediating variable.

Hypotheses 7-9 relate GCC, PCS, and GPR to switching intention. In the current study, we connected those variables to switching intention. This approach has not yet been considered in greenwashing literature, perhaps because of the theory that consumers may switch if they are confused or skeptical or perceive risks associated with green products. This study found that the three variables did not have a significant relationship to switching intention. It can be inferred that, even though consumers are confused or skeptical and perceive certain risks associated with green products, they do not easily decide to switch to non-green products. Figure 2, shown earlier, indicated that the relationship between PCS and GPR was fully mediated by GT. This result may therefore be a significant contribution to greenwashing literature with regard to considering the switching intention variable in relationship to GT. In this context, the exception was made for GCC, which did not have a direct effect on switching intention, as well as an indirect effect via GT. As stated earlier, perhaps the insignificant relationship can be explained by value perception (green perceived value).

4.6. Limitations and Future Research Direction

In this study, we conducted four pre-surveys to test items included in our questionnaire. During the first and second pre-survey trials, many respondents were confused about the questions, mostly because they were unfamiliar with green product features, and also because we operationally defined greenwashing in a very general way, when in fact greenwashing may be found in several industries. Both factors were limitations. Respondents' understanding improved

for the third and fourth pre-survey trials. With respect to the limitations of the current study, we offer these comments and suggestions for future research direction:

1. In emerging countries like Indonesia, green marketing is not a formal practice as it is in developed countries. Future research should take this factor into consideration. Furthermore, future studies should specify which green product in which industry is to be scrutinized. Future researchers may choose, for example, the food and beverage industry, or the automotive industry, or another industry of their choice.
2. Because of the insignificant direct relationship between GCC and green trust and the significant relationship between PCS and green trust, we suggest that future researchers add green perceived value as a mediating variable. We suggest also that it would be interesting for future studies to test the indirect relationship between GCC-PCS-GT and between CGG-GPR-GT in the context of a different location.
3. We think it would be worthwhile to conduct an experimental survey to examine the causal impact of greenwashing. Through such a survey, future researchers can extend the current study to include an analysis of consumers' green purchase behavior.

5. CONCLUSION AND IMPLICATIONS

This study proposed extended relationships, which are perceived consumer skepticism (PCS) and switching intention (SI). Data were separated between online and offline questionnaires. An independent t-test showed that data from both sources were not significantly different, which allowed us to combine both as a single data. As to the proposed extended consequences of greenwashing, this study found only PCS, a finding that was confirmed by statistical computation. Respondents generally felt that green ads were misleading and they were therefore skeptical about the ads. We found that variable switching intention was significant only as the consequence of green trust (GT). Our results, therefore, confirmed that PCS is the extended consequence of greenwashing and that switching intention (SI) is the consequences of green trust (GT).

Of the 10 hypotheses examined, six were not supported. We argued that a mediating variable needs to be added to explain the unsupported hypotheses. It

seems that Indonesian consumers still perceived several values that can be gained by purchasing and consuming green products. We therefore recommend that future researchers consider green perceived value as the variable mediating the relationship between GCC and GT. In this way, the current study makes a theoretical contribution to greenwashing literature and also contributes the measurement model discussed earlier. Following are the implications for companies in all sectors:

1. Companies must stop all deceptive advertisements and claims with respect to environmental protection, specifically with regard to “green” products and services. This action will reduce consumer confusion, skepticism, and perceived risk regarding green products.
2. Companies must also enhance green trust in order to retain customers and to prevent them from switching to non-green products.
3. Although green marketing and environmental practice in developing countries like Indonesia are not as advanced as in developed countries, companies must recognize that the potential market for green products in these countries is strong, as long as they avoid deceptive and vague advertising.

The last factor, in particular, makes Indonesia a good potential location for future research on greenwashing. Regardless of the country in which future research is conducted, researchers should clearly specify the industry in which they plan to scrutinize green products; they should test mediating variables as discussed in this study; and they should test causal relationship by conducting an experimental survey.

We hope that the research results of this study will be useful to managers, practitioners, academicians, and other researchers, and that by serving as a reference, it will make a significant contribution to future research.

REFERENCES

- Ajzen, I. 1991. The theory of planned behavior, *Organizational Behavior and Human Decision Process* 50, 179-211.
- Albayrak, T.; M. Caber; L. Moutinho; and R. Herstein. 2011. The influence of skepticism on green purchase behavior, *International Journal of Business and Social Science* 2(13), 189-197

- Alves, I.M. 2009. Green spin everywhere: How greenwashing reveals the limit of the CSR paradigm, *Journal of Global Change and Governance* 2(1), 1-26.
- Anuar, M.M.; K. Omar; and O. Mohammad. 2013. Does skepticism influence consumers' intention to purchase cause-related products? *International Journal of Business and Social Science* 4(5), 94-98.
- Assael, H. 2004. *Consumer Behavior: A Strategic Approach*, New York: Charles Hartford.
- Bhatia, M., and A. Jain. 2013. Green marketing: A study of consumer perception and preferences in India, *Electronic Green Journal* 1(36).
- Boush, D.M.; F. Marian; and G.M. Rose. 1994. Adolescent skepticism toward TV advertising and knowledge of advertiser tactics, *Journal of Consumer Research* 21(1), 165-175.
- Chen, Y.S. 2008. The driver of green innovation and green image—green core competence, *Journal of Business Ethics* 81(3), 531-543.
- Chen, Y.S. 2010. The drivers of green brand equity: Green brand image, green satisfaction, and green trust, *Journal of Business Ethics* 93(2), 307-19.
- Chen, Y.S., and C.H. Chang. 2012. Enhance green purchase intentions: The roles of green perceived value, green perceived risk, and green trust, *Management Decision* 50(3), 502-520.
- Chen, Y.S., and C.H. Chang. 2013. Greenwash and green trust: The mediation effects on green consumer confusion and perceived risk, *Journal of Business Ethics* 114, 489-500.
- Chang, M.K. 1998. Predicting unethical behavior: A comparison of the theory of reasoned action and the theory of planned behavior, *Journal of Business Ethics* 17, 1825-1834.
- Chang, H.H. and S.W. Chen. 2008. The impact of online store environment cues on purchase intention: Trust and perceived risk as a mediator, *Online Information Review* 32 (6), 818-41.
- Cohen, D. 1974. The concept of unfairness as it relates to advertising, *Journal of Marketing* 38, pp. 8-13.
- Corritore, C.L.; B. Kracher; and S. Wiedenbeck. 2003. On-line trust: concepts, evolving themes, a model, *International Journal of Human-Computer Studies* 58(6), 737-58.
- Cox, D.F. 1967. Risk handling in consumer behavior: An intense study of two cases. In D.F. Cox (ed.), *Risk Taking and Information Handling in Consumer Behavior*, Boston: Harvard University.
- Darley, W.K., and R.E. Smith. 1993. Advertising claim objectivity: Antecedents and effects, *Journal of Marketing* 57 (4), 100-13.
- Divine, R.L., and L. Lepisto. 2005. Analysis of the healthy lifestyle consumer, *Journal of Consumer Marketing* 22 (5), 275-283.

- Eid, M.I. 2011. Determinants of e-commerce customer satisfaction, trust, and loyalty in Saudi Arabia, *Journal of Electronic Commerce Research* 12(1), 78-93.
- Ford, G.T.; D.B. Smith; and J.L. Swasy. 1990. Consumer skepticism of advertising claims: Testing hypotheses from economics of information, *Journal of Consumer Research* 16 (4), 433-41.
- Furlow, N.E. 2010. Greenwashing in the new millennium, *The Journal of Applied Business and Economics* 10(6), 22-25.
- Gallicano, T.D. 2011. A critical analysis of greenwashing claims, *Public Relations Journal* 5(3).
- Ganesan, S. 1994. Determinants of long-term orientation in buyer-seller relationships, *Journal of Marketing* 58 (2), 1-19.
- Gillespie, E. 2008. Stemming the tide of greenwash, *Consumer Policy Review* 18(3), 79–83.
- Gul, M.C. 2013. Long-term orientation, perceived consumer effectiveness, and environmentally conscious consumer behavior: The case of Turkey, *International Journal of Marketing Studies* 5(5), 24-30.
- Harridge-March, S. 2006. Can the building of trust overcome consumer perceived risk online? *Marketing Intelligence & Planning* 24(7),746–761.
- Hart, P., and C. Saunders. 1997. Power and trust: Critical factors in the adoption and use of electronic data interchange, *Organizational Science* 8(1), 23-42.
- Hsu, T. 2011. Skepticism grows over products touted as eco-friendly, media release, 21 May, Los Angeles Times, <<http://articles.latimes.com/2011/may/21/business/la-fi-greenwash-20110521>>, viewed 28 November 2014.
- Kalafatis, S.P.; M. Pollard; R. East; and M.H. Tsogas. 1999. Green marketing and Ajzen's theory of planned behavior: A cross-market examination, *Journal of Consumer Marketing* 16(5), 441-460.
- Kaufman, H.R.; M.F. Panni; and Y. Orphanidou. 2012. Factors affecting green purchasing behavior: An integrated conceptual framework, *Amfiteatru Economic* 16(31), 50-69.
- Keaveney, S M. 1995. Customer switching behavior in service industries, *Journal of Marketing* 59 (2), 71-82.
- Kim, Y.; and S.R. Choi. 2005. Antecedents of green purchase behavior: An examination of collectivism, environmental concern and PCE, *Advance in Consumer Research* 32(1), 592-599.
- Kivimaa, P., and P. Kauto. 2010. Making or breaking environmental innovation? Technological change and innovation in markets in the pulp and paper industry, *Management Research Review* 33 (4), 289-305.
- Kohl, M.F. 1991. *Good Earth Art*. Bellingham: Bright Right Publishing.
- Kotler, P.; and K.L. Keller. 2012. *Marketing Management*, 14th Edition, E. Pearson Education, Inc., Prentice Hall.

- Lane, E.L. 2012. Green marketing goes negative: The advent of reverse greenwashing, *European Journal of Risk and Regulation* (4), pp. 582-588.
- Laufer, W.S. 2003. Social accountability and corporate greenwashing, *Journal of Business Ethics* 43(3), 253-261.
- Mangleburg, T F., and T. Bristol. 1998. Socialization and adolescents' skepticism toward advertising, *Journal of Advertising* 27(3), 11-21.
- Manju. 2012. *Green Marketing: New Hopes and Challenges*: Spectrum.
- Matthes, J., and A. Wonneberger. 2014. The skeptical green consumer revisited: Testing the relationship between green consumerism and skepticism toward advertising, *Journal of Advertising* 43(2), 115-127.
- McGrath, A.J. 1992. Marketin' of the green. *Sales and Marketing Management*, 31-32.
- Meyers-Levy, J., and P. Malaviya. 1999. Consumers' processing of persuasive advertisements: An integrative framework of persuasion theories, *Journal of Marketing* 63, pp. 45-60 (special issue).
- Mitchell, V.W. 1999. Understanding consumers' behavior: Can perceived risk theory help? *Management Decision* 30(3), 26-31.
- Mitchell, V.W., and V. Papavassiliou. 1999. Marketing causes and implications of consumer confusion, *Journal of Product & Brand Management* 8(4), 319-339.
- Mitchell, V.M.; G. Walsh; and M. Yamin. 2005. Towards a conceptual model of consumer confusion, *Advances in Consumer Research* 32, pp. 143-150.
- Mohanasundaram. 2012. Green marketing-challenges and opportunities, *International Journal of Multidisciplinary Research* 2(4), 66-73
- Mohr, L.A.; D. Eroglu; and S.P. Ellen. 1998. The development and testing of a measure of skepticism toward environment claims in the marketers' communications, *The Journal of Consumers Affairs* 32(1), 30-55.
- Newell, S.J.; R.E. Goldsmith; and E.J. Banzhaf. 1998. The effects of misleading environmental claims on consumer perception of advertisements, *Journal of Marketing Theory and Practice*, pp. 48-60.
- Nimako, S.G.; B.A. Ntim; and A.F. Mensah. 2014. Effect of mobile number portability adoption on consumer switching intention, *International Journal of Marketing Studies* 6(2), 117-134.
- Obermiller, C.; E.R. Spangenberg; and D.L. MacLachlan. 2005. Ad skepticism, *Journal of Advertising* 34(3), 7-17.
- Ottman, J.A.; E.R. Stafford; and C.L. Hartman. 2006. Avoiding green marketing myopia: Ways to improve consumer appeal for environmentally preferable products, *Environment* 48(5), 22-36.
- Peattie, K.; S. Peattie; and C. Ponting. 2009. Climate change: A social and commercial marketing communication challenge, *EuroMed Journal of Business* 4(3), 270-286.
- Peter, J.P., and M.J. Ryan. 1976. An investigation of perceived risk at the brand level, *Journal of Marketing Research* 13(2), 184-189.

- Polonsky, M.J. 2011. Transformative green marketing: Impediments and opportunities. *Journal of Business Research* 64, pp. 1311-1319.
- Polonsky, M.J.; S.L. Grau; and R. Garma. 2010. The new greenwash? Potential marketing problems with carbon offsets, *International Journal of Business Studies* 18(1), 49-54
- Pomering, A., and L.W. Johnson. 2009. Advertising corporate social responsibility initiatives to communicate corporate image: Inhibiting skepticism to enhance persuasion, *Corporate Communication: An International Journal* 4(4), 420-439.
- Roberts, J.A. 1996. Green consumer in 1990s: Profile and implications for advertising, *Journal of Business Research* 36(3).
- Schmidt, C.W. 2009. FTC moves to prosecute misleading environmental claims, *Environmental Science & Technology*, November 1.
- Sheehan, K., and L. Atkinson. 2012. Special issue on green advertising: Revisiting green advertising and reluctant consumer, *Journal of Advertising* 41(4), 5-7.
- TerraChoice. 2010. The sins of greenwashing: home and family edition. Retrieved from: www.sinsofgreenwashing.org
- TerraChoice Environmental Marketing. 2009. The seven sins of greenwashing. Retrieved from: www.sinsofgreenwashing.org
- Turnbull, P.W.; S. Leek; and G. Ying. 2000. Customer confusion: The mobile phone market, *Journal of Marketing Management* 16, pp. 143-163.
- Valvi, A.C., and D.C. West. 2013. E-loyalty is not all about trust; price also matters: Extending expectation-confirmation theory in bookselling websites, *Journal of Electronic Commerce Research* 14(1), 99-123.
- Warrington, T.; N. Abgrab; and H. Caldwell. 2000. Building trust to develop competitive advantage in e-business relationships, *Competitiveness Review* 10 (2), 160-8.
- Walsh, G.; T. Hennig-Thurau; and V.W. Mitchell. 2007. Consumer confusion proneness: Scale development, validation, and application, *Journal of Marketing Management* 23(7-8), 697-721.
- Walsh, G., and V.W. Mitchell. 2010. The effect of consumer confusion proneness on word of mouth, trust, and customer satisfaction, *European Journal of Marketing* 40(6), 838-859
- Wood, C.M., and L.K. Scheer. 1996. Incorporating perceived risk into models of consumer deal assessment and purchase intent, *Advance in Consumer Research* 23, pp. 339-406.

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